

Understanding the Moderators of Adverse Childhood Experiences on
Mature Adult Satisfaction and Adjustment

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Mature Adult Satisfaction and Adjustment

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Abstract

Adverse childhood experiences (ACEs) are shown to dramatically affect the mental, physical, and socioemotional development and wellbeing of individuals and families for a lifetime. The neurologic effects on the developing brain are causal to learning disabilities, childhood disorders, and escalated behavioral problems. Adverse childhood experiences change the way people see themselves and the others around them, ultimately affecting the way people learn, how well they cope with stress, and how they are able bond with others. Adults who experienced childhood abuse, neglect, or household dysfunction have more sickness, surgeries, compulsory behaviors, and chronic health conditions. They are more than three times the risk for premature mortality. Despite these probabilities, some have beaten the odds and have developed the resilience to “bounce back”. They have discovered a way to find meaning, purpose, and fulfillment in life. This investigation explores the phenomena of resilience by understanding the moderators of adverse childhood experiences on mature adult satisfaction and adjustment. A random sampling of ($n=300$) middle-aged adults (aged 29 – Over 50) was extracted from a collection of ($N = 3200$) surveys which measured levels of adversity, types of adult attachment, how easily they bonded, how well they recovered from stress, feeling of subjective happiness, and life satisfaction. While the results of the analysis indicated that one of every three individual had multiple childhood adversities, the moderators: *relationship, attitude, and spirituality* acted as possible buffers from the devastating effects of adverse childhood experiences. Implications for prevention, early intervention, effective treatment, and policy-making at the federal, state, and local level are considered.

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Chapter One

Introduction

Introduction

Adverse childhood experiences (ACEs) are a distressing and prevalent problem, dramatically affecting the mental, physical, and socioemotional development of individuals and families within our society (Erikson, 1968; Felitti, 2009; Hughes, Lowey, Quigg, & Bellis, 2016; Schimmenti & Bifulco, 2015; and Schore & Schore, 2008).

While an alarming four million youth in the United States have experienced the endangerments of childhood adversity (Craig & Sprang, 2007), 35 to 46% of these youth report witnessing violence at an early age, and over 13% of female adolescents report having been sexually assaulted (Kilpatrick, Saunders, & Smith, 2003). More troubling, behavioral issues are mounting, youth crime is increasing, and 75 to 93% percent of adolescents entering the juvenile justice system have experienced childhood trauma (Adams, 2010). When taking into account costs for special education, social/mental health services, and expenses for the juvenile and criminal justice system, experts estimate that ACEs cost society an astonishingly \$3,000,000 per individual. Almost unbelievably, these costs leap to well over \$6,000,000 per individual when considering lost wages and Federal and state tax payments (Forrester, 2010). According to Putnam (2006), the challenging problems and expenditures associated with maltreatment and abuse, place ACEs among the most impacting and costliest psychosociological health problems in history.

While the effects of adversity are damaging at an early age, research has also shown that ACEs impact the health and wellness of adults and families for a lifetime

(Anda et al., 2006; Felitti, 2009; Norman et al., 2012; and Reiser, McMillan, Wright, & Asmundson 2014). According to McDonald (2014), adults who had childhood adversities such as abuse, neglect, or any manner of household dysfunction such as divorce, domestic violence, substance abuse, incarceration of a relative, or mental illness are likely to visit the doctor more often, undergo more surgeries, and continually struggle with chronic health conditions much later in adulthood. ACEs are shown to alter the body's immune system, affect one's quality of sleep, and lower the body's pain threshold. Additionally, ACEs are causal to destructive adult behaviors, disease, comorbidities, and premature mortality (Kilpatrick, et. al., 2003). Adults having experienced several childhood adversities are two times more likely to smoke cigarettes, four times more likely to engage in illicit drug use, seven times more likely to suffer from chronic alcoholism, eleven times more likely to abuse prescription drugs, and nineteen times more likely to attempt suicide (Brown et al., 2010; Forrester, 2010; Radford et al., 2011).

Despite the staggering complexities and predicted ill effects of ACEs, there are those who have learned to withstand adversity; having developed the resilience to “beat the odds,” and overcome life's obstacles. These individuals have gone on to discover the means of attaining purpose, find fulfillment, and develop life-satisfaction in mature adulthood (Bajaj & Pande, 2015; Caprara & Steca, 2005; & Crawford, 2013).

Statement of the Problem

While numerous studies have investigated the effects of ACEs within adolescent and geriatric populations (Bowlby, 1982; Depner & Ingersoll-Dayton, 1988; and Koenen, Moffitt, Poulton, Martin, & Caspi, 2007), there is limited research examining the effects

of ACEs on middle-aged adults. Subsequently, more research is needed to help provide a comprehensive understanding of the moderators of ACEs on mature adult satisfaction and adjustment (MASA, personal communication Oct.5, 2016, Karen H. Larwin).

Purpose and Rationale of the Study

The present investigation examines moderating phenomena contiguous to overcoming ACEs and attaining life-satisfaction and adjustment in mature adulthood. Informed by Adult Attachment Theory, this research further explores the contributory role of social relationships; inherent to the formation of trust, security, and self-worth (Brennan, Clark, & Shaver, 1998; Chu & Lieberman 2010; Grossman, Grossman, & Waters 2005; & Paplia, Olds, & Feldman 2009).

Research Questions

1. What is the impact of ACEs on MASA? More specifically:
 - a. What is the impact of self-reported ACEs, as measured by the ACEs Questionnaire, on self-reported levels of adult attachment, as measured by the Adult Attachment Scale (AAS)?
 - b. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported relationship assessment, as measured by the Relationship Assessment Scale (RAS)?
 - c. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported resiliency, as measured by the Brief Resiliency Scale (BRS)?

- d. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported perceived happiness, as measured by the Subjective Happiness Scale (SHS)?
 - e. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported satisfaction with life, as measured by the Satisfaction with Life Scale (SWLS)?
2. If an impact is revealed, are there significant moderators reported that provide additional insight into the level of impact that ACEs have on the measures of MASA?
 3. Do demographic identifiers (i.e., age, gender, marital status, ethnicity, student status, education level, occupation, location, financial status, and household status) impact the correlation between these factors?

Research Design

The research study used a multi-methodology design to integrate quantitative and qualitative approaches in the collection and analysis of survey data incorporating responses to demographics, embedded social research measurement scales, and open-ended questions. An Evaluative Coding process prepared qualitative data for further statistical analysis.

Significance of the Study

Understanding the moderators of ACEs on MASA will provide a more comprehensive and applicable understanding of the mechanisms linking trauma, social attachment, life-satisfaction, and resiliency. Research findings can be operationalized to better equip professionals in providing assistance to those affected by childhood

traumatization. Successful intermediation may include strategies for intervention such as more effective educational involvement through early detection of accompanying at-risk behaviors, greater availability of clinical resources, the development of treatment protocols for recovery and maintenance, the promotion of resilience as part of a healthy lifestyle, and the further advancement of trauma-informed care. Potential policy implications include reassessment, revision, and reinforcement of legislation needed to counteract the widespread impact of trauma and the continual promotion for early recognition, treatment, and recovery on local, state, and national level.

Ethical Considerations

The study followed all policies and procedures as outlined by the Youngstown State University Institutional Review Board (IRB) to ensure research was conducted in an ethical manner, which minimized potential risks to participants.

Limitations of the Study

This research has limitations characteristic of investigation of a social phenomenon (Simon, 2011) which include sampling concerns and the usage of measurement scales.

Sampling Concerns

This research employed an exponential, non-discriminative, snowball sampling technique to draw diverse participants from the United States, Canada, and abroad using email and social media. While a “chain referral” process provides access to difficult population samples, conversely, there is a risk of systemic bias often precipitous to low external validity and limitations to generalization (Robinson, 2014). Sampling concerns

decreased by collecting a random sample of the full population of responses before final analysis.

Usage of Measurement Scales

Participant responses to the social measurement scales embedded within the survey instrument may not entirely answer the proposed research questions in relation to understanding the moderators of adverse childhood experiences on and mature adult satisfaction and adjustment. Measurement concerns were minimized by including several open-ended questions at the conclusion of the survey instrument through which participants provided responses more idiosyncratic in nature.

Definition of Terms and Abbreviations

This research study incorporated the following distinctive terms and abbreviations:

Adverse Childhood Experience (ACE): The phenomena/factor/latent variable “adverse childhood experiences” as measured by the Adverse Childhood Experience inventory, originally developed by Felitti, et al. (1998).

Adult Attachment Scale (AAS): The phenomena/factor/latent variable “adult attachment” as measured by the Adult Attachment Scale, originally developed by Hazan & Shaver (1987).

Relationship Assessment Scale (RAS): The phenomena/factor/latent variable “relationship assessment” as measured by the Relationship Assessment Scale, originally developed by Hendrick (1988).

Brief Resiliency Scale (BRS): The phenomena/factor/latent variable “brief resilience” as measured by the Brief Resilience Scale, originally developed by Smith et al. (2008).

Subjective Happiness Scale (SHS): The phenomena/factor/latent variable “subjective happiness” as measured by the Subjective Happiness Scale, originally developed by Lyubomirsky & Lepper (1999).

Satisfaction with Life Scale (SWLS): The phenomena/factor/latent variable “satisfaction with life” as measured by the Satisfaction with Life Scale, originally developed by Diener, Emmons, Larson, & Griffin (1985).

Middle-aged/Mature Adult: The terms “middle-aged” and “mature adult” interchangeably refer to a period within the human lifespan between young adulthood and the onset of old age. The age range of this population is often subjectively identified throughout literature according to cultural perspective, historical background, and social discipline (Infurna, Rivers, Reich, & Zautra, 2015; Petry, 2002; and Sullivan, Annett, Luo, Simon, & Dahlberg, 2013). For this investigation, the mature adult population is associated with a much broader base of individuals ranging from Age 29 – Over 50.

Resilience: “Resilience” is multi-faceted term defined within this research as the ability to “bounce back”, recover from traumatic experiences, and adapt well to significant sources of stress (Lowe, Sampson, Gruebner, & Galea, 2015; and Southwick, Bonnano, Masten, Panter-Brick, & Yehuda, 2014).

Chapter One Summary

Chapter One presented an Introduction to the dissertation topic: *Understanding the Moderators of Adverse Childhood Experiences on Mature Adult Satisfaction and Adjustment*, followed by introduction to several delineated sections which include: Statement of the Problem, Purpose and Rationale for the Study, Research Questions, Research Design, Significance of the Study, Ethical Considerations, Limitations, and

Definition of Terms and Abbreviations. Chapter Two presents a review of the literature in preparation for chapters presenting methods, data analysis, and discussion.

Chapter Two

Literature Review

Introduction

Numerous studies have sufficiently demonstrated that adverse childhood experiences dramatically affect the mental, physical, and socioemotional development of individuals and families for a lifetime (Felitti, 2009; Hughes, Lowey, Quigg, & Bellis, 2016; Schimmenti & Bifulco, 2015). The majority of extant research focused their investigations on the effects of adverse childhood experiences within adolescent and geriatric populations (Bowlby, 1982; Depner & Ingersoll-Dayton, 1988; and Koenen, Moffitt, Poulton, Martin, & Caspi, 2007). Earlier studies such as Erickson (1968) and succeeding investigation from Paplia, Olds, & Feldman (2009) have readily shown that middle-adulthood is an essential period in which parents are raising children and establishing their careers. Crawford (2013) suggested that mature adulthood is a critical period when people are “actively influencing the lives of others in multiple realms around them” (p.2). Subsequently, the focus of this investigation and the resultant review of the literature examined the various dynamics succinct to providing a more comprehensive investigation of the phenomena: understanding of the moderators of adverse childhood experience on mature adult satisfaction and adjustment.

The body of this literature review methodically explores the mechanisms linking childhood experiences, attachment, and mature adult satisfaction and adjustment. More succinctly, the literature review examines the successive role of childhood experiences in childhood development (Davies, 2010; Davis-Kean, et.al., 2008), the formation of childhood attachment, the effects of adverse childhood experiences, the connection

between childhood attachment and adult attachment, and the formation of moderators to childhood experiences on mature adult satisfaction and adjustment. Before concluding the literature review, a statement of the problem and chapter summarization is provided.

The Role of Childhood Experiences on Childhood Development

The role of childhood experiences in childhood development is historically recognized throughout scholarly literature. According to Williams (1978), childhood development's oldest journal *Child Development Abstracts and Bibliography* was established in 1927 by the Committee on Child Development, under the Division of Anthropology and Psychology of the National Research Council. Paramount to this inaugural series of analytical review, researchers began investigating the importance of the connection between childhood experiences and childhood development.

Geminal research from Piaget (1952) examined earlier scholarly data to shed further light on the role of childhood experiences in childhood development. Though Piaget's theoretical timeline identifying emergent cognitive ability was scrutinized rigorously, his founding premise identifying the formation of childhood intelligence through adaptation to experience remains well substantiated among many contemporary scholars such as Inhelder, Sinclair, & Bovet (2014), and Ultanir (2012).

Relevant to this present scholarship, researchers such as Bronfenbrenner & Ceci (1994) and John-Steiner & Mahn (1996) suggested that individuals are born with a unique biogenetic make-up inherently expressed through connections with their external world. In support of these findings, Crawford (2013) further emphasized that human development takes place within a social, cultural, and environmental context in which people learn through interactive experiences with their surroundings.

Similarly, the research of Moore & Dunham (1995) showed that a process commonly referred to as “joint attentional states” enabled caregivers to alert a child to an object within their surroundings, thus providing support and protection using “eye-gazing” and other non-verbal communication. This early childhood practice served as an essential mechanism helping children to establish a sense of familiar reference, cognitive social orientation, and security within their environment. According to researchers such as Thompson, Goodvin, & Myer (2006), children use various emotional cues gathered from the process of “social referencing” to help them interpret events from within their immediate surroundings to help them prepare for further navigation throughout the environment.

The Formation of Secure Childhood Attachment

Understanding the purpose of secure childhood attachment is tantamount to this present investigation because one of the primary formational tasks within early childhood is the development of attachment with a primary caregiver. According to Erikson (1968), attachment relationship is a foundational step in socioemotional development, serving an important biological purpose by helping to keep the child in close proximity to caregivers (Ainsworth, 1985; Bowlby, 1969).

Pioneering research from Bowlby (1944, 1956, 1958, 1982, 1988), firmly established that emotional and sociological development occurs within the context of social attachment. In turn, Van der Horst & Van der Veer (2010) historically identified many of Bowlby’s contemporaries who corroborated his theory of social attachment. Bretherton (1991; 1992) addressed the theoretical development of attachment theory, emphasizing the cogency of the theory’s roots and development. Holmes (1993)

described the clinical implications for Bowlby's findings, identifying the valuable contribution of attachment theory to psychosociological practice. According to van der Horst & van der Veer (2010), Newcombe and Lerner (1982) focused their attention on the historical and societal context of Bowlby's ideas. Other scholarship from researchers such as Van Dijken & Vander Veer (1997) described the historical development of Bowlby's research, reclaiming that his original philosophy and interpretation of attachment had not substantially changed. Their candid summarization of Bowlby's work is most appropriately noted:

Indeed, it can be argued that despite all the later methodological and theoretical refinements, the basic tenet of attachment theory has remained surprisingly simple: Children need a warm continuous relationship with a mother or mother substitute, and they need to be dependably loved; in the absence of such love, they are likely to feel frightened, lonely, and unhappy. Moreover, if there is no possibility for such an affectionate relationship in infancy and childhood, persons may be crippled for life, may never ever be able to develop emotional relationships, and may develop all sorts of behavioral and mental problems (Van Dijken & Vander Veer, 1997, p. 26).

Paplia, Olds, & Feldman (2009) and Schore & Schore (2008) added to existing scholarship by demonstrating that for secure attachment to form, children need responsive and reliable caregiving. Subsequently, the nurturing process of secure attachment relationship is instrumental in facilitating neurophysiological development responsible for creating a sense of confidence and comfort needed when interacting with

others and their environment (Crawford, 2013). Supporting this premise, researchers such as Perry, Pollard, Blakley, Baker, & Vigilante (1995), and Schore (1994, 2001) conducted studies introducing the role of attachment security in brain development, further validating the connection between healthy brain functioning with positive and nurturing relationships.

The Effects of Adverse Childhood Experiences

Adverse childhood experiences stem from a host of disturbing interpersonal events resulting from physical, emotional, and sexual abuse, as well as exposure to other dangers such as war, community violence, loss of a caregiver, neglect, and maltreatment (Barle, Wortman, & Latack, 2015; Sacks, Murphy, & Moore, 2014). Another noteworthy consequence of adverse childhood experiences is a resultant phenomenon generally associated with the “cost of caring” for others, which is described as “vicarious trauma” (Pearlman & Saakvitne, 1995), “compassion fatigue” (Figley, 2002), or “secondary traumatic stress”.

Craig & Sprang (2007) point out that an incredible four million youth in the United States have experienced the jeopardies of childhood adversity. While 35 - 46% of all young adults report having witnessed violence at an early age, over 13% of female youth report having been sexually assaulted (Kilpatrick, Saunders, & Smith, 2003). According to Putnam (2006), the challenging problems and expenditures associated with maltreatment and abuse, place childhood adversity among the most impacting and costliest psychosociological health problems in history.

Alarmingly, Adams (2010) discovered that between 75 - 93% percent of youngsters entering the juvenile justice system had experienced childhood trauma.

Validating Adam's earlier work, Zelechoski et al. (2013) identified the far-reaching impact of adverse childhood experiences on learning and behavioral issues. Given the prevalence, clinical complexities, and distinctive needs of traumatized youth within residential treatment, claiming it was imperative to understand this population as distinct from youth without histories of traumatic exposure.

Reiser, McMillan, Wright, & Asmundson (2014) conducted research examining the collective impact of multiple forms of adverse childhood experiences on various future health outcomes involving health anxiety in adulthood. The results of this study revealed a significant, positive association between adverse childhood experiences and health anxiety, indicating that as the number of adverse childhood experiences increased, levels of health anxiety also increased. This research was consistent with previous studies that also found significant relationships between childhood adversities and elevated levels of health anxiety in adulthood (Barsky, Wool, Barnett, & Cleary, 1994; Festinger & Baker, 2010; Kuo et al., 2010; Noyes et al., 2002; and Salmon & Calderbank, 1996). Particular to this present literature review, the Reiser, McMillan, Wright, & Asmundson (2014) study emphasized the importance of the cumulative impact of adverse childhood experiences, unlike previous research in this area that focused on examining childhood adversities categorically. Findings show that experiencing multiple forms of childhood abuse and other dysfunction within household relationships increase the risk of developing health anxiety later in life. Accordingly, these scholars suggested, "early focus on individuals who have a history of multiple types of adverse childhood experiences may serve to prevent or reduce health anxiety" (p. 412).

Yumbul, Cavusoglu, & Geyimci (2010) accessed how individuals' childhood traumas (emotional, physical, sexual abuse; emotional and physical neglect) affect their attachment styles, infidelity tendency, romantic jealousy, and self-esteem. The study examined 150 individuals (91 females, 59 males) including married individuals, individuals in a dating relationship, and singles. The analyses demonstrated a significant difference in childhood trauma scores regarding adult attachment styles and a significant positive correlation between trauma scores and future spousal infidelity, thus demonstrating the tremendous negative impact of adverse childhood experiences on successful marriages.

Another effect of adverse childhood experiences includes susceptibility to Post-Traumatic Stress Disorder (PTSD). Research conducted by Zaidi & Foy (1994) examined the etiology of combat-related Post Traumatic Stress Disorder (PTSD). Their research findings strongly implicated that childhood physical abuse history was a precipitous and etiological factor in the formation of PTSD resulting from combat trauma exposure. Using standardized measures developed by child abuse researchers such as Burger, Knutson, Mehm, & Perkins (1988) and Fairbank, McCaffrey, & Keane (1985), Zaidi & Foy (1994) discovered a positive correlation between physical abuse history and severity of combat-related PTSD, detecting that over 45% of veterans with PTSD were previous recipients of abusive physical punishment during childhood.

In very similar studies, multiple regression analyses on PTSD participants found that both combat exposure and physical abuse were factors predicting predicted greater PTSD symptomology (Donovan, Padin-Rivera, Dowd, & Blake, 1996). Findings further

validated the need for addressing both adverse childhood experiences and military trauma in the assessment and treatment of chronic PTSD patients.

In a study conducted by Flaherty et al. (2009), determinants of health outcomes among 805 high-risk children were reviewed. Researchers measured adverse childhood experiences at age six against subsequent evaluation of health outcomes from this same cohort at age 12. Findings demonstrated how childhood adversity dramatically impact health outcomes during childhood and adulthood by suggesting that at least two broad mechanisms exist through which adverse childhood experiences transform into biomedical conditions. Transforming mechanisms consisted of a) the delayed consequences of various unhealthy coping devices like overeating, smoking, drug use, promiscuity, anxiety, and depression, and b) morbidity caused by chronic stress-induced immune deficiency and other proinflammatory cytokine responses causal to headaches, back pain, primary pulmonary fibrosis, osteoporosis, and coronary artery disease (Dong et al., 2004). Later examining this earlier research, Felitti (2009) validated that Flaherty's study followed the general theoretical model of the landmark Adverse Childhood Experiences (ACE) Study, which matched adverse childhood experiences against adult and adolescent health risks, health status, and social functioning (Felitti & Anda, 2009; and Felitti et al., 1998).

Clarkson Freeman (2014), Toth & Manly (2011) and Waite, Gerrity, & Arrango (2010) demonstrated that as when a child was exposed to ACE such as abuse, neglect, and household dysfunction, it made a traumatic impact a child's socioemotional development. Included in these studies, various other empirical sources showed a correlation between ACEs and a host of injurious risky behaviors and health problems

later in mature adulthood (Lyons, Otis, Scott, & Hills, 2014). According to Clarkson Freeman (2014)

Research has demonstrated a clear relationship between ACEs and a variety of health behaviors and outcomes in adulthood, including premature mortality (Brown et al., 2009), alcoholism (Dube et al., 2001), drug abuse, depression (Chapman et al., 2004), suicide, heart disease, obesity (Williamson, Thompson, Anda, Dietz, & Felitti, 2002), cancer, and chronic lung disease, among others (Felitti et al., 1998) (p.545).

