EXTREMELY MEANINGFUL LIVED EVENTS

LINKING TO SURVIVORSHIP

By

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Abstract: The purpose of this study was to examine extremely meaningful lived events recalled by centenarians. Data for this study originated from N = 111 centenarians (n = 43 men; n = 68 women) who participated in Oklahoma 100-year Life Project from May 1, 2013 through May 1, 2016. Mean age was M = 101.44; SD = 2.87 years. All participants were screened for cognitive health status using the Mini-Mental Status Examination-SF (MMSE-SF; M = 12.55; SD = 1.55) to ensure intact memory recall. Hierarchical mapping was used to collect N = 654 (M = 6.90; SD = 2.61) total meaningful lived events reported by centenarians. IBM/SPSS 23.0 was used to analyze data. Lived events like work/employment (18.9%), marriage (13.9%) and child birth (10.6%) seemed to be extremely meaningful events for centenarians. Centenarian women reported a greater proportion of total meaningful events compared to male centenarians (60% versus 40%). Distal life both men and women compared to more recent life events (after turning 60 years) X^2 (1, N = 648) = 24.620, $p < 0.01$. However, centenarian women recalled a significantly greater number of both distal and proximal life events compared to men X^2 (1, N = 648) = 13.502, $p < 0.01$. A good proportion of centenarians (40.5%) acknowledged younger-adulthood as being the most meaningful developmental period of life, X^2 (3, N = 654) = 33.396, $p < 0.01$. Centenarian women recalled a significantly greater number of life events during their younger-adulthood period as compared to men X^2 (3, N = 654) = 19.607, $p < 0.01$. Findings from this study have implications relative to understanding the variation of lived experiences considered meaningful among centenarians. Such information is useful for developing recreational and reminiscence therapies to help improve quality-of-life for long-lived adults.

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CHAPTER I

INTRODUCTION

The United States is home to the greatest number of centenarians. In fact, approximately 72, 000 persons 100 years of age and older reside in the United States in 2015. According to the United States Census Bureau (2007), it is projected that 834,000 centenarians will be living in the United States by 2050 (Martin et al., 2010). Longevity scientists note that future growth in the number of centenarians will result from two processes: (1) Continued bio-medical innovation and advancement in human health and; (2) Persistent reduction in contemporary fertility coupled with a slower mortality rate among persons who survive to advanced older ages (Olshansky, 2013). Such factors have been credited as biological evolutionary processes that contribute to the eradication of disease and eventual life extension (Carnes & Olshansky, 2007). In addition, some centenarian researchers have equated this as a form of successful aging. However, this seems to disregard the pivotal role that life experiences may potentially play relative to contributing human survivorship in longevity. Although there is some evidence to suggest that life events such as marriage and childbirth may be advantageous relative to living long and well (Poulain et al., 2016; Gavrilov, & Gavrilova, 2001), determination of whether extremely meaningful life experiences promote survivorship to 100 years of age

and beyond has remained absent from the literature. Therefore, this study will aim to answer the question: Do extremely meaningful events increase the chance of living beyond 100 years of life?

Centenarians represent persons who have lived through a century of various mundane and traumatic experiences (Poon et al., 2010). Persons living 100 years have endured personal and social challenges. Many have encountered the trials and tribulations of balancing family and work life, witnessed geopolitical conflict and warfare, endured economic recessions, responded to climate change, and encountered global pandemics. Despite such events, centenarians seem to adapt and redefine their lives with a sense of calm, optimism, and renewed meaning (Margrett et al., 2011). Furthermore, life events play an essential role in promoting a sense of accomplishment and satisfaction in life (Poon et al., 2010). Some researchers have credited exposure to "extreme" events to promoting lasting feelings of positivity. Extreme events are best defined as those events which are not immediately forgotten, nor are easily separated from personal identity or existence (Baum, 1998). Therefore, extreme life events create new sources of meaning and can leave persons with evolving feeling of surprise, awe, and wonderment.

Using Life Course Theory (Elder, 1998) as the guiding theoretical framework, the purpose of this study was to determine whether centenarians who have experienced extremely meaningful life events have a greater probability of living longer. Data for this study originated from the Oklahoma 100 Year Life Project. This study involved a total of 111 centenarians residing in Oklahoma who were asked to complete a life event history assessment. Findings from this study will be used to better understand how life events contribute to longevity among in extreme old age. In particular, study results will have

implications relative to informing about geriatric mental health relative to helping gerontological therapists, counselors, and other practitioners improve meaning and quality-of-life for long-lived adults.

CHAPTER II

REVIEW OF LITERATURE

Not everyone will live 100 years, but those fortunate enough to do so will encounter a multitude of individual, familial, and socio-historical experiences. Some of these experiences will be mundane, whereas others are likely be far more traumatic. Various investigators have reported that life events play a vital role in promoting a sense of satisfaction, meaning, and purpose in life among persons living 100 or more years (Poon et al., 2010; Hensley et al., 2012; Oseland et al., 2016). Although there are ample literature detailing life events among long-lived adults, there has been a limited attempt to study events appraised by centenarians as being extremely meaningful. The purpose of this study will be to explore the link between the appraisal of extremely meaningful life events and survivorship of centenarians. Results from this investigation will help improve understanding regarding variation in lived experiences evolving from living an exceptionally long period of time. This has future implications relative to serving as a guide for geriatric practitioners who seek to enhance quality-of-life for exceptionally old adults through counseling services, recreational and reminiscence therapies, and social case management.

Theoretical Basis

Life Course Theory (Elder, 1994; 1998) will serve as the primary theoretical foundation for this study. Life course theory provides a guiding framework for gaining insight into various factors that shape individual's life from birth to death across individual, societal and historical contexts. Elder (1994; 1998) posited that human agency, or the underlying will and motive to make life choices, consider decisions, and meet goals, is a core guiding attribute of human experience. In fact, Elder and Johnson (2003) identified four primary determinants of human agency or what they classified as the "Four T's" of the human life course including: Timing, Transitions, Turning points, and Trajectories.

