To Bend but Not Break: Adult Views on Resilience

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To Bend but Not Break:
Adult Views on Resilience

A Dissertation

Presented to the Faculty of
Antioch University Seattle
Seattle, Washington

In Partial Fulfillment
of the Requirements of the Degree
Doctor of Psychology

By
Ann Korn
September 2014
To Bend but Not Break:

Adult Views on Resilience

This dissertation, by Ann Korn has been approved by the Committee Members signed below who recommend that it be accepted by the faculty of the Antioch University Seattle at Seattle, WA in partial fulfillment of requirements for the degree of

DOCTOR OF PSYCHOLOGY

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A universal definition of resilience does not exist amongst researchers in the social sciences, making comparisons between studies nearly impossible. Added to this dilemma is that researchers hold divergent theories regarding the origin of resilience, whether it is a static trait across the span of a lifetime or more fluid phenomenon in response to life experience. Furthermore, the importance of resilience and the question of its commonality among individuals continue to be debated. A common thread, however, weaves through research: participants in the studies have not been asked for their views. A gap of understanding about the meaning and importance of resilience between the participant and the researcher may exist. In an attempt to understand the possibility of a gap in definition between participants and researchers, approximately 1,000 adult employees, from four different departments of a Northwest area hospital were sent an online, anonymous survey asking for personal views on resilience. The survey contained broad demographic questions. The survey had six additional questions; three were Likert-style and three were narrative in style. The responses were analyzed for the entire sample, by age, by gender and by two broad categories of ethnicity. A total of 348 survey responses were completed and analyzed. A wide range of ages were represented. Women
far out-numbered male participants, though males did have representation. White participants out-numbered other ethnicities. Comparisons of views between genders and ethnicities were limited due to the disparity in group sizes. The most frequent definition of resilience was having the ability to bounce back from adverse events. As the majority of participants rated themselves with having high resilience, age did not directly relate to increased resilience in this study. In a more nuanced representation of age, the majority of participants reported that resilience had increased over time in response to adverse events. Death of a loved one was the most cited event that changed resilience for the participants. These views are fairly consistent with the developmental models of resilience. The electronic version of this dissertation is at OhioLink ETD Center, www.ohiolink.edu/etd
For Sherrilyn

Through destiny anything is possible.
Acknowledgements and Gratitude

Projects do not occur in isolation. Behind my name on the cover of this dissertation are the people who supported me and this research. I remain thankful for their guidance and the consideration that was extended to me throughout this process.

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vision of the world and my capacity to understand that which is often very difficult to comprehend has been altered by the support and example of both of these individuals. Toby Estler, MA, LMFT, has become a wonderful friend and confidant. I am thankful for his presence, example and wisdom in an often turbulent world. Pam Collins and Jennie Stephenson have moved on, but the memories of our time together bring a warm smile to my heart.

The staff at Telecare has been a joy to work with and I remain in awe of their abilities to navigate through the roughest of waters. Through working with each of them and learning from their example, I have been given the rarest of gifts: the inspiration to do the best work I can. I will miss the laughter throughout the day, and the feeling of being part of the gang. They made me feel welcome.

The clients of Telecare taught me what resilience really is. Resilience is far more than the “good” outcomes from adversity that were described by some researchers. Resilience shines in the faces of those who come through the doors. They may be in need of support and a bit of assistance during a rough spot, but they not only endure but somehow move forward through some of the darkest times. It is the clients of Telecare who shaped my own theory of resilience.

Susan Heath, senior vice president and Chief Nursing Officer of Seattle Children’s Hospital has supported this project from its inception, obstacles and many changes. I could not have completed this without her help and support.

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Dr. Jayne Alexander has been a great help with editing and navigating through the final steps of this process. I appreciate her patience and guidance.

I remain with deep respect and am extremely grateful for the participants who completed the surveys. They provided me with rich and powerful stories. I admit that while reading the responses I often had tears in my eyes. It is not an understatement to say the completion of this project would not have occurred without them. I hope that I have represented their views and stories in the way they deserve. I am indebted.

Finally, but most importantly, the love and support from my family meant that I could do this. They seemed to know when to back out of my room when the papers were flying and my mood was disintegrating. They loved me when I was not lovable and it is through their love and belief in me that I have completed my dream. I would not be here without each of them.

Hey Brody! Grandma’s done. Want to go to the park?
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Introduction

The conceptual notion of having resilience, through the lens of psychology, often suggests a personal strength or protection from adversity. According to Kaplan (2005) resilience rests upon the idea of achievement of positively valued outcomes in circumstances where adverse outcomes would normally be expected. The difficulty of deciding on the value of the outcome is that it is highly subjective. The researcher may endorse the end result; the participant, however, may have an entirely different set of perceptions, definitions and theories.

Resilience is a highly charged term enthusiastically used by researchers, policy makers, the media, and academics in many disciplines, though the meaning is often ambiguous and skewed towards positive bias (McAslan, 2010). For example, a young girl, twelve years of age, jumped to her death from a tall, abandoned cement tower, in Miami, Florida. In an article from a nationally published newspaper, Alvarez (2013) stated that the girl, “showed a flash of resilience” as she seemed to defend herself from cyberbullying at one point, but she “was not nearly as resilient as she was letting on” (para. 2). Isaac Ray, the founder of the American Psychiatric Association, noted that adherence to stricter reproductive laws for humans were necessary for the “improvement of the stock by breeding in resilience, strength, and vitality” (Quen, 1977, p. 84). Bonanno, Galea, Bucciarelli, and Vlahov (2006) reported that 65% of New Yorkers demonstrated resilience because they did not demonstrate symptoms of post traumatic stress disorder (PTSD) during the 6 months after the attacks on September 11, 2001. In an article by Polk (1997), nurses were urged to “live to the fullest degree, laugh and love” as a way to build resilience with the outcome of reducing stress in their lives, and while
some people seem to “be born with these abilities, anyone can learn them” (p. 28).

Finally, a nurse at a local hospital committed suicide in 2011. At a memorial service, co-workers and friends noted she had run out of coping skills, and lost her resilience (Korn, personal diary, September, 20, 2011).

Leaving aside how much resilience a twelve-year old girl needed to have to thwart the cyber attacks she endured, the above statements suggest several intersecting threads. Having resilience, from the views stated above, seems to suggest protection for an individual during adverse times, and if an individual loses resilience, harm to that individual can occur. A bit more confusing, the views stated above seemed to imply an individual is either born with resilience, suggesting a static trait, or that resilience needs to be developed by learning new skills over time, a more fluid approach. Determining whether resilience is static or fluid is only one of the many differences between theories, differences that hold tremendous implications for research. One inference can be ascertained in all of the above-mentioned examples: to have resilience seems desirable.
Background

Historical Perspectives and Origins of Resilience

The idea of resilience is not new. The original definition of resilience was initially not used to describe psychological matters. Resilience in a physical object, such as metal or wood, is defined as the ability of a substance or object to spring back into shape after coming under stress (Resilience, n.d.). Indeed, resilience in the physical world denotes strength, flexibility and durability (Kacmarek, Mack, & Dimas, 1990). First introduced to the English language in the 17th century from the Latin verb *resilie*, meaning to rebound or recoil, resilience was used to describe material, primarily timber initially, to explain why certain woods were able to accommodate sudden, and severe loads without breaking (McAslan, 2010). This meaning and use of resilience became especially important for ship building in the early 1800s. Iron, used in making the hull of the ship, was tested for resilience and tolerance of severe conditions, and this enabled ship builders to establish the seaworthiness of their designs. Civil engineering employed early resilience principles in designing columns, beams and shafts as measures to withstand impact. The greater amount of resilience measurement for a given material, the more capacity of work load the material can hold. Since the original inception of resilience to measure materials, other disciplines have adopted the term to describe strength and stability, such as ecology, and the environment, groups of human and animal behavior, organizations, evolutionary theories and more recently, individual humans (McAslan, 2010). In the more recent applications, the basic, historical definition of resilience remains fairly true to its original meaning; to withstand sudden blows or severe loads and rebound without breaking (McAslan, 2010). The construct and conceptualization of resilience, however,
when applied to human behaviors has proven to be elusive (Kaplan, 2005; Luthar, & Brown, 2007; Masten, 2001).

McAslan (2010) suggested that resilience is an attractive term as it suggests overcoming adversity. Having resilience implies the return to normality after confronting the abnormal, alarming, and unexpected threat. Kaplan (2005) questioned whether resilience is isomorphic or orthogonal to a variety of other terms that appear to be functionally equivalent.

**Resilience: From Illness to Health**

The definitions and implications of resilience have changed dramatically throughout history. Much of human activity has been devoted to survival in an often frightening world full of sickness, unexplained death, and suffering. This quest for survival has occupied the minds of countless practitioners, scientists and philosophers. The notions of resilience and similar ideals have provided rhetoric to justify social action groups and governmental approaches in eradicating illness. The push towards wellness was often the stated goal of those actions. The notions of health and vitality have been used in conjunction with definitions of resilience. This rhetoric, however, has often had serious and disastrous implications for those people who were judged to be the cause of illness. As such, those individuals where often deemed to lack resilience and other positive attributes.

War, illness and sanitation have played significant roles in the evolution of the ideals towards health and vitality. Very early practitioners of health often viewed illness and disease as caused by external forces, such as gods and spirits which were beyond the control of an individual. The blame for the disease, however, often was placed on the
individual as a result poor character, lack of religious conviction, or some other difficulty within the society (Porter, 2002). The Age of Enlightenment brought about new notions of health, sanitation and personal responsibility. Exactly how diseases were caused remained largely a mystery as pathogens and epidemics became rampant under large influxes of people moving into overly crowded cities with deplorable conditions (Lupton, 2003). As medicine became more scientific in nature, the causes and effects of disease began to be viewed a bit differently (Lupton, 2003). Disease was caused by more than just personal failings (Porter, 1997).

**Out of War: The Hygiene Movement**

Davydov, Stewart, Ritchie, and Chaudieu (2010) described the initial notions of risk and protective factors that originated after the Civil War during the infancy of the Hygiene Movement. The unsanitary conditions brought about by war in which many soldiers died from infection alarmed the growing scientific movement. The effects of infection in the wounds and the general poor physical conditions of the soldiers were widely studied. As opposed to past mass causality events, many sick and maimed individuals survived the initial effects of war. With the growing need for advancing technologies, the cause and effect principles of illness became more widely researched (Lupton, 2003). Increasing health, resilience and sturdiness became the new rhetoric as the fractured American society crawled out of the brutal wake of destruction from the Civil War years (Fischer, 2012). Doctors and politicians began envisioning a healthy lifestyle approach, one that would give “immunity” for disease and illness (Davydov et al., 2010, p. 480). Through educational drives, individuals were taught about the importance of cleanliness, healthy eating and exercise. These endeavors were thought to
lead the way to resilience, fortitude and strength, the very essences of immunity (Fischer, 2012). As the new push towards clean and healthy living took shape, the country had a prime example of sickness overcome by shear will, determination and a tough regime of exercise and outdoor living in the future president of the United States and war hero, Theodore Roosevelt (Cushman, 1995).

Supporters of the new push towards health employed slogans such as independence, fortitude, strength, endurance and resilience in the fight against disease and movement towards vitality (Davydov et al., 2010). Community based programs to increase education, social culture, religion and nationalism, along with improved health, helped to heal the country after the long, dreadful years of civil destruction brought on by a war that changed the definition of what being an American meant (Hofstadter, 1992).

**Mental Hygiene and the Rise of Darwinian Thinking**

The goals of physical improvement of health inspired a new striving for improved mental health by the same cleansing ideologies. Issac Ray, a founder of the American Psychiatric Association (APA), described mental hygiene as “the art of preserving the mind against all incidents and influences calculated to deteriorate its qualities, impair its energies or derange its movements” (Rossi, 1962, p. 78). Cushman (1995) suggested that by using cleansing metaphors, the Hygiene Movement developed a concrete notion that the mind, much like the body, could be medically treated. Ray and the early Mental Hygiene supporters, however, did not stop with managing lifestyles (Rossi, 1962). The importance of food, exercise, rest and so on, was vital in the fight for illness prevention. Equally vital, though often not fully examined or discussed, were the Darwinian principals of natural selection and Galton’s theories of survival of the fittest.
humans in realms of reproduction. Ray included in his description of Mental Hygiene adherence to “the laws of breeding” (Rossi, 1962, p. 84). The breeding laws referred to practices by farmers and ranchers to breed certain desirable features into future stock while extinguishing other less desirable traits. Ray and some of his contemporaries believed the same should be true for humans (Rossi, 1962).

Social Darwinism

The pendulum of cause and effect, of blaming or excusing the individual for causing illness, took an ominous turn, and it seemed that an application of science had provided the answer for many of the social ills. The laws of breeding, as mentioned above, began as a planning model for breeding practices in animals. The laws of breeding in breakaway factions of the Hygiene Movement took on a very different principle. While idealists in hygiene groups looked towards Mental Hygiene districts in which services, schools, work, and playgrounds would be coordinated with mental health specialists to prevent mental illness and promote sound mental and physical health, Social Darwinian groups, though they were not called this at the time, promoted separation and restrictions for the mentally ill, malformed and other infirmed (Hofstadter, 1992). Often, misusing Darwin’s theories, individuals with certain “mutations” were noted to be unsuccessful adaptations in the cases of birth anomalies, mental illness, “idiocy and dereliction” (Fischer, 2012, p. 1097).

Railing against all forms of social help or care for “the lesser, filthy, debased of society” as Spencer called the poor, sick and disabled, the Social Darwinists used many of the same cleanliness terms used by Hygiene groups to rally public support (Hofstadter, 1992, p. 47). The strong, capable and resilient, upper classes were thought to be superior
in every way and with selective breeding, would rid society of a host of undesirable traits (Fischer, 2012). Spencer wrote, “If they are sufficiently complete to live, they do live, and it is well they should live. If they are not sufficiently complete to live, they die and it is best they should die” (as cited in Hofstadter, 1992, p. 41). Spencer deplored the poor and the sick as they were a drag on the fittest, the elite. He noted that nature is insistent upon fitness and resilience, both mental and physical and, “he who loses his life because of stupidity, vice or idleness is in the same class as the victims of weak viscera or malformed limbs” (as cited in Hofstadter, 1992, p. 43).

The Darwinists spurred nationalistic fervor and stoked the fires of fear and hatred for anyone who was different than what they considered to be the master, superior and inevitable product of evolution: a superior Aryan race. For Social Darwinists the qualities of those individuals who were deemed the fittest made them superior above all others. Sumner wrote that, “if liberty prevails, so that all may exert themselves freely in the struggle, the results will certainly not be everywhere alike; those of courage, enterprise, good training, intelligence and resilience will come out on top” (as cited in Hofstadter, 1992, p. 70). Those characteristics were an evolutionary advancement for the Darwinists. Equality was never a possibility.

Galton, a first cousin to Darwin, coined the phrase “eugenics,” meaning good birth. This idea was an outgrowth of the breeding laws (Hofstadter, 1992, p. 55). The Eugenics Movement morphed together Darwin’s natural selection theory and Galton’s notions of the survival of the fittest. Immorality, illness, deformity, idleness, and stupidity were assumed to be inherited the same way as hair or eye color. Conversely, resilience, strength, intelligence, moral behavior and thought were believed to be inheritable, too,
brought about by the marriage of two “good and upstanding parents” (Fischer, 2012, p.1097). The poor, however, often produced many more children than the parents designated as fit. This seemed to contradict the ideas of natural selection, survival of the fittest of the species, and the endless march towards the superior race Darwinists had suggested was “inevitable” (Fischer, 2012, p.1097). Nevertheless, with proper breeding, eugenics supporters claimed evolution would “right itself,” and the “superior among us will stamp out the derelict” (Paul, 2009, p. 230).

After World War 1, Americans, Germans and much of the rest of the Western world, suffered under great financial pressures. Rising nationalistic fever, and hostile resentments, brought about by mounting debts, the tremendous amount of lives lost, humiliation, and the returning maimed and ill veterans hastened world unrest. As the wide gulf between the wealthy and poor mounted in Germany and the United States, the expense of care for the increasingly large numbers of sick and mentally ill persons began to spur calls to sterilize those seen as “undesirable” (Fisher, 2012, p. 1098). The United States had embraced eugenics from its inception, and many notable scientists, groups and politicians, such as Alexander Graham Bell, Theodore Roosevelt and the APA, had been out spoken proponents. The APA formed a committee on eugenics in 1912, and concluded that the sterilization of those with mental illness should be recommended to prevent propagation (Fischer, 2012). During the course of 40 years an estimated 40,000 to 60,000 people were sterilized in the United States under the practice of eugenics (Fischer, 2012; Paul, 2009). The U.S. Supreme Court heard a case challenging forced v. Bell (1927). Upholding the constitutionality of forced sterilization for those with mental
illness, the Court wrote, “three generations of imbeciles is enough” (Fischer, 2012, p. 1099).

The United States sterilization laws were used as a model for similar laws throughout Europe, most especially Nazi Germany. The Nazis frequently pointed to the United States in efforts to show Germany was not unique in its policies (Fischer, 2012; Hofstadter, 1992). Paul (2009) described the widespread acclaim that the Nazis had for the American Social Darwinists, and eugenics movements. The Nazis often quoted from the American Social Darwinists’ letters and texts to justify ever increasingly horrendous policies. As the horrors of the policies of the Nazis came into light, eugenics was finally so connected to Germany that it began to wither in the United States. Fisher and Paul concluded that had it not been for the war, and the desire to separate from a ruthless enemy, the trajectory of the eugenics movement in the United States may have been very different.