The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study is one of the largest foundational investigations for studying the effects of adverse childhood experiences, subsequently coining the term: *ACEs*). Originally conducted at Kaiser Permanente from 1995 to 1997, this seminal study retrospectively examined the association between three types of ACEs i.e. abuse, neglect, and household dysfunction, adult health risk behaviors, and related health outcomes from over 17,000 Health Maintenance Organization participants regarding their childhood experiences and current health status and behaviors (Figure 1). Through a probe of ten questions, the ACE questionnaire examines ten unique types of childhood trauma. According to Felitti et al. (1998), there are five traumas that are personal, which include physical abuse, physical neglect, emotional neglect, verbal abuse, and sexual abuse. The remaining five traumas are related to the various experiences of family members, such as a parent who has become an alcoholic, a family member in jail, a mother who becomes a victim of domestic violence, a family member diagnosed with a mental illness, and either the absence or withdrawal of a parent because of divorce, abandonment, or death. The

study’s designers developed criteria for obtaining an ACE score ranging from 0 to 10. Participants receive one point for each type of trauma experienced. While it is conceivable that an individual could have experienced multiple adverse childhood experiences, one of the limitations of the instrument is that only a maximum of ten types of trauma is measured. According to Felitti et al. (1998), in theory, as one’s ACE score increases, so does the risk of disease, social and emotional problems. Moreover, Felitti & Anda (2009) have suggested that that having an ACE score of four or more is a threshold indicative of impending problems.

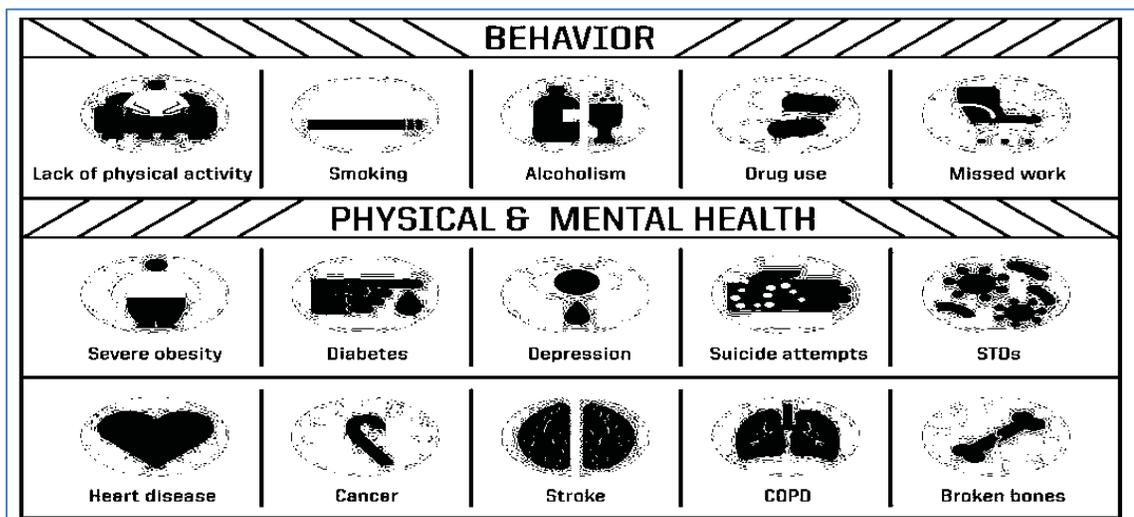


Figure 1. *ACEs Increase Health Risks* (CDC: Robert Woods Foundation, 2016)

The specific characteristics of child abuse, neglect, and household dysfunction are depicted in Figure 2. According to Clarkson Freeman (2014):

The ACE study demonstrated strong graded relationships between the abuse and/or household-dysfunction exposures during childhood, including psychological abuse, physical abuse, contact sexual abuse, exposure to substance abuse, mental illness, violent treatment of mother or stepmother, and criminal behavior, and numerous

health behaviors and health outcomes in adulthood (Felitti, 2002; Felitti et al., 1998; p. 455).

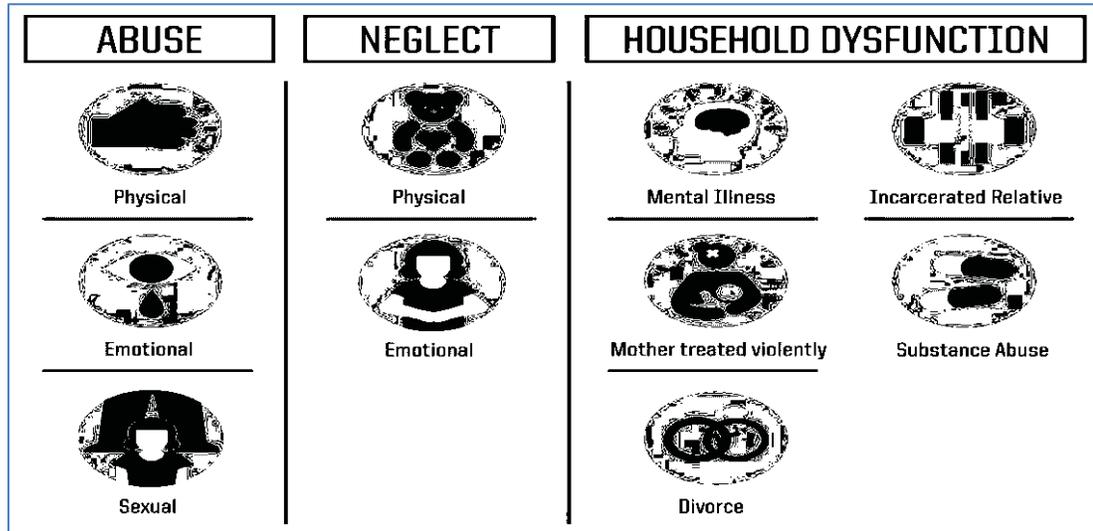


Figure 2. *Three Types of Aces* (CDC: Robert Woods Johnson Foundation, 2016)

As depicted in Figure 3, the ACE Pyramid shows how ACEs make a substantial impact on risky adult behaviors and potential health outcomes. The affects are shown to be both cumulative and inferential, meaning that as one's number of ACEs increased, so will the likelihood of corresponding risky adult behaviors and harmful health outcomes (Clarkson Freeman, 2014).

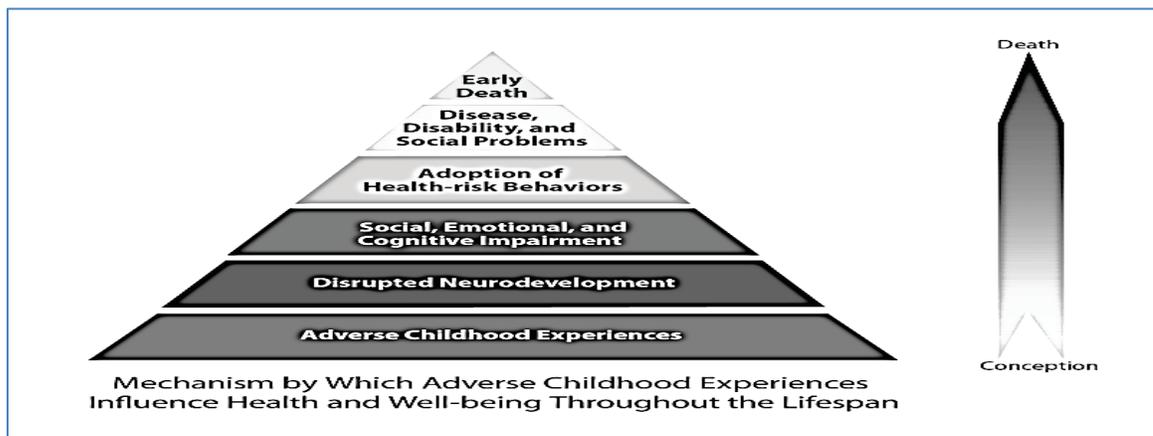


Figure 3. *The ACE Pyramid* (CDC, 2016)

While there have been many reiterations of the original ACEs questionnaire were developed since the initial study such as Anda et al., (1999) and Dube, Anda, Felitti, Edwards, & Williamson (2002). As indicated by Clarkson Freeman (2014), the present questionnaire measures more risk behaviors and contains a greater number of ACEs than were originally conceptualized.

Studies such as Teicher (2000); Teicher, Andersen, Polcari, Anderson, & Navalta (2002); and Teicher et al. (2003) examined the neurobiological consequences of trauma. Progressive research such as the National Scientific Council on the Developing Child (2005), and Perry, (2004) further demonstrated that adverse childhood experiences were causal to malformation of the development of brain architecture.

The scholarship of Shonkoff & Garner (2012) examined research from a pediatric perspective, promoting an *ecobiodevelopmental* (EBD) framework that would kindle progressive thinking about health promotion and the prevention of disease across the lifespan (Figure 4). Their studies reveal how the interactive effects of both genetic predisposition and environmental influence shape brain architecture. This research confirmed how the developing circuitry of the brain affects a lifetime of learning, behavior, and health. In salient conclusion, the researchers propose:

Toxic stress can lead to potentially permanent changes in learning (linguistic, cognitive, and social-emotional skills), behavior (adaptive versus maladaptive responses to future adversity), and physiology (a hyperresponsive or chronically activated stress response) and can cause physiologic disruptions that result in higher levels of stress-related chronic diseases and increase the prevalence of unhealthy lifestyles that lead to

widening health disparities (Shonkoff & Garner, 2012, p. 15).

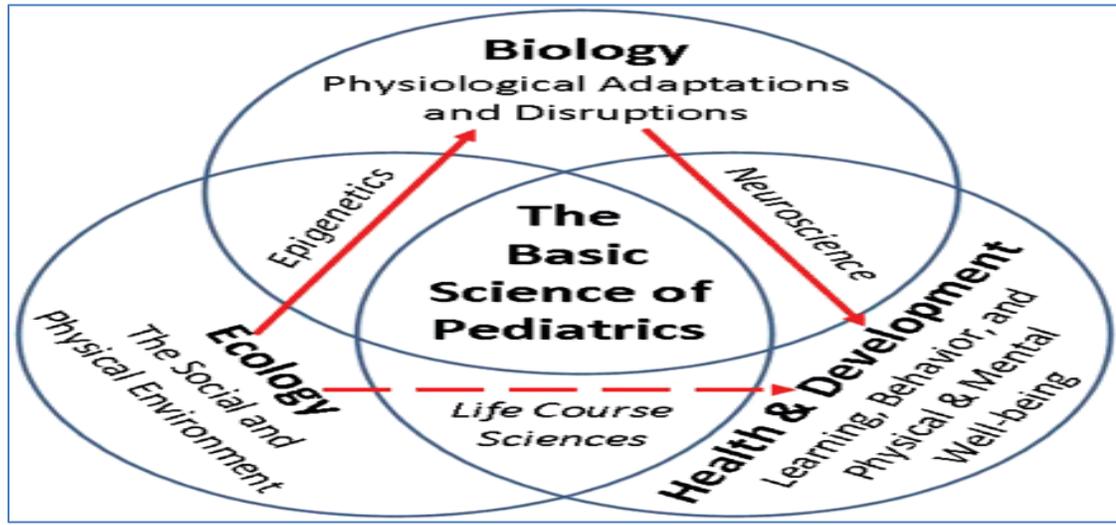


Figure 4. *The Basic Science of Pediatrics* (Shonkoff & Garner, 2012)

Researchers such as Perry, Pollard, Blakley, Baker, & Vigilante (1995) determined that incident trauma profoundly impacts emotional, behavioral, cognitive, social, and physical functioning as developmental childhood experiences determine both the organizational and functional status of the brain. Teicher (2000) suggests that adverse childhood experiences initiate hormonal responses that alter neurotransmitters in the brain, which are designed to moderate vulnerable brain activity. In comparable studies, Loman & Gunnar (2010); National Scientific Council on the Developing Child (2010); and McEwen (2008) showed that continuous trauma in early childhood produces toxic stress that activates lasting hormonal and neuronal changes that alter the actual architecture of the brain.

Several researchers such as Van der Kolk (2009; 2014), Van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola (2005), and Van der Vegt et al. (2009), performed extensive research examining adaptation to trauma. They determined that adaptation to

trauma inevitably leads to a variety of problems with the regulation of affective states such as anger, anxiety, and sexuality. This maladaptation to trauma is often causal to vulnerability, which often leads to harmful engagement in pathological episodes of self-regulation such as self-mutilation, eating disorders, and substance abuse.

Tonmyr, Draca, Crain, & MacMillan (2011) recognized *emotional/psychological child maltreatment* (ECM) as an understudied area and major public health problem with serious consequences including emotional and behavioral problems that can last throughout one's entire lifespan. Specifically designed to identify the validity of the psychometric properties of the measurements used for ECM evaluation, the examination of over 2344 articles helped to flag the enormity of the problem, while further demonstrating the need for reliable measures required to develop a better understanding of the distribution, determinants, and future consequences of child maltreatment.

Researchers such as Sroufe, (2005) and Waite et al. (2010) showed that exposure to adverse childhood experiences disrupt the normal stages of childhood development and predispose individuals to many subsequent health problems. In contrast, other researchers such as Riggs (2010) and Weber & Reynolds (2004) demonstrated that the effects of childhood trauma may be alleviated by the presence of secure relational attachment. This information provides valuable insight into identifying the link between childhood experiences and secure childhood attachment. In turn, secure adult attachment may serve as possible moderator to adverse childhood experiences, moreover; providing help in understanding the moderators of adverse childhood experiences on mature adult satisfaction and adjustment.

The Connection Between Childhood Attachment and Adult Attachment

While a review of the literature shows the connection between secure attachment and normal childhood development, further clarification is needed to more clearly understand the connection between secure childhood attachment and later life attachment, referred to as “adult attachment” (Sable, 2008, p. 21).

Ainsworth (1985) described three basic types of attachment relationships: *secure attachment*, *ambivalent-insecure attachment*, and *avoidant-insecure attachment*. The fourth type of attachment relationship, regarded as *disorganized/disoriented attachment* was later identified by (Main & Solomon, 1986). Luby (2006) indicated that children who experience insecure attachment relationship types lack the framework and emotional support needed during times of stress. Luby determined that without this emotional care children without secure attachment are likely to experience a much deeper degree of stress and with greater negative consequences.

The enormous contribution of Bowlby’s work primarily focused on attempting to understand the very essence of the infant-caregiver relationship, however; Bowlby alleged that the phenomenon of child attachment was characteristic of human experience across the entire lifespan (1958; 1969; 1973; 1982; and 1988). As Fraley (2004) observed, it was not until the mid-1980's that researchers began to take seriously the possibility that ramifications from the attachment processes may play out in mature adulthood.

Hazan & Shaver (1987) were two of the first researchers to explore Bowlby's (1988) connection between childhood attachment and adult attachment within the context of romantic relationships. Hazan and Shaver contended that the emotional bond that

develops between adult romantic partners is at least in part an important function of the same motivational system (i.e. the attachment behavioral system) that assists and facilitates the emotional bond between infants and their caregivers). Subsequently, they viewed romantic love as part of the attachment behavioral system, as well as part the motivational systems that also facilitate caregiving and contribute to sexuality (Figure 5).

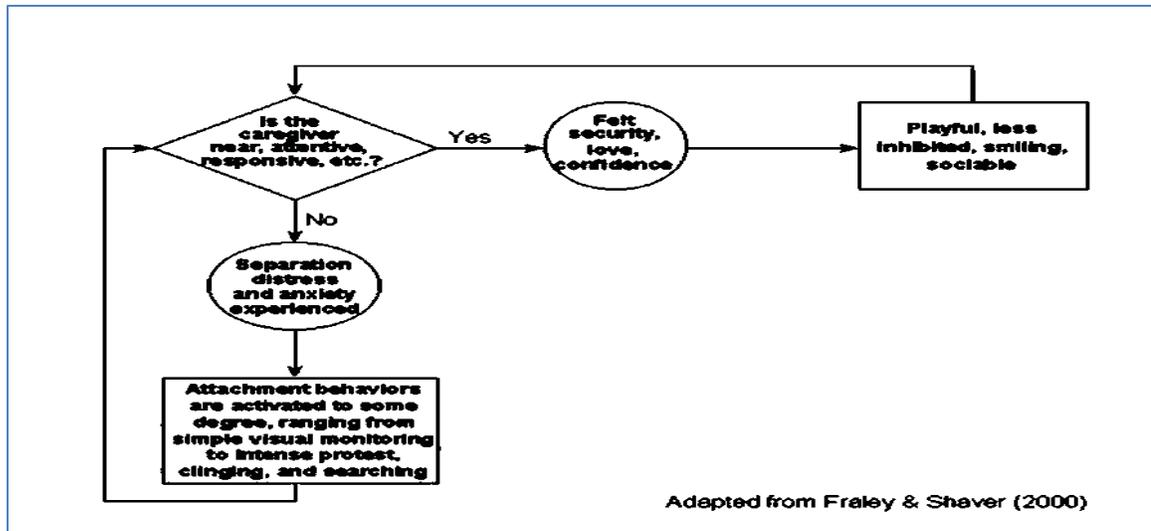


Figure 5. *The Attachment Behavioral System* (Fraley & Shaver, 2000)

In later studies, Fraley (2004) noted that Hazan and Shaver (1987) had identified several specific commonalities between the relationship between infants and caregivers and the relationship between adult romantic partners:

- both feel safe when the other is nearby and responsive
- both engage in close, intimate, bodily contact
- both feel insecure when the other is inaccessible
- both share discoveries with one another
- both play with another's facial features and exhibit a mutual fascination and preoccupation with one another

- both engage in "baby talk"

In light of these many similarities, Fraley & Shaver (2000) suggested that attachment relationships have a weighty impact on helping to understand the mechanisms of close relationships. He notably proposed three significant implications of Adult Attachment Theory:

First, if adult romantic relationships are attachment relationships, there should be some observable similarities between individual differences in adult relationships initially observed within infant-caregiver relationships (Ainsworth, 1969, 1985). Fraley (2004) realized that some relationships would be "secure," while others would be "insecure." Some would be "anxious-resistant," while others would tend to "worry" whether or not they were loved completely, thus becoming easily frustrated or angered when their individual attachment needs went unmet. Others were said to be "avoidant" or at least appeared not to care too much about close relationships or intimacy. These individuals are described as those who may prefer not to be too dependent on other people or in turn, have others become too dependent upon them.

Secondly, if adult romantic relationships are attachment relationships, they should "work" the way that infant-caregiver relationships work. Further clarifying this sentiment, Fraley stated:

The kinds of things that make an attachment figure "desirable" for infants (i.e., responsiveness, availability) are the kinds of factors adults should find desirable in romantic partners. In short, individual differences in attachment should influence relational and personal functioning in adulthood in the same way they do in childhood (Fraley, 2004, p. 2).

Thirdly, security or insecurity within adult relationships is at very least a partial reflection of previous experiences with primary caregivers (John, Robins, & Pervin, 2008). Subsequently, another very important Bowlbian construct to consider is that he believed that the “mental representations or working models” (i.e., expectations, beliefs, "rules" or "scripts" for behaving and thinking) that a child retains regarding relationships are a direct function of his or her caregiving experiences. For example, a secure child tends to believe that others will be there for him or her because previous experiences have led him or her to this conclusion. Once a child has developed such expectations, he or she will tend to seek out relational experiences that are consistent with those 333 expectations and will begin to perceive others and themselves in a way that is fashioned by those beliefs.

According to Bowlby (1988), this whole process of relational expectations was part of the mechanism designed to promote continuity within an individual’s attachment patterns over the entire life course. Consequently, Bowlby thought that a person's attachment pattern (Figure 6) would change if his or her relational experiences are inconsistent with his or her expectations. The research findings clearly demonstrate that if adult relationships are secure attachment relationships, it is likely that these individuals also had a secure attachment relationship with their parents, caregivers, or other significant individuals within their lives (Carstensen, 1992). Likewise, it was probable that adults who were in a safe and secure relationship as children will be more likely to form secure relationships with new partners later in life. The research findings also infer that the quality of adult attachment can have a significant impact on other aspects of life (Bifulco & Thomas, 2012; Hinnen, Sanderman, & Sprangers, 2009).

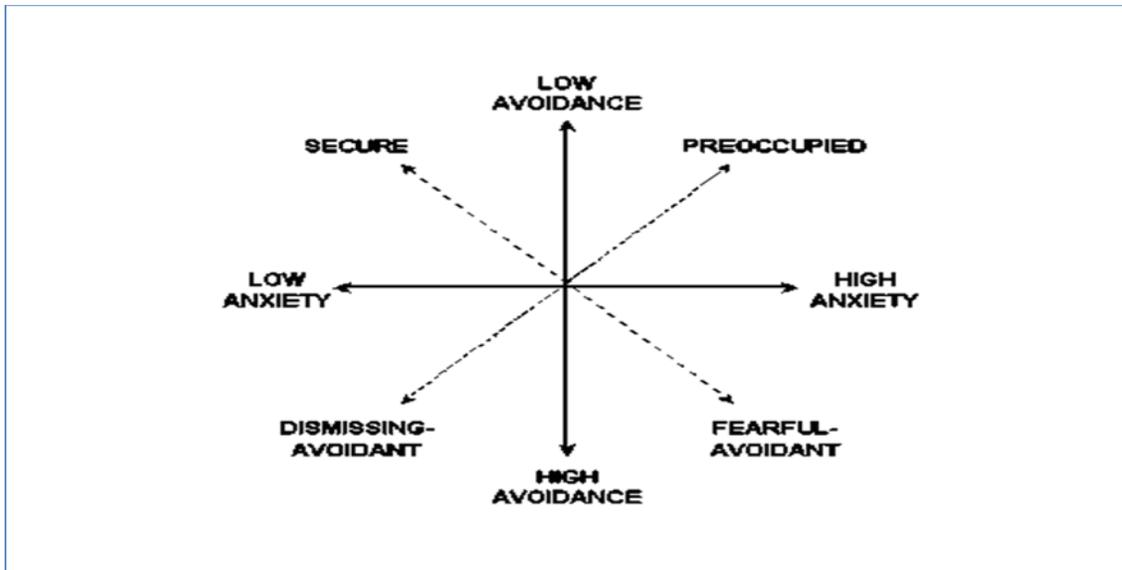


Figure 6. *Adult Attachment Patterns* (Fraley & Shaver, 2000)

Moderators of ACEs on Mature Adult Satisfaction and Adjustment (MASA)

A review of the research literature yielded a substantial array of potential moderators of ACEs on MASA. Among many latent factors and/or contributory mechanisms instrumental to the formation and mediation of resilience, include supportive relationships, dispositional mindfulness, realistic expectations of life satisfaction, State Attachment Security (SAS), positive interpersonal experiences, adjusted life course approach to well-being, prosocial behavior, purposeful and meaningful life, life planning, optimism, social support, active coping, and the development of preparatory lifeskills.