Relative to timing, humans experience meaningful events at various times across the life course. The timing of such events is often referred to as "on-time" or "off-time" (Kahana & Kahana, 1998). This designation is based on the age and expected developmental stage during which the individual first encounters such events. The timing of events is believed to transcend across individual, social, and historical levels. For instance, individual timing of events is related to normative maturation or age-related which person generally anticipate. For example, certain impairments like hearing deficits, and decrease in vision. Social timing of events is best defined as events experienced as normative social transitions. Such events are often guided by social or cultural norms. In the United States this would mean getting one's driver's license at age 16, been able to legally drink alcohol at age 21, meeting a mate getting married in the mid-20's, or retiring from work at age 65. Meanwhile, historical timing of events reflects collective experience or cohort effects in which persons share perceptions regarding a single

historic episode at one point in time or successive series of events across multiple time periods. For example, Elder (1994) has often referred to the persons, born before 1946 as representing the Greatest Generation to illustrate the collective saliency of historic timing and long-term developmental impact of shared events surrounding the Great Depression and World War II (Elder, 1994).

A second component of the life course involves transition. A life course transition is best defined as the process of moving from one state of change to another (Elder, 1998). Common life course transitions can include experiences such as shifting from being married to being divorced, transitioning from being child-free to being a parent, being employed to being terminated from a job, or movement away from providing care to an aging parent to grieving the loss and death of that parent. Transitions typically occur across various life phases and create variation of meaning in life (Hutchison, 2010). Experiencing transitions in life involve entries or exits of some important persons in our life, change in roles and expectations as well as statuses which hence create variations in life. These variations add meaning to life.

Turning points represent a third element of the human life course (Elder, 1998). A turning signifies an event that represents a major change in life. Such events are often regarded as non-normative or "off-time" life events given that such events represent the introduction of a traumatic disruption, stressor, or crisis. Some experts contend that the average human being will encounter at least one turning point during their lifetime (Hutchison, 2010). Such events add significance and meaning to one's life appraisal. However, this depends on the severity or magnitude of the transition. Rutter (1996) identified three events that could be a turning point in one's life.: (a) life events that

create opportunity; (b) life events that create lasting impressions in person's life and; (c) life events that shape personal meaning and identity. These types of life events are believed to enhance successful aging relative to promoting longevity (Jagust, 2016).

Trajectories represent a final attribute of human agency (Elder, 1998). Trajectories represent stability in life events as they unfold over the long-term (Elder & Johnson, 2003). However, some of these events can be episodic and introduce various transitions in life and it is not necessarily reflecting normative life processes. Trajectories may include a permanent job, settling down in community for an extended number of years, or it long-term acquisition of education, health, and family formation. Trajectories play an important role in adding directionality life. This may be referred to as the ups and downs of living life. From a life course perspective, this refers to the process of experiencing change and stability trajectories such as movement from a family crisis to stability; being unemployed to finding employment, or seeking treatment for a cancer diagnosis to being designated as cancer-free (Cooksey, Menaghan, & Jekielek, 1997).

Gendered Life Course

Moen (2001) theoretically described the human life course as a "gendered life course." Moen theorized that men and women have divergent life experiences, whereby women typically experience fewer meaningful events due to a fewer social opportunity. On the other hand, men have historically afforded greater social mobility to live out and pursue their life goals which affords greater exposure to live events. Therefore, gender remains as one of the most important factors that shape human aging in the life course. When it comes to gender differences, centenarian men face more transitions and greater variability than centenarian women. Hence, these life transitions are often viewed as

gendered perspectives and contribute to performing various gender specific social and occupational roles and responsibilities across adulthood and old age (Thomeer, 2014). However, women generally live longer than men. This is spite of the fact that most old-old women live with chronic health conditions like heart disease and cancer, for the better portion of their older adult life (Thomeer, 2014). Some experts have hypothesized that women live longer than men because they use more problem-focused and emotional-focused coping skills than men (Zeidner, 2006), as well as engage in healthier lifestyle behaviors across their entire life course (Perls, 2017). In fact, non-smoking centenarians have been reported to live longer than those who reported ever-smoking within their lifetime (Nicita-Mauro et al., 2008). Furthermore, centenarians who eat a balanced and nutritious diet high in protein and low in calories are commonly diagnosed with less heart disease. Maintaining emotional connectedness and happiness despite everyday life challenges and engaging in healthy lifestyle behaviors are particularly predominant in countries such as Okinawa, Japan, where more women tend to live longer than men than anywhere else in the world (Buettner, 2014).

Conceptualizing Extreme Events

Some lived experiences are defined as being "extreme." In other words, some life events contribute to long-lasting positive or negative appraisal and emotional rumination (Murphy & Bastian, 2019). Extreme events are not immediately forgotten, nor are they easily separated from personal identity or existence (Baum, 1998). Oftentimes, extreme events contribute to other circumstantial, chance, or random occurrences beyond the mundane or ordinary of one's typical life course (Murphy & Bastian, 2019). Therefore, extreme life events create new sources of meaning and can leave persons with evolving

feeling of surprise, awe, and wonderment. Among many persons who enter old age, events are often recalled as being pleasurable and emotionally fulfilling are often reported as occurring during one's early adult years, particularly when persons were in their 20's (Martin & Smyer, 1990).