Resilience has been understood as an ideal character trait within the individual. Different times and political situations have placed resilience as something to strive for, in the sense of protection or immunity. Resilience was noted to be part of health and vitality, of strength, and endurance. Equally, resilience was often used as a separation post, one that marked those persons who needed to survive and reproduce from those who needed to be sterilized, or exterminated. Both usages of resilience required the judgments of other people, who often had more power socially or politically. This power granted those who judged the assumption that they knew what was best for the individual. The individual was never asked for a personal assessment.
Origins of Resilience in Psychology

The deceptively simple construct of resilience is, in fact, rife with hidden complexities, contradictions and ambiguities (Kaplan, 2005). The psychological meaning of resilience for an individual is somewhat, if loosely, related to its original material focus, e.g., durability and recoil. The origins of resilience, however, in the psyche and significance in life are continually debated among researchers. Divergent theoretical perspectives have led to the study of variables that fit only certain theoretical models of resilience, and often run contrary to other models. This leads to immense difficulties when comparing, contrasting, or advancing prior work (Luthar, Cicchetti, & Becker, 2000). No unifying definition exists among researchers, and the traits or characteristics of resilience remain poorly described as well (Luthar & Brown, 2007). Even the importance of having resilience and the role it plays during adverse times remains divided and debated among theorists. Masten (2001) noted that while resilience is ordinary and common for individuals, it is “magic” (p. 227). Resilience, in this model, is a feature of the individual that allows for withstanding adversity, and stress. Masten went further by stating that the failure of an individual to have internal resilience, an adaptational protective system, is a threat to existence.

Meanwhile, Seery, Holman, and Silver (2010) questioned the over-emphasis placed on an individual having resilience, a term they noted to be unhelpful because of widely divergent definitions. Furthermore, they noted that coping with stress is an everyday occurrence. Stress is vital to promote the mastery of skills in coping, and internal toughness; two skills they viewed as separate from resilience. This view is an extension of Bonanno’s (2004) premise that “bad things happen and people get through
them” (Seery et al., 2010, p. 135). Resilience is a common part of personal character. Therefore, for Seery et al. resilience is not exceptional.

It is worthy to note that many researchers of resilience (e.g., Bonanno, 2004), surmised their theories based on, or in opposition to, the work of other researchers (e.g., Masten, 2001; Werner & Smith, 1989). These theories often reflect the thought processes of the researcher in reaction to the work of other researchers and not necessarily on new studies or additional research. Early longitudinal work (e.g., Block, 1993; Werner & Smith, 1989) appeared to spark much of the ongoing debate regarding the origins and importance of resilience. Indeed, many of the most cited works in research on resilience are often reactions, critiques or outright dismissals of studies conducted by other researchers (e.g., Bonanno, 2005; Luthar & Brown, 2007).

**Divergent Theories**

Resilience theories fall into several different ideological groups. Historically, resilience was thought to be imbedded within personality. A trait that was fairly consistent across the lifespan. Those individuals with resilience were noted to be different than their peers as they could withstand adverse conditions with little detrimental effect (Block, 1993; Werner & Smith, 1989). Bonanno (2004) described resilience as the ability to maintain a stable equilibrium despite a traumatic or stressful event. The individual may experience very transient perturbations in normal functioning, but the trajectory to health is ever present. According to Bonanno (e.g., 2005), individuals seem to just have resilience, and it is not a question of building it over time. He seemed to agree with Masten (2001) that resilience is a common phenomenon, but contrary to developmental models, it is part of an individual’s inborn trait system. Accordingly, individuals, who
need a recovery time, demonstrate a lack of resilience. For Bonanno (e.g., 2004), and other trait-based researchers, either an individual has resilience or not. Recent generally trait-based research has focused on adults, and coping abilities during times of loss, life circumstance changes, and aging (e.g., Ong, Zautra, & Reid, 2010).

Research focusing on adults tends to consist of surveys, dairies, journaling with relatively short periods in between the initial and final assessments (e.g., Bonanno, Galea, Bucciarelli, & Vlahov, 2007; Ong, Bergeman, Bisconti, & Wallace, 2006). Conclusions are drawn from the whether an individual successfully navigated through the stressful period and survived fairly unscathed.

Conversely, developmental theorists place resilience as one of the protective factors necessary for success in completing developmental tasks (Masten et al., 2004). Therefore, through the lens of a developmental approach, resilience is seen as essential. Early resilience theories were deeply rooted in developmental psychology, though albeit through the lens of a modified trait-based theory. The bulk of literature focused on children or early adolescents (e.g., Block, 1993; Werner, 1993). Initially, resilience was seen as a more static phenomenon, born greatly through temperament, personality and, divergent from trait-based models, environmental influences. More recent developmental research has suggested that resilience can, indeed, increase throughout the lifetime, and much of developmental focus has been towards supporting, and reinforcing resilience through skill building, such as parenting skill classes, early intervention in schools, strengthening communities and positive role modeling (Benard, 2004). As much of this research has focused entirely on children and adolescents, translating these studies to explain adaptations in adults has proven to be insufficient. This is especially true for
developmental researchers who contend that development occurs across a lifetime (Luthar et al., 2000; Masten, 2001). Developmental research focuses on lifespan events and milestones, longitudinal studies carry great weight. Longitudinal studies, however, are rare.

A third theoretical model attempts to combine the two previous models, albeit if the effort was unplanned. Werner and Smith (1989, 1992, 2001) began their longitudinal study on children in Hawaii with a theoretical stance that having resilience made some children special, and different from their peers. The key difference between children who were viewed to have resilience from their designated non-resilient peers was a deeply embedded part of temperament and personality. The children with resilience, as determined and defined by Werner and Smith (1989), were more liked than their less resilient peers, and they possessed qualities that seem to draw people to them. These qualities, among many others, were theorized to increase the likelihood of success in life. By the end of the study, some 30 years later, Werner and Smith (2001) had changed their views a bit on the supposed imbedded nature of resilience in personality. They noted their surprise that most of the children who struggled early on, and did not have desirable temperaments were able to achieve, and live mostly stable lives. In this sense, Werner and Smith (2001) came to view resilience building as part of development and this needed time to flourish in some individuals. An in-depth review of the study is located later in this chapter.

Resilience in light of developmental theory is often described as a process that requires exposure to stress or adversity, and a recovery period. This process allows individuals to withstand difficult environments and situations, and to meet developmental
milestones despite threats to these achievements (e.g., Sapienza & Masten, 2011). In contrast, many trait-based theorists place resilience as part of the personality, or ego strength. Recovery from adverse conditions is not needed. Indeed, the need for a recovery period signifies a lack of resilience in many trait-based models (e.g., Block, 1993; Bonanno, 2004; Luthar et al., 2000; Werner, 1993). Furthermore, how resilience is manifest in an individual is firmly distinct between the different models. For example, developmental models search for understanding how resilience allowed for competence in milestones and development despite disadvantaged environments (e.g., Masten et al., 2004). Trait-based models often seek to demonstrate the existence of resilience in an individual by the lack of psychopathology, e.g., symptoms of PTSD, after a potentially traumatic event (e.g., Bonanno et al., 2006).

**Overlapping and Misleading Terminology**

Resilience terminology is often overlapping, confusing, and misleading. Luthar et al. (2000) offered a critical appraisal of the continued difficulties surrounding the lack of unified definitions of resilience, and the implications of multiple meanings when different words are used interchangeably. In a further discussion on the difficulties of using misleading wording in resilience research, Luthar and Brown (2007) argued that consistent terminology would clarify research, and increase its utility. As unifying definitions do not currently exist, Luthar and Brown posited that understanding the outcomes of research is difficult at best as the terminology holds different meanings in different theories. For example, in sharp contrast to the notions of trait-based models in which resilience is a fixed phenomenon (e.g., Davydov et al., 2010), Luthar et al. (2000) noted that resilience is a dynamic process which often fluctuates, suggesting that
individuals demonstrate resilience in some aspects and times of their lives and not in others. Masten (2001) concurred with this approach, and noted that individuals are not considered resilient if there has never been demonstrable risk to development, suggesting that resilience must be built upon experience. Furthermore, for Masten (e.g., 2001) resilience is characterized by good developmental outcomes in spite of serious threats to adaptation or development. Good outcomes are often described by developmental theorists as completion of salient developmental tasks, demonstrating competence in developmental milestones, such as graduating from school, obtaining a job, marriage, child rearing, and meeting cultural age expectations (Masten et al., 2004).

The traits or characteristics of resilience have not received universal agreement among researchers, which is understandable as no unified definition for resilience exists among the divergent theories. Individual features of resilience, though not an exhaustive list, have been noted to contain: resourceful, ability to modify ego-control (Block, 1993); assertive, independent, achievement oriented (Werner, 1993); compensatory effects, protective, ability to recover (Masten, 2001); self-enhancement, repressive coping, positive emotion, not needing recovery (Bonanno, 2004); fluid, adaptable (Luthar & Brown, 2007); posttraumatic growth, hardiness, thriving (Wald, Taylor, Amundsen, Jang, & Stapleton, 2006); self reliance, a life of meaning and purpose, equanimity, existential aloneness (Wagnild & Collins, 2009); openness, extraversion, mastery, optimism, determination (Herrman et al., 2011); flexibility, connectedness (Fletcher & Sarkar, 2013). Such divergent definitions have hindered research by making it nearly impossible to compare, and contrast studies. Results from multiple research projects cannot be correlated, or indeed be related. Luthar and Brown noted this difficulty by calling for
universal acceptance of definitions, and suggested that such overlap in wording leaves most resilience research lacking in useful information. Notably, Luthar and Brown viewed the developmental definitions to be the “more consistent and theoretically proven terms” than trait-based wording (p. 12). As with much of work written by researchers on resilience, the above view seemed far more opinion and critique orientated than evidence based upon studies.

**The Development of the Resilience Scale**

Researchers have defined resilience through their own lens and set of definitions, and as a way of proving individual theories, surveys were developed to test for those definitions. The Resilience Scale (RS) development offers an example as to how resilience is defined by researchers, and then tested for accuracy with several different sample population types (Wagnild & Young, 1993). In the case of the RS, the original development consisted of comparing the RS to depression scales, and life satisfaction scales to seek correlations. The authors assumed that the opposite of depression, in part, is resilience, and therefore the correlation would be strongly negative. In the absence of a unified definition, this practice of comparing resilience surveys to other highly used, and tested surveys, such as the Beck Depression Inventory is fairly common (Connor, 2006).

How and why researchers have come to view resilience as an opposite phenomenon from depression is vague, at best, and often is reported as a given instead of backed by research.

Wagnild and Young (1993) developed The RS in 1985 with the goal to help identify positive personality characteristics that when grouped together defined resilience. Resilience, as described by the authors, aids in the ability to withstand, and adapt during
stressful life events. The RS was developed from a qualitative study of 24 women who had adjusted successfully following a major life event, such as death of a spouse or relocation. The selection of the sample was not described, which brings into question several threats to validity, including statistical conclusions reached from low statistical power, and external validity threats from over generalization of data based on such a small sample (Heppner, Wampold, & Kivlighan, 2008). From the written narratives, five interrelated factors were identified that constituted the RS’s core focus of resilience: equanimity is the ability to consider a broader range of experience and thus moderate extreme responses; perseverance; self-reliance; meaningfulness; and existential aloneness is realization that each person’s path is unique and confirms the sense of individual freedom.

The RS is a 7-point Likert scale, 25 item self-report survey. All items are positively worded. Prior to this study, the reliability and validity of the RS was assessed in five other pilot studies. Prior study sample demographic information was limited, but all reliability and validity measures were reported by Wagnild and Young (1993) to be “consistent and satisfactory,” though actual statistical data was not supplied (p. 169). From those studies, scores between 147-175 are considered to rate as having high resilience.

The purpose of Wagnild and Young’s (1993) study was to extend the survey to a larger sample and to assess the RS’s ability to separate resilience into factors. Using a major senior citizen periodical readership directory, 1,500 community-dwelling older adults were randomly selected to receive, through the U.S. mail, the survey along with several other instruments to confirm concurrent validity between the RS, and measures of
adaptation. The method for random sampling was not addressed by the authors. The percentage of returned surveys was 810 (54%). Non return rates and potential effects to this study were not addressed. A major strength of this study was the demographic information it contained. The mean age was 71.1 years ($SD = 6.5$); 62.3% female; 61.2% were married; 25.7% were widowed; 66.2% were educated beyond high school; most report good health, 82%; median income (1993) was $22,000; all participants self-identified as Caucasian. Participants of this study were fairly homogeneous in nature. This may have increased reliability and validity measure assessment, but also brings to question the RS’s ability to define resilience in more heterogeneous sample populations. The mean score was 147.91 ($SD = 16.85$), and the distribution was slightly negatively skewed but approximated normal distribution. Relationships between the RS and age, education, income and gender were non-significant, but this may be because of the homogeneous nature of the sample.

Principal Components Analysis was conducted to determine if the survey items did, indeed, measure the RS factors described by the authors. The authors discussed that a factor solution indicated a primary factor underlying the data, and that the eigenvalue for Factor 1 was 9.56, explaining 38.3% of the total variance. Factor loadings ranged from .30 to .76 with 23 of 25 items falling between .45 to .76. The correlation between the factor scores and the total RS score was .99, ($p < .001$). Kaiser’s criterion, using only factors with eigenvalues greater than 1, resulted in five factors accounting for 57% of variance. Though more variance was explained using Kaiser’s criterion, 43% of variance is unexplained. Explaining 57% of variance does not meet the accepted criteria of 70% suggested by Mertler and Vannatta (2010) or Tabachnick and Fidell (2001). Not reaching
the variance explanation threshold suggests that the data are not adequately explained by this 5-factor model. The authors did not delete any items of the survey despite their admission that a number of secondary loadings were present in the analysis and led to “ambiguous solutions” (Wagnild & Young, 1993, p. 173).

In critiquing the original work by Wagnild and Young (1993), Wagnild and Collins (2009) acknowledged that the major limitation of the RS is that the empirical range of variance of variables in the RS did not approach the theoretical range, suggesting further refinement of the survey is warranted. The authors questioned whether including low resilience items, and adding negatively worded items would have produced a more balanced result. Not addressed by Wagnild and Collins was the need for refinement of item selection in the RS that would produce increased variance explanation, and provide a robust survey that more clearly identifies factors of resilience the survey sought to define.

The result of the study demonstrated that while the separate factors in the RS were highly comparable to other surveys that measured depression and life satisfaction, the overall description of resilience, using a combination of factors did not, in fact, describe the definition of resilience the authors sought. The authors of The Connor–Davidson Resilience Scale (CD–RISC) found similar results during testing. The individual factors correlated fairly strongly with other surveys, such as The Beck Depression Inventory, but when combined did not adequately describe the definition the authors had suggested (Conner, 2006). The search for a unifying definition remains elusive.
Comparing Study Methods

Much of the literature on resilience consists of providing different interpretations of past studies (e.g. Davydov et al., 2010; Luthar et al., 2000). As no overriding definition or agreed upon instrument of measure exists for resilience, comparing studies or building upon past research remains challenging. According to Luthar and Brown (2007) longitudinal studies appear to offer the best approach for understanding resilience through the lens of development, as resilience is seen as developing over time.

Longitudinal research is often prohibited by cost as this type of study requires many years of data collection, and analysis. Retention of the sample population is a consistent problem. Therefore, few true longitudinal studies on resilience exist, and those that do are done with children and adolescents, which according to Luthar et al. often do not translate into understanding adult lives.

Seery (2012) suggested that by using a more trait- based model, research is not hampered by the need of the longitudinal approach, since resilience is noted to be pervasive across the lifespan. Researchers have often sought participants who endured some type of adversity or stressful event, and through surveys of current functioning determined if the individual demonstrated resilience as evidenced by lack of psychopathology (e.g., Waugh, Thompson, & Gotlib, 2011). The difficulty in a trait-based model of research is that prior functioning is impossible to determine and the surveys offer a snap-shot approach, in which the individual’s views and feelings are limited to the day the survey was completed (Cicchetti, 1993). For example, if the individual participant is having an unusually good day during completion of the survey, the responses may indeed be highly biased and not a true reflection of overall
functioning. The other difficulty is determining whether or not other prior adverse times contributed to the level of resilience demonstrated by the participant. Without knowing the context of a participant’s life, a single survey given to determine resilience seems overly simplified, and the conclusions reached may suffer from several threats to validity. The threat of internal validity may be apparent when the history of the participant is not taken into account. Threats to construct validity may occur when only one method of measurement is used which may lead further to statistical conclusion errors (Heppner et al., 2008).

**Common Thread of Divergent Research**

A common thread does exist through resilience research. Researchers have defined resilience through their own lens and theories. Researcher-selected variables such as the participant’s life circumstance, designated risk factors, achievements or failures, and current functioning are used to decide whether a participant demonstrates resilience. The participants have not been asked to describe what having resilience means and whether they believe they have it. They have not been asked if they feel more resilience today than in the past, a question that would suggest that resilience can grow over time, as many developmental theorists have posited. Furthermore, participants have not been asked how they attribute the success or failure of living through adversity.

Some researchers have suggested that only if developmental milestones, such as graduating from school, obtaining a job, having a family, and becoming part of the community, are met can resilience be present (Masten et al., 2004; Miller, 2011). This narrow view negates the possibility that those individuals who may never reach
pre-determined markers may, indeed, have resilience to meet the challenges of their everyday struggles. This reductionist lens leaves behind countless number of individuals who get through their day under great stress and adversity, only to get up again and face the next challenge. Is it prudent to only describe success by meeting pre-determined developmental milestones with resilience?

Equally as perplexing is the notion that needing a time for recovery after a stressful event or adversity denotes a lack of resilience (e.g., Bonanno, 2004). Individuals require recovery from illness, and injury. During this time, the body is mending. The body heals and health, for that individual, is restored. Generally, an individual is not deemed unhealthy once healing has occurred. In fact, quite the opposite is true. Those who have survived a period of illness or are living with chronic illness are often celebrated as being strong, hardy and tough (Fletcher & Sarkar, 2013). Recovery from physical illness is commemorated. Psychological recovery from adversity can be equally as meaningful.