Supportive Relationships as Moderator of ACEs on MASA

Researchers such as Cassidy (1995), Chu & Lieberman (2010), and Lieberman, Chu, Van Horn, & Harris (2011) helped identify how attachment disorders, biases, and problematic cognitive beliefs are both detrimental and injurious throughout the lifespan. Other researchers such as Bajaj & Pande (2015), Depner & Ingersoll-Dayton (1988), and Turner, Thomas, & Brown (2016), addressed the antidotal value of supportive

relationships as mechanisms in recovery from traumatic experiences, the formation of resilience, and future satisfaction in later life.

State Attachment Theory as Moderator of ACEs on MASA

Zhang (2009) explored the role of State Attachment Security (SAS) and the connection to finding resilience through being able to recall instances of acceptance and responsiveness. In a replication and extension of Davila and Sargent's (2003) findings, Zhang showed that attachment anxiety varies with perceptions of interpersonal loss associated with negative interpersonal events. More specifically throughout these studies, personal anxiety was shown to intensify with an increase in perceived interpersonal loss from negative life events such as ACEs. Likewise, personal anxiety was shown to lessen with the perception of interpersonal gain from positive interpersonal events. Germaine to this present review of the literature, Zhang demonstrated that negative interpersonal experiences increased anxiety, while positive interpersonal experiences decreased anxiety. Subsequently, positive interpersonal experiences involving perceived gains in interpersonal trust and support resulted in less anxiety and less uncertainty about future attachment relationships (p. 415).

Dispositional Mindfulness as Moderator of ACEs on MASA

Among the research discussing the important role of moderators to ACEs on MASA, Whitaker et al. (2014) performed a web-based survey of 2160 Pennsylvania Head Start staff using "dispositional mindfulness" as a moderator to better health and health behavior resulting in resilience leading to later life-satisfaction. As defined by Brown & Ryan (2003) *dispositional mindfulness* is a characteristic reflecting an individual's ability to remain keenly aware of their thoughts and feelings in the present

moment. Whitaker showed that across multiple ranges of exposures to ACEs, individuals with greater *dispositional mindfulness* were associated with fewer health conditions, better health behavior, and better (HRQOL) health-related quality of life.

Realistic Expectation on Life Satisfaction as Moderator of ACEs on MASA

In a monumental European study of over 10,000 Germans, researchers Lang, Weiss, Gerstorf, & Wagner (2013) investigated life satisfaction and the forecasting of future mortality. They observed few age differences between the young and the old in current life satisfaction but stronger age differences in future expectations. They also discovered that younger adults anticipated improved future life satisfaction, and overestimated their actual life satisfaction five years later. Dissimilarly, older adults who were more pessimistic about the future generally underestimated their actual life satisfaction after five years. The results of their so-called “Survival Analyses” revealed that within mature adulthood... underestimation or having a realistic expectation of one's life satisfaction was related to lower hazard ratios for disability. Such personal underestimation was associated with less risky behaviors, more positive health outcomes, and eventually obtaining a greater sense of fulfillment and satisfaction in life.

Adjusted Life Course Approach as Moderator of ACEs on MASA

In qualitative studies concerning childhood trauma and life satisfaction in adulthood, researcher such as Crawford (2013), Park et. al. (2015), and Pavot & Diener, (2008) identified moderating factors such as attachment, sense of belonging, meaningfulness, and purpose in life as being instrumental to overcoming childhood adversity and mature adult satisfaction. Later research by Hughes et al. (2016) examined a national representative household survey of 3,885 English adults, which demonstrated

the effects of ACE scores with AORs (Adjusted Odds Ratio) for low life satisfaction and mental well-being. The study suggested that almost half of the general English population had experienced at least one ACE and over one in twelve have suffered at least four or more ACEs. Such childhood adversity places individuals at significantly increased risk to low mental well-being along with other health risks and co-morbidities. The strong links between ACEs and adult mental well-being emphasize the need for an *adjusted life course* approach to mental health. A typical life course approach takes both a temporal and social perspective. A life course approach looks back across generations for clues to current patterns of health and disease, while recognizing that both past and present experiences are formed by much wider social, economic and cultural contexts (Kuh & Ben-Shlomo, 1997). Methodologies focusing on early ACE prevention and intervention while integrating multi-disciplinary mechanisms throughout the lifespan may contribute to improved mental well-being and later life satisfaction.

Prosocial Behavior as Moderator of ACEs on MASA

Researchers such as Caprara & Steca (2005) examined perceived self-efficacy of affect regulation along with the perceived self-efficacy within interpersonal relationships to discover how these factors impact prosocial behavior. In a cross- investigated the relationship among purpose, hope, and life satisfaction. Researchers found that prosocial behavior (action intended to help others) was positively correlated with life satisfaction in adulthood. The idea of discovering personal fulfillment through altruism appears to be central to finding life satisfaction. As noted by Bronk et al. (2009), living the “good life” often involves engaging in activities through which one learns to lose oneself in the

process. Leading a meaningful life involves “pursuing a path in which a cause or an institution supplies a sense of belonging to something greater than oneself” (p.506).

Preparatory Skills as Moderator of ACEs on MASA

Other research from Prenda & Lachman (2001) demonstrated that life planning and having a perceived sense of control in one’s life through the development of preparatory skills leads to a greater sense of life satisfaction and resilience. This study helps further present the idea that developing resilience is a process leading to life satisfaction.

Other Key Ingredients in the Moderation of ACEs on MASA

Smith et al. (2008) discovered how resilience has the potential to moderate the effects of resilience on health outcomes. Optimism, social support, and the development of active resilience coping skills may also help provide greater ability to recover from stress and adversity. In other helpful studies by Tusaie & Dyer (2004) and Sagone & De Caroli (2014), it was determined that an individual’s reactions to stress are not to be viewed as isolated events that cause a response, but rather the consequence of previous events. Researchers such as Mattei & Schaeffer (2004) suggest that the results of the Subjective Happiness Scale (SHS) provide empirical support for two main components of subjective well-being: high satisfaction with one's past life, and the positive feeling of happiness stemming from one’s personal appraisal. Like Ohio weather conditions, one’s personal happiness is considered to be on an ever-changing continuum. These researchers propose that subjective well-being involves both reasoning (cognitive) along with feeling and emotion (affective). In light of these findings, Diener (2006) contends that there is no single-most key or main factor to life satisfaction, but rather that life satisfaction is

like a recipe that includes several essential ingredients. Diener suggests that the “key ingredients” to obtaining happiness and fulfillment in life involve social relationships, attainment of goals derived from one’s personal interests and values, along with a sense of connection to something larger than one’s own self (p.3).

Current Investigation

In light of these scholarly findings, the current investigation further examines the mediating and moderating phenomena contiguous to the development of resiliency, overcoming adverse childhood experiences, and attaining life-satisfaction and adjustment in mature adulthood. Informed by Adult Attachment Theory, this research further explores the contributory role of social relationships; inherent to the formation of trust, security, and self-worth (Chu & Lieberman 2010; Grossman, Grossman, & Waters 2005; & Paplia, Olds, & Feldman 2009).

Chapter Two Summary

Chapter Two presented an introduction to the literature review, followed by a methodical exploration of the mechanisms linking childhood experiences, attachment, and mature adult satisfaction and adjustment. The body of the literature review included delineation of the role of childhood experiences in childhood development, the formation of childhood attachment, the effects of adverse childhood experiences, the connection between childhood attachment and adult attachment, and the formation of moderators to childhood experiences on mature adult satisfaction and adjustment. Chapter Three presents research methodology in preparation for data analysis in Chapter Four and Chapter Five discussion.

Chapter Three

Methodology

Introduction

Research has shown the injurious effects of childhood adversity on adolescents and geriatric populations (Bowlby, 1982; Depner & Ingersoll-Dayton, 1988; and Koenen, Moffitt, Poulton, Martin, & Caspi, 2007), however; there is limited research identifying the impact of trauma pertaining to adjustment and life satisfaction in middle-aged adults. This investigation examines the moderating phenomena contiguous to overcoming childhood experiences for attaining life-satisfaction and adjustment in mature adulthood. The methodological design chosen for this investigation is survey research, intended to examine the effects of adverse childhood experiences on life satisfaction in adulthood in relation to the proposed research questions:

Research Questions

1. What is the impact of ACEs on MASA? More specifically:
 - a. What is the impact of self-reported ACEs, as measured by the ACEs Questionnaire, on self-reported levels of adult attachment, as measured by the Adult Attachment Scale (AAS)?
 - b. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported relationship assessment, as measured by the Relationship Assessment Scale (RAS)?

- c. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported resiliency, as measured by the Brief Resiliency Scale (BRS)?
 - d. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported perceived happiness, as measured by the Subjective Happiness Scale (SHS)?
 - e. What is the impact of self-reported ACEs, as measured by the ACE Questionnaire, on self-reported satisfaction with life, as measured by the Satisfaction with Life Scale (SWLS)?
2. If an impact is revealed, are there significant moderators reported that provide additional insight into the level of impact that ACEs have on the measures of MASA?
 3. Do demographic identifiers (i.e. age, gender, marital status, ethnicity, student status, education level, occupation, location, financial status, and household status) impact the correlation between these factors?

Participants

The current investigation utilizes a survey research design. The study initially gathered responses from among $N = 3213$ participants. Of these total respondents, ($n = 420$) were initially excluded because they did not fit into the *middle-age* parameters (i.e. ages 29–39, ages 40–50, and Over age 50). Additionally, ($n = 1995$) participants were excluded because they did not complete all six embedded research inventories and open-ended responses. Of the remaining ($n = 798$) respondents, $n = 300$ were randomly selected for analysis in order to mitigate the potential for *sampling bias*.

Participants were recruited from the United States, Canada, and abroad with social media, email, and exponential non-discriminative, non-probability snowball sampling (Snowball Sampling, 2016). The term *non-probability* refers to a technique where samples are gathered through a technique that does not give all the individuals in the population a chance for equal selection (Non-Probability Sampling, 2016). An advantage of this type of chain referral process is that researchers can often reach populations that are often difficult to sample, however; there is also a possible risk of sampling bias when initial subjects only nominate others that share the same traits or interest. The current investigation includes a random sampling of the full sample of data in an effort to mitigate the potential for sampling bias.

Instrumentation

Mixed method research is often used to explore a phenomenon and address a question at different levels by using multiple ways to explore a research problem (Trochim & Donnelly, 2008). There are a number of mixed method design strategies utilizing quantitative and qualitative methods to collect data. Survey research is an effective, convenient method of collecting data. Trochim & Donnelly (2008) suggest that questionnaires and open-ended/ interview-type questions are both appropriate for survey design. Subsequently, this study incorporated a similar methodology, which examined both quantitative and qualitative responses initially collected under Youngstown State University approved IRB Exempted Protocol #124-16. This original pilot study had incorporated the use of several psychometric measurements embedded within the survey instrument to assess how well the instruments worked together as participants were asked to respond to multiple concepts.

This present research reconsidered incorporating these psychometric measurements because of their contribution to understanding the moderators of adverse childhood experiences on mature adult satisfaction and adjustment. These instruments include the Adverse Childhood Experiences (ACE), the Adult Attachment Scale (AAS), the Relationship Attachment Scale (RAS), the Brief Resilience Scale (BRS), the Subjective Happiness Scale (SHS), and the Satisfaction with Life Scale (SWLS).

The Adverse Childhood Experiences (ACE) assesses associations between childhood trauma and maltreatment and later-life health and well-being (CDC website, 2014). Through a probe of ten questions, the ACE questionnaire examines ten unique types of childhood trauma later measured in the ACE Study. Five of these traumas are personal, including physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect. The remaining five traumas are related to the experiences of various family members, including a parent who is an alcoholic, a mother who is a victim of domestic violence, a family member in jail, a family member diagnosed with a mental illness, and the withdrawal of a parent through divorce, death or abandonment. The study's designers developed criteria for obtaining an ACE score ranging from 0 to 10. Participants received one point for each type of trauma experienced. While it is conceivable that an individual could have experienced multiple adverse childhood experiences, one of the limitations of the instrument is that only a maximum of ten types of trauma is measured. It is theorized that as one's ACE score increases, so does the risk of disease, social and emotional problems. Researchers suggest that an ACE score of 4 or more is a threshold indicative of impending problems (i.e. the likelihood of chronic pulmonary lung disease increases 390%; hepatitis 240 %; depression 460 %; and suicide

1,220 %). According to Becker (2011), the ACEs questionnaire assists researchers, educators, and other health professionals in the identification of childhood abuse, neglect, and family dysfunction such as domestic violence, incarceration, and other risky health behaviors. One other significant limitation of the ACE instrument is that it does not measure any of the positive experiences in early life that can actively help build resilience that protects individuals from the effects of trauma and serve as moderators to adverse childhood experiences and mature adult satisfaction and adjustment (Dube et al., 2009). In their seminal research, Bruska & Tessin (2013) showed that Cronbach's alpha coefficients indicated reliable and valid internal consistency of the ACE questionnaire and assessment procedures (Exhibit 1).

The Adult Attachment Scale (AAS) was officially developed in 1990 and was built on the earlier work of Hazen & Shaver (1987) and Levy & Davis (1988). The measurement consists of 18 items scored on a 5-point Likert-type scale. The AAS measures adult attachment styles: *Secure, Anxious, and Avoidant* as researched by Collins & Read, 1990; and Cherry, 2006). According to Germain (2011):

the *secure* style characterizes the subject as comfortable with intimacy, dependency, and reciprocity in relationships, as well as low in anxiety about loss. The *avoidant* style emphasizes a lack of trust and discomfort with intimacy and dependency. The *ambivalent* style describes a desire to be close, anxiety about rejection, and awareness that the individual desires intimacy to a degree greater than most people (p. 130).

According to Crowell & Treboux (1995) this self-selection measure was developed to help better understand one's adult attachment style in regards to their feeling about

romantic relationships. According to researchers, WL, Zhang, & Lui (2004) the Cronbach's alpha coefficients in the normal group are higher than 0.700. The discriminatory validity in anxiety and the close-dependence dimension was good. The score of construct-related validity is high. Information from the AAS is utilized within this research to help determine if there are moderators reported that provide additional insight into the level of impact that childhood experiences have on the measures of adult satisfaction and adjustment (Exhibit 2).

The Relationship Attachment Scale (RAS) is a seven question, 5-point questionnaire that measures general relationship satisfaction (Hendrick, 1988; and Hendrick, Dicke & Hendrick, 1998). According to Vaughn & Matyastik Bauer (1999), relationship satisfaction is one of the key areas of relationship assessment. While several instruments are available for assessing relationships, the RAS is a brief measure of global relationship satisfaction appropriate for use with any individuals who are in an intimate relationship, such as married couples, cohabiting couples, engaged couples, or dating couples. The RAS Research has shown the scale to be highly correlated with other measures of love, sexual attitudes, self-disclosure, commitment, and investment in a relationship (Hendrick, 1988). Based on Renshaw, McKnight, Caska, & Blais (2010) the Cronbach's alpha was .890 for parents, .870 for friends, .900 for romantic partners, and .860 for other relatives. As reported, the results of these studies provide support for the reliability and validity of a more generic form of the RAS (Hendrick, 1988) as an assessment tool for relationship satisfaction. The internal consistency, item reliabilities, test-retest reliability, factorial validity, and convergent and predictive validity of the generic form of the RAS (RAS-G) held up when completed with regard to romantic

partners, parents, friends, and other types of relatives. The RAS is a significant psychometric instrument utilized to help determine if significant moderators are reported that provide additional insight into the level of impact that adverse childhood experiences have on the measures of adult satisfaction and adjustment (Exhibit 3).

The Brief Resilience Scale (BRS) assesses the ability to recover from stress and traumatic events (Smith et al., 2008). The Brief Resilience Scale (BRS) is composed of a 6 question, 5-point Likert-type questionnaire which assesses the ability to recover from stress and traumatic events (Smith et al., 2008). While most measures of resilience have focused on the examining the resources and protective factors facilitating resilience, the BRS specifically focuses on ascertaining the ability to “bounce back” from stress and adversity and may provide distinctive information about how well people cope with health-related stressors. Based on Smith et al. (2008) the internal consistency was good, with Cronbach’s alpha ranging from .800 –.900. The BRS is a very valuable psychometric instrument utilized to help determine if significant moderators are reported that provide additional insight into the level of impact that adverse childhood experiences have on the measures of adult satisfaction and adjustment (Exhibit 4).

The Subjective Happiness Scale (SHS) assesses one’s broader perspective of personal wellbeing (Lyubonmirsky & Lepper, 1999). While other psychometric measures assess the affective components of one’s subjective well-being, the SHS is a 4-question, 7-point scale questionnaire, which measures a more concentrated category of an individual’s well-being and “taps into more global psychological phenomena” (p. 139). Based on Lyubonmirsky & Lepper (1999) research, the internal consistency among the four item SHS was tested using Cronbach’s alpha reliability. In all samples within their

research, the four items showed good to excellent internal consistency, demonstrating comparability across samples of varying ages, occupations, languages, and cultures. The alpha scores ranged from 0.790 to 0.940 ($M = 0.860$). As reported, only one of the 14 coefficients fell below the conventional minimum of 0.800. The SHS is a valuable psychometric instrument utilized to help determine if significant moderators are reported that provide additional insight into the level of impact that adverse childhood experiences have on the measures of adult satisfaction and adjustment (Exhibit 5).

The Satisfaction with Life Scale (SWLS) is a five question, 7-point measurement instrument that assesses an individual's global judgment on life satisfaction as a whole (Diener, Emmons, Larson, & Griffin, 1995). Measuring more of the cognitive component of subjective well-being (SWB), the SWLS focuses on the assessment of an individual's comprehensive judgment on their perception of life. Utilizing the research of Pavot & Diener (2008), the SWLS was examined for both reliability and sensitivity. The SWLS has shown strong internal reliability and moderate temporal stability. Diener et al. (1985) reported a coefficient alpha of 0.87 for the scale and a two-month test-retest stability coefficient of 0.820. The SWLS is an important psychometric instrument that helps to determine if significant moderators are reported that provide insight into the level of impact that adverse childhood experiences have on the measures of adult satisfaction and adjustment (Exhibit 6).

Open-Ended Questions

The survey instrument concluded with seven open-ended questions through which participants provided responses more idiosyncratic in nature. The seven questions presented were as follows:

- Please very briefly identify the greatest challenge you presently face in life.
- Please briefly identify what has either helped or hindered you in overcoming adversity.
- Please briefly identify some of the people that have helped you to be successful.
Example: Aunt, Mother, School Teacher, Counselor, etc.
- How would you describe your present health?
- What is the best advice you can offer to someone to help them in life?
- What makes life worth living to you?
- What is the single-most factor that has changed your life for the better or worse?

Each of the open-ended queries in this investigation were specifically designed to invoke a subjective response from participants in order to provide personal and candid information. Subsequently, these responses may help identify some of the moderators of adverse childhood experiences on adult satisfaction and adjustment. Approximately, 80% of the total respondents have provided answers to these open-ended questions.

Data Analysis

Preliminary statistical analysis for this study was conducted using SPSS© statistical software which examined aspects of both quantitative and qualitative data. After departmental consent and subsequent IRB approval, further analysis incorporated various statistical analyses including descriptive and predictive statistics, multivariate regression analyses. An Evaluative Coding process prepared qualitative data for further statistical analysis.

Chapter Three Summary

Chapter Three presented an introduction to the methodology explaining how that this survey research was intended to examine the effects of adverse childhood experiences on life satisfaction in adulthood in relation to the proposed three research questions. After a presentation of these research questions, a description of the study participants and an overview of research instrumentation were explained. Before concluding, the open-ended questions and procedures of data analysis were described. Chapter Four presents the data analysis in preparation for Chapter Five research discussion.

Chapter Four

Results

Introduction

The present investigation seeks to provide an understanding of the moderators of adverse childhood adversity on mature adult satisfaction and adjustment. The data for this study were provided by a collection of responses gathered through the Survey Monkey© survey and questionnaire tool. The study initially gathered responses from among $N = 3213$ participants. Of these total respondents, ($n = 420$) were initially excluded because they did not fit into the *middle-age* parameters (i.e. ages 29 –39, ages 40-50, and Over age 50). Additionally, ($n = 1995$) participants were excluded because they did not complete all six embedded research inventories and open-ended responses. Of the remaining ($n = 798$) respondents, ($n = 300$) were randomly selected for analysis in order to mitigate the potential for *sampling bias*.

Demographics

A sample size consisting of ($n = 300$) participants were randomly selected for data analysis. Demographic variables included the following: *age, gender, marital status, ethnicity, student status, level of education, industry associated with present occupation, location, financial status, and household status*. A comparison of the results of the random sample ($n = 300$) with the full sample ($N = 3213$) is presented for all the demographic variables.