With advanced older age, persons are more likely to forget the negative occurrence of life in favor of recalling positive aging experiences (Baum, 1988). Referred to as the "positivity effect," (Tomaszczyk, 2012), old-old adults tend to maintain a bias relative to avoiding recall of negative information. This includes focusing on memories or narratives that conjure a sense of emotional reward or fulfillment (Lockenhoff & Carstensen, 2008). Therefore, emerging adulthood may serve as a selective developmental period in the event history of a centenarian's life that provides increased sense of emotional gratification, while also serving as a time point where one "came of age" and learned "to be". The notion of "being" is a valuable theoretically concept linked to gerotranscendence, which coincides with old-old age (Tornstam, 1997; 2005). However, this is counter to what some researchers have indicated regarding traumatic events and accuracy of detail when such events are recalled (Park, 2010). Traumatic life events have increase in the value as compared to other events (Sommer, Baumister, & Stillman, 1998). It is because traumatic life events like death of a beloved family members or spouse are considered more personal than other life events (Cohen-Mansfield el al., 2010).

There is growing evidence suggesting that the emotional intensity of life events regulates whether such experiences are appraised as meaningful (Kuppens, Tuerlinck, Russell, & Barrett, 2013). Extreme emotional involvement tends to be more powerful and

those events might bring more meaning in one's life. Some examples of extremely emotional life events from Bohanek, et al., (2005) and Heine, Proulx, & Vohs, (2006) are as experiencing tornadoes, death of a spouse, sexual assault, or events such as marriage, or childbirth. Experiencing these extremely emotional life events tend to be appraised as more meaningful than ordinary life events. It is because these events are more memorable and constitute emotional peaks in life which is worthy to include in life story than other events (Fredrickson, 2000). These emotionally extreme events could be either positive or negative. Murphy & Bastian (2019) reported that extremely positive and extremely negative life events do share several commonalities. It includes (1) the same degree of contemplation which is about sharing same level of deep reflective thought; (2) similar level of intensity that is sharing similar degree of emotional excitement; (3) the need of emotional space that is the need of emotional and physical space when in stress or crisis or excitement.

Life Events, Aging, and Longevity

Researchers have considered different types of events to better understand the context of human aging and longevity (Baltes 1980; Silverstein, et al., 2011). There appears to be three sub-classifications of designated life events within longevity research including: (1) normative versus non-normative events; (2) micro, meso and macro events and; (3) proximal versus distal events.

Normative versus Non-Normative Events

Lived events of centenarians have been studied within a framework of normative age-graded, normative history-graded, non-normative age graded and non-normative

history graded events (Baltes, 1980). Kahana and Kahana (1998) cited these events as being “on-time” (normative events) and “off-time” (non-normative events). Normative age-graded life events are those experiences that occur naturally with maturation of the person. These are also called as age-related expected events which include experiencing the normative signs and symptoms such as vision or hearing loss, cognitive decline, limitation in physical abilities, etc. Meanwhile, non-normative age graded life events are those events which tend to uniquely deaccelerate or accelerate underlying aging mechanisms. Some examples of non-normative age graded life events are the death of a child, having heart attack, becoming parentless in childhood, or being promoted on the job at an early age. Normative history graded events are those expected events experienced by large number of populations at a single time period. It includes exposure to institutional domain experiences, including geopolitical affairs, economic stability versus recession, or family caregiving policy. Non-normative history graded are those historical events which are not expected to happen during any moment in time. These events can include natural disasters, earthquake, tornadoes, and plane crash. Such lived events often play a vital role in promoting positive psychosocial responses for sustaining quality-of-life and survivorship among persons who live 100 years or longer (Poon et al., 2010; Hensley et al., 2012; Oseland et al., 2016).

Micro, Meso and Macro Events

Other aging researchers have also classified events from an ecological lens, notably classifying events as being macro, meso or micro level (Silverstein et al., 2011). For example, Silverstein, et al., (2011) framed these events within a life course framework. Silverstein et al. (2011) defined macro events as societal or institutional

events which are related to societal norms and policies, financial aspects and age-demographics. Macro events experienced by centenarians include social entitlement policies and regulations involving Social Security, Medicare, and Medicaid, and other retirement and health matters (Walker, 2006). These events impact a larger proportion of population at any given point of time. Meso-events are institutional events related to family, education, work or recreational activities (Walker, 2006). These events play a major role in transition of life and gives one certain direction in life. Micro events comprise of personal events related to physical, mental, social and economic part of life that each individual experience in their daily life (Walker, 2006). These events are related to individual experience and perception regarding well-being. These events are evolved as the normal part of individual growth and development.

Proximal versus Distal Events

Several centenarian researchers have further considered the influence of distal versus proximal life events relative to the impact and "timing" of life experiences in exceptional old age. Proximal events are best defined as recent or contemporaneous in nature and occur within one's current developmental stage of life. Such events are closer in time and memory. However, distal events tend to represent retrospective experience or the recall of event-exposure that may have occurred over the past decade or longer (Cho, et al., 2015). Longevity researchers have designated distal events as having a "lingering effect" relative to the level of stress or adversity the event may have influenced (Shmotkin, Berkovich, & Cohen, 2006). Hence, these proximal or distal events could lead to positive or negative life experiences. Investigators have acknowledged that proximal life events are typically associated with experiencing negative developmental

outcome whereas distal events are associated with experiencing positive outcomes (Martin, Rosa & Poon, 2011).