**Resilience in Children and Adolescents: Identifying Risk Factors**

In 1955, Werner and Smith (Werner, 1993) and a team of pediatricians, psychologists, psychiatrists, public health workers and socials workers began a longitudinal study of the development of all 698 babies born that year on the Hawaiian island of Kauai. At the time of the study’s initiation, many of Kauai’s inhabitants were struggling under great poverty and joblessness. About half of the cohort grew up in moderate to severe poverty. The cohort was a mixture of ethnic groups, Japanese, Filipino and Hawaiian descents, similar to the overall population of the island. The goals of the study were to gain a developmental understanding of the cohort from birth to
middle adulthood and to determine the impact of biological and psychosocial risk factors on lifelong development (Werner & Smith, 1992). Far from just researching medical illness, the researchers sought to gain an overall picture of the cohort that included many dimensions of their lives. At the end of the study, 505 (72%) individuals from the original cohort participated in the final assessment at age 32 years. Assessments were done at birth, 2 years, 18 years, and 32 years of age. Of note, until the age of 18 years, the children themselves were not interviewed about how they themselves viewed their lives. Caregivers, teachers, public health nurses and pediatricians provided all of the information sought by the research team. The children were given a variety of tests, such as intelligence, and achievement assessments. At ages 18 and 32 years, questionnaires were sent out to the entire cohort, but only those who had been placed at high risk for poor developmental success were interviewed in person. Arrest, medical, school, and mental health records were quantified and correlated to describe the cohort. Numerous methodologies were employed throughout the study to quantify data. The last interview, at age 32 years, conducted with the at-risk individuals was more in-depth, and allowed for individual narrative, which had not occurred prior.

At the beginning of the Kauai study, the cohort was divided into two main groups: those at low risk, or high risk factors for poor developmental outcomes. The placements were based on a number of factors considered to make individuals vulnerable for poor development. Severe parental stress, chronic poverty, parents with little formal education, and disorganized family environments were suspected of causing the most risk for the cohort. Further, Werner and Smith (1992) noted that the most at risk homes were troubled
by alcoholism, discord, parental desertion, mental illness, and divorce. Werner and Smith (1989) did not elaborate on the home life of the low risk children.

Conceptually, Werner and Smith (1992) defined resilience and protective factors as the positive counterparts to vulnerability, which denotes an individual’s susceptibility to a psychological disorder through risk factors, which are the biological or psychosocial hazards that increase the likelihood of a negative developmental outcome. Werner and Smith described several phases that they, as well as other developmental researchers, have gone through to understand vulnerability and resilience. First, Werner and Smith looked at single factors for poor development, such as low birth weight, and gradually shifted to constellations of factors that were most correlated with poor or negative outcomes. In their later research, towards the end of the project, Werner and Smith placed much less emphasis on negative outcomes and a greater focus on successful adaptation in spite of adversity (Werner & Smith, 2001).

As time passed during the Kauai study, and more research was presented within the developmental community, Werner and Smith (1989) adopted the notions of resilience, and successful adaptation in an individual who has been exposed to risk factors and stressful life events. This is an important shift for the researchers who began to look at protective factors, such as resilience, that helped insulate the individual with the understanding that these factors were relative and not absolute. The degree of resilience varied over time and circumstance. Certain protective factors, such as temperament, seemed to be biological while others, such as the ability to develop coping skills, and having a mentor, were environmental. Werner and Smith (2001) used the advantage of the longitudinal study to understand that their early assumption that certain
children were just born invulnerable was not accurate. Actually many of children, from both groups, gained resilience, and other protective factors through many paths. Gaining resilience allowed them to adapt in some ways but not others.

Werner and Smith (e.g., 1992) slowly changed their overall perspectives on resilience as this longitudinal study came to a close. Far from a static phenomenon, resilience did, indeed, increase over the years for many in the high risk, low resilience group. The authors noted that though many in this group struggled in the early years, as life went on many in the group began to become successful and lead happy lives. Most striking was Werner and Smith’s (1992) final assessment, “Most men and women in this cohort led ordinary lives” (p. 37). The final assessment, completed during the ages of 31/32 years, provided some startling statistics: 97% of the cohort graduated from high school, 88% of men and 80% of the women had some additional education beyond high school, most held full times jobs and were satisfied with their work, 60% of men and 72% of women were married, and 56% of men and 65% of women had children and were very involved with their children’s lives. About 18% of the cohort had serious coping problems by age 32 years. The authors had suggested at the beginning of the study that those participants in high risk living situations, and who had low resilience would not fair nearly as well as the outcome studies proved.

In the final analysis, Werner and Smith (2001) were able to state their surprise in the findings of this longitudinal study, and they seemed equally impressed with the turnaround many participants were able to achieve, despite very difficult early risk factors. The first glance impression, as Werner and Smith (1992) pointed out, suggested that a fair amount of continuity in maladaptive functioning existed in the high risk, low
resilience cohort. An alternate, perhaps more in depth view, however, showed a different picture: of those who had multiple problems as teenagers, more than half had stable lives by age 32 years. The research of Werner and Smith (e.g., 1992) suggested that resilience may, indeed, increase over time and in spite of difficult beginnings. Pieces of this research and some of the results have been cited in many subsequent studies and papers throughout the years since its inception (e.g., Bonanno, 2005; Davydov et al., 2010; Fletcher & Sarkar, 2013; Luthar et al., 2000; Masten, 2001). What is often not cited, however, is that despite very early significant risk factors, and seemingly low resilience, and in the face of struggles and challenges, many of the participants of the Kauai study were able to live ordinary lives.

Using Werner and Smith’s (e.g., 1989) early work, Anthony (Anthony & Cohler, 1987) described the concept of the “psychologically invulnerable child” (p. 4). This concept of children thriving despite severe or prolonged adversity was widely popular for many years within the developmental research community. Invulnerable children were thought to be far different from their peers, and seemingly impervious to adversity. These children were resilient, tough, and spirited. They succeeded despite their disadvantage, and these traits were thought to be embedded within personality from infancy (Anthony & Cohler, 1987). For theorists who held to this concept of invulnerability, children not endowed with these traits were far less likely to succeed. The difficulty with Anthony and Cohler’s interpretation of the Kauai project is that it ignores Werner and Smith’s (2001) final thesis that resilience can, indeed, increase over the life-time of an individual. The notion of the invulnerable child, however, marked the beginning of the concept of trait resilience which continues to be studied today (Davydov sterilization in Buck., 2010).
Resilience in Adolescents and Young Adults

As noted above, for many years, studies on resilience, and risk factors were done with children, who were generally in high risk, low supportive environments (e.g., Garmezy, Masten, & Tellegen, 1984). Early pioneers in resilience research focused primarily on risk factors, which most often included low parental skill levels with precarious well being, low socioeconomic status, reduced resources including education, and lack of adult guidance and support (e.g., Benard, 2004). Gradually, research began to shift focus to protective factors, and shoring up strengths in children who were at greatest risk. Resilience was noted to be one of the best protective factors to aid in times of adversity (Luthar & Brown, 2007).

Developmental theorists posited that mastery in age appropriate competencies, and resilience were often positively correlated. The concept of doing well through developmental transitions, often cited as critical markers for assessing growth and development, began to shape research (Luthar et al., 2000; Masten & Coatsworth, 1998; Masten et al., 2004).

Emerging Resilience in Young Adults

In a longitudinal study aimed at determining if resilience was consistent over a lifespan, Masten et al., (2004) studied patterns of continuity, and change in competence and resilience from childhood through young adulthood over a twenty year period. The researchers sought to find a cohort group that was representative of a diverse inner city environment. This longitudinal study was remarkable in the fact that over 90% (n = 173) of the original sample size was retained throughout the entire research project. Families were recruited in the late 1970s when the children were in the third to the sixth grade
from two large, diverse-population inner city elementary schools. The sample contained 100 girls and 73 boys, and 27% were considered to have ethnic minority status, which was similar to the school district’s diversity at the time, though descriptors of the minority groups were not included. The majority of the sample fell into the category of having parents in skilled labor or clerical positions. Numerous standardized measures, including The Wechsler Intelligence Scales for Children (WISC-R), and the Peabody Individual Achievement Test, were employed. The means indicated that the sample fell into the standardized averages for all measures. In addition, extensive multi-method and multi-informant questionnaires, and interviews that focused on the quality of competence in multiple life domains, stressful life events, and lifetime adversity were obtained. Strikingly different from other historical longitudinal studies with children (e.g., Werner, 1993), the children themselves were interviewed to gain their perspectives, though they were not asked about resilience. The cohort sample was followed up after seven, 10 and 20 years by the completion of parallel packets of questionnaires sent to both the children and their parents that assessed many aspects of how life was going, including life events, work, romantic interests, health and general wellbeing. The sample cohort was broken down into three distinct groups: competent (n = 30) as defined by competence met in salient developmental tasks, and having low adversity scores; resilient (n = 50) as defined by competence met in tasks despite high adversity scores; and maladaptive (n = 22) as defined by not meeting competence in tasks and having high adversity scores. The remaining participants, those who did not fall into the three groups, were studied separately.
One of the stated goals of the study was to examine continuity in development, and change in the successful achievement of age-salient developmental tasks over the transition to adulthood, with a focus on adaptive resources, chiefly resilience, and chronic adversity (Masten et al., 2004). As posited by many developmental theorists (e.g., Luthar & Brown, 2007), significant developmental tasks often come during key points of life transitions. These transitions offer the opportunity to change course if the capacity to adapt, from increasing resilience, has occurred. Masten et al. found that the continuity of development was fairly consistent throughout the study, for example, those in the competent and the resilient groups tended to succeed faster than the other groups. Success in this study was strongly associated with not only a history of success in early developmental tasks, but also with having a set of resources in childhood that reflected fundamental resources for adaptation and development, for example, intellectual functioning, early interventions, and quality of parenting or care giver skills. Of note, as the study continued, a fourth group was added after the tenth year follow up. This new group, emerging resilience, consisted of six females and one male, originally in the maladaptive group, who were able to change courses dramatically and redirect their lives. Masten et al. suggested that this group was able to take advantage of a window of opportunity because of heightened executive functioning abilities, planning skills, and self direction. This group seemed to be able to access internal resources, and became self-empowered with evidence of heightened resilience, such as the ability to bounce back from adverse situations. The transition to “late-emerging resilience” in early adulthood appears to be one of the normative windows of opportunity for such positive changes, where neurobehavioral and ecological changes converge to create new
possibilities, allowing for shifting development (Masten et al., 2004, p. 1092). The results of this longitudinal study suggest that resilience can be strengthened over time, and that individuals can change the course of their lives as resilience increases.

During this longitudinal study, numerous statistical methods were applied, including hierarchical multiple regression, and multivariate analysis of variance and ANOVA. Despite the retention of 90% of the original sample, the small sample size (n = 173), broken down into smaller groups, for example, 22 individuals defined as high adversity and maladaptive, does not give adequate power to some of the statistical methods used. The use of multiple regression, for example, with five variables should have a group number of 91 individuals at $p = .05$ for a medium effect size (Cohen, 1992).

In a project consistent with trait theory, Giesbrecht et al. (2008) completed a small study of 79, (62 who were female), undergraduate students in the Netherlands. The mean age was 19.57 years ($SD = 1.58$; range: 18-24 years). The composition of the sample group was highly interrelated. Age, race, socioeconomic class, and current living conditions were very consistent. The researchers sought to understand the ways consistent, positive emotions, characteristics they likened to demonstrating resilience, affected coping during adversity. Further, these trait- based researchers sought to understand whether cognitive reactivity, a trait they viewed as opposite from resilience, increased during times of stress.

The participants were tested on two separate occasions, separated by a four-month interval. Using several surveys, including the CD–RISC, the level of resilience was determined during the first session and then again at the end of the four month period, during which traumatic events occurred. The authors concluded that positive
emotions did not foster resilience, as determined by scores on the CD–RISC, but lower levels of cognitive reactivity, which were believed to regulate emotions, did correlate with having resilience, as described by the authors. The overriding conclusion from the authors is that a substantial majority of individuals who are exposed to traumatic events do not develop any persistent trauma-related psychological disturbance, a phenomenon referred to, by the researchers, as demonstrating resilience (Giesbrecht et al., 2008). In line with many trait-based approaches to resilience (e.g., Bonanno, 2005), demonstrating any sort of recovery time was defined as not having resilience.

Several questions and threats to validity arise from Giesbrecht et al.’s (2008) study. The traumatic events that the participants experienced were not defined. The events appear to be individual experiences and not a shared occurrence. The interval was short, four months, suggesting an internal validity threat from testing multiple times. It is hard to estimate how much each of the personal events truly affected each participant, which may indicate another internal validity as history is not addressed. The study was very small, and conducted with relatively high functioning college students, which may be an external validity threat because of narrow categories of identity (Heppner et al., 2008). Furthermore, the short interval between assessments brings to question when the traumatic events actually occurred. If the event occurred early in the interval, recovery may have occurred.

In a similarly focused study, Mak, Ng, and Wong (2011) studied 1,419 college students in Hong Kong to determine if positive cognitions of the self, the world and the future, defined as the positive cognitive triad, acted as a mediator between resilience and well-being. Critical to the study was the use of surveys, and scales that had been
validated among Chinese individuals. Prior to implementing the study, the authors surveyed Chinese individuals, not in the sample, using several different instruments, and found that the Ego- Resiliency Scale, which demonstrated a fairly strong internal consistency ($a = .79$) to be the most reliable of the instruments tested to assess resilience in the sample population. As suggested by the title, this scale views resilience as part of the ego, embedded in personality.

The authors’ definition of resilience focused on a trait- based model, featuring the ability of an individual to globally adjust during times of stress. The authors noted that resilience contributed to an individual view of well-being and posited that resilience may be the linkage between positive thinking and well-being. The measurement of the view of the self, the second portion of the cognitive triad, proved to be more difficult to obtain. The instruments were written for a Western mind-set, yet several previous studies had indicated that Chinese hold a different interpretation of the self compared to their Western counterparts. As such, the Rosenberg Self-Esteem Scale, was chosen with the item, “I wish I could have more respect for myself” omitted from the final survey to increase internal consistency ($a = .86$). Mak et al. (2011) suggested that the removal of a survey item did not change the over-all internal validity of the scale, though no explanation was provided as to how they came to that conclusion.

The sample consisted of 1419 college students, 660 males and 759 females. The mean age was 20.9 years ($SD = 3.21$). They were recruited using an internet platform. A structural analysis was conducted on the model of positive cognitive triad with resilience and well-being. The findings demonstrated that resilience and well-being can be positively related to a positive view of the self, the world and the future, albeit not
robustly. Trait resilience, in this study’s model, demonstrated positive relationships with self esteem, \( r = .49 \); the world, \( r = .36 \); and the future \( r = .50 \). The sample was more diverse than Giesbrecht et al.’s (2008) sample, and much larger, but in many ways very similar in composition. The sample chosen by Mak et al. (2011) were all college students who were fairly high functioning. For example, 86% reported very low levels of depression, and other similar dysfunctions. The conclusions from both studies have similarities. Both sought to understand the role of positive emotions in resilience, but neither studied produced convincing evidence.

Lee, Sudom, and McCreary (2011) studied surveys from 5,650 Canadian military recruits (84% males, 15.3% females) with a median age of 23.5 years (SD = 6.4). The purpose of the study was to identify the factors that can foster resilience in the face of stressors, and to determine if resilience is a higher-order construct integrating both intrapersonal, and interpersonal factors. Several research models of personality, acting as intrapersonal factors along with a measure of social support, which was understood as an interpersonal factor, were integrated in order to conceive a more parsimonious structural model after structural analysis had determined redundancy among the variables. The first model, The Big Five model of personality was first developed by Bateman and Crant (1993, as cited in Lee et al., 2011). This model consists of five major factors or traits that provide the individual differences among personalities. The Big Five factors are: agreeableness, conscientiousness, extroversion, neuroticism and openness. The authors cited ample research which to them suggested that the Big Five factors are associated with positive health outcomes after adversity, but the mechanisms involved in this association are far less clear (Lee et al., 2011).
Numerous surveys were completed by the recruits. Path analysis revealed a high degree of overlap correlation among the factors and variables, indicating a degree of misfit between the proposed model and the observed data. This difficulty could be reduced by using a more parsimonious model that excluded some of the highly correlated factors. Of the remaining factors, hardiness ($R = .78$) and mastery ($R = .83$) demonstrated the best fit to the proposed model of resilience through adversity. The authors did not suggest any changes to the model. A more refined model, however, may increase the understanding of the directional flow of factors from resiliency to coping with adversity.

**Resilience in Adults**

As previously noted, much resilience research has been conducted with children and adolescents. Indeed, resilience was historically placed as a phenomenon within children. Pioneering researchers believed that resilience was a trait that an individual was born with, a theory that continues in some circles of research today (e.g., Bonanno, 2004). Developmental models first looked to the risk factors that resilient children endured, and still retained the ability to complete developmental milestones. Research slowly began to shift towards studying approaches to increase resilience, seen as an adaptive function, with focus on the processes of change in coping skills, and reinforcement of environmental supports. These support systems include parent education, community support, and early school involvement (Sapienza & Masten, 2011). Intervention in early childhood to shore up strengths in coping with adversity is often the goal of current research (Benard, 2004; Sapienza & Masten, 2011).

Research on resilience in adults is sparse. The apparent goals of many trait-based studies seem to be defining resilience through the researcher’s personal lens, assessing
participant survey responses following some type of adversity, and then determining whether the participant demonstrated resilience or not. Interval times between adverse event and survey participation are often short (e.g., Bonanno et al., 2006). Participants who required a period of recovery following the adverse event are likely to be signified as not having resilience (e.g., Bonanno, 2005; Joseph & Linley, 2005).

Developmental approaches seek to employ longitudinal methods, since resilience is viewed as developing through the years with exposure to adverse events. Indeed, developmental theorists often place exposure to adversity, risk and stress as paramount for strengthening resilience (Davydov et al., 2010; Masten, 2001). Therefore, studying adults requires individual history assessment which may present difficulties in any large scale project, and relies on the participant being an accurate personal historian (Luthar et al., 2000).