Age

Participants were asked to report their age. All 300 participants responded to this question. Table 1 provides a summary of the responses by age.

Table 1

Age

Age group	Freq	Percent	Full sample
29 – 39	109	36.300	38.580
40 – 50	85	28.300	29.220
Over 50	106	35.300	32.180

As reported in the table, the random sample is consistent with the distribution of the full sample. As shown, the *age group (40-50)* had the smallest representation.

Gender

Participants were asked to report their gender. Of the 300 participants, only one participant did not respond to this question. Table 2 provides a summary of the responses by gender.

Table 2

Gender

Gender	Frequency	Percent	Full sample
Female	264	88.000	91.150
Male	35	11.700	8.730

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample except for a minor percentage of individuals within the full sample who did not identify their gender as female or male. As seen in the table above, *Female* was the predominate response reported.

Marital Status

Participants were asked to report their marital status. Of the 300 participants, only one participant did not respond to this question. Table 3 provides a summary of the responses by marital status.

Table 3

Marital Status

Marital Status	Frequency	Percent	Full sample
Single	35	11.700	16.430
Married	228	76.000	67.420
Divorced	30	10.000	13.960
Widow/widower	6	2.000	2.190

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample except for a greater number of single and divorced individuals in the full sample.

Race or Ethnicity

Participants were asked to report their race or ethnicity. All 300 participants responded to this question. Table 4 provides a summary of the responses by race or ethnicity.

Table 4

Race/Ethnicity

Race/Ethnicity	Frequency	Percent	Full sample
American Indian or Alaska Native	4	1.300	0.810
Asian	2	0.700	1.440
Black or African American	15	5.000	2.660
Nat Hawaiian or Other Pac	0	0.000	0.310
White	268	89.300	91.000
Hispanic or Latino	8	2.700	2.910
Not Hispanic or Latino	3	1.000	0.880

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample, with the following exceptions: There was a greater number of Black or African Americans responses in the random sample. Additionally, there was a very small representation of Native Hawaiian or Other Pacific Islanders in the full sample who were not represented in the random sample. Lastly, there was also a greater number of Asians in the full sample.

Student Status

Participants were asked to report their student status. All 300 participants responded to this question. Table 5 provides a summary of the responses by student status.

Table 5

Student Status

	Frequency	Percent	Full sample
Yes	35	11.700	17.530
No	265	88.300	82.470

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample, however; there was a slightly higher representation of students within the full sample.

Highest Level of Education

Participants were asked to report their highest level of education. All 300 participants responded to this question. Table 6 provides a summary of the responses by Highest Level of Education.

Table 6

Highest Level of Education

Education Level	Frequency	Percent	Full sample
High School diploma or GED	52	17.300	14.190
Associate Degree	63	21.000	30.790
Bachelor’s Degree	96	32.000	33.700
Master's Degree	74	24.700	16.540
Doctorate	15	5.000	4.530

As reported in the table above, the random sample is consistent with the distribution of responses from the full sample, with the following exceptions: The full sample includes slightly more representation from participants reporting an Associate Degree, Bachelor’s Degree, and Doctorate. There was slightly less representation from participants reporting having a high school diploma and Master’s Degree. The full sample includes a very small representation of respondents (.250) reporting no high school diploma or GED (not shown in this table).

Present Occupation

Participants were asked to report their present occupation. All 300 participants responded to this question. Table 7 provides a summary of the responses by present occupation.

Table 7

Present Occupation

Occupation	Frequency	Percent	Full sample
Health Care	141	47.000	63.910
Automotive	2	0.700	0.500
Banking/Finance	4	1.300	1.940
Construction	1	0.300	0.500
Education	57	19.000	9.930
Farming	1	0.300	0.120
Food Services	7	2.300	1.370
Insurance	1	0.300	0.690
Legal Services	9	3.000	1.120
Manufacturing	4	1.300	1.310
Non-profit	12	4.000	2.370
Retail	5	1.700	1.720
Retired	10	3.300	3.430
Transportation	7	2.300	0.780
Other	39	13.000	10.300

As reported in the table above, there was considerable variance between the random sample and the full sample, however; the reported responses exhibited the same pattern of proportion. The responses indicate that *Health Care* was the highest present occupation represented.

Location

Participants were asked to report their location. All 300 participants responded to this question. Table 8 provides a summary of the responses by Location.

Table 8

Location

	Frequency	Percent	Full sample
Urban	57	19.000	18.380
Rural	104	34.700	35.320
Suburban	139	46.300	46.310

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample. The responses indicate that *Suburban* was the highest response given for location.

Present Income

Participants were asked to report their present income. All 300 participants responded to this question. Table 9 provides a summary of the responses by present income.

Table 9

Present Income

	Frequency	Percent	Full sample
High Income	14	4.700	4.130
Upper Middle Income	104	34.700	29.090
Middle Income	158	52.700	56.680
Low Income	22	7.300	8.950
Poor	2	0.700	1.160

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample. The responses indicate that *Middle Income* was the highest reported present income.

Present Household Status

Participants were asked to report their present household status. All 300 participants responded to this question. Table 10 provides a summary of the responses by present household status.

Table 10

Present Household Status

Household	Frequency	Percent	Full sample
Living alone	22	7.300	9.400
Living with one person	97	32.300	29.010
Living with two or three people	123	41.000	40.470
Living with more than three people	58	19.300	21.110

As reported in the table above, the random sample is consistent with the distribution of responses of the full sample. The responses indicate that Living with two or three people was the highest reported present household status.

Psychometric Scales

Psychometric scales were standard and scientific methods used to measure participant’s mental and emotional responses to bonding, types of adult attachment, their feelings of happiness, their sense of life satisfaction, and recovery from stress. Data was recoded to account for reverse ordering on items based on the inventory developers’ recommendations. Aggregate scores for each of the inventories were produced. Reliability estimates were computed for each of the unidimensional scales using *Cronbach's Alpha* as presented in Table 11.

Table 11

Psychometric Scales

Scale	Number of Items	Alpha
Relationship Assessment Scale	7	0.915
Adult Attachment CLOSE	6	0.708
Adult Attachment DEPEND	6	0.361
Adult Attachment ANXIETY	6	0.667
Satisfaction With Life Scale	5	0.905
Subjective Happiness Scale	4	0.880
Brief Resiliency Scale	6	0.873

As reported in the table above, all scale resulted in acceptable levels of reliability in accordance with Fields (2014). One exception was the low level of reliability within the Adult Attachment Scale (Dependency). The Dependency Scale in Item #11 is a problematic question, which has likely reduced the sub-scale reliability estimate. Subsequent caution will be exercised when interpreting specific results from this scale.

Table 12 provides the means, standard deviations, skewness, and kurtosis for each of the psychometric scales.

Table 12

Means, Standard Deviations,

N	Mean	Std. Deviation	Skewness	Kurtosis
ACE_SCORE	2.433	2.308	0.765	-0.465
RAS_SCORE	26.883	6.923	-1.021	0.460
AAS_CLOSE	21.073	4.379	-0.081	-0.568
AAS_DEPEND	17.454	3.519	0.050	-0.653
AAS_ANXIETY	13.824	4.669	0.673	0.257
SWLS_SCORE	24.438	6.836	-0.664	-0.515
SHS_SCORE	20.539	4.845	-0.720	0.465
BRS_SCORE	21.762	4.140	-0.523	0.153

As indicated in the table above, the skewness and kurtosis for each of these measures are within acceptable ranges ($|2.0|$ and $|5.0|$) according to Fields (2014).

Table 13 provides the zero -order correlations between all of the psychometric measures.

Table 13

Correlation Analysis Between Psychometric Scales

SCALE	2	3	4	5	6	7	8
ACE_SCORE (1)	.280**	-.301**	-.297**	-.159*	-.336**	-.326**	.262**
RAS_SCORE (2)		.596**	.455**	.147*	.238**	.260**	-.364**
SWLS_SCORE (3)			.590**	.314**	.325**	.349**	-.392**
SHS_SCORE (4)				.547**	.401**	.374**	-.420**
BRS_SCORE (5)					.257**	.219**	-.208**
AAS_CLOSE (6)						.500**	-.345**
AAS_DEPEND(7)							-.309**
AAS_Anxiety(8)							1.000

** Correlation is significant at the 0.010 level (2-tailed).

* Correlation is significant at the 0.050 level (2-tailed).

As indicated in the table above, all scales are negatively correlated with the ACE_SCORE, except for the AAS (Anxiety Measure). The AAS SCALE (Anxiety Measure) is positively correlated with the ACE_SCORE as would be expected. In light of the strong correlations between all of the above scales, an MANOVA (Multivariate Analysis of Variance) (Field, 2014) is the most appropriate way to assess the impact of the ACE_SCORE on MASA (Mature Adult Satisfaction and Adjustment). Box's Test of Equality of Covariance Matrices (Fields, 2014) indicate that the observed covariance matrices of the dependent variable are equal across groups, $F(28, 6716) = 1.179, p = .235$. Levine's Test of Equality of Error Variances (Fields, 2014) was found to be tenable across all scales. These results are presented in Table 14.

Table 14

Levine's Test of Equality of Error Variances

SCALE	F	df1	df2	Sig.
RAS_SCORE	4.724	1	206	0.031
SWLS_SCORE	0.441	1	206	0.507
SHS_SCORE	0.087	1	206	0.768
BRS_SCORE	0.063	1	206	0.801
AAS_CLOSE_SCORE	1.156	1	206	0.284
AAS_DEPEND_SCORE	1.117	1	206	0.292
AAS_ANXIETY_SCORE	0.263	1	206	0.608

As indicated in the table above, all Levine's results are non-significant except for the RAS_SCORE. However, the significant RAS_SCORE results are not a concern with the error of degree of freedom equal to 206 (Field, 2014).

*Analysis Results***Research Question 1: What is the impact of the ACEs on MASA?**

The results of the MANOVA indicate that the ACE score has a moderate significant impact on MASA, $F(7, 199) = 8.530, p < .001, \eta^2 = .231$. The results of the Tests of Between-Subjects Effects, which examined the impact of the ACE_SCORE on each factor individually, are also presented in Table 17 & 18 respectively.

Table 15

MANOVA Tests for Psychometric Measures

Dependent Variable	df	Mean Square	F	Sig.	η^2
RAS_SCORE	1	1138.424	27.923	0.000	0.120
SWLS_SCORE	1	1096.292	25.328	0.000	0.110
SHS_SCORE	1	578.273	25.045	0.000	0.109
BRS_SCORE	1	89.574	5.488	0.020	0.026
AAS_CLOSE_SCORE	1	439.562	26.914	0.000	0.116
AAS_DEPEND_SCORE	1	271.268	24.044	0.000	0.105
AAS_ANXIETY_SCORE	1	442.760	22.185	0.000	0.098

As indicated in the table above, all of the outcome measures are significantly associated with the ACE_SCORE. Scatterplots located in Appendix C illustrate individual ACE Scores on outcome measures.

Research Question 2: *If an impact is revealed, are there significant moderators reported that provide additional insight into the level of impact that ACEs have on the measures of MASA?*

A zero-order correlation was conducted to assess the relationship between the scale scores i.e. ACE_SCORE, RAS_SCORE, SWLS_SCORE, BRS_SCORE, AAS (Close) SCORE, AAS (Depend) SCORE, AAS (Anxiety) SCORE and the coded responses to the seven open-ended questions:

- *Please very briefly identify the greatest challenge you presently face in life.*
- *Please briefly identify what has either helped or hindered you in overcoming adversity.*
- *Please briefly identify some of the people that have helped you to be successful.*
- *How would you describe your present health?*
- *What makes life worth living to you?*
- *What is the single-most factor that has changed your life for the better or worse?*

The results indicate that significant relationship exists between the coded responses with the constructed outcome scales, for the following two questions:

- *How would you describe your present health?*
- *What is the best advice you can offer someone to help them in life?*

These findings are available by accessing the following web address:

<https://drive.google.com/open?id=0B1S1C82Um6YwUUpjQ1BGc25HZTQ>.

Due to the lack of correlation between many of the coded potential moderator variables and the outcome variables, the moderator analyses focused on the response to the question “*What is the best advice you can offer someone to help them in life?*” The response to this variable revealed a small to moderate significant correlation with the outcome variable.

A moderator analysis was conducted using guidelines provided by Aiken & West (1991) and Judd & Kenny (2010). Specifically, the four levels of the “*What is the best advice you can offer someone to help them in life?*” variable were recoded as dichotomous variables (0 = not indicated, 1 = indicated) and analyzed as a moderator if a significant interaction effect was produced. The four levels of the “*What is the best advice you can offer someone to help them in life?*” variable that were included in this analyses are *relationships, spirituality, attitude/encouragement/self-advocacy, and pro-social behavior*. This approach was used because the coded responses to this variable are at the nominal level of measurement.

Additionally, the ACE score was recategorized as 0 = *no adverse childhood experiences*, 1-3 = *low reported adverse childhood experiences* and 4-9 = *critical level of adverse childhood experiences*. The MANOVA analyses with an imposed interaction were used for these analyses since it creates the interactions needed and provides the most appropriate analyses of the MASA variable in SPSS. The analysis with the ACE scores was specifically conducted this way to accommodate for the limitations of SPSS.

Results of the Multivariate Analysis of ACE Scores on MASA as an interaction, with each level of the responses to the “*What is the best advice you can offer someone to*

help them in life?” variable (based on the Roy’s Largest Root test) (Fields, 2014) reveals no significant results. These results are presented in Table 16.

Table 16

Multivariate Analysis of ACE Scores on MASA

Effect	Value	F	Hypothesis df	Error df	Sig.	η^2
Intercept	26.392	712.575	7	189	0.000	0.963
ACE_CAT3	0.164	4.446	7	190	0.000	0.141
Best1	0.058	1.565	7	189	0.148	0.055
Best2	0.067	1.816	7	189	0.086	0.063
Best3	0.052	1.397	7	189	0.209	0.049
Best4	0.053	1.439	7	189	0.192	0.051
ACE_CAT3 * Best1	0.023	.615	7	189	0.743	0.022
ACE_CAT3 * Best2	0.028	.744	7	189	0.635	0.027
ACE_CAT3 * Best3	0.023	.616	7	189	0.743	0.022
ACE_CAT3 * Best4	0.061	1.656	7	189	0.122	0.058

A closer examination of the Tests of Between- Subjects Effects indicates that there is no significant effect when the moderator is introduced between the ACE and the outcome variables. These results are consistent with the findings of the multivariate analyses. The results are presented in Table 17.

Table17

Tests of Between-Subjects Effects ACEs/Best

Source	Dependent Variable	F	Sig.	η^2
ACE_CAT3 * Best1	RAS_SCORE	0.828	0.364	0.004
	SWLS_SCORE	0.184	0.668	0.001
	SHS_SCORE	0.610	0.436	0.003
	BRS_SCORE	2.038	0.155	0.010
	AAS_CLOSE_SCORE	0.508	0.477	0.003
	AAS_DEPEND_SCORE	0.816	0.368	0.004
	AAS_Anxiety_SCORE	0.320	0.572	0.002
ACE_CAT3 * Best2	RAS_SCORE	0.025	0.875	0.000
	SWLS_SCORE	2.245	0.136	0.011
	SHS_SCORE	0.023	0.880	0.000
	BRS_SCORE	0.608	0.437	0.003
	AAS_CLOSE_SCORE	0.364	0.547	0.002
	AAS_DEPEND_SCORE	0.077	0.782	0.000
	AAS_Anxiety_SCORE	1.603	0.207	0.008
ACE_CAT3 * Best3	RAS_SCORE	0.010	0.919	0.000
	SWLS_SCORE	0.506	0.478	0.003
	SHS_SCORE	0.007	0.931	0.000
	BRS_SCORE	0.064	0.800	0.000
	AAS_CLOSE_SCORE	0.096	0.756	0.000
	AAS_DEPEND_SCORE	0.055	0.815	0.000
	AAS_Anxiety_SCORE	3.120	0.079	0.016
ACE_CAT3 * Best4	RAS_SCORE	0.688	0.408	0.004
	SWLS_SCORE	0.024	0.877	0.000
	SHS_SCORE	3.787	0.053	0.019
	BRS_SCORE	0.197	0.658	0.001
	AAS_CLOSE_SCORE	0.229	0.633	0.001
	AAS_DEPEND_SCORE	0.347	0.557	0.002
	AAS_Anxiety_SCORE	1.083	0.299	0.006

Based on these findings, there is a lack of evidence indicating that the “*What is the best advice you can offer someone to help them in life?*” variable significantly moderates the ACE level on the MASA or the individual outcome scores (i.e., *RAS_SCORE*, *SWLS_SCORE*, *SHS_SCORE*, *BRS_SCORE*, *AAS_CLOSE_SCORE*,

AAS_DEPEND_SCORE, and *AAS_ANXIETY_SCORE*). The complete output for this analysis is available through the following web address:

<https://drive.google.com/open?id=0B1S1C82Um6YwUUpjQ1BGc25HZTQ>.

Research Question 3: Do demographic identifiers (i.e., age, gender, marital status, ethnicity, student status, education level, occupation, location, financial status, and household status) impact the correlation between these factors?

To assess which demographic variables are likely to impact the outcome variables, a zero-order correlation was conducted across all the outcome variables and the demographic variables listed. The results of this analysis reveal that two of the demographic variables were found to have a significant relationship with the outcome variables: the educational level and the financial status variable. Additionally, the respondent's reported present health status (an open-ended response) was found to be significantly correlated with the outcome variables. The absence of correlation between the remaining outcome variables and demographic variables made these demographic variable poor candidates for additional analyses.

In order to analyze the impact of the different levels across these ordinal variables, a General Linear Model (GLM) (Fields, 2014), was conducted in which the ACE level on the MASA, when including the "education level" and the "financial level" were examined. Additionally, the variable "*present health*" was included in the model since it was also found to be significantly related to both the ACE score and the outcome measures.

The results of this analysis indicate that there is a significant interaction between the ACE level and the Present Health, the Education Level, and the Income Level reported on the MASA score. These results are presented in Table 18.

Table 18

General Linear Model with ACE Level on MASA

Effect	Value	F	Hypothesis df	Error df	Sig.	η^2
Intercept	53.923	916.687	7	119	0.000	0.982
ACE_CAT3	0.251	4.300	7	120	0.000	0.201
PresentHealth	0.194	3.383	7	122	0.002	0.163
Education	0.240	4.188	7	122	0.000	0.194
Income	0.168	2.927	7	122	0.007	0.144
ACE_CAT3 * PresentHealth	0.123	2.199	7	125	0.039	0.110
ACE_CAT3 * Education	0.204	3.189	8	125	0.003	0.169
ACE_CAT3 * Income	0.166	2.920	7	123	0.007	0.142

A Test of Between-Subject Effects analysis was conducted to evaluate if a relationship exists between critical ACE levels (ACE_CAT3) with Present Health, Education, and Income on the dependent variables RAS_SCORE, SWLS_SCORE, SHS_SCORE, BRS_SCORE, AAS_CLOSE_SCORE, AAS_DEPEND_SCORE, and AAS_ANXIETY_SCORE. The results of the analysis reveal that there is not a significant consistency between these variables. The results are presented in Table 19.

Table 19

*Tests of Between-Subject
Effects*

Source	Dependent Variable	df	F	Sig.	η^2
ACE_CAT3	RAS_SCORE	2	6.811	0.002	0.098
	SWLS_SCORE	2	2.214	0.114	0.034
	SHS_SCORE	2	7.769	0.001	0.111
	BRS_SCORE	2	1.730	0.182	0.027
	AAS_CLOSE_SCORE	2	5.185	0.007	0.077
	AAS_DEPEND_SCORE	2	3.436	0.035	0.052
	AAS_Anxiety_SCORE	2	8.000	0.001	0.113
PresentHealth	RAS_SCORE	4	1.143	0.340	0.035
	SWLS_SCORE	4	2.816	0.028	0.083
	SHS_SCORE	4	5.117	0.001	0.141
	BRS_SCORE	4	2.110	0.084	0.063
	AAS_CLOSE_SCORE	4	0.469	0.758	0.015
	AAS_DEPEND_SCORE	4	1.142	0.340	0.035
	AAS_Anxiety_SCORE	4	1.140	0.341	0.035
Education	RAS_SCORE	4	1.096	0.362	0.034
	SWLS_SCORE	4	3.285	0.013	0.095
	SHS_SCORE	4	2.772	0.030	0.081
	BRS_SCORE	4	2.830	0.027	0.083
	AAS_CLOSE_SCORE	4	0.362	0.836	0.011
	AAS_DEPEND_SCORE	4	1.266	0.287	0.039
	AAS_Anxiety_SCORE	4	1.507	0.204	0.046
Income	RAS_SCORE	4	0.942	0.442	0.029
	SWLS_SCORE	4	1.134	0.344	0.035
	SHS_SCORE	4	1.086	0.366	0.034
	BRS_SCORE	4	1.384	0.243	0.042
	AAS_CLOSE_SCORE	4	2.761	0.031	0.081
	AAS_DEPEND_SCORE	4	1.300	0.274	0.04
	AAS_Anxiety_SCORE	4	2.165	0.077	0.065

ACE_CAT3 *					
PresentHealth	RAS_SCORE	7	0.801	0.588	0.043
	SWLS_SCORE	7	1.152	0.335	0.061
	SHS_SCORE	7	1.580	0.147	0.081
	BRS_SCORE	7	0.689	0.681	0.037
	AAS_CLOSE_SCORE	7	0.997	0.437	0.053
	AAS_DEPEND_SCORE	7	1.425	0.201	0.074
	AAS_Anxiety_SCORE	7	0.840	0.557	0.045
ACE_CAT3 *					
Education	RAS_SCORE	8	0.928	0.496	0.056
	SWLS_SCORE	8	1.903	0.065	0.109
	SHS_SCORE	8	0.793	0.610	0.048
	BRS_SCORE	8	0.794	0.609	0.048
	AAS_CLOSE_SCORE	8	0.724	0.670	0.044
	AAS_DEPEND_SCORE	8	1.297	0.251	0.077
	AAS_Anxiety_SCORE	8	1.769	0.089	0.102
ACE_CAT3 * Income	RAS_SCORE	5	0.661	0.654	0.026
	SWLS_SCORE	5	0.899	0.484	0.035
	SHS_SCORE	5	1.311	0.264	0.050
	BRS_SCORE	5	1.570	0.173	0.059
	AAS_CLOSE_SCORE	5	0.725	0.606	0.028
	AAS_DEPEND_SCORE	5	0.536	0.749	0.021
	AAS_Anxiety_SCORE	5	0.946	0.454	0.036

These results are not consistent with the multivariate analyses. The likely explanation for these differences is that the multivariate analysis examines the Mature Adult Satisfaction and Adjustment (MASA) aggregately while isolating out the overlap between the multiple outcome variables, which results in an analysis that is more precise and more powerful. As such, a more powerful analysis is more likely to find a significant result if it exists.