Centenarian Appraisal of Life Events

There is some growing evidence that centenarian appraisal of life events is linked to cultural-identity and meaning (Rosa et al. 2014). For example, marriage provides a higher degree meaning in the lives of centenarians in the United States; whereas work and retirement seem to generate the most meaning among Japanese centenarians (Rosa et al., 2014). Centenarians in the United States tend to maintain a positive and preferential attitude towards appraising marital experiences and family events. However, Japanese centenarians tend to focus on individual productivity in meeting former work demands or retirement goals. Investigator have noted that past employment contributes to financial stability in old and very old age, which directly and indirectly enhances proximal sense of personal accomplishment, life satisfaction, and psychological meaning in life. (Bishop et al., 2010; Garasky et al., 2012). Interestingly, investigators have reported that 54% Japanese centenarians have very close relationships with their families and less than 7% of them participated in non-family gatherings (MacDonald, 2007). This suggests that it is very important for Japanese centenarians to maintain positive family relations. MacDonald (2007) concluded that the memories of going to work and providing for one's family in the past may further improve positive family identify and relations in the present. Thus, the value of work is essential to preserving an ideal culture of family flourishing during one's old and very old age in Japan.

Beyond family life, individual health represents another life domain and experience of great value for many centenarians (Freeman, Garcia, & Marston, 2013).

Centenarians often outlast infectious diseases, which would have otherwise limited human longevity (Freeman et al., 2013). Longevity experts believe that this reflects the inheritance of genetics which helps protect the centenarian against the noxious impact of disease and reduces risk of premature death (Sebastiani, & Perls, 2012). Although centenarians have been reported to be genetically protected from health conditions and better able to regulate emotional disturbances than other age groups in the population, they do commonly cite limited functional mobility as being problematic for life engagement (Buono, Urciuoli, & Leo, 1998). Therefore, it is possible that negative health perceptions may be indicative of a major turning point in the ability to social engage and experience life among centenarians (Cappeliez, Beaupre, and Robitaille., 2008). Perhaps, a lack of life experience may diminish one's ability to survive to age 100 and beyond.

Essential Life Events and Centenarian Survivorship

Life events have long been defined as a process comprising the interplay of antecedents, duration, contexts, and outcomes (Reese & Smyer, 1983). Outliving one's familiar family and social supports can transform life opportunity. Centenarians are one of the special and important groups of populations who have faced various positive and negative events over many decades of their life. Martin, Rosa, and Poon (2011) reported that marriage, having children, employment and retirement represented the most essential life events for centenarian survivorship in the United States. Meanwhile, centenarian survivorship is often associated with other underlying variables such as personality and cognition. Terracciano et al., (2006) asserted that higher levels of conscientiousness, extroverted but lower levels of neuroticism are positively significant to long-term survival among centenarians. Martin et al., (2006) also asserted that centenarians who

exhibited personality states that were more relaxed and reserved were essential for coping with the challenges of longevity, as well as helping contribute to a longer life.

Healthy cognitive status may also represent a key underlying explanation of survivorship among centenarians. For instance, high performance on cognitive screening tools, such as the Mini Mental Status Examination (MMSE), has been reported as a key predictor centenarian survivorship beyond 100 years of age (Mossakowska et al., 2014). One suggested explanation for this finding stems from the fact that cognitively impaired centenarians have difficulty eating required meals, adhering to physician directives for prescribed medications, and maintaining physical activity. This places cognitively impaired centenarians more at risk for mortality stemming from malnutrition, congestive heart failure, diabetes, or falling (Rajpathak et al., 2011).

Research Question and Hypotheses

Based on the literature, a key aim of this study was to answer the question: Do extremely meaningful lived experiences improve survivorship among persons living 100 years? To answer this question, the main aim of this study was to connect reported extremely meaningful lived events and compare it with the total number of days' centenarians have lived.

The key objective for looking out this link is related to four main hypotheses:

H1: Distal events: marriage, employment, and child birth will represent the top "3" extremely meaningful life events among centenarians;

H2: Centenarians will report their younger adult years (20's) as more fulfilling than other years;

H3: Centenarians men will experience a greater number of meaningful lived events than centenarians' women;

H4: Experiencing extremely meaningful events will contribute to long-term survivorship;

CHAPTER III

METHODOLOGY

Participants

Data for this study was originated from Oklahoma 100 Year Life Project. This study was conducted from May 1, 2013, through May 1, 2016. Inclusion criteria for participation in this study consisted of three conditions: 1.) Participants had to be within 6 months of their 100th birthday; 2.) Participants had to be a current resident of Oklahoma and; 3.) Participants had to pass the Mini-Mental Status Examination-Brief Version (MMSE-SF; Folstein, Folstein, White, & Messer, 2010), a standardized screening tool for determining cognitive orientation. Convenience sampling methods were used to identify and recruit participants. Participants were identified through Oklahoma Centenarians, Inc., Oklahoma State University Family and Consumer Sciences Extension outlets, and local news media. A total of 131 centenarians were identified. A total of 18 participants (13.7%) including n = 1 man and n = 17 women, did not meet full criteria for participation. These participants failed to achieve a satisfactory score on the MMSE-SF necessary to be considered cognitively oriented. Average participant scores on MMSE-

SF were 12.55 with a standard deviation of 1.55. Another $n = 2$ participant voluntarily dropped out and refused to participate in the study. This resulted in a final sample of N = 111 ($n = 43$ males and $n = 68$ females) centenarian participants. Mean age of participants was $M = 101.44$; $SD = 2.87$ years.

Procedures

Participants were asked to complete a one-to-one semi-structured survey interview which included a baseline survey assessment, oral history interview, and follow-up assessment. For purpose of this study, baseline survey assessment data was analyzed. A key component of the baseline survey involves an evaluation of socio-demographic background information and a life event analysis. A life event assessment was accomplished using a hierarchical mapping technique which involved inquiry of meaningful life event across three specific levels or tiers. First, participants were asked to recall the extremely meaningful events that significantly shaped their life today. Participants were asked to think of events that were so emotionally positive or negative and meaningful that the experience could never be forgotten. Second, participants were asked to recall emotionally meaningful events that made a difference in their life. Participants were asked to think of positive and negative experiences that were emotionally meaningful enough to create periodic memories of the event. Third, participants were asked to recall other emotionally meaningful life events. In particular, participants were asked to recall positive and negative events considered to be meaningful but not as emotionally salient relative to warrant strong memories regarding the experience. After identifying individual events across the three tiers, participants were asked to indicate which events they considered the most meaningful across the three tiers.