Many of the research papers written use a compilation of past work approach, in which researchers piece together parts of their own past studies or incorporate the work of other researchers who support their position (e.g., Herman et al., 2011; Wald et al., 2006). Statistical analysis is often very limited (Bonanno, 2004; Seery, 2012). This type of approach does not include interventions to improve resilience, although studies often close with suggestions of further research to strengthen resilience in the future, at least from the developmental perspective (e.g., Davis & Asliturk, 2011; Lee et al., 2011; Masten et al., 2004). Theories based on the trait approach often do not suggest that resilience can be strengthened as resilience is considered to be part of the enduring personality. Simply, resilience is either present or not (e.g., Bonanno, 2004; Davis & Asliturk, 2011; Waugh, Thompson, & Gotlib, 2011).
In contrast to trait theories, the developmental models view a need for recovery after an adverse event as a time of growth and strength building (Wagnild & Collins, 2009). Trait theories tend to view a need for recovery as evidence that resilience is not present within the individual (Seery, 2012).

Divergent from child and adolescent studies, which place high emphasis on the importance of parents, care givers and community involvement for strengthening resilience as a protective factor, adult theorists appear to view resilience in older populations to be a solitary endeavor (Reich, Zautra, & Hall, 2010). Surveys, questionnaires and background information do not appear to contain questions about obtaining support through family, friends, or community during times of adversity. A child knowing how to gather strength, and help from others is viewed as a coping mechanism, and a crucial part of resilience (Masten et al., 2004; Werner & Smith, 1989). An adult seems to be expected to find the internal fortitude and rise to meet the adverse occasion alone (Bonanno, 2004; Connor, 2006; Wagnild & Collins, 2009).

9/11 and Resilience

In a fairly recent trait-based study, Bonanno (e.g., 2004) suggested the lack of psychopathology, most notably post traumatic stress disorder (PTSD), after a significant stressor is enough to suggest resiliency. In the wake of the September 2001 terrorist attack in New York, Bonanno et al. (2006) reported that 65% of New Yorkers demonstrated resilience in the face of extreme trauma. This claim was based on a study conducted six months following the attack, and participants (n = 2,752) were contacted by random digit dial of land lines in New York, New Jersey and Lower Fairfield County, Connecticut. The interviews were conducted using a computer assisted technique,
meaning that participants did not speak to a live interviewer. Demonstrating resilience was defined by Bonanno et al. as having one or no symptoms of PTSD six months after the attacks, using the assessment tool, the National Women’s Study PTSD module (Kilpatrick, Resnick, Saunders & Best, 1989, as cited by Bonanno et al., 2004).

This study received strong and abundant criticism from many different researchers, albeit most often from developmental theorists, such as Luthar et al. (2000). The methods section of this study was incomplete and statistical methods and analyses were minimally described. The sample selection process included only land-line phones thereby severely limiting total access to the general population who had cell phones. The use of computer assisted interviewing technique has been criticized for its lack of clarity and inability of the interviewer to assure that the participant actually understands the questions (Salahuddin & O’Brien, 2011). The participation rate was 56% but the number of completed surveys that were considered eligible was 34%, far less than the suggested return rate of at least 50% considered to be deemed merely adequate for survey sample return (Heppner et al., 2008). Response bias and the reasons that made some surveys ineligible were not addressed. Approximately half of the final sample was from New York City, bringing to question actual exposure effects of the terrorist attack from the other half of the participants. Luthar et al. questioned the limiting factor of evidence of PTSD symptoms as the only measure of resiliency, and stated that knowledge of over-all functioning, such as working, drug usage, family, and home life were essential to understanding life function in the face of adversity. Other distressing symptoms, such as depression, anxiety, and feelings of isolation were not described in this study.
Bonanno et al. (2006) did not address the possibility that recovery or the possibility of a delayed adverse reaction could have occurred from the event. The six month period after the attacks was notable for extreme patriotism and nation-wide support for the victims. Participants may have felt a kinship within their communities and throughout the country thereby reducing or delaying the overall symptoms of distress. Pre-attack functioning of the participants was not described, an important aspect to have been omitted as Bonanno et al. postulated that resiliency is a trait that is consistent over time. The level of functioning for the sample may have been the same before and after the attack, but as it is not addressed, the question remains. This study provides a single snapshot after an adverse event with no discussion about current life functioning other than the absence of PTSD symptoms.

**Positive Emotions and Resilience**

Some researchers have posited that having the ability to have positive emotions play an important role during times of adversity. Ong, Bergeman, et al. (2006) suggested that positive emotions protect an individual during times of stress. Resilience was defined as a protective factor, despite referring to resilience as ego resiliency, a term akin to trait theories, Ong, Bergeman, et al. described ego resiliency as a dynamic process. The authors did, however, fall more into the trait-based type of discussion towards the end of the research, including describing overall personality traits. The final analysis was that participants who possessed the ability to keep positive emotions during times of adversity, which the authors viewed as an overriding personality process, were able to withstand the death of a spouse, and other daily stressors met in later life. The key difference for Ong, Bergeman, et al. from a more a static trait-based approach was that
ego resilience is initiated during times of adversity, and stress and recovery periods are needed to build resilience.

Ong, Edwards, and Bergeman (2006) hypothesized that hope is a source of resilience in later adulthood. In a continuation of research into the roles that positive emotions play in later adulthood, 27 participants, ages 62 - 80 years \((M = 72.09, SD = 5.29)\) took part in a 45 day study. Of note, 95% were of European- American descent, 58% had received college degrees, and all were financially stable. Participants completed daily stress measures, and hope indexes. Ong, Edwards et al. found that hope did, indeed, play an important role in mitigating stressors, though the magnitude of importance was not addressed. Limitations of this study were the small sample size which impacts the effect size of statistical methods employed, and the surveys were completed retrospectively at the end of the day, and not in real time thereby possibly causing some bias in responses.

**Advancing Age and Resilience**

Advancing age has been suggested to increase adversity and stress in daily life. Diehl and Hay (2010) studied the role of aging in coping with daily stress. As opposed to the role of having positive emotions, such as hope, for increasing resilience during stressful times, Diehl and Hay suggested that self-concept incoherence, and perceived personal control played significant roles in managing daily stressors.

The participants \((n = 239)\) consisted of a wide range of ages \((M = 49.6, SD = 19.6, range = 18-89 \text{ years})\). Ethnicity of the sample, self identified, was 88% Caucasian, 9% Black and 3% Hispanic. The study lasted 30 days and the sample was broken into three age limited groupings, consisting of young adult \((n = 81, \text{ age range 18-39 years})\), middle
aged (n = 81, age range 40-59 years) and older adults (n = 77, age range 60 years and older). Initially, the participants completed several inventory scales measuring self attributes, self-concept incoherence, and personality traits. Participants were interviewed daily on the phone for 30 days to assess perceived daily stress, perceptions of personal control, and daily negative affect.

Self-concept incoherence is the extent that a person’s internal self-representations differ across various social roles, and life situations. These differences are important self-regulatory functions. According to Diehl and Hay (2010), as incoherence increases, fragmentation increases which leads to maladaptive behaviors, poorer psychological functions, stress intolerance, and lower levels of self-esteem. Diehl and Hay suggested self-concept incoherence to be an important risk factor. Personal control beliefs, conversely, lead to more positive outcomes, increased feelings of well-being, overall health, and lower mortality. Therefore, for Diehl and Hay having a sense of personal control is a source of resilience, and operates as a protective factor.

Using multilevel models, Diehl and Hay (2010) allowed for the consideration of whether the magnitude of daily negative affect of the participants was affected by their age and level of self-concept incoherence. Multilevel modeling also allowed for examination of between and within-person variances. Not surprisingly, on days when participants experienced increased stress, they also experienced more negative affect. More surprising was that self-concept incoherence did not play a role in stress reactivity. The authors were not able to reconcile these findings as past research had demonstrated high correlations between self-concept incoherence, and increased
variability in negative affect. The study did, however, demonstrate that on days when participants felt increased personal control, they reported less negative affect.

Most striking was that Diehl and Hay (2010) found that age was a resilience factor as opposed to being a risk for perceived well-being, as was originally hypothesized. Older adults demonstrated less variability in their negative daily affect, which did not increase vulnerability as was originally hypothesized, and 67% of the older adult group demonstrated higher levels of perceived self control than their younger counterparts.

**Beginning to Bridge the Gulf Between Trait and Developing Resilience**

In separate effort to examine the effects of the terrorist attacks of 2001, Seery et al. (2010) studied a large (n = 2,398) United States based sample, selected by random-digit-dial, to all homes who had a land line phone. This study was far more extensive than Bonanno et al.’s (2006). All interviews were conducted online using numerous questionnaires, and surveys, such as personality scales, anxiety, and depression scales, stress inventories, and lifetime adversity scales. Participants were broken into three groups: direct exposure to the World Trade Center or Pentagon attacks; seeing or hearing the attacks in person; watching it live on the media, and having no live exposure of the events. The study was completed in four waves of research, occurring yearly in September, beginning in 2001. The studied experienced a dropout rate from 2001 to the second wave in 2002. This resulted in 1,994 participating through the fourth wave in 2004, or 83.2% of the original sample. The goal of the study was to assess cumulative lifetime adversity to predict subsequent mental health and well-being, indicating increased toughness and mastery. Theoretically cumulative lifetime adversity was
expected to moderate the relationship between recently experienced major adversity, and subsequent mental health. A threat to construct validity may have occurred from the expectation of results by the researchers, and hypothesis guessing (Heppner et al., 2008).

Numerous statistical methods were applied to this longitudinal study. Comparisons were made between participants with zero or low lifetime adversity events to those who had experienced high adversity. A U-shaped quadratic relationship was noted between four standardized longitudinal mental health measures, and cumulative lifetime adversity. Consistent with predictions, more lifetime adversity experienced yielded higher global distress, functional impairment, and lower life satisfaction. Striking, however, was the finding that having no to very low lifetime adversity yielded high global distress and functional impairment. Across longitudinal outcome measures, participants with a history of some lifetime adversity appeared much less negatively affected than their counterparts. Seery et al. (2010) noted that though this study could not state the causation of the findings, the results were consistent with the theory that in moderation, experiencing lifetime adversity contributes to the development of resilience.

Seery et al. (2010) consistently used terms akin to the theories of trait resilience, such as toughness, hardiness, and trait, and they seemed to view resilience as an inherent feature of personality. Nevertheless, they extended their views to include the developmental approach of building on adversity for increased resilience, and they accepted a need for recovery in adverse situations. Indeed, recovery appeared to be the time of building resilience in this study. The recovery time seemed to be based on individual needs, and the magnitude of the adverse event. In opposition to Bonanno (2005), Seery et al.’s view of resilience is not static but a dynamic phenomenon. This
study appears to partially bridge the gap between trait, and developmental theories. The findings of this longitudinal study suggest that individual personality traits and adversity, in moderation, were the scaffolding that resilience was built upon.

**Multicultural Views and Resilience**

Often overlooked and seemingly underappreciated in resilience research is the role racial identity plays in adversity and, therefore, resilience. In a ground breaking effort to gain understanding of the expression of resilience in multi-ethnic individuals, Salahuddin and O’Brien (2011) studied critical race theory, which asserts that race, and racism are a central part of American society and life. In this theory, racism is ever present, and the adverse effects to individuals, often marginalized, can be devastating. Multiracial individuals face unique challenges because their very existence calls into question society’s current system of racial categorizing (Salahuddin & O’Brien, 2011). Multiracial individuals often experience racism through risk factors that include: discrimination, individual invalidation of identity, and pressure to adopt only one racial identification classification.

The purpose of the Salahuddin and O’Brien’s (2011) study was to develop a survey that describes resilience, defined by the authors as healthy development in the face of adversity, through a multiracial context. Noting the unique challenges faced by multiracial individuals, adversity through racism is thought to be systematically different between multiracial, and monoracial individuals. Thus, Salahuddin and O’Brien developed and tested the Multiracial Challenges and Resilience Scale (MCRS).

The MCRS originally contained 74 statement items. Through a process of rater feedback, the survey was reduced to 49 statement items, due to the redundancy and
ambiguity of 25 items. The survey was sent out, using Facebook advertising. The sample consisted of 317 individuals, age range was 18-53 years, with the mean age of 22 years ($SD = 5.21$), 71% were female, 28.4% male and 0.6% were transgendered. All participants were from large metropolitan areas of the United States. A variety of reliability and validity measures were utilized as was structural analysis. The authors determined that the MCRS psychometric properties were adequate, though with close inspection many of the correlations were low ($a = .5$ to $.6$). The Root Mean Square of Error Approximation (RMSEA) of the MCRS indicated a marginally adequate fit ($< 0.6$). Salahuddin and O’Brien (2011) suggested more refinement may be needed, along with subsequent studies with a larger sample population.

Despite the overall findings of the MCRS, several factors from the factor analysis conducted indicated very positive correlations. The relationships among depression, low self esteem, low resilience, lack of social connectedness, and the factors of Lack of Family Acceptance and Multiracial Discrimination demonstrated high correlations, (between $r = .8$ and $.9$) indicating that many multiracial individuals may endure harmful adversity. The factors of Multiracial Pride and Appreciation of Human Differences had moderately high correlations with general wellbeing ($r = .83$ and $.78$, respectively) indicating that although the participants were often in adverse conditions, they found the personal resources, such as resilience, to endure. This study indicated that more refinement is needed to increase reliability, and validity of the scale. The development of the MCRS reflects a shift to describing resilience as it relates to the unique experiences, and perceptions of multiracial people.
Concluding Remarks on Background

The above review of literature on resilience shared one common feature: none of the researchers asked the participants whether they felt they had resilience, or if the research model’s definition of resilience matched their own. This represents a possible disconnect between the research and the participant. As such, there may well be little meaningful conclusions from the research. Whether or not the answers on a survey indicate the presence of resilience based upon a pre-determined set of responses may be less important than whether the participant feels resilient. As this literature review suggested, having resilience appears to offer protection during times of adversity. If the participant, however, does not feel that level of protective resilience, the question arises: is resilience present, or is it at a low point and can it be bolstered? At its heart, resilience appears to be a perception. Furthermore, it seems that it would be important for the participant to acknowledge personal resilience, especially in times of turmoil. Acknowledging personal resilience may indeed strengthen resolve during adversity. Perceiving the presence of resilience, in itself, may be a protective factor. Understanding how and why resilience is perceived in individuals seems to offer the potential of helping those who do not believe in their own ability to have resilience.

The literature review also demonstrated that the definition of resilience did not hold a universal meaning for researchers, and the likelihood that some of the researchers’ definitions conflicted with the participants’ views seemed highly possible. A gap between different definitions, and the importance placed on resilience among researchers was apparent. The gap between researchers and participants on the meaning of resilience, and the importance of it in life seems equally as ostensible.
Study Design

This mixed methods and exploratory study examined the individual perspectives of adults on resilience, and its meaning and origins in their lives. The design of this project included a quantitative section that examines reactions to several scaled questions which focused on individual current levels of perceived resilience, and the growth or decline of that perceived resilience over the participants’ lifetime. The qualitative section of this project included three narrative questions which asked for the participant’s definition of resilience, where that resilience came from, and what life experiences contributed to the participant’s resilience.

In keeping with the theoretical framework from developmental psychology (e.g., Masten, 2001), a primary interest was to determine if resilience increased with age, and if so, what events changed resilience for this sample. Secondarily, another area of interest for the project was whether gender and ethnicity differences played a role in defining resilience.

Theoretical Perspectives

This project falls under the methodological worldview of social constructivist (Creswell, 2009). The project used surveys, generally used in a postpositivist approach in which researchers test a priori theory (Creswell & Plano Clark, 2011). The survey used in this project, however, also contained narrative questions that allowed the subjects to express their own personal views in an unrestricted manner that is more in-line with social constructivist methodology (Creswell, 2009). Social constructivists seek to understand how meanings are formed by humans as they engage with the world. This understanding fits with the goal of this project, which allowed subjects to define
resilience based on their own personal experiences. Furthermore, in keeping with the social constructivist approach, the survey questions were broad, and terms were not defined by design as this project looked for the subjects to define, and describe their own personal definitions, and views of resilience. These meanings may be varied and complex based upon the subjects communication styles, social history, and interaction with the world. In direct contrast to postpositivism, this project did not include an initial theory. Rather, the goal was to have the subjects provide the theory or pattern of meanings. This was consistent with social constructivism (Creswell, 2009).

Another important concept within the social constructivist worldview is that the researcher also brings personal meaning and context to the project. This context affected the final interpretation as the participants’ meanings and definitions mixed with the researcher’s point of view. Importantly, the researcher needed be aware of this juxtaposition, and acknowledge how meanings flow between personal views, context and the subjects’ responses (Creswell, 2009). In this sense, this writer was part of the research.

Definitions and Justifications of Groups Within This Project

Selecting the groups for dividing the participants required careful consideration. Much of the research completed thus far has focused on age in relation to building resilience, at least from a developmental perspective (e.g., Garmezy et al., 1984; Masten et al., 2004). Including age as a grouping method was appropriate.

Including gender as a grouping method is controversial for some researchers. Lips (2003) described that Western researchers have often taken one of two positions when studying gender: an emphasis and exaggeration of differences, or a tendency to minimize
or ignore differences all together. Both positions have drawbacks for researchers. The exaggeration of difference position, which is the most frequent position taken, focuses on the general principal that men and women have distinct differences, yet as Lips pointed out humans are shaped by their own contexts, and the meanings they make of their individual experiences. Gender may play a role in difference, but that difference is not absolute. For Lips the notion that all men or all women are the same is a vast over simplification, marked by stereotypical beliefs that often lead to discrimination. Conversely, ignoring the possibility that gender is a mediating factor in forming personal views could severely limit the findings of the research. Gender is part of identity, and how the participant has lived within that context could significantly affect personal views.