Scheffe Post Hoc Analyses reveal that are significant differences between the “None” Category of the ACE_3 and the “Critical” Category across all of the outcome measures. Additionally, significant differences were revealed between the “None”

Category of ACE_3 and “Low” Category for the RAS, SWLS, SHS, and AAS_Depend Score. These results are found in Appendix D.

Open-Ended Responses

Seven qualitative questions were prepared for analysis through an evaluative process of coding and categorizing. According to Gibbs (2007), this coding process helps to identify passages of text that are linked by a common theme, thereby allowing them to be placed into suitable categories. Each of the seven open-ended questions had approximately 300 responses, which were subsequently categorized and coded into five numerical responses. The questions and some of their salient responses are delineated as follows:

Open-Ended Question 1: Please very briefly identify the greatest challenge you presently face in life.

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories (1) relationships, (2) health, (3) education/career, (4) economics, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “Married to a narcissistic person and filed for divorce. Second marriage of 10 yrs. and both men were very controlling, emotionally, verbally, and at times physically abusive”.
- “Just found out my husband has been looking at porn in secret for 2 years. It is very difficult but I know he loves me & is coming out of the hardest part of his life (his parents have ended their relationship with him ultimately due to a mental

illness from his mom). But we are devoted to each other & working towards trust with a counselor”.

- “I have MS. Recently diagnosed. So the daily challenges of this are hard”.
- “My husband has brain cancer. Less than 13 months to live”.
- “Job change while completing MBA”.
- “My greatest challenge is handling the stress of my job”.
- “Preparing for retirement”.
- “Not enough money to pay for bills and what me and my child need”.
- “Continuing to work when I don't feel I really need to financially, but a fear of being bored or shiftless keeps me on the job”.
- “Dealing with an alcoholic daughter who often enters into bad relationships with men while caring for two small children”.

Quantitative frequency analysis for the question: *Please very briefly identify the greatest challenge you presently face in life*, indicated that the largest numerical response to this question was the category *Relationships* ($n = 85, 28.300\%$).

Open-Ended Question 2: Please briefly identify what has either helped or hindered you in overcoming adversity.

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories: (1) relationships, (2) health, (3) attitude, (4) spirituality, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “Family and friends being there to support me.”

- “Having a strong family support system growing up and having a great relationship with my husband has helped me overcome adversity.”
- “Meditation and acupuncture help relieve stress while faced with stressful situations.”
- “Heart problems.”
- “Positive attitude and ability to be a realist.”
- “My adaptability and easy going attitude.”
- “Faith in God.”
- “My faith helps me overcome adversity.”
- “I taught for 30 years with a variety of staff members and students. My parents taught me to make the best of your circumstances and to be compassionate”.
- “Earning a nursing degree.”

Quantitative frequency analysis for the question: *Please briefly identify what has either helped or hindered you in overcoming adversity*, indicated that the largest numerical response to this question was the category *relationships* ($n = 82, 27.300\%$).

Open-Ended Question 3: Please briefly identify some of the people that have helped you to be successful. Example: Aunt, Mother, School Teacher, Counselor, etc.

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories: (1) family, (2) friends, (3) professionals, (4) multiple variables, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “Husband, Mother, and Mother in law.”
- “Mother, father, sister, husband.”

- “Friends.”
- “Several of my present colleagues are very supportive.”
- “Coach.”
- “God, mother and father, husband, and friends.”
- “Mother, teachers, counselors, partners, colleagues.”
- “Knowing that I have to be there for my child helps me more than anything!”
- “Inner strength.”

Quantitative frequency analysis for the question: *Please briefly identify some of the people that have helped you to be successful. Example: Aunt, Mother, School Teacher, Counselor, etc.*, indicated that the largest numerical response to this question was the category *family* ($n = 103, 34.300\%$).

Open-Ended Question 4: How would you describe your present health?

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories: (1) excellent, (2) good, (3) fair, (4) poor, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “Excellent.”
- “I think good, but I have old person aches and pains. like hip and knee. but I am strong for my age, and can do an exercise bike for quite a while”.
- “Pretty good, manageable.”
- “Fairly healthy for my age.”
- “My c o p d makes it hard to do things i wish i could do but i push myself.”
- “Suffer from chronic pain.”

- “Good. Minus the depression”.
- “No current significant problems, however, I have gained approximately 15+ lbs. since starting Graduate school & was diagnosed with Melanoma Skin Cancer last summer (2015). The area was removed & I am currently Cancer free”.

Quantitative frequency analysis for the question: *How would you describe your present health?* indicated that the largest numerical response to this question was the category *good* ($n = 107, 35.700\%$).

Open-Ended Question 5: What is the best advice you can offer to someone to help them in life?

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories: (1) relationships, (2) spirituality, (3) attitude/encouragement/self-advocacy, (4) pro-social behavior, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “Surround yourself with the people who make you happy.”
- “Seek counsel and support from those around you that you trust.”
- “Give your heart to God. Make decisions only after thought and prayer. Be grateful. Think positive. Don't hang out with people who bring you down”.
- “Accept Jesus Christ as your Lord and Savior. Read your bible and draw strength from the living word”.
- “Always choose your happiness and keep toxic people out of your life. Even family! Sometimes those are the most toxic. Stand up for yourself and you'll always come out on top”.

- “You can't depend on anyone but yourself.”
- “Find a way to give more than you receive. Invest in finding out what you enjoy doing and not doing. Then figure out a way to make money doing it”.
- “Volunteer, cultivate a hobby, exercise.”
- “Don't cheat.”
- “Life is not measured by a single point or event but is a journey. If you fail today, vow to learn from that and do better tomorrow. And most importantly, help as many people as you can and if you can't help them, don't hurt them”.

Quantitative frequency analysis for the question: *What is the best advice you can offer to someone to help them in life?* indicated that the largest numerical response to this question was the category *attitude/encouragement/self-advocacy* ($n = 127, 42.300\%$).

Open-Ended Question 6: What make life worth living to you?

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories: (1) relationships, (2) spirituality, (3) sense of purpose, (4) personal enrichment, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “My family; wife and kids, parents siblings nephews and niece.”
- “My two sons.”
- “Sharing the Gospel with children and empowering them to achieve greatness.”
- “Knowing that God loves me, wants good things for me, and has a plan for my life.”
- “Making the world a better place. Helping others find their meaning and purpose.”

- “The impact I can have on the world around me.”
- “Evolving into who I came here to be.”
- “Finding new ways to grow mentally and spiritually.”
- “I'm not sure.”
- “It's a great gift. Enjoy it”.

Quantitative frequency analysis for the question: *What make life worth living to you?* indicated that the largest numerical response to this question was the category relationships ($n = 165, 55.000\%$).

Open-Ended Question 7: What is the single-most factor that has changed your life for the better or worse?

Responses to this question varied considerably. The evaluative process led to the coding of the responses into the following five succinct categories: (1) relationships, (2) spirituality, (3) health, (4) education/self-improvement, and (5) other. Examples of verbatim qualitative responses for each of these five coded categories include:

- “My marriage and my kids have made my life better.”
- “Being a father has been a good fun challenging life changer.”
- “That we are blessed to have everything.”
- “Learning patience and forgiveness.”
- “Having an illness that can become fatal if not living a healthy lifestyle.”
- “Alcohol use has created most of the problems in my life.”
- “My desire for excellence in all phases of my life.”
- “Completing nursing school as a single mother. Getting an education/ degree is something that you can never loose, or have taken away from you”.

- “I came from an extremely poor home, with parents that didn't know how to deal with kids. I watched them worked hard and decided to pursue my education. Their work ethic and doing without molded me”.
- “Tornado that destroyed our home of 16 years, followed by the death of my brother 2 wks. Later”.

Quantitative frequency analysis for the question: *What is the single-most factor that has changed your life for the better or worse?* indicated that the largest numerical response to this question was the category *relationships* ($n = 124, 41.300\%$).

Chapter Four Summary

Chapter Four presented an introduction to the results, followed by a presentation of the demographic data, analysis of the research questions, and overview of the open-ended questions. A summation of the highest participant frequencies include those who reported white female, middle income, non-students; who live with one or more persons in suburban and rural areas, and who work in either education or health care. The findings for *Research Question 1* reveal that the ACE SCORE has a moderate significant impact on the MASA. Preliminary analysis for *Research Question 2* reveals that significant relationship exists between the coded responses with the constructed outcome scales to the questions: *How would you describe your present health?* and *What is the best advice you can offer someone to help them in life?* A Multivariate Analysis of Variance indicates that the ACE Scores effect on MASA is not moderated by what respondents indicated to the question: *What is the best advice you can offer someone to help them in life?* Preliminary analyses for *Research Question 3* reveal that two of the demographic variables have a significant relationship with the

outcome variables: the educational level and the financial status variable.

Additionally, the respondent's level of health (an open-ended response) was found to be significantly related to the MASA. A General Linear Model (GLM) examining the ACE level on the MASA, when including the "education level", "financial level", and "present health" variable revealed that there is a significant interaction between the ACE level and the Present Health, the Education Level, and the Income Level reported on the MASA score. The results of the *Open-Ended Research Questions* revealed that "relationships," "attitude/encouragement/self-advocacy," and "family" were the most frequently occurring themes. Chapter Five will discuss these findings in light of the existing research, in addition to other discoveries, present limitations, policy and clinical implications, and directions for future research.

Chapter Five

Discussion

Introduction

This investigation sought to understand the moderators of adverse childhood experiences (ACEs) on mature adult satisfaction and adjustment (MASA) (personal communication Larwin, 2016). While a review of the literature showed that researchers such as Bowlby (1982), Depner & Ingersoll-Dayton (1988), and Koenen, Moffitt, Poulton, Martin, & Caspi (2007) had examined the effects of ACEs on adolescents and geriatric populations, a substantial gap in the literature indicated that research was needed that primarily focused on the effects of ACEs on the middle-aged population. Specific to the purpose of this present study, further exploration was needed in order to comprehensively identify the regulating and restraining phenomena contiguous to the development of resiliency, the ability to overcome childhood adversity, and the subsequent attainment of life-satisfaction. Attachment Theory formed the basis of this investigation whereby the contributory role of social relationships; inherent to the formation of trust, security, and self-worth, were explored (Chu & Lieberman 2010; Grossman, Grossman, & Waters 2005; & Paplia, Olds, & Feldman 2009).

This chapter presents a general discussion of the methodology, instrumentation, participants, and sample size, together with a discussion of demographical statistics, research questions, and open-ended questions. Before concluding, consideration is given to study limitations, implications of legislative policy and intervention, directions for future research and academic scholarship.

Methodology, Instrumentation, Participants, and Sample Size

A mixed methods design (Fields, 2014) was incorporated within this investigation to explore the phenomenon of resilience by addressing questions at various levels to explore research problems utilizing both quantitative and qualitative measures. Trochim & Donnelly (2008) suggest that survey research employing questionnaires and open-ended questions indicative of this study are appropriate, effective, and a very convenient way of collecting data.

This study recruited participants from the United States and abroad with the use of email and social media which included a link to the Survey Monkey© survey instrument. An exponential, non-discriminative, non-probability snowball sampling was used to gather participants from the population without providing individuals a chance for equal selection. While this type of *chain referral process* can often reach populations that are often difficult to sample, there is also a risk of *sampling bias* (Fields, 2014) when initial subjects only nominate those that share the same traits or interest. This study gathered responses from among $N = 3213$ total participants. Of the total respondents, ($n = 420$) were initially excluded because excluded because they did not fit into the *middle-age* parameters (i.e. ages 29 –39, ages 40-50, and Over age 50). Additionally, ($n = 1995$) participants were excluded because they did not complete all six embedded research inventories and open-ended responses. Of the remaining ($n = 798$) respondents, ($n = 300$) were randomly selected for analysis in order to mitigate the potential for *sampling bias*.

Demographics

Demographic variables selected for this research included *age, gender, marital status, ethnicity, student status, level of education, industry associated with present occupation, location, financial status, and household status*. Subsequently, a comparison of the results of the random sample ($n = 300$) with the full sample ($N = 3213$) was presented for all the demographic variables.

Age

The results of the analysis showed that the distribution of the random sample for the demographic variable *Age* was consistent with the distribution of the full sample (Table 1). Participant's *Age 29-39* (38.580%) had the highest representation in the full sample, compared with *Age 40-50* (28.300%) who had the smallest representation in the random sample.

Possible explanation for these findings may include common dynamics of *snowball sampling*; which often attracts familiar people of similar age, backgrounds, and life experience (Cohen & Arieli, 2011). The age parameters chosen for investigation and analysis were consistent with the review of the literature, which presented substantial evidence demonstrating that middle-adulthood is an essential period in which parents are raising children and establishing their careers (Erickson, 1963, 1968; and Paplia, Olds, & Feldman, 2015). Moreover, the research showed that mature adulthood was a critical period when people are “actively influencing the lives of others in multiple realms around them” (Crawford, 2013, p.2).

Gender

The results of the analysis showed that the random sample for the demographic variable *Gender* was consistent with the distribution of responses of the full sample (Table 2). The exception was a minor percentage of individuals in the full sample who reported that their gender was not female or male (0.130%). While the highest reported representation in the random sample was Female (88.000%), the lowest reported representation in the random sample was *Male* (11.700%).

The most plausible explanations for the high *Female* participation may be attributed to sampling dynamics and statistical preference in reporting. According to Curtin et al. (2000); Moore & Tarnai (2002); and Singer et al. (2000), women are more likely to participate in online surveys than men are. Another consideration in snowball sampling is that perhaps women only refer other women and men refer men.

Marital Status

The results of the analysis showed that the random sample of responses for the demographic variable *Marital Status* was consistent with the distribution of responses for the full sample (Table 3). There was a slightly higher number of *singles* within full sample (16.430%) versus the random sample (11.700%), and there was a higher number of *divorced* in the full sample (13.960%) versus the random sample (10.000%). The results also showed that the majority of respondents in the random sample were *married* (76.000%). The lowest representation in the random sample was among those who reported as *Widow/Widower* (2.000%).

As previously discussed, these findings may attributed to sampling dynamics (Cohen & Arieli, 2011) along with the middle-age association with marriage and

parenthood as suggested in the literature review by Erickson (1968); and Paplia, Olds, & Feldman (2009).

Race/Ethnicity

The results of the analysis showed that the random sample of responses for the demographic variable *Race/Ethnicity* were consistent with the distribution of responses for the full sample (Table 4). Exceptions included a greater number of *Black or African Americans* in the random sample (5.000%) versus the full sample (2.600%), a greater number of *Asians* in the full sample (1.440%) versus the random sample (0.700%), and a very small representation of *Native Hawaiian or Other Pacific Islanders* in the full sample who were not represented in the random sample (0.310%). While the highest representation of Race/Ethnicity in the random sample was *White* (89.300%), the lowest representation was from those reporting *Native Hawaiian or Other Pacific Islanders* (0.000%). In the random sample Hispanic or Latino reported slightly higher in the full sample (2.910%) compared with the random sample (2.700%).

As will be further discussed later, the unequal distribution of the *race/ethnicity* representation in this investigation may be attributed to sampling dynamics, or possibly the lack of willing participants often associated with *non-response bias*. Unlike *response bias*, which is caused when participants give inaccurate answers or when responses are misinterpreted, *non-response bias* can occur when those individuals who are meant to be included in the sampling do not respond (Blair & Zinkhan, 2006). While the potential for *non-response bias* exists, the degree of generalizability of the findings is not diminished.

Student Status

The results of the analysis showed that the random sample of responses for the demographic variable *Student Status* was consistent with the responses of the Full sample (Table 5). The highest *Student Status* response in the random sample was *No* (88.300%) compared to the lowest *Student Status* response *Yes* (11.700%).

While these findings may also be explained by sampling dynamics, data from the National Center for Educational Statistics (2016) reveals that out of 212,132,000 adults ages 25 and older, approximately 8.2 million (26.000%) are current students, indicating that the findings of the random sample were substantially lower than the national average.

Highest Level of Education

The results of the analysis showed that the random sample of responses for the demographic variable *Highest Level of Education* were consistent with the responses of the full sample (Table 6). There is more of representation in the full sample reporting for having an *Associate Degree* (30.790%) versus the random sample (21.000%), and there are more participants in the full sample reporting a *Bachelor's Degree* (33.700%) versus the random sample (32.000%). The random sample showed more representation of those reporting *High School diploma or GED* (17.300%) versus the full sample (14.190%).

The random sample showed a higher representation for having a *Master's Degree* (24.700%) versus the full sample, and a higher reporting in the random sample for *Doctorate* (5.000%) versus the full sample (4.530%). Additionally, the full sample included a very small representation of respondents reporting no high school diploma or GED (not shown in Table 6). The highest reported representation in the random sample

is *Bachelor's Degree* (32.000%) in comparison with an expected lowest reported random sample response *Doctorate* (5.00%).

A report from the United States Census Bureau (Ryan & Bauman, 2016) demonstrated that compared with national educational averages, the random sample reported lower level of *Associate Degrees* (21.000% versus 42.300%), similar *Bachelor's Degrees* (32.000% versus 32.500%), and a substantially higher level of combined *Master's and Doctorate Degrees* (29.700% versus 12.000%).

Industry Associated with Present Occupation

The results of the analysis showed that the random sample of responses for the demographic variable *Industry Associated with Present Occupation* varied considerably with the full sample, however; the reported responses exhibited the same pattern of proportion (Table 7). *Health Care* (47.000%) was the highest present occupation represented in the random sample, followed by *Education* (19.000%). The lowest reported representations were equally shared by *Construction, Farming, and Insurance* (0.300%).

While beyond the scope of this current investigation, this higher representation of health care and education may be somewhat explained by the growing trend of both of the *Health Care* and *Education* occupations. According to the Bureau of Labor Statistics (Bureau of Labor Statistics, 2015), the employment of healthcare occupations is projected to grow 19.000% between 2014 – 2024 which is faster than the average for all other occupations. The employment of education, training, and library occupations is projected to grow approximately 8.000 % during that same period.

Location

The results of the analysis showed that the random sample of responses for the demographic variable *Location* is consistent with the distribution of responses of the full sample (Table 8). The responses indicate that *Suburban* (46.300%) was the highest random response given for *Location*, in comparison to *Urban* (19.000%) which was the lowest reported random response.

According to the U.S. Census Bureau, about 26% of Americans described their present location as urban, while 53% reported living in suburban areas, and 21% reported that they lived in rural areas (United States Census Bureau website, 2010). These figures reported that the random sample is also consistent with national averages. Other than sample dynamics, this investigation found no other discoverable explanation for this representation within this investigation.

Present Income

The results of the analysis showed that the random sample of responses for the demographic variable *Present Income* is consistent with the distribution of responses of the full sample (Table 9). The responses of the random sample indicate that *Middle Income* (52.700%) was the highest reported present income, compared with *Poor* (0.700%) which was the lowest reported random sample response.

Possible explanation for variations among the *Present Income* responses may be attributed to associations with other demographic variables such as *Student Status*, *Highest Level of Education*, and *Industry Associated with Present Occupation*. The early research of Diener, Sandvik, Seidlitz, & Diener (1993) revealed several important findings germane to this present research:

- Change in one's income does not produce effects beyond the effect of income itself
- African-Americans and the poorly educated do not derive greater happiness from specific levels of income
- Income produces the same levels of happiness in both poorer and richer areas of the U.S
- Affluence has some correlation with subjective well-being, however; income appears to produce less increases in subjective well-being at higher income levels

These findings are supported by the later scholarly work of Kahneman, Krueger, Schkade, Schwartz, & Stone (2006).

Present Household Status

The results of the analysis showed that the random sample of responses for the demographic variable *Present Household Status* is consistent with the distribution of responses of the full sample (Table 10). The responses indicate that *Living with two or three people* (41.000%) was the highest reported response in the random sample, compared with *Living Alone* (7.300%) which was the lowest reported random sample response. While beyond the scope of this present investigation, studies such as Levin, Dallago, & Currie (2012) found there to be a relationship between family structure and *life satisfaction* some youth ages 13 and 15 years. While family wealth mediated this relationship, the degree of mediation depended on age and gender. The research revealed that life satisfaction for boys and girls at all ages was more strongly associated with parent-child communication than with family structure or even family wealth.

In summary, the responses to each of the demographic variables were shown to be consistent with the distribution of responses of the full sample. While only limited explanation and further scholarship is provided for these varying responses, the findings of the demographic variables are tenable to the scope and undertaking of this investigation.

Research Questions

This investigation set out to examine the moderating phenomena contiguous to overcoming childhood experiences for attaining life-satisfaction and adjustment in mature adulthood. The methodological design employed was survey research, which was intended to examine the effects of adverse childhood experiences on life satisfaction in adulthood in relation to the proposed research questions.

Research Question 1: What is the impact of ACEs on MASA?