Participants were further asked to indicate their age and life stage at the time the event occurred, whether they often think about the event, and whether they are willing to share the story of the event with others. Participants recalled a total of N = 654 meaningful life events across the three tiers. For purposes of this study, only the most meaningful events/ extremely meaningful events were considered, suggesting that the more meaningful events one has the more likely they will survive.

Measures

Standardized assessments were used to evaluate individual sociodemographic characteristics among participants including age, sex, marital status, education, perceived health status, and cognitive health status. Finally, all participants were tracked across time for purposes of recording and calculating death dates and the timing of death. This death date was used to form an indicator of survivorship to reflect the outcome of longevity.

Socio-demographics: Single-item indicators including age, gender, race, education, marital status were assessed. Age was used as a continuous variable, whereas sex consisted of a dichotomous indicator (0 = Male and 1 = Female). All other variables were evaluated as categorical indicators. Participants were asked to indicated their race/ethnicity where 1 = European American; 2 = African American; 3 = Hispanic/Latino; 4 = American Indian; 5 = Asian/Asian American; 6 = Native Hawaiian/Pacific Islander; 7 = Alaskan Native; 8 = Bi/Multi-racial; and 9 = Other. Participants were also asked to indicate their marital status as being 1 = Never married; 2 = Married; 3 = Divorced; 4 = Separated; and 5 = Widowed. Participants were asked to indicate their educational level as 1 = Grade school; 2 = Some high school; 3 = High

school diploma; 4 = Vocation degree/trade school; 5 = Some college; 6 = Associate arts degree; 7 = College degree; 8 = Some post graduate education; and 9 = Graduate degree.

Perceived Health Status: Perceived health status was measured using a self-reported single-item indicator. Participants were originally asked to rate their current health status on a 4-point Likert scale, where *0 = Poor, 2 = Good, 3 = Fair,* and *5 = Excellent.*

Cognitive Health Status: Participants were assessed using the Mini-Mental Status Examination (MMSE-SF; Folstein, Folstein, White, & Messer, 2010), a standardized screening tool for determining cognitive orientation. To be fit for this study, participants had to get the score of $\geq$11.

Survivorship: Survivorship was calculated and used as a primary outcome of longevity. The total years of age or the total number of years lived served as the primary evaluation of survivorship/longevity. Follow-up was conducted with members of participant families and the Oklahoma Centenarians Inc. to acquire death dates in analyzing survivorship. To calculate the total number of years lived, an online calculator called "*Days Calculator: Days Between Two Dates*" (Time and Date AS, 1995-2020) was used. This calculator gives the days, months, and years between two dates which include the start date but excludes the end date in the calculation.

Analytical Statistics: IBM/SPSS (Statistical Package for Social Sciences) was used to analyze data for this particular study. Analysis was completed on four steps.

To test H1, descriptive statistics like cross-tabulations and bar-graphs were utilized by conducting a mean, frequencies, and standard deviations relative to gaining insights into demographic characteristics and total number of events reported within all three tiers. Demographic variables like age, race/ethnicity, sex, educational level, self-

reported health, and cognitive orientation were used in this analysis. In addition, for total number of life events, after looking for the events reported in all three tiers, the type of distal events reported as the top "3" extremely meaningful including marriage, work or employment and child birth were considered in this study to look for long-term survivorship.

To test H2 and H3, chi-square testing was utilized to determine significant difference in life events relative to developmental life stage when events were experienced, as well as significant gender difference associated with recall of life events.

To test H4, independent t-test was used to consider the link between extreme meaningful life events and survivorship after 100 years of age. For purpose of this study, this was represented by categorizing age as below 103 years and above 103 years of age. Extremely meaningful events were coded as 1 = meaningful events (events that falls under tier 1) and 0 = not meaningful events (events that fall under tier 2 and tier 3). These events were compared with the total days lived by centenarians.

CHAPTER IV

RESULTS

Sample demographics have been summarized in table 1. Participants in this study included $N = 111$ centenarians ($M = 100.81$; $SD = 1.48$). There were 68 females (61.3%) and 43 males (38.7%) who participated in this study. Among participants, a total of n = 12 centenarians were still living at the time of this analysis (n = 8 women; n = 4 men). The majority of respondents reported being widowed (80.2%) with remaining participants indicated that they were with either currently married (11.7%), divorced (6.3%), or never married (1.8%). In addition, a greater proportion of participants indicated their race/ethnicity as being White-Caucasian (78.4%), whereas remaining participants indicated their race/ethnicity as being African-American (7.2%), American Indian (1.8%), and Multi-racial (12.6%). Finally, participants were asked to rate their current health status. Overall, 65.8% responded that they were in good health, 17.1% in excellent health status and 17.1% had fair/poor health status. Chi-square test was conducted to determine gender difference across the demographic variables relative to marital status, race, education, and overall perceived health (shown in table 2). Men and women differ significantly relative to marital status X^2 (3, N = 654) = 32.035, $p < 0.001$

and race/ethnicity X^2 (3, N = 654) = 21.278, $p < 0.001$ and did not differ significant relative to education and perceived health. Chi-square testing was further conducted to explore significant differences in perceived health across demographic variables (shown in table 2). Marital status, X^2 (9, N = 654) = 63.017, $p < 0.001$, race/ethnicity X^2 (9, N = 654) = 47.266, $p < 0.001$, and education X^2 (3, N = 654) = 16.088, $p = 0.001$ emerged significantly different relative to overall perceived health.