Virtually all of the research cited in this paper included data that included gender groups. The data were solely used to describe the sample. None of the articles actually discussed whether differences occurred between genders, and indeed much of the research focused on women (e.g., Wagnild & Collins, 2009). Alreck and Settle (1995) noted that including data on gender helps define the sample. Without this data, comparing past or future research could hamper conclusions as contrasting the findings from different sample groups is nearly impossible. Furthermore, as this was an exploratory research project, noting the difference, if any, in the responses provided could spark additional research in this area. As three of the questions were narrative in nature, the responses may provide a rich footing for further study. Lips (2003) prudently advised not to assume a difference exists between genders, but to be open to all possibilities. Keeping
this tenet in mind, the included self-selected gender demographic question was illuminating.

Equally challenging for the researcher is to decide whether or not to ask about the ethnicity of the participant. Much of early resilience research in children included those participants who were considered at risk for having poor outcomes due to socioeconomics of the family, substance abuse in the family, and having family members with mental illness (e.g., Cicchetti, 1993). Many of the studies were conducted within inner city areas that were highly populated with racial minorities who researchers felt indicated at high risk for development (e.g., Garmezy et al., 1984). Luthar and Brown (2007) criticized using this approach of intentionally assessing minorities as it suggested being a racial minority was a disadvantage, and a risk factor which research had not adequately proved.

Potential cultural and ethnic differences of resilience in adults have received far less study than with children. Unger (as cited in Reich et al., 2010) noted that much of the resilience research in adults has been qualitative studies on narrowly defined, small populations. This approach may not shed light into understanding the broad contexts of different cultural and ethnic groups’ perceptions of resilience. Unger further suggested that deconstructing the cultural normative meaning of resilience was needed before making sweeping generalities. Nuanced understandings of an individual’s own, personal cultural worldview may be very different from the overall identified cultural or ethnic group. For example, all African Americans do not necessarily hold the same definition of resilience.
Asking subjects to self describe their ethnicity might have fostered insight into more global descriptions of resilience. Care needed to be taken to avoid making assumptions that the definitions given were representative of an entire ethnic group, for indeed, that conclusion would be a vast overstatement. The responses were individual, but they were reflective of the personal context the subjects brought, which included ethnicity and culture. As this project was exploratory in nature, the exploration of the relationship between ethnicity and resilience as warranted

Including a broad job grouping was necessary to describe the work environments of the subjects. From a social constructivist perspective, the basic generation of meaning is always social in origin. Constructing meaning is highly influenced by the interaction within communities and social groupings (Creswell, 2009). The subjects for this project all worked at the same hospital, but the jobs were not the same, and the interactions between different staff members and the community were highly variable. Nurses, collectively, have been used as a study population for many years, and in many studies (e.g., Fereday & Muir-Cochrane, 2006; Wagnild & Collins, 2009). Other care providers and those who do not do direct patient care are vastly under represented in research. Nurses do represent a large portion of the staff for most hospitals, but they are not its entirety. Furthermore, many nurses do not do the same types of jobs. For example, some nurses no longer do bedside patient care. As such, their social interactions are highly variable.

The sample population for this project was chosen as it represented a broad spectrum of experiences and perspectives. Fereday and Muir-Cochrane (2006) suggested that finding unifying descriptors for the sample has the potential for clarifying sameness,
and differences within the responses. As this project was exploratory in nature, causation of responses was not sought. This, however, does not mean that basic themes across broad groupings could not be explored. Relationships might have existed between those subjects who have direct patient contact, or not and perceptions of resilience. As such, three basic job groupings were determined. Subjects self-identified which group they felt most described their jobs. The purpose of self describing instead of actually asking for job titles was two-fold. As the subjects collectively described their meanings of resilience, it seemed important to understand the self-perception of their job, and not use pre-defined categories that may not be accurate. Secondly, the use of actual job titles would have decreased anonymity.

The three job groupings were as follows: direct patient care, indirect or transient patient care, and no direct patient care.

**The Use of Likert Scales**

Likert scales have long been used as robust survey instruments in many types of research (Alreck & Settle, 1995). Survey questions are typically a choice of position, either within some category or along a continuous spectrum that participants arrange for themselves. Alreck and Settle further stated that Likert scales are simple, and efficient for collecting data that can be coded, and described. This type of scale provides a summated value, and besides obtaining results for each item, a total score can be obtained from the set of items. Flexibility, power of the format, and simplicity are a few of the advantages of using a Likert scale. Sandelowski (2000) suggested caution in assuming too much from the data obtained from a Likert scale. The nature of the scale is not to provide in-depth responses. Researchers have, at times, taken for granted that the participant
understands the item in the same way the researcher does. The wording of the items can greatly affect the responses, and as Wagnild and Collins (2009) noted the use of positively or negatively worded statements can send participants down a directed path.

The origin of the Likert scale used a series of questions with five response alternatives. The responses were treated as an ordinal level of measurement for statistical analysis (Boone & Boone, 2012; Brown, 2011). Carifio and Perla (2007) noted that the level of measurement is often changed erroneously to the more powerful interval level by researchers.

**Likert-Style Scales**

This project used a Likert-style approach to the scaled questions. Likert-style questions offer a different level of measurement by changing the construction of response alternatives. Carifio and Perla (2007) suggested replacing the five response format with a graduated 0-10 level measurement. This alternative provides an absolute 0 through 10 with the assumption that a response of four is twice that of two, for example. Brown (2011) concurred with this approach, and noted that several markers could be placed on the scale to signify direction of magnitude. For example, a 0 representing no feeling towards the statement, and 10 representing the most amount of feeling towards the response. The advantage to using a Likert-style response format allows for the interval level of measurement during statistical analysis, which is defined as a robust level of measurement (e.g., Alreck & Settle, 1995). The Likert-style survey approach also allows the participant to provide a wider, and possibly a more accurate response (Boone & Boone, 2012; Norman, 2010).
Online Surveys

The use of online surveys has received a considerable amount of critical examination over recent years. Online surveys have become increasingly popular for many reasons, including relatively low cost, ability to reach a large population, fast response time, and the ability to quantify data relatively easily (Jansen, Corley, & Jansen, 2007). Recent research (e.g., Evans & Mathur, 2005, 2007) suggested that a strong degree of equivalence existed between computer-based and pencil and paper formats, and signified that reliability is consistent. Both methods of surveying had approximately the same response rate, 15-20%, which is low, but Cassese, Huddy, Hartman, Mason, and Weber (2013) suggested that using a socially mediated internet survey system offered much higher response rates, 40-45%. The increase in response rate seemed to be tied to feelings of shared common community that a social mediated site can foster. Cassese et al. cautioned that these feelings of community and shared interests may bias the sample towards more homogeneous responses. Care must be taken in the final analysis, keeping in mind that the sample may be far more related than it appears based on demographic information (Alreck & Settle, 1995).

The sample used for this project, a single hospital’s employees, does have some similarities which may present a potential response bias. The survey was distributed through hospital email. An argument could be made that the sample may share a collective, job-related mission or goal: the care of ill patients. The survey did not ask questions about the job environment or specific job duties. Response bias, however, may still have been a factor if the sample of participants tended to share similar goals or attitudes, regardless of the size of the sample. The survey questions focused on personal
views and beliefs of resilience, which had the possibility of being influenced by job experience.

**Self-Report Bias**

Self-report surveys offer many advantages to researchers. Regardless of the format, surveys are often an economical way of obtaining data from varying sizes of sample populations (Brener, Billy, & Grady, 2003). Lenderink and Zoer (2012) suggested that self-report surveys offer a separation between the participant and researcher that may encourage the participant to feel freer to answer questions that may be difficult in a face to face situation. This seems especially true with surveys where anonymity is maintained. Lenderink and Zoer opined, however, that the validity of self report surveys is often vastly under-rated and under-appreciated by researchers. Brener et al. concurred with the opinion, but stated further that self-reported data cannot be verified independently.

Several threats to validity may occur with self-reported surveys. Brener et al. (2003) suggested that cognitive perspective issues, such as recall, comprehension, retrieval, and decision-making ability may adversely affect responses. Situational perspectives, such as the external environment, the presence of others, and the participant’s perceptions of privacy, and confidentiality also play a large role in the validity of the survey.

Social desirability, which is the desire to provide others with a favorable impression of oneself, is often a threat to the validity of surveys (Brener et al., 2003; Lenderink & Zoer, 2012). The degree to which this is a problem is highly variable with the subject matter of the survey. Questions that are often most likely to be influenced by a social desirability bias have response options that involve attributes considered desirable
to have, activities desirable to engage in, or objects desirable to possess (Brener et al., 2003).

**Mixed Methods and Thematic Analysis**

A potential difficulty in using Likert scale questions alone for research is that nuanced information cannot be obtained (Sandelowski, 2000). The only data gathered is in direct response to the question or statement, and this may or may not adequately represent the views of the participant (Braun & Clarke, 2006). A mixed methods approach, a survey that offered both a Likert scale, used in quantitative analysis, and narrative questions, used in qualitative analysis, gathered a much more holistic set of responses from participants. Sandelowski posited that researchers are turning towards mixed methods approaches to expand the scope, and improve the analytic power of their studies. Mixed method approaches combine quantitative and qualitative techniques to produce a more complete picture from the sample participants, and allows for potentially more in-depth understanding of the research question (Guest, MacQueen, & Namey, 2012).

Quantitative analysis, obtained from the demographic data, and the data from the Likert-style questions allowed for a numerical approach in understanding the complexities of this project. The variables were isolated and related them to determine the magnitude and frequency of relationships. By using charts, tables, and other visual forms of analysis, a clearer, more in-depth picture of the data was obtained which might not have been as clearly visible without the quantitative approach.

Qualitative analysis provided an organic view of the data. The perspective and context from the sample may have been missed if personal narratives were not sought.
One such qualitative approach is thematic analysis (TA), and it is compatible with a constructionist paradigm within the field of psychology. TA is not necessarily wedded to any pre-existing theoretical framework. The purpose of TA is to help form the theory directed by the participants (Braun & Clarke, 2006). This approach allowed for the examination of the ways participants make meaning in their lives. This project purpose was to determine how resilience was defined for each participant. That definition came, in part, from the lived experiences of each participant, which informed their ability to make meaning (Guest et al., 2012).

TA essentially examines data themes generated by the participants. Some researchers (e.g., Franzosi, 2010) have suggested that quantifying the themes is enough to represent TA. This type of word-based or other counting techniques are valued for their efficiency and reliability. The drawback to this type of TA is that the richness in meaning that participants generate may be entirely lost by simply counting the number of times a word or thought is used. Contextual meaning, important from a social constructivist point of view, may be missed or misunderstood (Guest et al., 2012). Focus on identifying and describing themes, within a contextual framework with applying consistent and rigorous methods are the basic goals of TA employed by some researchers (Braun & Clarke, 2006).

TA does have its detractors and criticisms. Fereday and Muir-Cochrane (2006) noted that too often researchers use less than rigorous methods for analyzing data. TA is often poorly demarcated, and rarely acknowledged in research, yet it is the most widely used qualitative analytic method (Braun & Clarke, 2006). Results from research using poorly defined and meagerly planned TA have strengthened the opinion held by some
researchers that TA is not nearly rigorous enough to qualify as a legitimate method of analysis to support actual data (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006; Guest et al., 2012). No one true method of TA is agreed upon by researchers and, as such, analysis results can be haphazard and incomparable to other research (Braun & Clarke, 2006). Guest et al. (2012) asserted, however, that with careful planning and adherence to a systematic approach, TA is very useful especially in exploratory research.
Methods

Participants

Employees from four separate departments of a 325 bed Northwest hospital were recruited, via individual department wide email, to participate in this study. In all, approximately 1,000 emails were actually delivered to individual employees. Because of logistical difficulties and miscommunications between department management and administration staff, one of the departments did not send the survey request to all members of that department. The error was not identified until after the survey closed.

Participants received no compensation. The study protocols were approved by the Institutional Review Boards of the hospital, and Antioch University Seattle.

Materials and Procedures

The survey (Appendix A) was completed using Survey Monkey, an online survey tool. Sample demographics included age on last birthday, self-described gender, and self-described ethnicity or race as defined by the 2010 Census Bureau that allowed participants to choose more than one category. Text boxes were included that allowed participants additional space to describe additional gender and ethnicity identification, if desired. Three broad job descriptions were included in the demographic section: direct patient contact, intermittent or indirect patient contact, and no patient contact. No definitions were provided and participants self-selected this category. No other identifying information was collected. All completed surveys were analyzed, and included in the final results.

The survey consisted of six questions. Three were in Likert-style. Each scaled question contained numbered choices 0 through 10 with the assumption that a choice of 4
is twice as much as 2, for example, though this was not indicated in the survey. The three remaining questions required a narrative response. A text box was included, and accepted any length of response.

Table 1

*The Survey*

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What does having resilience mean to you?</td>
<td>Narrative text</td>
</tr>
<tr>
<td>2. Where does resilience come from?</td>
<td>Narrative text</td>
</tr>
<tr>
<td>3. How resilient do you feel?</td>
<td>Likert-style</td>
</tr>
<tr>
<td>4. How much, if any, has your resilience increased over time?</td>
<td>Likert-style</td>
</tr>
<tr>
<td>5. How much, if any, has your resilience decreased over time?</td>
<td>Likert-style</td>
</tr>
<tr>
<td>6. What experiences, if any, has changed your resilience in your life time?</td>
<td>Narrative text</td>
</tr>
</tbody>
</table>

*Note.* The Likert-style scale questions were numbered 0-10. Identifiers were: 0= least amount; 10= most amount. No other descriptors were included.

The survey was sent out through the individual departmental email. No individual emails were used or obtained. The surveys were completed, and returned to an account set up through the survey tool. Participant identification was not possible. Participants had two weeks to complete, and return the survey. A reminder to complete was sent through departmental email at the beginning of the second week. Both invitation and reminder emails are located in Appendix B.

**Measurement and Analytical Strategies**

The analytical strategy for this project reflected the integration of quantitative and qualitative data in a convergent parallel mixed method approach (Creswell & Plano Clark, 2011). The over-arching goals were to form themes around the notions of definition, origin, growth or decline, and events that may have impacted resilience in this
sample of adult participants. The primary focus of interest was to determine whether participant responses were related to age in keeping with the developmental theories of resilience. In conjunction with this focus, participants were asked if any events changed their level of resilience, and whether their resilience had increased or decreased in their lifetime. A secondary goal was to explore how participant responses may be related to gender and ethnicity. Results could indicate areas of further study as research in resilience differences based on gender and ethnicity is scant.

Quantitative analysis, plots, and tables were generated in the software environment “R”, version 2.11.1.
Results

Participants

The survey was sent via departmental email to approximately 1,000 employees. The number of completed surveys was 348 (35%). Below is a summary of the demographic characteristics of the participants, as well as the degree of patient contact. The second column shows the results for all participants who completed the survey. In the remaining columns, the results were stratified by age category (decades), and the number of participants that fall into each category is listed in the rows below. As the results were stratified by age, the age for each participant is not present in the table. Statistics on age is presented in the text below the table.
Table 2

Participant Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All</th>
<th>18–29</th>
<th>30–39</th>
<th>40–49</th>
<th>50–59</th>
<th>60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>86.78</td>
<td>87.84</td>
<td>83.17</td>
<td>81.97</td>
<td>90.79</td>
<td>94.44</td>
</tr>
<tr>
<td>Male</td>
<td>13.22</td>
<td>12.16</td>
<td>16.83</td>
<td>18.03</td>
<td>9.21</td>
<td>5.56</td>
</tr>
<tr>
<td>Another choice</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Ethnicity (percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0.29</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1.32</td>
<td>0.00</td>
</tr>
<tr>
<td>Asian</td>
<td>1.15</td>
<td>1.35</td>
<td>0.99</td>
<td>0.00</td>
<td>2.63</td>
<td>0.00</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0.29</td>
<td>0.00</td>
<td>0.00</td>
<td>1.64</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Chinese</td>
<td>0.29</td>
<td>0.00</td>
<td>0.00</td>
<td>1.64</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Filipino</td>
<td>1.72</td>
<td>1.35</td>
<td>2.97</td>
<td>1.64</td>
<td>1.32</td>
<td>0.00</td>
</tr>
<tr>
<td>Hispanic, Mexican, Latino</td>
<td>2.30</td>
<td>4.05</td>
<td>0.00</td>
<td>8.20</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Japanese</td>
<td>0.29</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1.32</td>
<td>0.00</td>
</tr>
<tr>
<td>Korean</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Guamanian</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Samoan</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>87.07</td>
<td>85.14</td>
<td>88.12</td>
<td>86.89</td>
<td>84.21</td>
<td>94.44</td>
</tr>
<tr>
<td>Other or Multiple</td>
<td>6.61</td>
<td>8.11</td>
<td>7.92</td>
<td>0.00</td>
<td>9.21</td>
<td>5.56</td>
</tr>
<tr>
<td>Patient contact (percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>70.98</td>
<td>93.24</td>
<td>83.17</td>
<td>62.30</td>
<td>55.26</td>
<td>38.89</td>
</tr>
<tr>
<td>Indirect</td>
<td>17.24</td>
<td>4.05</td>
<td>10.89</td>
<td>26.23</td>
<td>25.00</td>
<td>30.56</td>
</tr>
<tr>
<td>None</td>
<td>11.78</td>
<td>2.70</td>
<td>5.94</td>
<td>11.48</td>
<td>19.74</td>
<td>30.56</td>
</tr>
</tbody>
</table>

The sample was composed mostly of women (86.8%). The mean age for the sample was 41.8 years (interquartile range 31-52 years), and the range of ages was 23-69 years. The sample was predominately White/ Caucasian (87.1%), though Latino, Asian, African American, and several other ethnic backgrounds were represented. For the purposes of this project because participants who chose an ethnic category other than
White was small (13%), and the largest ethnic group chosen was Hispanic, but represented only 2% of the sample, two main groups were selectively named: White and Other Choice of Ethnicity (OCE). The OCE group consisted of participants who chose ethnicities other than White/ Caucasian, though they may have chosen several ethnic identities which included White/ Caucasian. The purpose of dividing the participants into two main groups was for analytical comparison only. The majority of the participants had jobs involving direct patient care (70.1%), though those having jobs with indirect or no patient contact were well represented (17.2% and 11.8%, respectively).