This first research question set out to discover how adverse childhood experiences ACEs effect one's ability to attain a sense of life satisfaction and become well-adjusted as they approach middle-aged adulthood. This undertaking involved conducting several statistical analyses including a *MANOVA* with *Tests of Between-Subject Effects* (Fields, 2014) (Table 15). The MANOVA (multivariate analysis of variance) chosen for this investigation helped to determine the effect of one or more independent variables (psychometric scales) on two or more dependent variables (ACEs).

The results of the MANOVA indicate that *ACE SCORE* has a small to moderate significant impact on mature adult satisfaction and adjustment (MASA). The results of the *Tests of Between-Subjects Effects*, examining the impact of *ACE SCORE* on each

factor individually, reveal that all of the outcome measures are significantly associated with *ACE SCORE*.

Appendix C provides illustration of each relationship. Noteworthy, are the outcomes of the subcategories of the Adult Attachment Scale (AAS): AAS_CLOSE, AAS_DEPEND, and AAS_ANXIETY, which are more pronounced, implying that these three outcome subcategories were more impacted by the ACE_SCORE than the other outcome variable do to less variability in the data. The implication is that any effect of moderators on these outcomes; specifically, CLOSE and DEPEND, are higher than with the remaining outcome variables. In addition, ANXIETY is the only outcome variable that has a positive relationship with ACE_SCORE, which is because as an individual's ACE_SCORE increases so does their level of ANXIETY within their relationship.

Five Key Components

A review of the literature showed that there were five key components that contributed to the development of one's mature adult satisfaction and adjustment (MASA). These components include: *supportive relationships*, *dispositional mindfulness*, *realistic expectation on life satisfaction*, and *prosocial behavior*, and preparatory skills.

Supportive relationships

The role of supportive relationships, as identified by researchers such as Bajaj & Pande (2015), Depner & Ingersoll-Dayton (1988), and Turner, Thomas, & Brown (2016), serve as a valuable mechanism involved in recovery from traumatic experiences, the formation of resilience, and future satisfaction in later life. This relationship factor is very critically important because there are countless individuals who have experienced devastating childhood adversities, yet because someone chose to genuinely care about them was

willing to nurturing a supportive relationship, they were able to find comfort to help them through their past pain and problems to discover a new life that has meaning, value, purpose, and hope.

Dispositional Mindfulness

The role of dispositional mindfulness is often very important to one's recover and resilience. As defined by Brown & Ryan (2003), this component represents an individual's willingness to remain keenly aware of their thoughts and feelings in the present moment. As further suggested by Whitaker et al. (2014), this mindset serves as a valuable a moderator to better health behaviors leading to resilience and resulting later life-satisfaction. A very practical example of the utility of dispositional mindfulness would include the individual who takes ownership of their negativity, and refuses to allow their temporary feelings (often inconsistent and capricious as Ohio weather) to dictate their present perspective and future decision-making. Remaining focused and staying positive are game-changers for those looking to overcome adversity and obtain life satisfaction. A growing body of evidence demonstrates that simple and deliberate changes in one's thoughts and behaviors can precipitate happiness (Lyubomirsky & Layous, 2013; Shore, 2016).

Realistic Expectation on Life Satisfaction

The awareness that one's personal "underestimation" is associated with less risky behaviors, positive health outcomes, greater sense of fulfillment, and life satisfaction was introduced by scholars such as Lang, Weiss, Gerstorf, & Wagner (2013). While the importance of this concept may at first appear seemingly insignificant, those who overestimate their value and importance most often experience problems of their own

making. Through personal experience with at-risk youth and adults having multiple childhood adversities, these individuals often try to over-compensate for their pain and low self-esteem by exhibiting behaviors that are either self-destructive (i.e. self-mutilation, alcohol abuse, overeating, gambling, suicide, avoidance, promiscuousness, and self-depravation) or meant to display their sense superiority (i.e. bullying, violence, threatening, sarcasm, defiance, arrogance, and “superhero” syndrome). To the trained eye or those who “trauma-informed”, these forms of “acting out” are most always indicative of casual issues relating to precipitating factors. As suggested by the research of Burnette, O’Boyle, VanEpps, Pollack, & Finkel (2013) and Wills & O’Carroll Bantum (2012), one’s ability to think realistically of themselves, their situation, and others around them is instrumental to processes involved in resilience effects, self-regulation, and self-autonomy.

Prosocial Behavior

While researchers such as Caprara & Steca (2005) examined perceived self-efficacy, and affect regulation, others such as Bronk, Hill, Lapsley, Talib, & Fitch (2009) investigated the relationship among purpose, hope, and life satisfaction. They discovered that actions intended to help others were positively correlated with life satisfaction in adulthood. The idea of discovering personal fulfillment through altruism appears to be central to finding life satisfaction. As suggested by Bronk et al. (2009) living the “good life” often involves engaging in activities through which one learns to lose oneself in the process, and how that leading a meaningful life involves “pursuing a path in which a cause or an institution supplies a sense of belonging to something greater than oneself” (p.506). This research provides a critically important aspect of

understanding the moderators of ACEs leading to MASA, namely that life satisfaction is not always a consequence of not having pain or problems, as much as it is the effect of adjustment to adversity, and the discover of fulfillment found by helping others while even in the midst of one's own struggles.

Preparatory Skills

As suggested by Azizli, Atkinson, Baughman, & Giammarco, (2015) and Prenda & Lachman (2001), life planning and a perceived sense of control in one's life through the development of preparatory skills, often leads to a greater sense of life satisfaction and resilience. Quite germane to overcoming childhood adversity and attaining life satisfaction in middle-aged adulthood, it is important that one learn to incorporate a sense of orderliness and regularity into their lifestyle. While at times life is mundane and at even sorely repetitious, there is comfort and strength derived from determining what truly matters, setting goals, acquiring necessary life skills, and then arranging one's priorities to attain success. The research of McPherson, Kayes, & Weatherall (2009) involved personal goal setting in people with traumatic brain injury. The results of their intervention included improved mood and new adaptation to stress. As applied to this investigation, the results provide an indication that the development of resilience leading to MASA may be spurious without adequate preparation and planning.

In light of these findings, as suggested from the literature review, Diener (2006) contends that there is no single-most factor or key to life satisfaction, but rather that life satisfaction is like a recipe that includes several essential ingredients. Diener suggests that the "key ingredients" to obtaining happiness and fulfillment in life involve social

relationships, attainment of goals derived from one's personal interests and values, along with a sense of connection to something larger than oneself (p.3).

More specific to this first research question, the results of analysis were consistent with the findings within the literature review and the specific breakdown of each of the embedded psychometric scales utilized within the survey instrument. A brief recap of each of these scales and their relevance follows:

Adult Attachment Scale (AAS) (Hazan & Shaver, 1987; Levy & Davis, 1988) helps to measure adult attachment styles: Secure, Anxious, and Avoidant (Collins & Read, 1990; Cherry, 2006). According to Crowell & Treboux (1995), this self-selection measure was originally developed to help provide insight into one's adult attachment style in relationship to their involvement with others. The results showed that AAS_CLOSE_SCORE, AAS_DEPEND_SCORE, and AAS_ANXIETY_SCORE was significantly correlated with ACE_SCORE ($p = 0.000$).

AAS_CLOSE

As suggested by Hazan & Shaver (1987), when one's adult attachment style is *CLOSE*, this individual would more feel comfortable getting close to others. Additionally, these individuals will allow themselves to depend on other people for help, and subsequently they will not feel awkward having others depend on them. Another important trait is that when adults are secure, they do not concern themselves over being left alone or possible issues of abandonment. The significant correlation of the two variables ACE_SCORE and AAS_CLOSE (Scatterplot 5, Appendix C) implies that there is a negative relationship between the two and they vary together, meaning that as one's ACE_SCORE increases, their level of closeness and intimacy decreases.

AAS_DEPEND

As also suggested by Hazan & Shaven (1987), when one's adult attachment style is *DEPEND*, these individuals find it very difficult being emotionally close to others. Their issues often revolve around insecurity and lack of trust. Because of these issues, these individuals will not allow themselves to become vulnerable by allowing themselves to depend on others. When they sense that their partners want to get intimate, they often become anxious or withdrawn. The significant correlation of the two variables ACE_SCORE and AAS_DEPEND (Scatterplot 6, Appendix C) implies that there is also a negative relationship between these variables, which implies that as one ACE_SCORE increases; their level of comfortableness with others also decreases.

AAS_ANXIETY

As suggested by Hazan & Shaven (1987), when one's adult attachment style is *Anxiety, Anxious / Ambivalent*, they tend to think that others are avoiding them and often feel a sense of rejection. This sense of rejection often distorts their perspective and they misinterpret their partner's actions to mean that they are unloved or may risk abandonment. Hazan & Shaven (1987) also suggest that these individuals often scare prospective partners away because of their neediness. The significant correlation of the two variables ACE_SCORE and AAS_ANXIETY (Scatterplot 7, Appendix C) shows that there is a positive relationship between the two variables. This positive correlation means that as ACE_SCORE increases, so does their level of Anxiety and Anxiousness within a relationship.

The Relationship Attachment Scale (RAS) (Hendrick, 1988) measures general relationship satisfaction and is appropriate for use with individuals who are in an intimate

relationship, such as married couples, cohabiting couples, engaged couples, or dating couples. The results showed that RAS_SCORE was significantly correlated with ACE SCORE ($p = 0.000$). The significant correlation between the two variables (Scatterplot 1, Appendix C) implies that there is a negative relationship between both variables. A negative correlation means that as one's ACE_SCORE increases, their ability or willingness for relational intimacy decreases.

The Brief Resilience Scale (BRS) (Smith et al., 2008) assesses the ability to recover from stress and traumatic events. While most measures of resilience have focused on the examining the resources and protective factors facilitating resilience, the BRS specifically focuses on ascertaining the ability to “bounce back” from stress and adversity and provides distinctive information about how well people cope with health-related stressors. The results showed that BRS was significantly correlated with ACE SCORE ($p = 0.020$). The significant correlation between the two variables (Scatterplot 2, Appendix C) also implies that there is a negative relationship between both variables, meaning that as one's ACE_SCORE increases, their corresponding ability for resiliency decreases.

The Subjective Happiness Scale (SHS) assesses one's broader perspective of personal wellbeing (Lyubonmirsky & Lepper, 1999). While other psychometric measures assess the affective components of one's subjective well-being, the SHS measures a more concentrated category of an individual's well-being. The results show that SHS was significantly correlated with ACE_SCORE ($p = 0.000$). The significant correlation between the two variables ACE_SCORE and SHS (Scatterplot 3, Appendix C) implies that there is a negative relationship between both variables. This negative correlation

implies that as one's ACE_SCORE increases, their subjective happiness decreases proportionately.

The Satisfaction with Life Scale (SWLS) assesses an individual's global judgment on life satisfaction as a whole (Diener, Emmons, Larson, & Griffin, 1995). This scale measures more of the cognitive component of subjective well-being (SWB), and focuses on the assessment of an individual's comprehensive judgment on their perception of life. The results showed that SWLS was significantly correlated with ACE_SCORE ($p = 0.000$). The significant correlation between the two variables (Scatterplot 4, Appendix C) implies that there is a negative relationship between both variables. A negative correlation means that means that an individual's ACE_SCORE increases, their satisfaction with life decreases.

Elements from each of these psychometric scales, together with the key ingredients as earlier outlined (Diener, 2006) are shown to form the basis for moderating the effects of adverse childhood experiences (ACEs) on mature adult satisfaction and adjustment (MASA). Other explanations for apparent inconsistencies may stem from situations where an individual has had many ACEs but has not yet discovered the "pathway to resilience". Sometimes, individuals find secure attachment, or other mechanisms to provide temporary stability. However, similar to the pattern of addiction, without continual support and reinforcement from both peers and professionals, these individuals are prone to periods of short remission with longer and more detrimental periods of relapse (White & Evans, 2014).

Research Question 2. If an impact is revealed, are there significant moderators reported that provide additional insight into the level of impact that ACEs have on the measures of MASA?

A *zero-order correlation* analysis used for this investigation assessed the relationship between the scale scores (i.e. ACE SCORE, RAS SCORE, SWLS SCORE, BRS SCORE, AAS (Close) SCORE, AAS (Depend) SCORE, AAS (Anxiety) SCORE) and the coded responses to the seven open-ended questions. The results indicated that a significant relationship exists between the coded responses with the constructed outcome scales, for the following two questions: *How would you describe your present health?* and *What is the best advice you can offer someone to help them in life?* Due to the lack of correlation between many of the coded potential moderator variables and the outcome variables, the moderator analyses focused on the response to the question “*What is the best advice you can offer someone to help them in life?*” The response to this variable revealed a small to moderate significant correlation with the outcome variable.

After indicated within the results section, after a recategorization of the ACE variable, a MANOVA analyses with an imposed interaction was used to create the interactions needed and to provide the most appropriate analyses of the MASA variable in SPSS. Results of the Multivariate Analysis of ACE Scores on MASA as an interaction, with each level of the responses to the “*What is the best advice you can offer someone to help them in life?*” coded response (based on the Roy’s Largest Root test) (Fields, 2014) reveals no significant results. Additionally, a closer examination of the *Tests of Between- Subjects Effects* indicates that there is no significant effect when the moderator is introduced between the ACE and the outcome variables. These results are

consistent with the findings of the multivariate analyses. Based on further findings, there is a lack of evidence indicating that the “*What is the best advice you can offer someone to help them in life?*” variable significantly moderates the ACE level on the MASA or the individual outcome scores (i.e., *RAS_SCORE*, *SWLS_SCORE*, *SHS_SCORE*, *BRS_SCORE*, *AAS_CLOSE_SCORE*, *AAS_DEPEND_SCORE*, and *AAS_ANXIETY_SCORE*).

A further examination of the frequencies and percentages of these coded moderators show that out of ($n = 300$) participants, (107 or 42.300%) responses indicated that *attitude/encouragement/self-advocacy* was their *best advice* to help others in life. As indicated in the response to an earlier research question, the review of the literature suggests that each of these coded moderators were relevant and suitably significant (Riggs, 2010; Sable, 2008; and Weber & Reynolds, 2004). A brief discussion of each of these moderators follows.

Discussion of the Moderators

The moderators (i.e. relationships, spirituality, attitude/encouragement/self-advocacy, and pro-social behavior) for the open-ended question “What is the best advice you can offer someone to help them in life? provide further insight into the second research question.

Relationships

The literature review showed that *secure childhood attachment* (the development of safe and protected close relationships) early in life, is tantamount to an individual’s willingness and ability to engage in *adult attachment* (close relationships) later in life (Erikson, 1968). The research findings demonstrated that if adult relationships are *secure*

attachment relationships, it is likely that these individuals also had a secure attachment relationship with their parents, caregivers, or other significant individuals within their lives. It is probable that adults who were in a safe and secure relationship as children will be more likely to form secure relationships with new partners later in life. The nurturing of relationships is not only an important part of the foundational process of socioemotional development, the cultivation of relationships are instrumental to the formation of adult attachment (Ainsworth, 1985; Bowlby, 1969). According to Bowlby (1988) and Sable (2008), this whole process of relational development and expectations is part of the mechanism designed to promote continuity within an individual's attachment patterns over the entire life course.

Spirituality

While one's spirituality per se was not the primary focus of this investigation, there is substantial amount of research literature evidence to show the positive role that one's spirituality, faith, and religious believes plays on the formation of resilience and their health and wellbeing (Ano & Vasconcelles, 2005; Peres, Moreira-Almeida, Nasello, & Koenig, 2007). As suggested by (George, Larson, Koenig, & McCullough, 2000) there are important links between religious practices and reduced onset of physical and mental illnesses, reduced mortality, and likelihood of recovery from or adjustment to physical and mental illness. The mechanisms underlying these relationships are shown to involve the connection of healthy behaviors associated with spirituality, the social support of relationships, and a sense in which these provide meaning and purpose. These factors may be discovered to be more pronounced in a more diverse sample, in a more diverse location, or access to a more diverse population.

Attitude/encouragement/self-advocacy

While each succinct, the individual terms attitude, encouragement, and self-advocacy were combined within this moderator to capture a more comprehensive understanding of the subjective responses to the open-ended question “*What is the best advice you can offer someone to help them in life?*”. Well evidenced throughout research literature, the elements *attitude, encouragement, and self-advocacy* are shown to be antidotal to adversity (Ford & Blaustein, 2013; Hudson, 2016). Researchers such as Sheeran, Bargh, & Gollwitzer (2013) have convincingly shown how that treatment outcomes for health behavior can be enriched by greater consideration of nonconscious processes such as implicit cognition (knowledge outside of the person’s awareness) in the redevelopment of a person’s attitude and capability for reflective control over their feelings and subsequent behavior.

Prosocial Behavior

The literature review had showed how that prosocial behavior; is often driven by one’s sense of altruism. Researchers such as Caprara & Steca (2005) examined perceived self-efficacy of affect regulation along with the perceived self-efficacy within interpersonal relationships to discover how these factors impact prosocial behavior. In a cross-sectional study of 416 adults, Bronk, Hill, Lapsley, Talib, & Fitch (2009) investigated the relationship among purpose, hope, and life satisfaction. As earlier noted, these researchers found that prosocial behavior (action intended to help others) was positively correlated with life satisfaction in adulthood. The concept of discovering personal fulfillment through altruism appears to be central to finding life satisfaction. As noted by Bronk et al. (2009), living the “good life” often involves engaging in activities

through which one learns to lose oneself in the process. Leading a meaningful life involves “pursuing a path in which a cause or an institution supplies a sense of belonging to something greater than oneself” (p.506).

While there was mixed evidence to conclude from some analyzes that each of the aforementioned aspects of this variable (i.e. relationships, spirituality, attitude, and prosocial behavior) moderate the effects of ACEs on MASA, however; a discussion of the *open ended responses* shed light on other considerations. Plausible explanations for some of this discrepancy include the idea that while people may often know “what is best to do”, and can give good advice, they often lack the willingness, ability, or the persistence necessary to modify their behavior. As suggested by Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello (2013), there is a present need for Acceptance and Commitment Therapy (ACT), which is a unique, empirically based psychological intervention that uses acceptance and mindfulness strategies, together with the principles of persistence, commitment, and other behavior change strategies, to increase one’s psychological flexibility and willingness to change. This a vitally important consideration, because as is the case with many who suffer from addictive disorders, their lack of knowledge is generally not the deterrent as much as is the struggle of contending with the neurological remodeling that has actually “reprogrammed and rewired” the brain (Hyman, Malenka, & Nestler, 2006). The age ole expression “Practice makes perfect” might better be expressed “Practice makes permanent”, because ones continual pattern of thinking ultimately leads to the same actions and resulting outcomes. Author Marianne Williamson wisely said, “You must learn a new way to think before you can master a new way to be” (Goodreads website, 2016). Without question, this present

investigation brings to light the ongoing need for the development of ongoing therapies (Briere & Scott, 2015) and other support of mechanisms (Garner et al., 2012) as further discussed within the conclusion.

Research Questions 3. Do demographic identifiers (i.e. age, gender, marital status, ethnicity, student status, education level, occupation, location, financial status, and household status) impact the correlation between these factors?

In order to answer this third research question, both a *zero-order correlation* analysis and the General Linear Model (GLM) were used for statistical analysis (Tables 18). The results of analysis revealed that two of the demographic variables *Educational level* and the *Financial Status* variable, together with the open-ended response *Present Health* were significantly correlated with the outcome variables. However; a Test of Between-Subject Effects analysis (Table 19) reveal that there is not a significant interaction between critical ACE level (ACE_CAT3) with Present Health, Education, and Income on the dependent variables RAS_SCORE, SWLS_SCORE, SHS_SCORE, BRS_SCORE, AAS_CLOSE_SCORE, AAS_DEPEND_SCORE, and AAS_ANXIETY_SCORE. While the results of these analyses were not consistent with the multivariate analyses, the likely explanation for these differences is that the multivariate analysis examines the Mature Adult Satisfaction and Adjustment (MASA) aggregately while isolating out the overlap between the multiple outcome variables, which results in an analysis that is more precise and more powerful. As such, a more powerful analysis is more likely to find a significant result if it exists.

Three Exacting Variables

The three variables: *Educational Level*, *Financial Status*, and *Present Health* have a

strong sociological association shown throughout literature, which subsequently play an exacting role on our society and the welfare of its constituency (Bornstein & Bradley, 2012; and Luo & Waite, 2005). As suggested for future research, the connections between ACEs, socioeconomic status (SES), at-risk youth, and MASA are also noteworthy to consider.

Education Level

In a revealing report from the American Public Health Association, Arnold, Knowles, & Chilton, (2014) home and family environments are notably powerful determinants of emotional, behavioral, cognitive, social, and physiologic functioning throughout life. In relationship to the other outcome variables *Educational Level* has a moderately significant relationship with the SWLS_SCORE ($p = 0.013$), SHS_SCORE ($p = 0.030$), and BRS_SCORE ($p = 0.025$) meaning that one's level of education may correspondingly effects their sense of satisfaction with life, their feelings of subjective happiness, and their ability to handle the pressures of stress. Some of this information may be beneficial when helping people to consider the potential benefits versus the cost burden of obtaining an education. Contrary to once held norms and opinions, a higher level of education may or may not provide some individuals leverage in the market place. It is suggested that many factors should be taken into careful consideration before pursuing academic ambitions, including details of the desired occupation, understanding the local economy, knowledge of employment saturation, and realistic calculation of loan repayment (Cappelli, 2015).