Participants reported a total of N = 651 of meaningful lived events across three hierarchical tiers including: Tier 1 (i.e., extremely meaningful life events not easily forgotten in life); Tier 2 (i.e., important but less meaningful events thought about only periodically) and; Tier 3 (i.e., events only meaningful enough to recall if asked). A summary of reported events has been provided in Figure 1. A comparison of recalled events has been provided relative to proportion in Figure 2. Across all recalled meaningful events, Tier 1 type events represented 55.04% of all recalled meaningful events. Participants recalled an average of M = 3.68; SD = 1.45 Tier 1 events. Within Tier 1, the most commonly reported extremely meaningful events consisted of (1) work or employment experiences (18.9%), (2) marital or romantic relationships (13.9%), (3) birth of child (10.6%), and (4) dying and death encounter (9.2%) (shown in figure 1). Meanwhile, commonly reported intermediate or Tier 2 (*M = 1.71*; *SD = 1.17*) events among sample participants included (1) work or employment (24.7%), (2) family events (13.9%) like starting a family, moving to a new place, raising kids, and attending son's graduation (3) athletics, sports or leisure activities (11.4%), and (4) personal achievements or awards (10.1%) (shown in figure 1). Finally, Tier 3 or peripheral events were considered (*M = 1.51*; *SD = 1.28*). Frequently mentioned events in Tier 3 across the

sample included: (1) work/employment (16.5%), (2) athletics (15.0%), and (3) family events (12.0%) (see Figure 1). Some other events reported in all three tiers included (1) education (4.4%), (2) health (1.37%), (3) other miscellaneous activities (5.19%) involving travel or vacation, and (4) historical events (5.04%) like the Great Depression, the Dust Bowl, JFK assassination, Civil Rights Movement, and World War II. Across all three tiers, work/employment related events appeared to be mentioned with the most frequency by centenarians.

Gender difference in total number of reported extremely meaningful events (Tier 1) were considered (Table 4). Centenarian women reported a greater proportion of total meaningful events compared to men (55.04% versus 44.96%). Chi-square testing was conducted to confirm whether significant gender differences persisted in the reporting of extremely meaningful events. However, women and men did not significantly differ relative to the overall number of extremely meaningful events in life. Thus, men and women appear to be similar relative to the total number of extremely meaningful events they recalled.

Reported meaningful events were also categorized based on historical timing in the individual life course. Proximal historical events were events reported by centenarians as having occurred more recently during older adulthood years (i.e., after turning 60 years of age), whereas distal historical events included meaningful experiences reported by centenarians as being experienced prior to older adulthood (i.e., before turning age 60). This distinction of events as past versus contemporaneous in the historical timing of individual life events has commonly been advocated in previous life event research (Krause, 2004; Cho et al., 2015). Comparative descriptive statistics of proximal versus

distal historical events have been presented in Table 3. Out of total events reported across all centenarian participants, 19.14% were proximal historical events (after turning 60 years) and 80.86% were distal historical events (before turning 6o years). Based on an aggregated proportion of events across levels of meaningfulness, distal events accounted for 48.6% events in tier 1, 17.1% events in tier 2, and 15.1% events in tier 3. A Chi-square test was conducted to confirm significant differences in the reporting of proximal versus distal historical events. Chi-square testing emerged significant, X^2 (1, N = 648) = 24.620, $p < 0.01$ (Table 3). Thus, centenarians are significantly more likely to consider distal historical experiences as being more meaningful than proximal historical events. An additional Chi-square test was conducted to determine any gender differences in the recall of proximal versus distal historical events. Centenarian women recalled a significantly greater number of distal events as compared centenarian men X^2 (1, N = 648) = 13.502, $p < 0.01$ (Table 4). However, centenarians' men recalled a greater proportions of distal life events compared to centenarian women (87.89 % versus 76.28 %). Thus, although centenarian women were significantly more likely to recall a greater number of meaningful, it appears centenarian men recall a greater proportions of past meaningful events compared to women.

In addition to the timing of events, the developmental periods of life during which meaningful events happened was further considered. Table 3 represents the frequency of events across developmental period which includes childhood (up to 18 years), emerging/younger adulthood (19-29 years), adulthood (30-59 years), and older adulthood (60 years and above). A greater proportion of recalled events by centenarians occurred during young adulthood years (33.6%), whereas older adulthood period had the least

recalled meaningful lived events (18.6%). Chi-square testing revealed that centenarians are significantly more likely to report younger adulthood as being a more meaningful event-filled developmental period of life, X^2 (3, N = 654) = 33.396, $p < 0.01$ (Table 3). Further analyses were conducted to identify any gender differences reflecting the developmental period during which meaningful events occurred. Centenarian women reported a significantly greater number of meaningful events as having occurred during young adulthood compared to their male counterparts, X^2 (3, N = 654) = 19.607, $p < 0.01$ (Table 4). However, centenarian men recalled a higher proportion of meaningful events stemming from their younger adulthood compared to women (40.31% versus 29.26%). Hence, centenarian women are more likely to recall a greater number of events during their young adult years as being more meaningful as compared to men and men recalled a greater proportion of events occurring at younger adulthood as compared to women.

The final hypothesis of this study was to explore the interplay between extremely meaningful events and long-term survivorship. Among (N = 111) centenarians in this study, a total 53 (47.74%) lived less than 103 years old and 58 (52.26%) lived more than 103 years. Among those who lived more than 103 years, 12 centenarians (10.8%) are still living. An independent t-test was conducted to determine significance of reported meaningful events and days lived. Days lived were divided by using a cut-off point of 103 years old. This test did not show any significant relationship between meaningful events and their survivorship, t (109) = 1.140, $p = 0.257$. Therefore, considering only extremely meaningful lived events did not provide enough evidence of long-term survivorship of centenarians.