No strong indications of associations of age with gender or ethnicity were present in this sample. The proportion of males is higher in the 30-39 and 40-49 age groups, and lower in the 60+ group, but there was no strong trend. The oldest age group had a higher proportion of participants who reported White/ Caucasian ethnicity, but the group of people in that age category itself was small. The proportion of participants who had direct patient contact was quite high for the youngest group, and declined steadily over the age groups.
Figure 1. Histogram of the number of participants as compared by age in years.

Quantitative Results

Current level of resilience: Self-Rated Resilience Score (SRS). The 348 participants who completed the survey rated themselves with a Likert-style scale regarding their current level of resilience. The range of the scale was 0 to 10 where 0 was defined as having no resilience and 10, was defined as having the highest level of resilience. No other definitions were provided. Below is the distribution of scores.
Figure 2. Histogram of the number of participants as compared by the SRS. The participants tended to rate their resilience highly: on the Likert-style scale of 0–10, the mean and median self-rated resilience scores were 7.61 and 8.00, respectively (interquartile range, 7.00 - 9.00).

**Age and Resilience**

The primary interest of this project was to investigate the relationship between self-rated resilience and age. A linear regression line is a simple, yet elegant form of visual interpretation of association for relationships, and offers a predictive quality. Regression lines match well with the exploratory nature of this project. In this case, the primary question of whether resilience increases with age was accomplished by analyzing the mean of SRS by the corresponding one year increase in age. Additionally, an estimate of the mean scores over a ten year increase in age was completed.
Figure 3. Plot of self-rated resilience versus age for all of the 348 participants. The plot has been jittered to both the age and the resilience score slightly so that the points may be distinguished.

There is no clear trend of self-rated resilience and age in this sample. The estimated linear regression of self-rated resilience on age is $0.00812$ ($p$-value = 0.195). That is, based on these data, the estimated mean of the SRS increases linearly by 0.0081 points corresponding to a one-year increase in age, over the range of ages in this sample. Equivalently, the estimated mean of the SRS increases linearly by 0.081 points corresponding to a ten-year increase in age, over the range of ages in this sample. The $p$-value indicates that this association is not statistically significant. The correlation between self-rated resilience and age in this sample is $r = 0.0696$, which indicates little correlation between the self-rated resilience score and age.
Increase and Decrease of Resilience Over the Lifetime

Two separate questions, 4 and 5 of the survey, further investigated the relationship between age and resilience in a slightly different manner. The questions asked about perceived increase and decrease of resilience over a lifetime. The below histograms demonstrate the distribution of responses and summary tables are included.

![Histogram of perceived increase in resilience](image)

*Figure 4.* Histogram of the number of participants and perceived increase in resilience over their lifetimes. A score of 0 indicates no increase in resilience.

<table>
<thead>
<tr>
<th>Score</th>
<th>Most Increase</th>
<th>Mid-point</th>
<th>Least Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-10</td>
<td>n = 267, 77%</td>
<td>n = 38, 11%</td>
<td>n = 43, 12%</td>
</tr>
</tbody>
</table>

The majority of participants perceived that resilience had increased over their lifetimes. A score of 8 was the most common choice (n = 74). Of note, ten participants
selected 0, or no increase in resilience, all of whom were female, and their ages were dispersed across the range of age for the sample. The majority of participants who chose less than 5 on the scale were White (n = 39, 91%), however the disparity in sizes between the White and OCE groups was substantial. The remaining scores did not show a significant difference between gender, and patient contact level.

![Histogram](image)

**Figure 5.** Histogram of the number of participants compared to perceived decrease in resilience over their lifetimes. A score of 0 indicates the no decrease in resilience.

Table 4

**Summary of Perceived Decrease in Resilience**

<table>
<thead>
<tr>
<th>Score of 0-4</th>
<th>Score of 5</th>
<th>Score of 6-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Decrease</td>
<td>Mid-point</td>
<td>Most Decrease</td>
</tr>
<tr>
<td>n = 290, 83%</td>
<td>n = 23, .06%</td>
<td>n = 35, 10%</td>
</tr>
</tbody>
</table>

The majority of participants perceived that resilience had not decreased in their lifetimes. The most frequent choice (n = 149) was 0, indicating no decrease in resilience. One participant, a female, chose 10, the most amount of decrease in resilience. No
significant difference occurred for any of the demographic groups with the exception of individuals who chose the most amount of decrease in resilience. In relation to the above histogram (figure 4), the group that selected scores between 6-10, indicating the most amount of decrease in resilience, was comprised of females only, and the majority were in the White ethnicity group (n = 28, 80%).

**Gender and Resilience**

As a secondary interest for this project, gender (self described) was related to the SRS. Below is the distribution.

![Figure 6](image)

*Figure 6.* By considering the resilience score 7, for example, the whole bar represents 98 subjects, 84 of whom are female (shown in grey) and 14 of whom are male (shown in black). Women out-numbered men in the sample (302 and 46, respectively). For each score the height of the grey bar represents the number of females who marked that score, and the height of the black bar represents the number of males who marked that score.
Table 5

*Summary of SRS and Gender*

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>1st quartile</th>
<th>Median</th>
<th>Mean</th>
<th>3rd quartile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>0.00</td>
<td>7.00</td>
<td>8.00</td>
<td>7.56</td>
<td>8.75</td>
<td>10.00</td>
</tr>
<tr>
<td>Males</td>
<td>6.00</td>
<td>7.00</td>
<td>8.00</td>
<td>7.93</td>
<td>9.00</td>
<td>10.00</td>
</tr>
</tbody>
</table>

The minimum score of the self-rated resilience score was 6 for males, substantially higher than the minimum score of 0 for females. Both groups contained participants who selected 10 as a high score.

To further understand the relationship between females and males, and the current levels of resilience, a Welch’s two sample $t$-test was performed. A Welch’s $t$-test was chosen as it does not assume the variability in both samples to be the same, and instead, uses separate estimates of the two variances.

The null hypothesis was that the mean of the self-rated resilience score for males was the same as the mean self-rated resilience score for females signified as:

$H_0: mF = mM$ The Welch-Satterthwaite equation was used to determine the degrees of freedom of the $t$-distribution. The final $t$-test statistic was as follows:

$t(70.36) = -1.99, p = 0.051 (SD \ females = 1.48; \ males = 1.14)$ . In this case, the $p$ value ($p = 0.051$) is right above the traditional cut-off value of $p = 0.05$, indicating that there may be a difference in the mean of the self-rated resilience scores between males and females in this sample. Importantly, the small sample size among males may have affected the result.
Ethnicity and Resilience

Despite the substantial number of participants who chose White as their ethnicity (n = 303, 87%), a stacked histogram was completed to assess the distribution of self-rated resilience score by ethnicity. Due to the small number of participants who chose ethnicities other than White (13%), two groups were formed: White and Other Choice of Ethnicity (OCE), which included those participants who chose an ethnic category other than White alone.

Figure 7. Stacked histogram that shows the distribution of SRS by self-identified ethnicity. As in the stacked histogram for gender (figure 6), considering the resilience score 7, the whole bar represents 98 subjects, 81 of whom identified as White only (shown in grey), and 17 of whom identified as OCE (shown in black). For each resilience score the height of the grey bar represents the number of subjects who identified as White who marked that score, and the height of the black bar represents the number of subjects who were identified in this project as OCE and marked that score.
There is no striking difference in the shape of the distribution of self-rated resilience among the two ethnic groups stratified for this analysis, though admittedly sample of participants who identified as OCE was small.

Table 6

*Summary of SRS and Ethnicity*

<table>
<thead>
<tr>
<th>Choice of Ethnicity</th>
<th>Min</th>
<th>1st quartile</th>
<th>Median</th>
<th>Mean</th>
<th>3rd quartile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Choice of Ethnicity</td>
<td>0.00</td>
<td>7.00</td>
<td>7.00</td>
<td>7.33</td>
<td>8.00</td>
<td>10.00</td>
</tr>
<tr>
<td>White</td>
<td>2.00</td>
<td>7.00</td>
<td>8.00</td>
<td>7.65</td>
<td>9.00</td>
<td>10.00</td>
</tr>
</tbody>
</table>

To further understand the relationship of the self-rated resilience and ethnicity, as with the gender analysis, a Welch’s two-sample t-test was completed, and the computation and interpretation are very similar. The null hypothesis was that the mean resilience score among White and OCE groups was the same: \( H_0: m_W = m_{OCE} \). This hypothesis was evaluated using the data from the survey. The final t-test statistic was \( t(54.43) = -1.24, p = .22 \) (SD = White 1.42; OCE 1.62). The \( p \) value was well above the standard cutoff value of \( p = 0.05 \). The evidence from this dataset did not demonstrate that self-rated resilience score differed across the OCE and White groups in the population of interest. Therefore, the null hypothesis cannot be rejected. This result, however, was based on a small number of OCE participants.
**Level of Patient Contact and Resilience**

A final analysis was completed for patient contact by self-rated resilience score.

Table 7

*Summary of SRS and Level of Patient Contact*

<table>
<thead>
<tr>
<th>Level of Contact</th>
<th>Min</th>
<th>1st quartile</th>
<th>Median</th>
<th>Mean</th>
<th>3rd quartile</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>0.00</td>
<td>7.00</td>
<td>8.00</td>
<td>7.58</td>
<td>9.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Indirect</td>
<td>4.00</td>
<td>7.00</td>
<td>8.00</td>
<td>7.90</td>
<td>9.00</td>
<td>10.00</td>
</tr>
<tr>
<td>None</td>
<td>3.00</td>
<td>7.00</td>
<td>7.00</td>
<td>7.34</td>
<td>8.00</td>
<td>10.00</td>
</tr>
</tbody>
</table>

The group with direct patient contact group was much larger (71%) than the indirect and no contact groups (17.24% and 11.78%, respectfully). Further study is warranted in the future with equal representation of all three groups to determine if differences in resilience are related to the level of patient contact.

**Qualitative Results**

Table 8

*General Themes from the Narrative Questions*

<table>
<thead>
<tr>
<th>Question</th>
<th>Theme</th>
<th>All Subjects (348)</th>
<th>Females (302)</th>
<th>Males (46)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of Resilience</td>
<td>Bounce Back</td>
<td>36.2% (126)</td>
<td>32.5% (98)</td>
<td>60.9% (28)</td>
</tr>
<tr>
<td></td>
<td>Inner Strength</td>
<td>23.0% (80)</td>
<td>13.9% (42)</td>
<td>82.6% (38)</td>
</tr>
<tr>
<td></td>
<td>Perseverance</td>
<td>17.0% (59)</td>
<td>15.2% (46)</td>
<td>28.3% (13)</td>
</tr>
<tr>
<td>Origin of Resilience</td>
<td>Self</td>
<td>40.5% (141)</td>
<td>34.1% (103)</td>
<td>82.6% (38)</td>
</tr>
<tr>
<td></td>
<td>Experience</td>
<td>39.7% (138)</td>
<td>34.4% (104)</td>
<td>73.9% (34)</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>22.7% (79)</td>
<td>13.6% (41)</td>
<td>82.6% (38)</td>
</tr>
<tr>
<td>Life events</td>
<td>Death</td>
<td>29.3% (102)</td>
<td>24.5% (74)</td>
<td>60.9% (28)</td>
</tr>
<tr>
<td></td>
<td>Job</td>
<td>22.7% (79)</td>
<td>16.9% (51)</td>
<td>60.9% (28)</td>
</tr>
<tr>
<td></td>
<td>Children</td>
<td>19.8% (69)</td>
<td>14.9% (45)</td>
<td>52.2% (24)</td>
</tr>
</tbody>
</table>
The above table indicates the prevalence of themes identified in qualitative analysis. For each question, the three most frequent themes are shown as chosen by all participants. All responses that appeared to hold equivalent meaning were included. Percentages were computed for all subjects, and then stratified by gender. The number of participants is given in parentheses. Importantly, because of the disparity between gender group sizes, the percentage of men with similar responses is often much higher than percentages for women, though the number of responses per male group are much smaller.

**Thematic Response for Each Narrative Survey Question**

**Question 1: What does having resilience mean to you?**

*Bounce back.* For all age groups, the most identified definition of resilience was having the ability to bounce back after an adverse event or events (n = 126, 36.2%). This theme was true for both males and females and no discernable difference was noted between ethnicities or job groupings. Representative responses were as follows:

- A resilient person bounces back after facing or experiencing adversity (68 year old female).
- Having the ability to bounce back from something that is hard. Rebounding or springing back, (54 year old female).
- Being able to return to baseline function once a stressor is removed after an appropriate time period, (34 year old male).

*Inner strength.* The second most commonly cited definition of resilience featured themes related to inner strength (n = 80, 23%). The response rate for both genders was the same, but males demonstrated a much higher percentage per gender group (82.6%) than females (13.9%). No substantial difference was noted between ethnic or job groups. Representative responses were as follows:
Being able to withstand something, (35 year old male).

Staying strong through demanding situations; having inner strength, (35 year old female).

Of note, the older participants, over 55 years of age, often noted strength in their definitions, but this theme seemed to have had a transformative effect on the individual, a feature not apparent in younger participants: For example:

Not just surviving adversity, but overcoming it- using its energy to enhance your life. Refusing to allow adversity to beat you down, to make you smaller or less. Transforming adversity and negative experience in such a way you feel grateful it happened to you. And then turning that goodness back into the world and others’ lives in some way, (65 year old female).

**Perseverance.** Closely related to strength, which was often cited along with but sometimes cited separately in the responses was the definition of having perseverance (n = 59, 17%). Those participants who had indirect patient contact had a slightly higher rate of this response, though this did not seem significant. Representative responses were as follows:

Perseverance, being able to endure again, and again, and again, (35 year old female).

Perseverance, to keep on trucking despite difficult, challenging situations, (32 year old female).

Participants who scored at the extreme ends of the level of SRS (question 3) did not have substantially different responses than the majority of the participants.

**Question 2: Where does resilience come from?**

**Self:** The most common theme for all age groups was that resilience comes from within the individual (n = 141, 40.5%). Men chose this response by a much higher percentage than women (82.6% and 34.1%, respectfully). Ethnicity and job classification did not reveal significant differences in responses. Of note, 82 (58%) participants
provided additional responses along with “self.” The responses seemed to reflect an organic nature of resilience and one with some fluency. For these participants, “self” themes seemed to ebb and flow depending on circumstance. Representative responses were as follows:

From your inner self, though mine seems to come and go. It seems like I have it some days and not others, (54 year old female).

I think it comes from deep within, but everything influences it. Sometimes I feel much stronger than other times, I don’t know why. But resilience has something to do with that, (42 year old male).

A 33 year old female provided a detailed response, which appeared to reflect that resilience can manifest differently in different situations:

Depends on the challenge. Physiological resilience comes from a history of good health, environments and habits. Psychological resilience comes from myself, how I view the world, environments, adequate self-care. These may overlap and resilience in one area may or may not coincide with resilience in another.

Other representative responses were as follows:

Your culture, your upbringing, your psychology, how much you care, your life experiences, how much you want something, (56 year old female).

Deep seated set of values, (55 year old female).

Internal locus of control, family, culture of dealing with tough situations in a positive fashion, (50 year old male).

**Experience.** Placing a close second to “self,” the theme of having experiences was the origin of resilience for this sample (n = 138, 39.7%). Experience themes were most often rooted in difficult circumstance in which the participant was able to navigate through and reflect upon after the event. Indeed, many of the responses contained references to having an internal mechanism, in combination with having external experiences which allowed the individual to eventually get past the difficult event or
circumstance. Ethnicity or job classifications groupings did not present significant alternative responses. Representative examples were as follows:


- It comes from within each person. Brought about by facing and overcoming challenges. I have had a lot of them, (49 year old male).

- Resilience comes from rationalizing—drawing from hard times, it always could be worse. There are others worse off than me, perspectives, goals, knowing that my family depends on me, they need me to be resilient (47 year old male).

- To me resilience comes from personal growth, the ability to learn from mistakes, the ability to make right choices, and then re-arranging yourself to be stronger when something happens again that challenges your abilities. Resilience is learned, it is not taught, (35 year old female).

**Biology.** The third most offered theme on the origin of resilience for this sample was seemingly closely linked to both “self” and “experience.” For many of the participants, biology of some sort played a large role in resilience. Often noted in responses were combinations of nature and nurture descriptions. For 79 participants (22.7%), the answer to the origin of resilience was purely a biological one. Males outnumbered females (82.6% and 13.6%, respectfully). More participants below the mean age of 41.8 years of the sample chose “biology” alone as the origin of resilience (n = 45, 57%). No substantial differences were noted for ethnicity or job classification. Representative responses were as follows:

- I believe it’s inborn, (34 year old male).

- I believe that this can be an innate quality in an individual, (33 year old female).

- Personality, (31 year old male).

- Character, it’s intrinsic, (28 year old male).
Extreme Ends of the Self-rated Resilience Scale and Origin of Resilience

Participants who scored at the extreme ends of the level of self-rated resilience scale (question 3) wrote similar answers with several exceptions. Participants who scored themselves 5 or less, were all women (n = 24, .08%, mean age 41.1 years, range 23-59 years). Their ages were well distributed across the range. The participant who scored herself as 0 on the self-rated resilience scale had defined herself as being of mixed ethnicity on the racial demographic question. The group generally defined resilience in themes such as, “belief in yourself,” “having faith,” “being happy,” and “finding meaning in life.” Most of the women in this group chose origin themes that included “self,” and “experience.” Of note, four of the women answered the origin question with a question mark.

Participants at the opposite end of the level of the self-rated resilience scale, scoring themselves 10, meaning the highest amount of resilience were mostly women (n = 21, .07%, mean age of 44 years, range 28-64 years), and five of them were of ethnic origin other than White/Caucasian (Hispanic, East Indian and Mixed). Their ages were well distributed across the range. They chose definitions relating to themes of “strength,” “how I was raised,” “positive attitude,” and “having support.” Men who chose a score of 10 (n = 5, .11%) offered origin themes centered on, “strength,” and “personal character,” though most of their responses also included themes of biological origins.