Financial Status

In relationship to the other outcome variables *Financial Status* has a moderately significant relationship with the AAS_CLOSE SCORE ($p = 0.031$), meaning that one's degree of financial income or perceived stability may affect their sense of closeness in their

relationships with others. One plausible interpretation may be linked to personal observation of at-risk youth who periodically obsess over trivial amount of monies. When questioned, their actions are often explained by stating that there was a time in their past when lack of available resources caused them to hoard or hide whatever they could. In the described scenario, possessions, and in particularly, monies provided the youth with a false sense of security and comfort. Likewise, financial security for some may be a substitute for personal closeness and intimacy or even happiness. Another explanation for the connection of *Financial Status* with *AAS_CLOSE* might be gleaned from a study of people's perceptions of happiness and their financial state. Cornell (2015) tested the belief that money can buy happiness. A synopsis of the results suggested that as age increases, one's tendency to believe that money buys happiness decreases. Males were more likely than females to think that material possessions would bring them increased happiness. The younger generation was more likely than the older generation to believe that achievement was the key happiness, whereas the older generation placed more importance on religious or spiritual beliefs to provide increases in happiness. Perhaps the security and happiness of Financial Status in some unidentified way mediates relational closeness and intimacy.

Present Health

In valuable research concerning present health and ACEs, recent studies such as Szilagyi & Halfon (2015) and Thompson et al. (2015) validated earlier studies such as Felitti (2009) and (Felitti et al. (1998) which determined that in addition to other negative outcomes such as mental, emotional, and behavioral issues, chronic ACEs affect physical health in emerging adulthood.

In relationship to the other outcome variables *Present Health* also has a significant

relationship with the SWLS_SCORE ($p = 0.028$), and a significant relationship with SHS_SCORE ($p = 0.001$), meaning that one's degree of education correspondingly effects their sense of satisfaction with life, and their feelings of subjective happiness. It may be considered that if an individual remains healthy, there may be a greater likelihood that they will also remain happier and satisfied with life. Likewise, if an individual should become unhealthy, or even if they have the responsibility of caring for another who is unhealthy, after a period of time without intervention, the caregiver is also likely to feel unhappy and unsatisfied with life. Thoroughly addressed by the scholarship of Adelman, Tmanova, Delgado, Dion, & Lachs (2014), the burden of informal caregiver "burn-out" can occur in any of the 43.5 million individuals providing support to midlife and older adults. Some of the more salient risk factors that may be more closely associated with factors already identified within this present investigation include being female, low educational attainment, living with the care recipient, battle with personal depression, social isolation, and financial duress.

Each of the variables (i.e. *Educational Level*, *Financial Status*, and *Present Health*) affects the wellbeing of individuals and families for an entire lifetime. As understood from the preceding information, when combined, education, finances, and health can overwhelm both individuals and families, and can often exhaust the limits of societal resources or they can become sources of present health, satisfaction with life, brief resilience to overcome stress, and a means to subjective happiness. These correlations show the powerful role of independent variable and their individual or combined effects on mature adult satisfaction and adjustment (MASA).

Open-ended Questions

The survey instrument employed for this investigation was used to collect responses

from seven open-ended questions at the conclusion of the questionnaire. While the responses to each of these questions are important, three specific questions also warrant valuable discussion.

Responses to the question “*Please briefly identify some of the people that have helped you to be successful*” had two predominant responses: *Family* (34.300%) and *Multiple Responses* (involving more than one person) (29.700%). Subsequently, 64.000% of participants ($n = 300$) responded that relationships with family, friends, and professional are those who have helped them to overcome the effects of adverse childhood adversity. Some of the direct responses before coding included:

- “Aunt”
- “Mother”
- “Sister”
- “Counselor”.

Responses to the question “*What makes life worth living to you?*” had one major response, namely “Relationships” (55.000%). Some of the other more salient comments taken verbatim, included:

- “Knowing that God loves me, wants good things for me, and has a plan for my life.”
- “Making the world a better place. “
- “Helping others find their meaning and purpose.”
- “The impact I can have on the world around me.”

Responses to the question “*What is the single-most factor that has changed your life for the better or worse*” had two major responses “*Relationships*” (41.300%) and

“*Spirituality*” (12.300%). Some of the more salient comments included:

- “My marriage and my kids have made my life better.”
- “Being a father has been a good fun challenging life changer.”

Insight Into Personal Responses

The personal responses to the open-ended questions helped provide insight into both the moderators and mechanisms whereby individuals have overcome ACEs have gone on to discover MASA. The arduous coding of literally hundreds of responses and subsequent analysis of the findings revealed both anticipated and unexpected results. While a review of the literature showed that ACEs brought about many predictable problems in both adolescents and adulthood (Brown et al., 2009; Chapman et al., 2004; Dube et al., 2001; and Felitti et al., 1998); yet the findings of this investigation revealed that there was no correlation between ACEs and Reported Health. The most plausible explanation for this discrepancy would seem to align with the frequencies of open-ended responses in which participants indicated that *relationships, attitude, and spirituality* acted as a barrier or “buffer” to either insultate or cushion the impact of ACEs on MASA.

Another important aspect to consider in helping individuals to overcome ACEs and obtain MASA is through the role of professional counseling and therapy. It is noteworthy to mention that the process of helping hurting people recover from their brokenness, involves counselors and therapists who often focus on the same elements identified in this investigation, namely *relationships, attitude, and spirituality*. According to Hinterkopf (2015), spirituality is a basic part of the human experience. Subsequently, many spiritual issues often arise in counseling. The author concludes that the integration of spirituality into the counseling process is an integral part of treatment and recovery. Thompson (2016),

suggest that improving relationships are an essential component to becoming an effective practitioner. Most supportive to the findings and conclusions of this investigation, are the sentiments of Honeycutt & Milliken (2012) which are stated in their handbook to health care professionals “many trauma survivors attribute their recovery to strong relationships with family and friends, a positive attitude, and the ability to find meaning in the difficult experience” (p. 168).

Study Limitations

The study limitations of this investigation are few yet impacting. While every effort was made to mitigate the chance of *sampling error* and *response bias* (Fields, 2014) through both random sampling and the conducting of a completely voluntary inventory, it is still likely that the *snowball* effect from utilizing social media limited the responses to those most familiar. In addition to the collection of responses from predominantly white, females, other demographic limitations include less than diverse race/ethnicity, income, occupation, and location. Another limitation of this study was the possibility of coding error or bias in coding when trying to select the most appropriate moderator each open-ended question response.

Implications for Legislative Policy and Intervention

The impact of this research investigation has many implications for legislative policy and future intervention.

Legislative Advocates

Currently there are several legislative advocates for those individuals and families affected by trauma. While impractical to mention all of them, one of the nation’s largest advocates for legislative policy and early intervention is the National Child Traumatic Child Network (NCTSN), which is funded by the Center for Mental Health Services (CMHS), the

Substances Abuse and Mental Health Services Administration (SAMHSA), and the U.S. Department of Health and Human Services, (2014). Collaboration with policymakers has been an important role of the NCTSN since it began in 2000 as part of the Children's Health Act. Subsequently, the National Center for Child Traumatic Stress, which is the coordinating center for the NCTSN, has continually advocated for education, trauma awareness, and policy concerns at the federal, state, and local levels. Another national organization influencing public policy is the National Center for Children in Poverty (NCCP), whose mission is to promote the economic security, health, and well-being of America's low-income families and children.

Federal Legislation

While the primary responsibility for child welfare services remains with the States, every State has their own administrative structures and programs to address the needs of children and families. In order to be eligible for Federal funding, the States must comply with specific Federal requirements. The Child Welfare Information Gateway (2016) conveniently lists the various changes in legislature in an easy to follow timeline:

- Child Abuse Prevention and Treatment Act (CAPTA) of 1974
- Adoption Assistance and Child Welfare Act of 1980
- Child Abuse Amendment of 1984
- Foster Care Independence Act of 1999
- Child Abuse Prevention and Enforcement Act of 2000
- Keeping Children and Families Safe Act of 2003
- Adam Walsh Child Protection and Safety Act of 2006

- CAPTA Reauthorization Act of 2010
- Child and Family Services Improvement and Innovation Act of 2011
- Preventing Sex Trafficking and Strengthening Families Act of 2014
- Justice for Victims of Trafficking Act of 2015

Suggestions for Future Policy Implementation and Intervention

Present policy responses to children, youth, and families who experience trauma are often inadequate to meet its growing pervasiveness (Craig & Sprang, 2007). While ACEs affect both individual and families for a lifetime (Felitti, 2009; Hughes, Lowey, Quagga, & Bellis, 2016), other researchers have suggested that the impact of trauma exposure may be alleviated by developing a better care delivery and future support system that is trauma-informed, prevention oriented, and committed to improving mental health functioning for children, youth, and their families (Cooper, Masi, Dababnah, Aratani, & Knitzer, 2007).

In light of this growing optimism, the following are salient recommendations for future policy implementation and intervention:

- Provide an increased awareness of ACEs and their impact on health and well-being through the development of a community driven educational initiative focused on providing ongoing training to staff, students, parents, and the community.
- Partner with the health care community, local businesses and leaders, and community civic, social, and faith-based organizations to influence the state education, child welfare, mental health, substance abuse, and present corrections systems.
- Assess ideas for innovative funding strategies that develop services designed to

provide early detection, prevention, and intervention.

- Provide for systematized collection and analysis of pertinent data and information to be employed in community-based planning, decision making, and future policy recommendations.

Characteristics of A Proposed Trauma-Informed Intervention Model. The results of the dissertation highlight the impact of relationships, spirituality, and attitudes as having a potential impact on participant's positive MASA. These findings may also be used to support the prioritization of these elements in building a more effective proposed trauma-informed intervention model for young people. While specific design and organizational implementation may extend beyond the scope of this present investigation, the establishment caring relationships, a sense of spiritual awareness, and the development of personal attitudes (perspectives) leading to life change would serve as the proverbial “threefold cord” (Eccl. 4:12, King James Bible) foundational to and characteristic of any effective trauma-informed intervention model and worthwhile endeavor to impact lives.

Directions for Future Research and Scholarship

As scholarly research continues to advance in the area of childhood trauma and its effects on adulthood, so will our understating of the moderators of adverse childhood experiences leading to resilience and mature adult satisfaction and adjustment. While there are numerous directions for future research, those most essential to the enrichment of this present study should include the following: Exploration of the connections between ACEs, socioeconomic status (SES), at-risk youth, and MASA; consideration of potential strategies for early educational and clinical intervention; examination of improved curriculum and training for educators, administrators, at-risk families, and community; investigation of

longitudinal and epidemiological research designed to provide professionals with a better understand the life course, and the distinguishable mechanisms linking childhood adversity to psychopathology (McLaughlin, 2016); and advancement of phenomenological studies which incorporate more subjective analysis of ACEs and MASA through personal observation, open dialogue, and private interviews. Lastly, leadership expert Dr. John Maxwell states, “Everything rises and falls on leadership” (Maxwell, 2007, p. 2).

Accordingly, a most appropriate and necessary consideration for future research would entail an evaluation of leadership involvement in present education, training, and dissemination of information involving trauma-informed decision making and informed school policy.

Employed as suggested, these directions for future research and academic scholarship would enhance knowledge leading to better understanding, improved best practices, and greater leadership and support in helping those traumatized by the effects of ACEs.

Conclusions

Adverse childhood experiences (ACEs) have a much broader and more profound impact on individuals, families, and our society than one would ever suspect or imagine. In bringing many truths to light, this research has shown that early childhood interactions affect the architecture of the developing brain, which in turn, shapes one’s emotional, cognitive, and social functioning. Adverse childhood experiences change the way people see themselves and the others around them. Ultimately, trauma affects the way people learn, how well they cope with the stresses of life, and how they bond with others to form lasting relationships throughout their lifetime (ACT, 2016). The results of this research have implications for prevention, early intervention, effective treatment, and policy-making at the federal, state, and local level. This research taught the importance of understanding the

moderators of adverse childhood experiences on mature adult satisfaction and adjustment. While the research shows that almost one out of every three people have ACE scores above four, the moderators: relationships, attitude, and spirituality acted as an insulator from the effects of childhood adversity. The growing body of knowledge presented in this investigation holds great promise for our society's willingness to learn how to care for its wounded by learning to recognize the brokenness of hurting people. Mahatma Gandhi once proposed a challenge that can transform the universe, "You must be the change you wish to see in the world" (Brainy Quote website, 2001, p.1). As we as individuals and as a society learn to become trauma-informed, we can commit to making a deliberate difference in the world around us...one smile, one random act of kindness, and one relationship at time.

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APPENDIX A

October 22, 2016

Dr. Karen Larwin, Principal Investigator
Mr. Daniel Cesene, Co-investigator
Department of Educational Foundations, Research, Technology & Leadership
UNIVERSITY

RE: HSRC PROTOCOL NUMBER: 044-2017
PROTOCOL TITLE: The Effects of Adverse Childhood Experience on Life Satisfaction
in Adulthood

Dear Dr. Larwin and Mr. Cesene:

The Institutional Review Board has reviewed the abovementioned protocol and determined that it is exempt from full committee review based on a DHHS Category 5 exemption.

Any changes in your research activity should be promptly reported to the Institutional Review Board and may not be initiated without IRB approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the IRB.

The IRB would like to extend its best wishes to you in the conduct of this study.

Sincerely,



Michael A. Hripko
Associate Vice President for Research
Authorized Institutional Official

MAH:cc

c: Dr. Charles Vergon, Chair
Department of Educational Foundations, Research, Technology & Leadership

APPENDIX B

Exhibits

Exhibit 1
Adverse Childhood Experiences (ACE)

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household often ...
Swear at you, insult you, put you down, or humiliate you?
or
Act in a way that made you afraid that you might be physically hurt?
Yes No If yes enter 1 _____
2. Did a parent or other adult in the household often ...
Push, grab, slap, or throw something at you?
or
Ever hit you so hard that you had marks or were injured?
Yes No If yes enter 1 _____
3. Did an adult or person at least 5 years older than you ever...
Touch or fondle you or have you touch their body in a sexual way?
or
Try to or actually have oral, anal, or vaginal sex with you?
Yes No If yes enter 1 _____
4. Did you often feel that ...
No one in your family loved you or thought you were important or special?
or
Your family didn't look out for each other, feel close to each other, or support each other?
Yes No If yes enter 1 _____
5. Did you often feel that ...
You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
or
Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
Yes No If yes enter 1 _____
6. Were your parents ever separated or divorced?
Yes No If yes enter 1 _____
7. Was your mother or stepmother:
Often pushed, grabbed, slapped, or had something thrown at her?
or
Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?
or
Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
Yes No If yes enter 1 _____
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
Yes No If yes enter 1 _____
9. Was a household member depressed or mentally ill or did a household member attempt suicide?
Yes No If yes enter 1 _____
10. Did a household member go to prison?
Yes No If yes enter 1 _____
- Now add up your "Yes" answers: _____ This is your ACE Score

Felitti et al. (1998)

Exhibit 2

Adult Attachment Scale (AAS)

Please read each of the following statements and rate the extent to which it describes your feelings about romantic relationships. Please think about all your relationships (past and present) and respond in terms of how you generally feel in these relationships. If you have never been involved in a romantic relationship, answer in terms of how you think you would feel.

Please use the scale below by placing a number between 1 and 5 in the space provided to the right of each statement.

1-----2-----3-----4-----5

- | | Not at all
characteristic
of me | | Very
characteristic
of me |
|------|---|--|--|
| (1) | I find it relatively easy to get close to others. | | _____ |
| (2) | I do <u>not</u> worry about being abandoned. | | _____ |
| (3) | I find it difficult to allow myself to depend on others. | | _____ |
| (4) | In relationships, I often worry that my partner does not really love me. | | _____ |
| (5) | I find that others are reluctant to get as close as I would like. | | _____ |
| (6) | I am comfortable depending on others. | | _____ |
| (7) | I do <u>not</u> worry about someone getting too close to me. | | _____ |
| (8) | I find that people are never there when you need them. | | _____ |
| (9) | I am somewhat uncomfortable being close to others. | | _____ |
| (10) | In relationships, I often worry that my partner will not want to
stay with me. | | _____ |
| (11) | I want to merge completely with another person. | | _____ |
| (12) | My desire to merge sometimes scares people away. | | _____ |
| (13) | I am comfortable having others depend on me. | | _____ |
| (14) | I know that people will be there when I need them. | | _____ |
| (15) | I am nervous when anyone gets too close. | | _____ |
| (16) | I find it difficult to trust others completely. | | _____ |
| (17) | Often, partners want me to be closer than I feel comfortable being. | | _____ |
| (18) | I am not sure that I can always depend on others to be there when
I need them. | | _____ |

Collins & Read (1990)

Exhibit 3

Relationship Assessment Scale (RAS)

The following seven questions are designed to measure general relationship satisfaction. Please respond to each question using a 5-point scale ranging from 1 (Lowest satisfaction) to 5 (Highest satisfaction)

1. How well does your partner meet your needs?

1 2 3 4 5

2. In general, how satisfied are you with your relationship?

1 2 3 4 5

3. How good is your relationship compared to most?

1 2 3 4 5

4. How often do you wish you hadn't gotten into this relationship?

1 2 3 4 5

5. To what extent has your relationship met your original expectations.

1 2 3 4 5

6. How much do you love your partner?

1 2 3 4 5

7. How many problems are there in your relationship?

1 2 3 4 5

Hendrick (1988)

Exhibit 4

Brief Resilience Scale (BRS)

Instructions: Use the following scale and **circle** one number for each statement to indicate how much you disagree or agree with each of the statements.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

- | | | | | | |
|---|---|---|---|---|---|
| 1. I tend to bounce back quickly after hard times.. | 1 | 2 | 3 | 4 | 5 |
| 2. I have a hard time making it through stressful events..... | 1 | 2 | 3 | 4 | 5 |
| 3. It does not take me long to recover from a stressful event..... | 1 | 2 | 3 | 4 | 5 |
| 4. It is hard for me to snap back when something bad happens..... | 1 | 2 | 3 | 4 | 5 |
| 5. I usually come through difficult times with little trouble..... | 1 | 2 | 3 | 4 | 5 |
| 6. I tend to take a long time to get over set-backs in my life..... | 1 | 2 | 3 | 4 | 5 |
-

Smith et al. (2008)

Exhibit 5

Subjective Happiness Scale (SHS)

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you.

1. In general, I consider myself:

1 Not a very happy person 2 3 4 5 6 7 A very happy person

2. Compared to most of my peers, I consider myself:

1 Less happy 2 3 4 5 6 7 More happy

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1 Not at all 2 3 4 5 6 7 A great deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

1 Not at all 2 3 4 5 6 7 A great deal

Lyubomirsky & Lepper (1999)

Exhibit 6

Satisfaction with Life Scale (SWLS)

Below are five statements that you may agree or disagree with. Using the 1 – 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

Scoring:

Though scoring should be kept continuous (sum up scores on each item), here are some cutoffs to be used as benchmarks.

- | | |
|---------|------------------------|
| 31 - 35 | Extremely satisfied |
| 26 - 30 | Satisfied |
| 21 – 25 | Slightly satisfied |
| 20 | Neutral |
| 15 - 19 | Slightly dissatisfied |
| 10 - 14 | Dissatisfied |
| 5 - 9 | Extremely dissatisfied |

Diener et al. (1985)

Exhibit 7

Open-ended Questions

The following questions are open-ended questions which allow you to share your thoughts and personal feelings. Thank you for taking time to respond.

Please very briefly identify the greatest challenge you presently face in life.

Please briefly identify what has either helped or hindered you in overcoming adversity?

Please briefly identify some of the people that have helped you to be successful.
Example: Aunt, Mother, School teacher, Counselor, etc.

How would you describe your present health?

What is the best advice you can offer someone to help them in life?

What makes life worth living to you?

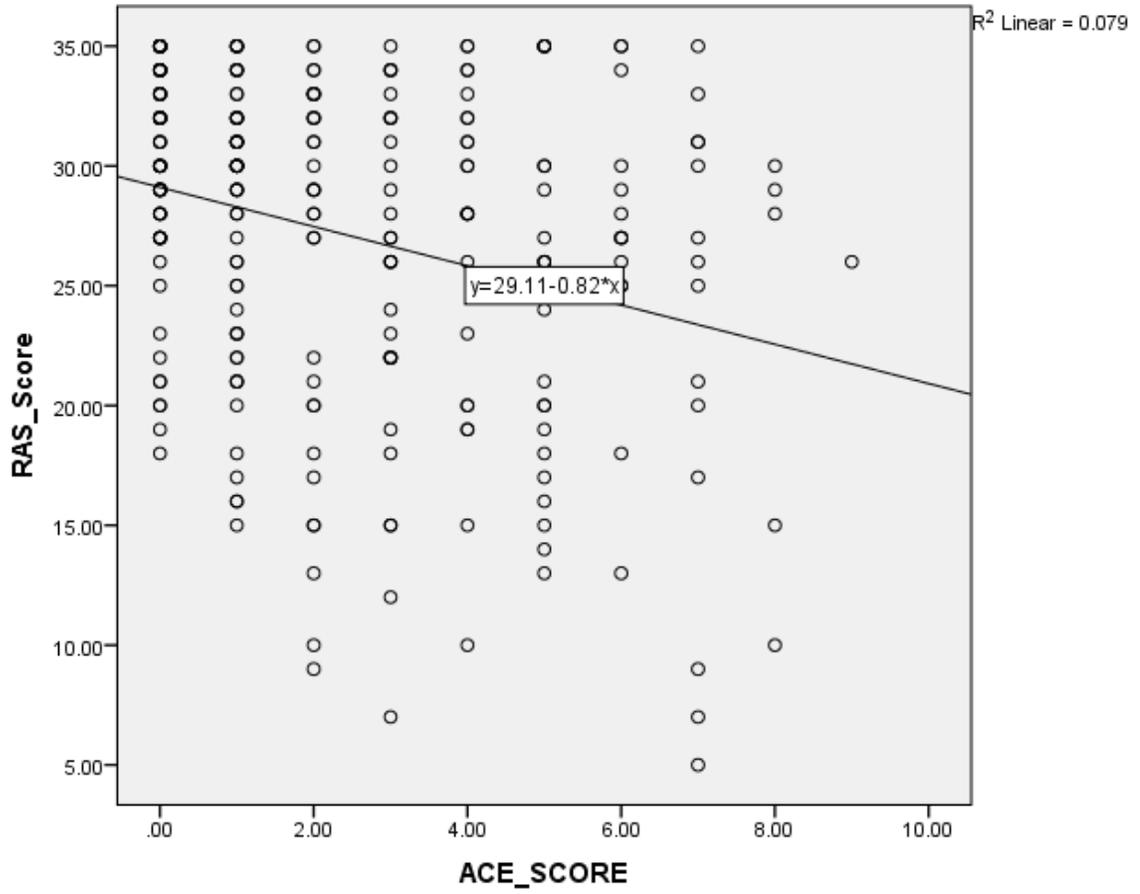
What is the single-most factor that has changed your life for the better or worse?