CHAPTER V

DISCUSSION

The purpose of this study was to determine the link between extremely meaningful lived events with long-term survivorship among centenarians. Five key findings emerged out of this study relative to centenarians and their connection to meaningful lived events. First, life events surrounding work/employment, marriage, and child birth appear to be extremely meaningful for persons living 100 years and beyond. Second, centenarian women appear to recall a significantly greater number of meaningful events than centenarian men. Third, events that happened during one's distant past seem to remain significantly more meaningful even at age 100 and beyond than more recent lived experiences. Interestingly, centenarian women in this study recalled significantly more distal events compared to centenarian men. Fourth, results from this study suggest that younger adulthood is the most meaningful event-filled period of life for both centenarian men and women. However, centenarian women recalled a significantly greater proportion of events during this developmental stage of life as compared to centenarian men. Finally, experiencing extremely meaningful events was not associated with the long-term survivorship after reaching 100 years of age.

Extremely Meaningful Events

Extremely emotional meaningful events linked to marriage, childbirth, employment, and death represent vital events which strengthen sense of meaning in one's life (Bohanek, et al., 2005; Fredrickson, 2000; Martin et al., 2011). Rosa et al., (2014) cited cross-cultural differences regarding event types considered meaningful. In particular, marriage tends to provide the highest level of meaning among centenarians in the United States; whereas work and retirement tend to produce more meaning for centenarians living in Japan. However, results from this study seem to slightly contradict this reality. The current study involved centenarians residing in Oklahoma who cited work/employment as the most frequently mentioned meaningful life event. Marriage appeared to have a secondary priority of meaning. This finding is very well fitted in the concept of theory of gerotranscendence (Tornstam, 1997; 2005). Theory of gerotranscendence believes on positive aging which aids in supporting restorative and well-being part of life as well as promoting meaningfulness in life of aging populations. Persons in very late life are less focused about setting and reaching future life goals and more engaged in resolving which past life achievements have benefited their life the most, particularly meaningful accomplishments in the domain of work (Rajani & Jawaid., 2015). Therefore, acknowledging work as the most meaningful event in life may reflect a process of resolution and acceptance, which is a normative developmental activity of gerotranscendence.

Developmental Stage and Meaningful Lived Events

A second hypothesis of this study suggested that centenarians would report younger adulthood period as the most meaningful event-related developmental period of

life. Martin & Smyer (1990) reported that very old adults tend to report younger adulthood as an emotionally fulfilling phase of life. The original hypothesis was confirmed. Results from this study indicated that centenarians recalled a significantly greater number of extremely meaningful events in their younger adult years as compared to other developmental periods of life. Centenarians tend to express much pride when asked to talk and share stories of marriage, childbirth or first employment compared to other events (Koch et al., 2007). Such events are often connected to normative occurrence during the young adult phase of life. Therefore, results seemed to indicate that the young-adult years may be a dense developmental "coming of age" period, during which centenarians experienced many novel life events for the first time.

Gender Difference in Meaningful Life Events

Moen (2001) advanced the concept of a gendered life course. Gendered life course theory states that men and women have varying experiences in their life, which contribute to women experiencing fewer life events because of limited social opportunity and inequity, whereas men experience more events given they experience early exposure to social opportunities which affords advantage. One of the hypotheses of this study was to examine if centenarian men experienced a greater number of meaningful events than centenarian women. Results seemed to refute the theoretical proposition of a gendered life course. In fact, centenarian women recalled a greater number of total meaningful events as compared to centenarian men in each developmental stage of life. It is assumed that centenarian women in the current study represent a cohort which spent the majority of life housebound and taking care of household, children and other families. In some cases, older women representing this cohort often confront greater emotional challenges

linked to depressive mood, worry, and anxiety compared to their male counterparts (Carmel, 2019). So, to cope up with the depressive mood, worry and anxiety, women might be wanting more social support to exchange their life experiences and life events with other people. Hence, women would create more number of social ties to express their feelings as compared to men counterpart. Therefore, women in this study may have been more socially connected. Perhaps, the fact of being socially affiliated with family, and friends may have allowed them to experience on a more meaningful level through micro processes (e.g., marriage, child birth, and home/community) rather than macro processes (e.g., civic duties, and community policy). However, it may not hold true that all those events were extremely meaningful in occurrence.

Results from this study also revealed that centenarian women recalled a significantly greater number of both distal (before turning 60 years) and proximal events (after turning 60 years) compared to centenarian men. It is plausible to assume that this finding may represent a selection effect reflective of positivity bias. In particular, very old men might be more selective and specific of what they consider as meaningful compared to women (Carstensen, 2001). According to socio-emotional selectivity theory, the old-old adults may view the timing of their future as "limited" (Carstensen, 1999). Thus, they may become more selective relative to what they may communicate, as well as whom they may share information. Theoretically, old-old adults may be more inclined to rely on sharing information that provides them with the greatest emotional feelings of satisfaction about life. Hence, old-old men may endorse a selective few positive events which tend to be more positive in nature. Therefore, further studies are needed to confirm this contradiction regarding the gendered life course in very old age.

Meaningful Events and Survivorship

Some researchers have claimed that meaningful life event experiences contribute to continued survivorship among centenarians (Poulain et al., 2016; Gavrilov, & Gavrilova, 2001). For instance, being engaged in agricultural profession and having more than four children after turning 30 years of age are reportedly linked with long-term survivorship among centenarians (Gavrilov & Gavrilova, 2012). Further, the experience of marriage seems to benefit centenarian survival. Yet, result from this study did not support such findings. Experiencing meaningful lived events did not emerge as a significant indicator of whether centenarians would continue to live longer after turning 100 years of age. It is often the case that centenarians who have maintained physical and mental functioning, find life to be satisfying and purposeful, and continued to socially engage with family and community members continue to live in the long-term (Freeman et al., 2013; Poon et al., 2010). In addition, survivorship of centenarians is more likely to be due to genetics, dietary and lifestyle habits, and personality traits than just simply experiencing a life well-lived (Willcox et al., 2006). Regarding life style to live longer, one of the studies mentioned that centenarians gave an advice of modification in life styles like being active, eating balanced diet, hardworking, engaging on community events, and assisting others in the community and the most important thing is to be stress free and moving on with life (Koch et al., 2007). Future research is still needed to further examine long-term micro versus macro patterns connected to the functioning of meaningful events relative to the will-to-continue living.