**Question 6: What life experiences, if any, has changed your resilience in your lifetime?** Many of the participants provided rich and detailed accounts regarding the events that changed their resilience. Representative responses were as follows:

No one has ever asked me this before. I have been through so much, (46 year old female).
Thank you for asking me this, I tend to forget what has happened, (57 year old female).

Overcoming childhood sexual abuse. I don’t talk about it though, (48 year old female).

Parent death at 15, completely on my own at 17 years. Bankruptcy at 20 years. Child birth at 35 years. What didn’t kill me, made me stronger. But no one wants to hear that, (47 year old female).

My daughters were sexually assaulted. It took tons of strength to get through that and I feel resilience got me through it. I didn’t know that then, I didn’t think about it until now, (38 year old female).

My teenage son has taught my wife and I what resilience is. He has threatened and attempted suicide. He has been verbally and physically assaultive to us. Everyday is a new challenge, but we are thankful for him being in our lives. After ten years we still fight everyday to create a positive path for him. We will never give up on him, (44 year old female).

I feel I have less resilience now than prior because I don’t feel any support. I sometimes feel like I am on guard at all times and that there is no safe place. No one wants to hear this, (51 year old female).

The most common themes regarding events that changed resilience were:

**Death.** The theme of death was the most common response (n =102, 29.3%). The participants all worked in a hospital and many were exposed to death as part of their jobs. Indeed, nearly 71% of the participants described themselves as having direct patient contact, yet, only 5 participants (.07%) described a death of a patient or patients as changing their resilience. Majority of those participants, who chose death as a theme, described the deaths of very close friends and/or family members as events that changed their resilience. Representative responses were as follows:

The death of my sister and mother in a short time, having to deal with uncooperative relatives during that time, (65 year old female).

My brother’s death and my diagnosis of cancer, (57 year old female).
The loss of my mother and trying to manage my father’s last years has decreased my resilience, (52 year old female).

Alcoholic father, financial troubles as a kid, my mother’s illness and early death caused by that, (46 year old male).

Having a still born baby, (36 year old female).

**Job stress.** Job stress was the second highest theme chosen by the participants (n = 79, 22.3%). Only five participants actually named their job and job stress was fairly evenly divided among patient contact levels. Of note, none of the participants from the OCE group indicated the job stress theme in their answers. Representative responses were as follows:

Losing jobs, getting another job that didn’t work, (55 year old female).

Being a manager, (48 year old female).

Getting burned out, it’s too much, (48 year old female).

Military deployment, (46 year old male).

Difficult co- workers and bosses, (44 year old female).

Working in stressful situations, (32 year old male).

Trying to work and be there for my family, (28 year old female).

Trying to have a family and a life with a full time job, (26 year old female).

**Children.** For this sample, having children impacted resilience, and was the third highest chosen theme (n = 69, 19.8%). Majority of responders did not indicate whether having children increased or decreased their resilience. Women chose this theme more than men (n = 45, 14.9%, and 24, 52.2% respectively) though the percentage per group is higher for males. With the exception of participants age 60 years old and above, this
theme was fairly evenly spread across age. No significant difference was demonstrated between job groups or ethnic group. Representative responses were as follows:

- Having children! (52 year old female).
- Having a child of my own, (46 year old female).
- Raising kids and getting them through their challenges, (38 year old male).
- Becoming a parent and not getting enough sleep, (28 year old female).

**Different Ages and Common Themes**

This survey question seemed to provide a cathartic experience for some of the participants. Many different themes emerged from this question. Some of the themes seemed especially consistent for different age groups. For example, death of a loved one was common for participants age 40 years and older. Divorce, though not one of the three most common themes was prevalent for participants in the 40-60 year age group. Divorce of parents was a recurring theme throughout all age groups, though not often the first theme described by the participant. Difficulties with work/life balance themes were noted in all age groups, though especially among younger participants.

Themes on health issues of the participant or close family member also occurred throughout all age groups, but were more prevalent after age 40 years. Participants who had endured cancer often wrote about “beating cancer,” or “surviving cancer,” and the tone of their answers indicated that this event had strengthened their resilience.

Interestingly, age was used both as a positive and negative factor for changing resilience.

**Extreme Ends of the Self-rated Resilience Scale and Life Events**

Participants who scored themselves in the 0-5 range on the SRS described “death” themes that changed their resilience. Health issues however, seemed to have a much
larger impact for these participants, especially if the health issues were occurring currently. Additionally, childhood trauma remained a troubling aspect for this group. For example:

   I was abused and I have a life long illness. I think I was beaten for having it, (54 year old female).

   A divorce, death of my grandmother when I was 6 years old, betrayal from my mother when I was a teenager, (48 year old female).

   Those participants who scored themselves with a 10 on the SRS also provided narratives about deaths in their lives. Experience, however, was the most common event theme. They, too, often had experienced hardship, but their narratives highlighted triumph over these events. For example:

   We didn’t have much when I was a kid, times were pretty hard, but I got through it. Age has done a lot to show me that it would take a hell of a lot to destroy me, (64 year old female).

   Being gay has often forced me to be resilient if I wanted to survive. It made me stronger, (46 year old male).
Discussion

The purpose of this project was to describe in a cohesive manner the over-arching definition of resilience, its origin, and events that may have changed resilience for a large sample of adults. The method of this integrated, mixed methods study was to ask a large sample of adults for their views on resilience. Using a convergent parallel design allowed for combining quantitative data derived from Likert-style questions with a qualitative narrative approach. Of primary interest, the relationship of age and resilience was analyzed in an attempt to determine if resilience increases over time, and with age as described by numerous developmental researchers (e.g., Garmezy et al., 1984; Luthar & Brown, 2007; Masten, 2001). Secondarily, the relationship of gender, and resilience was explored. Finally, the relationship of ethnicity and resilience was examined.

Definitions of Resilience and the Events That Changed It

For the majority of the participants of this project, the definition of resilience means having the ability to bounce back from adverse events. Importantly, the majority of the events described as changing resilience for this sample were adverse in nature. Surviving the death of a loved one was a common event for changing resilience for many of the participants. Notably, even if the death occurred when the participant was a child, changes in resilience were remembered.

Stress on the job, regardless of the degree of patient contact, also caused shifts in resilience. The causes of job stressed varied, and only a few participants named very detailed aspects of their jobs that seemed to cause them the most stress, for example a specific task, or the relationship with a particular co-worker. Some of the participants, who named job stress as changing their resilience, used broader descriptors, such as long
hours, high work load demands, and difficult management. The majority of participants, however, did not write any specific reason why their job caused the stress, and thus changed their resilience.

Having children, another common theme, was often ambiguous as to whether it was an adverse event. The general wording and feelings behind the theme of having children was that this event had both positive and negative implications for the participants as they endured the ups and downs of child rearing. Often included in the answers for these participants were words that signified needing, or having strength and stamina. Notably, younger participants seemed to have difficulties juggling careers and family life.

**Bounce Back and Recovery**

A subtle meaning behind the definition of bounce back was that a recovery time was needed before returning to baseline functioning. As this project was retrospective in nature for the participants, their perspective was based on understanding where they were before the adverse event, and where they are currently in their lives. Having or losing resilience appeared to be a process, and it did not occur quickly. For those who described resilience as a bounce back mechanism, participants often saw growth after the events, though in most cases growth took time. Notably, childhood stress, such as divorce of parents or the death of a significant person experienced at a young age, were often in the narratives. Many participants wrote that while going through the adversity, an uncertainty existed as to whether the events were survivable. Many participants, looking back, wondered how they endured. The anonymous nature of this study seemed to provide the cloak needed to allow for expression, as many of the participants stated that the events
that shaped their lives had been painful and often not discussed openly. Many participants described needing a significant amount of time and great effort to move forward. A sense of accomplishment, pride, and a bit of wonderment colored many of the responses.

A point of interest for this study was to determine whether age was related to the level of resilience the participants currently felt. The majority of participants rated themselves as having a high amount of resilience. The analysis did not prove that resilience was related directly to age, by comparing age with the self-rated resilience score. This may have occurred because of desirability bias, and wanting to rate themselves highly, a common difficulty when using self report surveys (Alreck & Settle, 1995). When asked, however, about the amount of increase of resilience over their lifespan, the majority of participants indicated that, indeed, their resilience had grown over time. The perceived increase indicated that resilience did, indeed, change and for the most part increased. Experience may be a more nuanced definition of age. For a majority of this sample of participants, resilience increased in response to adverse experiences. Many of the participants had experienced multiple adverse events.

The ideas that a recovery time is needed to bounce back to regular functioning from adversity, and that resilience seemingly changed over time are more congruent with developmental models than trait-based models (e.g., Bonanno, 2004; Luthar & Brown, 2007). In direct contrast to trait-based theories, the majority of participants defined resilience as having the ability to bounce back with a recovery period from adverse events, and that their resilience increased because of these events (Bonanno, 2004; Seery, 2012). In fact, needing a recovery period is indicative for many trait-based researchers of not having resilience in the first place. As resilience is seen as a static phenomenon for
many trait-based researchers, resilience should not change in response to events (Bonanno, 2004; Luthar et al., 2000). The participants of this study seemed to contradict trait-based theories as their reported resilience increased over their lifetimes in response to events. Far from a static conception, to the participants of this study, resilience seemed to be highly fluid. As many of them described times in their lives when they had resilience, and other times when they did not. Furthermore, for participants who described having ongoing chronic health issues, resilience had declined.

The origin of resilience in this study’s participants appeared to come from the self, and from deep within. External influences and experiences reportedly shaped the amount of resilience a participant had, but the prevalent theme was that it came originally from the core of the individual. For these participants, resilience appeared to be an individual phenomenon. This idea of an internalized origin is congruent with both developmental and trait-based approaches (Davydov et al., 2010). Universally, the participants described resilience in terms of a personal strength, which allowed the participants to overcome the adversity faced. A sense of mastery, triumph, and pride was a common finding in the responses. For those participants who continued to struggle, most often with chronic illness or continued stress, resilience seemed to represent a goal, but currently out of reach.

Gender differences were difficult to interpret due to the disparity between group sizes. Analysis suggested that a difference in perceived resilience may be apparent between the groups; however the small size of the male group may have affected the results. Men scored themselves higher than women did on the self-rated resilience scale, and men used strength-based terminology more often than women to describe resilience.
The sample size of men is very small, and it is possible that had the sample size been larger, a much different picture would be seen. The differences in responses between gender groups, while not ignored needs to be viewed with caution.

Response differences based on ethnicity could not be reliably established as the overwhelmingly predominant group was White/ Caucasian (87%). The distribution of White to OEC on the histogram of the self-rated resilience score appeared to have no significant statistical difference. More research in this area is warranted.
Limitations and Suggestions for Future Research

Several limitations occurred during this research. The response rate was moderately low (35%) (Alreck & Settler, 1995; Heppner et al., 2008). The managers at the hospital, however, stated that the response rate was very high in comparison to other surveys (personal communication, 2014). An additional 50 people had started the survey and did not complete it. No assumption can be made accurately as to the reason; however they had completed the portions of demographic questions but did not complete the actual survey. One possibility was that the first question of the survey required text, and this may have given the impression that the entire survey required text answers which may not have been attractive. Additionally, communication difficulties occurred with some managers, and the expected number of released surveys (approximately 2,000) did not occur.

Disparity in the composition within the gender and ethnicity groups was significant. Females far out numbered male participants (87% and 13%, respectively). The White/Caucasian group was much larger than all other ethnicity groups combined (87% and 13%, respectively). As such, analysis of whether the actual differences in responses occurred because of gender or ethnicity was nearly impossible. All of the results that suggested a difference or not, needed to be understood with caution as the disparities in percentages of the group compositions were so large. This made comparisons between groups challenging. At best, the results from this research suggest that further research is warranted. The age range of the sample, however, was substantial, and understanding the relationship of age and perceived level of resilience was the cornerstone of this project.
A significant quantitative correlation between age and perceived level of resilience was not achieved ($r = .07$). The addition of the perceived increased and decreased levels of resilience over time scales provided a broader picture of the relationship between age and resilience. Majority of the sample (77%) selected responses that indicated their resilience had increased over their lifetimes. The participants also provided rich, detailed accounts of the events that changed their resilience during their lifetimes. The inference is that age and experiences may be highly correlated, and this may suggest that a more nuanced approach is needed to understand the relationship between increasing age and changes in resilience. The wording of the survey questions, though neutrality was attempted, may have led the participant to assume a change in resilience was expected.

Desirability bias, wanting to look good to the researcher, may have played a role in the high scores on the self-rated resilience scale, though a number of participants did choose lower scores. The anonymity of the survey seemed to allow participants to answer in ways that may not have occurred had their identity been known. This, however, is an assumption, although several of the participants noted that, indeed, they felt safe answering under these conditions, especially when describing difficulties with managers and co-workers. Despite assurances to the contrary, many potential participants may have not believed that their responses would remain anonymous, and that the ability to identify them was possible.

**Suggestions for Future Research**

This project was exploratory in nature. As such, the results were broadly based. Research in resilience has thus far focused on select and mostly homogeneous groups of
individuals. Many of the conclusions offered generalized population discussions with methods that did not support such inferences (e.g., Bonanno, 2004). Research with more diverse populations would offer a broader, more complete view of resilience. Assuredly, individuals seem to experience resilience differently. With the exception of Salahuddin and O’Brien’s (2011) efforts to develop a multicultural based resilience survey, little work has been done in viewing the possibility that diverse populations understand resilience quite differently. With the suggestion that resilience can indeed be strengthened (e.g., Bernard, 2004), the acknowledgment that believing resilience is felt and understood in the same way by every one is short-sighted seems essential.

The difficulty of divergent and conflicting definitions remains for researchers, and there is a distinct possibility that a definition proposed by a researcher is not at all related to any meaning the participant may hold. A possibly more useful project would be to ask the participants in a wide ranging, diverse population for their own views to gain further insight. As this project strongly suggested, resilience does change, and learning how it changes may help researchers to suggest ways of strengthening it. Finally, an unexpected finding from this research suggested that illness plays a large role in decreasing resilience. More work in this area may be very helpful to individuals struggling through health challenges.

**Concluding Remarks**

This project was completed through the lens of a social constructivist worldview. As such, it has been my intention throughout this process to allow the participants to guide, shape, and define their meanings of resilience through their lived experiences. The participants defined resilience, its origins, and events that shaped their views for this
project. They provided such rich and detailed narratives that I found myself captivated by their thoughts and personal histories. I held the belief that as I was asking them for their views, it was vital to honor their theories and stories by keeping them at the forefront of this project. I sincerely hope that this has been accomplished.

Holding a social constructivist worldview, as I do, it is equally imperative that I acknowledge that I bring to the table my own stories and theories to this endeavor. Creswell (2009) seemed to agree with this notion as he suggested that the researcher must recognize that personal history and background shapes all interpretation, and that she must acknowledge interpretation flows from personal, cultural, and historical experiences. With this in mind, and fully acknowledging that I see the world and this research through the lens shaped by my history, I offer my own theory of resilience. Creswell and Plano Clark (2011) stated that constructivist writing style is informal and literary in nature. I will proceed in that manner.

The first article I read on the subject of resilience was, “Ordinary Magic,” (Masten, 2001). I read the article a number of years ago when I was contemplating the subject for my dissertation. That period of time, for me, was one of great questioning. A friend had recently committed suicide, in part, because of a mistake she made at work. I remember thinking how easily anyone, including my self, could have made such an error. During this time, too, I vigorously questioned the choice of psychology as my field of study. This was a period where nothing seemed right to me. In a sense, the world, or at least my part in it, seemed skewed and off balanced. The question of how one comes to suicide kept coming up for me. I did not contemplate suicide as an option for me, during
that time, but I wondered how does one get to that point? More importantly, could I get there from where I was?

Resilience is a term that is so often used, it seems to lose meaning. If the outcome of any situation is good then resilience seems to be present. The question becomes, of course, who decides a good outcome? The obvious answer to me, at least, is the determination comes from those who judge. Judgments come from bias, amongst other things, and are often only a reflection of those who judge however flawed that reflection may be. Humans naturally judge all situations as part of their evolutionary survival process (Sapolsky, 1998). Where the difficulty occurs, is what happens directly after that judgment. Do we question the validity of the snap judgment? Does the question of the origin of the judgment come to mind? Or, as so often the case, do we plow ahead and judge who has resilience and who does not based on minimal and often incorrect evidence?

During my friend’s memorial service, several co-workers commented that she had lost her resilience, and that she had just run out of steam. I agreed that her life circumstances were overwhelming but I questioned the lack of resilience. After the memorial service, with this question in mind, I heard the word “resilience” used many times in a variety of settings. The situations were often different, but the common thread of judgment was always present. With no reliable way of validating the presence of resilience, if the outcome was good or even if the person was likable or admired to those who judged, the person demonstrated resilience.

During the beginning phase of my research, it became evident to me that researchers struggled with many of the same difficulties I had, though often they seemed
oblivious to them. Much of the early work focused on a trait-based theory of resilience. A person was either born with resilience or not (e.g., Werner & Smith, 1992). I found Werner and Smith’s (e.g., 2001) later work particularly illuminating as they came to the conclusion, despite their firmly held trait-based beliefs, that many of the children they studied had led normal lives. This fact was true even for those children who had been deemed to have little to no resilience in infancy, and were predicted to live a much less normal existence. I question the idea that anyone can determine if an infant has resilience let alone measure it, but to have the ability to amend a long held theory after more than 30 years of work, as Werner and Smith (2001) did is remarkable.