APPENDIX C

Scatterplots

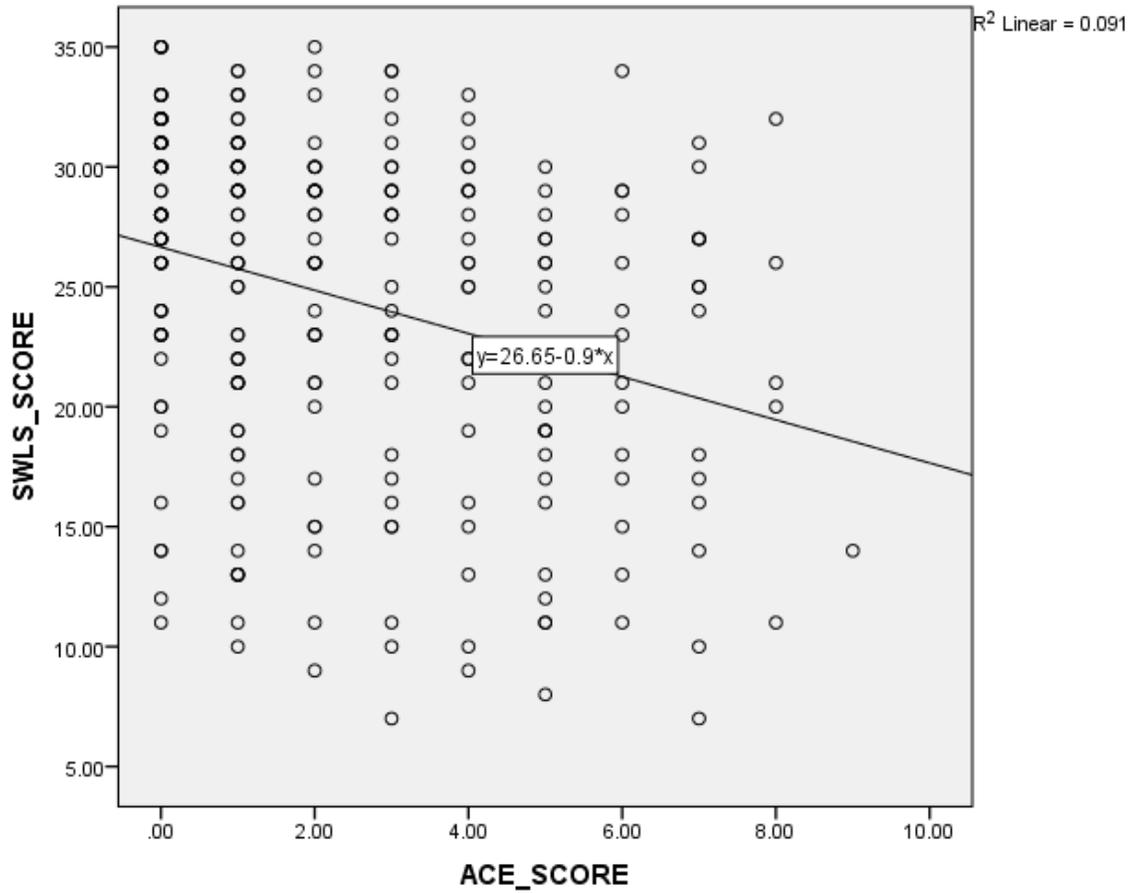
Scatterplot 1

Ace Score with Relationship Attachment Scale (RAS) Score



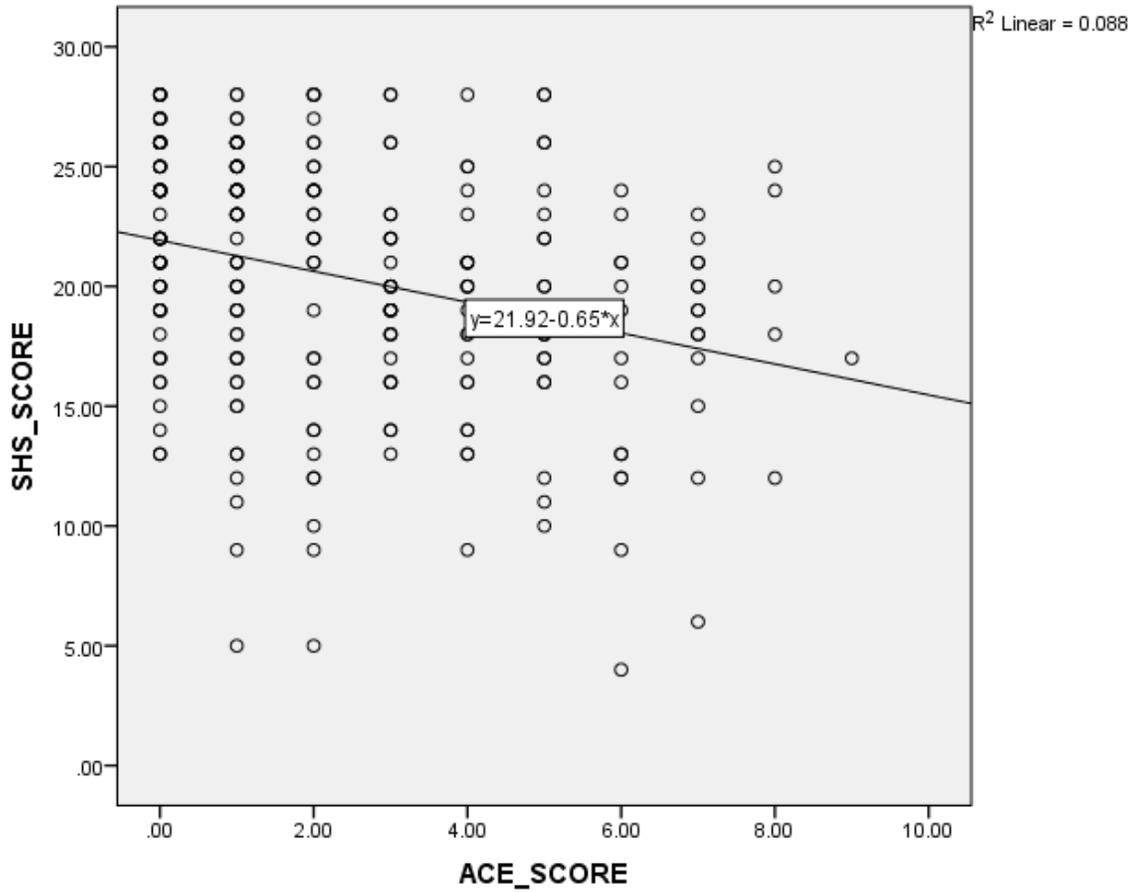
Scatterplot 2

Ace Score with Satisfaction with Life Scale (SWLS) Score



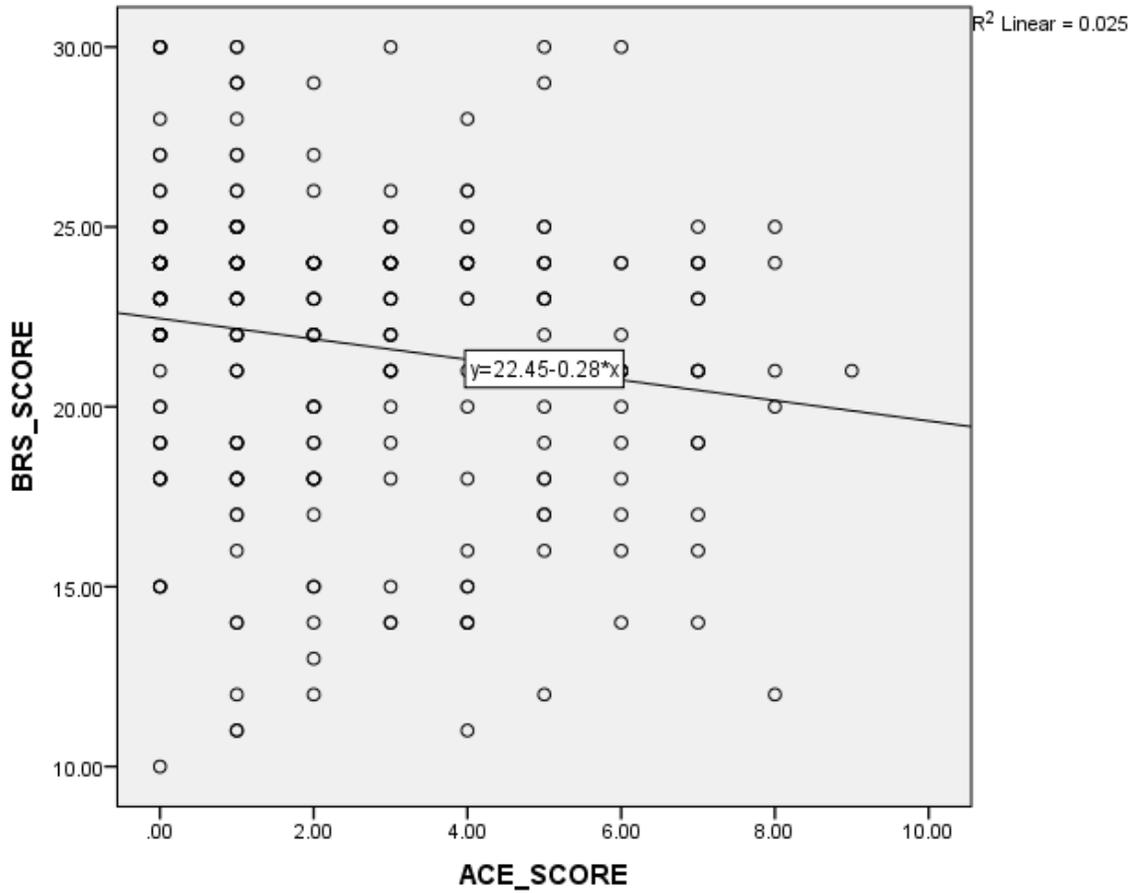
Scatterplot 3

Ace Score with Subjective Happiness Scale (SHS) Score



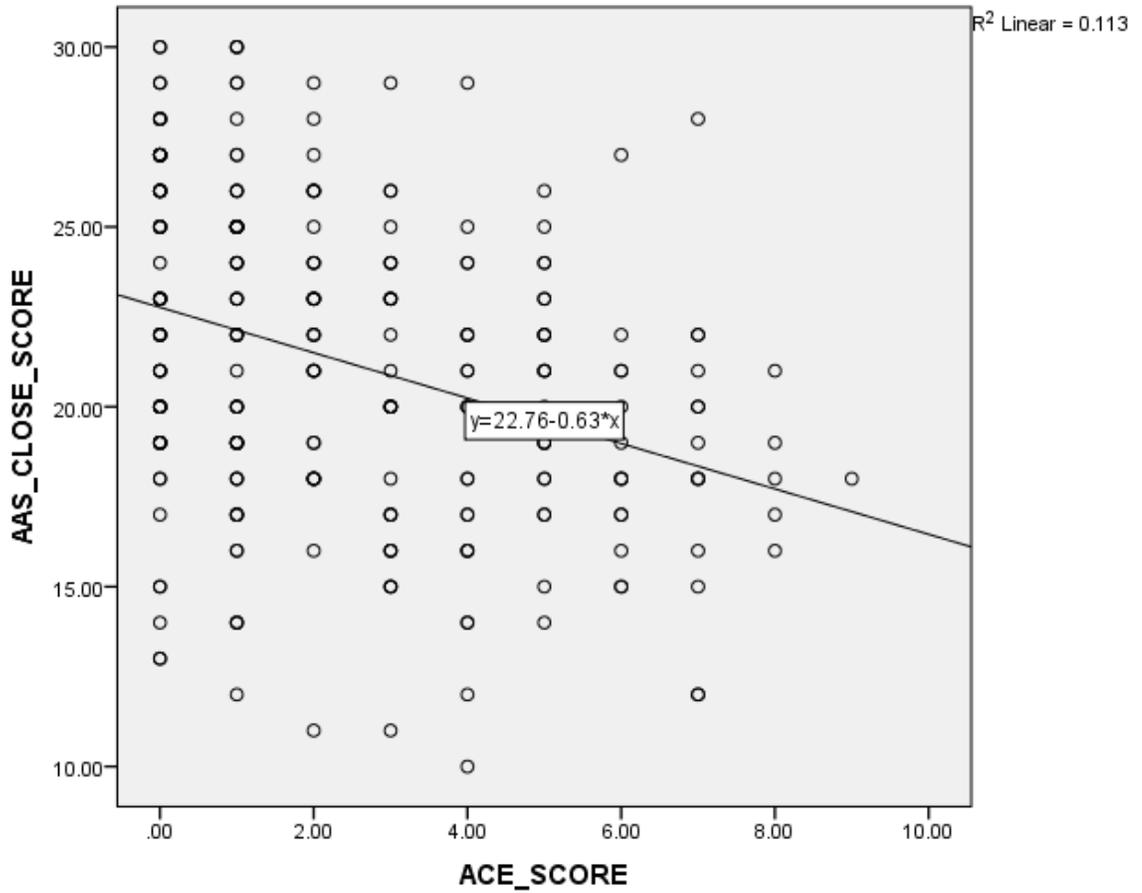
Scatterplot 4

Ace Score with Brief Resistance Scale (BRS) Score



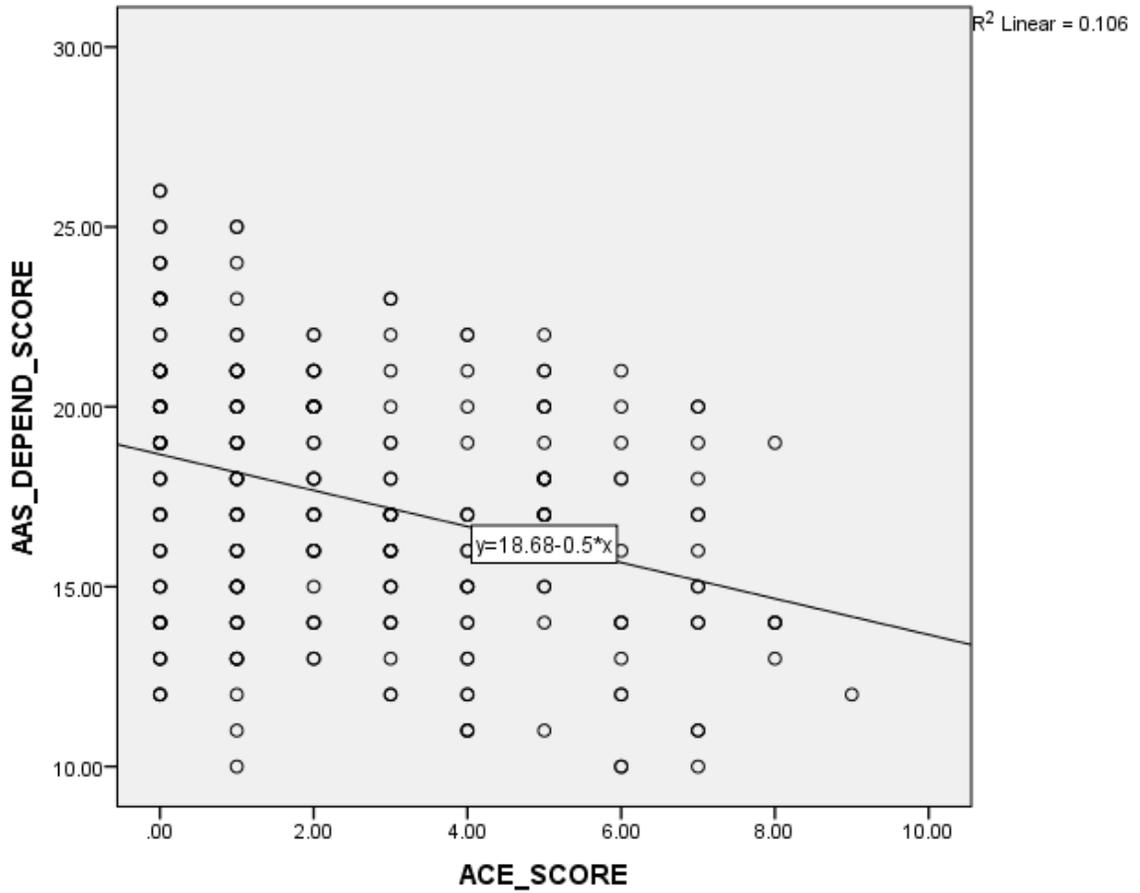
Scatterplot 5

Ace Score with Adult Attachment Scale (AAS)_Close Score



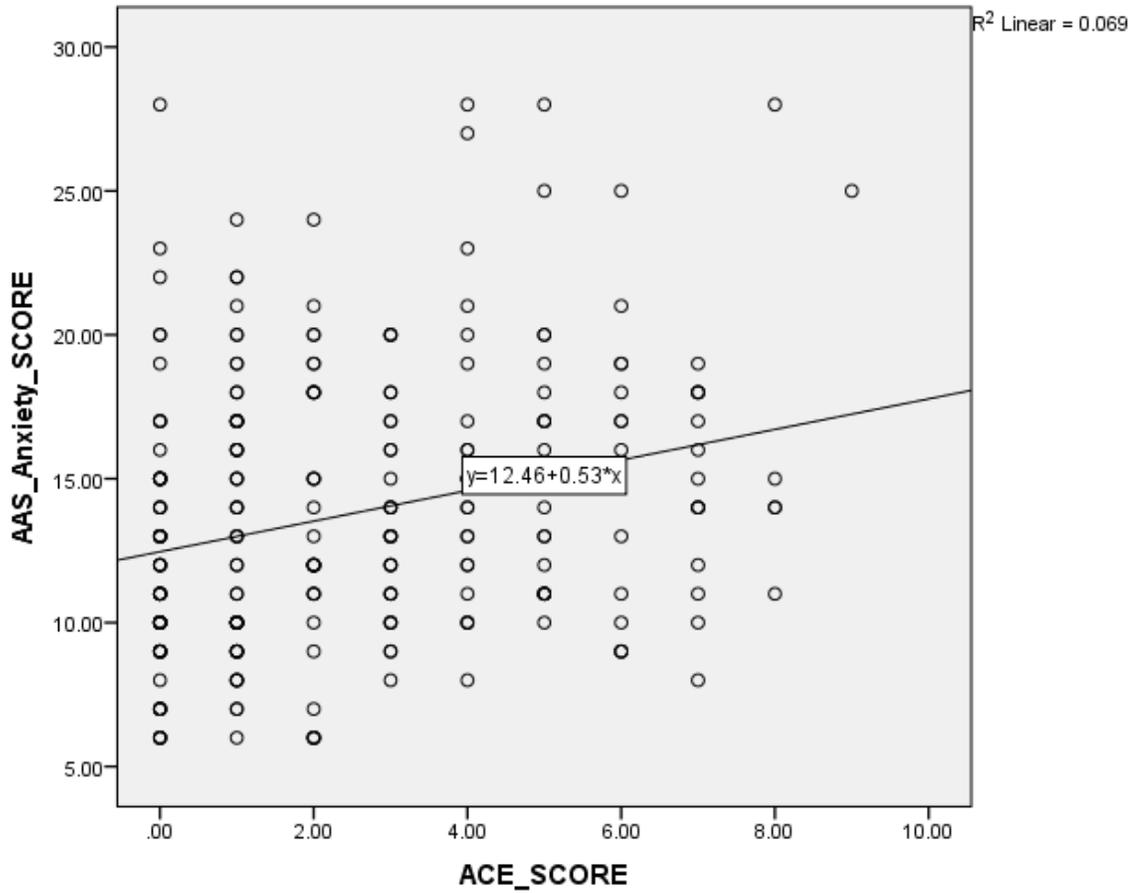
Scatterplot 6

Ace Score with Adult Attachment Scale (AAS)_Depend Score



Scatterplot 7

Ace Score with Adult Attachment Scale (AAS)_Anxiety Score



APPENDIX D

AAS_CLOSE_SCORE	None	Low	1.3823	.63585	.096	-.1834	2.9480
		Critical	3.4948*	.70340	.000	1.7628	5.2268
	Low	None	-1.3823	.63585	.096	-2.9480	.1834
		Critical	2.1125*	.62170	.004	.5817	3.6434
	Critical	None	-3.4948*	.70340	.000	-5.2268	-1.7628
		Low	-2.1125*	.62170	.004	-3.6434	-.5817
AAS_DEPEND_SCORE	None	Low	1.6625*	.51813	.006	.3867	2.9383
		Critical	2.9666*	.57317	.000	1.5553	4.3780
	Low	None	-1.6625*	.51813	.006	-2.9383	-.3867
		Critical	1.3041*	.50660	.038	.0567	2.5515
	Critical	None	-2.9666*	.57317	.000	-4.3780	-1.5553
		Low	-1.3041*	.50660	.038	-2.5515	-.0567
AAS_Anxiety_SCORE	None	Low	-1.3852	.68237	.130	-3.0655	.2950
		Critical	-3.1841*	.75486	.000	-5.0428	-1.3253
	Low	None	1.3852	.68237	.130	-.2950	3.0655
		Critical	-1.7989*	.66718	.028	-3.4417	-.1560
	Critical	None	3.1841*	.75486	.000	1.3253	5.0428
		Low	1.7989*	.66718	.028	.1560	3.4417

Based on observed means.

The error term is Mean Square(Error) = 19.775.

*. The mean difference is significant at the .05 level.