I do agree with the idea of temperament being present from birth, a theory that many trait-based and developmental researchers hold as evident. Temperament affects the child throughout their lifetime and, therefore, impacts every aspect of life. Resilience, however, comes from more than just temperament. Resilience seems to come from experience and learning. How else can it be explained that despite every indication that those children from the above study who were judged to have little resilience based on temperament alone, grew into adults who functioned in much the same manner as their peers who had been judged resilient?

Developmental researchers seem to agree with the theory that resilience builds over time from experiencing adverse events (e.g., Luthar & Brown, 2007). Many things seem to come into play in developing resilience, such as timing, support, and maturing, but most developmental models focus on the possibility of increasing resilience (e.g., Benard, 2004). Many participants of this study agreed that their resilience has increased over time from their experiences. The area of developmental models that troubles me is
that resilience is “proven” by good outcomes. As above, who decides what a good outcome is? At the very least, the determination of a good outcome should be individualized.

From research, reading the stories from the participants, and constant thinking about resilience, I have come to the following conclusions. Resilience is the ability to bounce back, to get up again and try. It is a protection from breaking as resilience provides flexibility. I think of resilience as it was first used: to signify the strength of ship building materials. The wood of the ship had to be strong, of course, but it had to have a give and take to withstand the turbulence of oceanic storms. Rigidity often causes materials to snap under pressure. Furthermore, resilience seems to be a fluid occurrence, an ebb and flow. A person has times when resilience is high, and times when it is at a low point as evidenced by feelings of being stuck and over-whelmed. Resilience never leaves completely because somehow, most people find a way, even if the way is not one I would choose. That is remarkable.

I had the privilege of witnessing resilience in people who I may have over-looked before as resilient individuals. For the past two years I have been an intern at an inpatient psychiatric ward. The clients come in terrible shape, suffering greatly, and they may come in often. They live lives that I cannot imagine, and yet there is a spark, something that keeps them going despite adverse circumstance. Developmental researchers may not deem the clients’ outcomes as good. Many clients will continue to make the same choices that brought them once they are released. But they leave with more hope, and a bit more upright than when they arrived. Bounce back and ongoing recovery are evident. The hope
is that this phase of their lives will last a bit longer, with a bit more insight gained. Are these good outcomes? How could they not be?

The participants of this project determined that resilience comes from experience. Many named the experience that stood out in their minds as the most pivotal. One participant wrote that resilience came from learning through experience and as such, it cannot be taught by words alone. I agree with these sentiments. With each experience that happens, something is added, even if it is not realized at the time. Learning rarely, if ever, occurs instantaneously. Much as the trees need time to become strong enough to build a ship, we need time to learn. Adversity, for the participants and developmental researchers seems to be the most reliable and strongest teacher. Although some trait-based researchers deem having a recovery time after an adverse event denotes not having resilience, I disagree. It is during recovery that learning often takes place. Learning from experience prepares the way for the next adverse event. For assuredly there will be more.

Masten (2001) called resilience both ordinary and magic. For me, resilience is common as it is in the fibers of living beings. We may have different levels at different times, but getting up again seems to be a condition of being alive. Resilience is also magical. It is the stuff of flexibility and strength, of fortitude and perseverance. Resilience is part of our essence. Life, as we know it, would be impossible without it. This project gave me the ability to witness resilience as ordinary and magical. This has been an experience of true learning.

I cannot say whether my friend had a certain level of resilience, and lost it over time. I can wonder if she was at a low point, or whether she was strong enough to make a statement that perhaps was important to her. I do know that while she was alive, I
witnessed many times deep resilience in her. This is something we share. I, too, have
learned to acknowledge the resilience in me, as I have learned to recognize and marvel at
the resilience in others. Indeed, resilience is ordinary and truly magical.
References


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Appendix A

The Survey
Demographic Questions and the Survey

Demographic Questions

1. What was your age on your last birthday?
2. How do you describe your gender?
3. How do you describe your ethnicity/race? You may choose more than one category.
4. Please describe the contact you have with patients most of the time at work.

Note: Gender had three possible choices: female, male, and another choice with a text box. Ethnicity/race choices used the 2010 Census categories in alphabetical order. Patient contact choices were: direct, face to face contact; indirect or intermittent contact; no direct patient contact.

The Survey

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<th>Question</th>
<th>Response</th>
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<tr>
<td>1. What does having resilience mean to you?</td>
<td>Narrative text</td>
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<tr>
<td>2. Where does resilience come from?</td>
<td>Narrative text</td>
</tr>
<tr>
<td>3. How resilient do you feel?</td>
<td>Likert-style</td>
</tr>
<tr>
<td>4. How much, if any, has your resilience increased over time?</td>
<td>Likert-style</td>
</tr>
<tr>
<td>5. How much, if any, has your resilience decreased over time?</td>
<td>Likert-style</td>
</tr>
<tr>
<td>6. What experiences, if any, has changed your resilience in your life time?</td>
<td>Narrative text</td>
</tr>
</tbody>
</table>

Note: The Likert-style scale questions were numbered 0-10. Identifiers were: 0 = least amount; 10 = most amount. No other descriptors were included.
Appendix B

Disclosure Letters, and Communications
Initial Invitation

Greetings,

My name is Ann Korn. I have been a Respiratory Therapist at Seattle Children’s Hospital for nearly 25 years. I have worked with many of you. I am currently working towards a doctorate degree in psychology. I am studying resilience in adults. Many research projects have focused on resilience, mostly in children. Researchers have defined resilience using their own individual definition and then looked for resilience in those individuals who participated in the project. No universal definition exists for resilience and researchers do not agree what constitutes resilience. None of the research that I have read has actually asked participants how they, themselves, define resilience and how it plays a part in their lives. This is the purpose of my project. I am asking you to help define resilience. As far as I can tell, this is the first research of this kind to be attempted.

You will find attached a very short survey. The survey should take no more than 5-10 minutes to complete. You will note that for demographic purposes I am asking your age, gender, ethnicity and a list of three very broad job categories. No other information will be obtained. I will have no way of knowing who you are or have any way of connecting you to a survey. I will have no way of contacting you. All survey results will be kept in a secure, password protected file. I am sending this survey to several departments, though this project is not a reflection of the hospital and will not be named.
For this type of research a large number of completed surveys from a diverse group are needed.

This survey asks your opinions. The survey should not be stressful for you, but if you feel any need to speak with me or my dissertation chair person, our contact information is listed below. Dr. Suzanne Engelberg, my chair, is a licensed psychologist. Participating in this project is completely voluntary. Your completed survey indicates that you agree to participate. I cannot return any surveys as I will have no way of knowing which one is yours.

Thank you for considering and participating in this project. Your opinions and insight may very well help to define resilience and change the way resilience is studied in future research studies.

Sincerely, Ann Korn

Note. The letter was sent as an attachment to the email greeting.

Email Greeting

Greetings,

My name is Ann Korn. I am a respiratory therapist here at Seattle Children’s Hospital. I have worked with many of you. I am completing my doctoral degree in psychology and my dissertation research focuses on adult views of resilience. The survey has nothing to do with the hospital, but I do have support from your managers. I am asking for your help by completing a very short survey. It should take no longer than 5-10 minutes. This is entirely voluntary and your anonymity is assured. No identifying information except broad demographic questions will be asked. I will have no way of knowing who you are or what department you work for. For more detailed information, please read the attached
letter. Completing the survey indicates you agree to participate. Thank you for your consideration, your participation is vital to my research. The survey will be closed in two weeks.

Any questions please email me.

Best, Ann

**Reminder Email**

Greetings, again,

As you may recall, I sent you an email with a survey last week asking for your views on resilience. Thank you to all of you who have already responded. The time and effort you took will help make this project successful. If you have not had a chance to complete the survey, it only takes about 5 minutes or so. Please consider completing it now. As I have always wondered when receiving a survey, I really can’t identify you in any way. The survey will close this Saturday night at 8 pm. Thanks for your time and efforts,

Any questions or concerns, please email me,

Best, Ann
Appendix C

Internal Review Board (IRB) Approvals
Dear Ann Korn,

As Chair of the Institutional Review Board (IRB) for 'Antioch University Seattle, I am letting you know that the committee has reviewed your Ethics Application. Based on the information presented in your Ethics Application, your study has been approved. Your data collection is approved from 04/15/2014 to 04/14/2015. If your data collection should extend beyond this time period, you are required to submit a Request for Extension Application to the IRB. Any changes in the protocol(s) for this study must be formally requested by submitting a request for amendment from the IRB committee. Any adverse event, should one occur during this study, must be reported immediately to the IRB committee. Please review the IRB forms available for these exceptional circumstances.

Sincerely,

Alejandra Suarez
INSTITUTIONAL REVIEW BOARD

APPLICATION FOR "EXEMPT" DETERMINATION
OR
OTHER STATUS NOT REQUIRING IRB APPROVAL

The activities described in this application require IRB review for the purpose of making an IRB determination that any given activity qualifies for a status that does not require IRB approval.

Submit the completed application by email to: irb@seattlechildrens.org.

Questions should be directed to the IRB email or 206-887-7804.

The IRB determination will be documented in writing after review of the application.

Section I: Project and Contact Information

Project title:

To Bend but Not Break: Adult Views of Resilience

Principal investigator, degree, depth/division, and position

Ann Korn, Psy.D.- C, MA, RRT, NPS, Respiratory Care, Therapist 2

Telephone number, mailstop, and e-mail address

No funding obtained

Section II: Forms/Attachments

☐ Attach all data collection forms/list of variables collected, surveys/questionnaires, or interview questions.

☐ If a protocol/research plan is available, attach for IRB review.

☐ If federally funded and Seattle Children’s (or relying institution) is the prime awardee, attach a copy of the funding proposal.

Section III: Project Summary

Briefly describe in lay language the purpose of the project and the benefits to be gained below.

Provide sufficient information so the IRB can determine if your project meets the criteria for exempt status/other status that does not require IRB approval.

Explain the sources of the data or specimens that will be used in this project.

If you are using existing*, anonymous** data or specimens, explain in detail what data or specimens you will receive for this research project. (*Existing is defined as on the shelf or in the records at the time of IRB application. **Anonymous means there is no way the data or specimens can be linked back to the individual. No direct identifiers or indirect identifiers can be recorded. If you receive any one of the 18 HIPAA identifiers, it is likely that your data/specimens will be considered identifiable. The list of 18 HIPAA identifiers is available for your reference at: NIH Privacy Rule in Research.)

Do not include multiple projects under one application. Each project should have its own application.

Project Summary: Existing research on resilience is fairly scant. No one definition exists, nor are the origins of resilience agreed upon by researchers. The only consistent quality about
resilience research is that the participants have not been asked about their views, the importance of resilience in their own lives and where their resilience came from. There may be a large gap of understanding between researchers and the participants. Up until now, researchers have given questionnaires and then determined if a participant has resilience or not based on having "good outcomes" to adverse events. The researchers, based upon their own theory which is not at all universal, determine whether a good outcome has been achieved. The participant has not been asked about their own views about outcomes. Therefore, the purpose of this project, my dissertation is to ask a large sample of adults about their views of resilience. It is the goal to determine whether a gap exists between research and participant. Assuredly gaps exist amongst researchers.

I work for Seattle Children’s but in no way am I an agent or representative of the hospital for this dissertation project. For the purposes of this project I am not acting in the capacity of being an employee of Seattle Children’s. I have approval from each of the different department managers and Human Resources for this project. The hospital and the names of the departments will not be used in the dissertation. No identifying information will be gathered. Antioch University Seattle requires a separate IRB, which I have applied for.

Section IV: Category of Review

Check the category below that best applies to your project.
You may wish to review the OHRP Human Subjects Regulations Decision Charts for guidance on which category to choose. If your project does not fit within any of the categories described below, the project will likely require IRB approval. Application forms are available here or you may request an IRB consultation.

Categories that do not require IRB approval. Note that usually only ONE category should be selected:

☐ "Not Research" under 45 CFR 46.102(d)
Research means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.
If this determination applies to your project, indicate why the project is not research (select at least one):
☐ Project is not systematic.
☐ Project is not generalizable (note: intent to publish suggests results will be generalizable).
☐ Quality improvement project that does NOT also meet the “research” definition above (see OHRP guidance)
☐ Case report involving 3 or fewer patients.
☐ Other (explanation required): [ ]

☐ Research, but “Not Human Subjects” under 45 CFR 46.102(f)
This overall project (including the work of any co-investigators at other institutions) does not involve obtaining: (1) data through intervention or interaction with the individual; OR (2) identifiable private information. Take note:
• The data/samples you intend to use cannot be collected for purposes of this research.
• Data/samples are not individually identifiable when they cannot be linked to specific individuals by the investigator(s) either directly or indirectly through coding systems (see OHRP guidance here)
  o If any of the 18 HIPAA identifiers will be obtained by investigators, it is likely the data/samples are considered identifiable. The 18 HIPAA identifiers are available here.
diagnostic specimens, if these sources are (check the one that applies):
☐ publicly available or if ☐ the information is recorded in such a manner that subjects
cannot be identified directly or through identifiers linked to the subjects.

Notes: The investigator may view/use identifiable private information, but may not record it with
the information collected for the research. This category does not apply to psychiatric records.
You may also need to request a waiver of HIPAA authorization below.

☐ 5. 45 CFR 46.101(b)(5): Research and demonstration projects which are conducted by or
subject to the approval of DHHS department or agency heads, and which are designed to study,
evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for
obtaining benefits or services under those programs; (iii) possible changes in or alternatives to
those programs or procedures; or (iv) possible changes in methods or levels of payment for
benefits or services under those programs.

Note: Use of this category is rare at Seattle Children’s.

☐ 6. 45 CFR 46.101(b)(6): Taste and food quality evaluation and consumer acceptance
studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that
contains a food ingredient at or below the level and for a use found to be safe, or agricultural
chemical or environmental contaminant at or below the level found to be safe, by the Food and
Drug Administration or approved by the Environmental Protection Agency or the Food Safety and
Inspection Service of the U.S. Department of Agriculture.

Note: Use of this category is rare at Seattle Children’s.

☒ Human subjects research, but Seattle Children’s is “Not Engaged” in Research
Seattle Children’s employees or agents are not “engaged” in human subjects research. If you have
questions about the involvement of multiple institutions in the project, it is strongly suggested that you
request a consultation (see consult request information above). For information about “engagement”,
you may wish to review the CHRP guidance.

Check the boxes below to confirm that Seattle Children’s employees or agents will NOT do any of
the following for this project:
☒ obtain data about individuals for research purposes through intervention or interaction with
them;
☒ obtain individually identifiable private information for research purposes;
☒ obtain the informed consent of human subjects; OR
☒ receive a direct NIH award to support any such research, even if all human subjects
activities will be performed by agents or employees of another institution

If you cannot confirm the preceding statements are all true, you may be “engaged” in human
subjects research. If still feel you are not “engaged in human subjects research”, then include an
explanation why. I will be sending out surveys to 4 different departments at Seattle Children’s.
On the invitation letter there is a line that states the participant consents to having the survey
used in this project if the survey is completed, but I will have no direct contact with anyone
who completes the survey. The survey is going out to a “blanket” or group departmental email
and I will be using Survey Monkey which provides its own URL, I will have no way of knowing
who the participant is or which department the s/he works for.
Section V: HIPAA Compliance

HIPAA rules apply if the investigator is part of a covered entity and is collecting/using/receiving protected health information (PHI) for research purposes, regardless of whether CHRP and/or FDA regulations apply to the project.

- N/A: Activity does not involve access, collection, use, or receipt of protected health information.

- Waiver of Authorization: If you are accessing participant PHI through a medical record and are not interacting with the participant, you should request a waiver of HIPAA authorization. For a waiver, complete the regulatory criteria below:

1. Explain why the use or disclosure of PHI involves no more than a minimal risk to privacy of individuals, based on, at least the presence of the following elements:
   a. An adequate plan to protect the identifiers from improper use and disclosure:
   - [ ]
   b. An adequate plan to destroy identifiers at earliest opportunity consistent with conduct of research:
   - [ ]
   c. Assurances that PHI will not be reused or disclosed to any other party or entity, except as required by law or for authorized oversight of the research:
   - [ ]

2. Explain why the research could not practicably be conducted without the waiver of authorization:

3. Explain why the research could not practicably be conducted without access to and use of the PHI:

If you requested a HIPAA Waiver above, are all members of the research team part of Seattle Children's "work force" (defined as Children's employee, Children's University Medical Group (CUMG) employee, Resident/Fellow working at Children's)?

- [ ] Yes, all members of the research team are Seattle Children's "work force", therefore HIPAA tracking is not required. Please proceed to the next Section.
- [ ] No, one or more members of the research team are not Seattle Children's "work force", therefore HIPAA tracking is required. When you share PHI with researchers who are not part of Children's work force, the disclosures of PHI must be tracked.

- Page 8 of the IRB Information sheet on HIPAA and research explains the tracking requirements for disclosures.

- Authorization Form: If you are collecting PHI and interacting with the participant, you must ask participants to sign a HIPAA authorization form. Be sure to include the HIPAA template form with your submission.

Section VI: SFI Compliance Certification

By virtue of the signature provided in the section below, I attest that all research team members responsible for the design, conduct or reporting of the research have submitted the required Significant Financial Interest (SFI) disclosures to the Office of Research Compliance.

Section VII: Principal Investigator's Statement:

I certify that the information provided in this application is correct, and to the best of my ability to judge, that this research qualifies for exemption or other status not requiring IRB approval.

IRB Exempt/Other Status Application
agree that any future changes to this activity/project will be submitted using a modification request form, before implementation of the changes, to the IRB for review/approval.

Signature___Ann Korn, Psy.D-c, MA, RRT- NPS____Date__3/16/14________________________
(Optional signature if submitted from PI’s e-mail account.)

IRB Concurrence

IRB Signature: ______________________________ Date: 03/16/14

IRB Decision: □ Not Research □ Not Human Subjects Research
□ Exempt; Category ___ □ Not Engaged in Human Subjects Research

HIPAA Determinations:
□ N/A

□ Waived per 45 CFR 164.512(i)). HIPAA Tracking Required: □ No □ Yes
□ Authorization Required