Limitations

Although this study has some interesting findings, some limitations should be pointed out. First, there have been limited studies attempted in the past which have explored about extremely meaningful lived events of centenarians. Therefore, it was challenging for to find literatures to support some of the results. Second, this study utilized a convenience sampling technique within a cross-sectional study design. A cross-sectional design does not allow for longitudinal follow-up relative to considering patterns or change in the meaning assigned to life events. Third, participants were screened for cognitive status. This may have contributed to a healthier and more selective sample of centenarians who were healthier and more willing to participate in this study. Results may not be generalizable to centenarians who may be experiencing impaired physical or mental health conditions. Fourth, researchers have noted the reality of a "positivity bias" in which older adults avoid discussing negative life events but favor recalling positive experiences (Tomaszczyk, 2012). Therefore, it is plausible that a "positivity bias" might have been evident in the retrospective recall of events among study participants. This may have resulted in the identification of more positively-based meaningful events rather than negative but meaning-evoking life experiences. Finally, it is well known in the literature that episodic memory abilities decline with aging (Nyberg et al., 2012). Data for this study relied on retrospective memory recall of events. It is likely that the accuracy of recalling the occurrence and details of various events among some centenarian participants might have been limited. Caution should be taken when interpreting results involving age and development stage of meaningful event occurrence. However, results from this study do help support usefulness of autobiographical memory in helping to

identify and explain relevant distal and proximal lived experiences that provide salient meaning in extreme old age.

Implications and Future Direction

Results from this study have applied implications relative to informing gerontological therapists, counselors, geriatric social workers, recreational therapists, and others practitioners of the importance engaging very old adults in a life review of extremely meaningful events. Such practices can be used to help bolster the sense of meaning and quality-of-life for long-lived adults. This study further advances the understanding of age and gender variation in meaningful lived experiences that occur across a century of living life. Future investigators should focus on further differentiating the timing and relevance of event-types such as normative versus non-normative age-graded historical events, as well as social or family cultural influences that may contribute to micro, meso, and macro lived experiences. Researchers need to place greater emphasis on understanding longitudinal patterns in lived experiences that may contribute to continued survivorship.

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APPENDICES

Table 1.

Frequencies, Mean, and Standard Deviations of Sample Demographics

		Time 1 (N=111)		
Variables	Frequencies	Percentage (%)	Mean	Standard Deviation
Age			100.81	1.48
Gender				
Men	43	38.7		
Women	68	61.3		
Marital Status				
Married	13	11.7		
Widowed	89	80.2		
Divorce	7	6.3		
Never Married	2	1.8		
Ethnicity				
Caucasian/White	87	78.4		
African American	8	7.2		
American-Indian	2	1.8		
Multi-race	14	12.6		
Education				
Less Than High	37	33.3		
High School	36	32.4		
College	13	11.7		
Graduate	25	22.6		
Perceived Health				
Poor	2	1.8		
Fair	17	15.3		
Good	73	65.8		
Excellent	19	17.1		
Cognitive Status			12.55	1.55

Table 2.

Chi-square test of demographic variables with perceived health and gender (N = 111)

	Variables	Chi-square value	df
Gender	Marital Status	32.035***	3
	Race	21.278***	3
	Education	1.467 (0.226)	1
	Perceived Health	6.186 (0.103)	3
Perceived Health	Marital Status	63.017***	9
	Race	42.266***	9
	Education	16.088**	3
	Gender	6.186 (0.103)	3

***p<0.001 **p = 0.001

Table 3.

Life Stage and Total Meaningful Lived Events

	Not Meaningful	%	Meaningful	%	Total	%	Chi-square	df
Timing of Events								
Distal Events	209	72.32	315	87.74	524	80.86	24.620***	1
Proximal Events	80	27.68	44	12.26	124	19.14		
Total	289	100	359	100	648	100		
Life Stage								
Childhood	55	18.9	90	25	145	22.3	33.396***	3
Emerging Adulthood	73	25.1	146	40.6	219	33.6		
Adulthood	88	30.2	78	21.7	166	25.5		
Older Adulthood	75	25.8	46	12.7	121	18.6		
Total	291	100	360	100	651	100		

***$p<0.001$

Table 4.

Gender Differences and Total Meaningful Lived Events

	Men	%	Women	%	Total	%	Chi-square	df
Total Meaningful Lived Events								
Meaningful	144	55.38	216	55.00	360	55.04	0.020 (0.888)	1
Not meaningful	116	44.62	178	45.00	294	44.96		
Total	260	100	394	100	654	100		
Timing of Events								
Distal Historical Events	225	87.89	299	76.28	524	80.86	13.502***	1
Proximal Historical Events	31	12.11	93	23.72	124	19.14		
Total	256	100	392	100	648	100		
Developmental Stage								
Childhood	53	20.54	92	23.41	145	22.27	19.607***	3
Emerging Adulthood	104	40.31	115	29.26	219	33.64		
Adulthood	72	27.91	94	23.92	166	25.50		
Older Adulthood	29	11.24	92	23.41	121	18.59		
Total	258	100	393	100	651	100		

***$p<0.001$

Figure 1.

Total Events Types

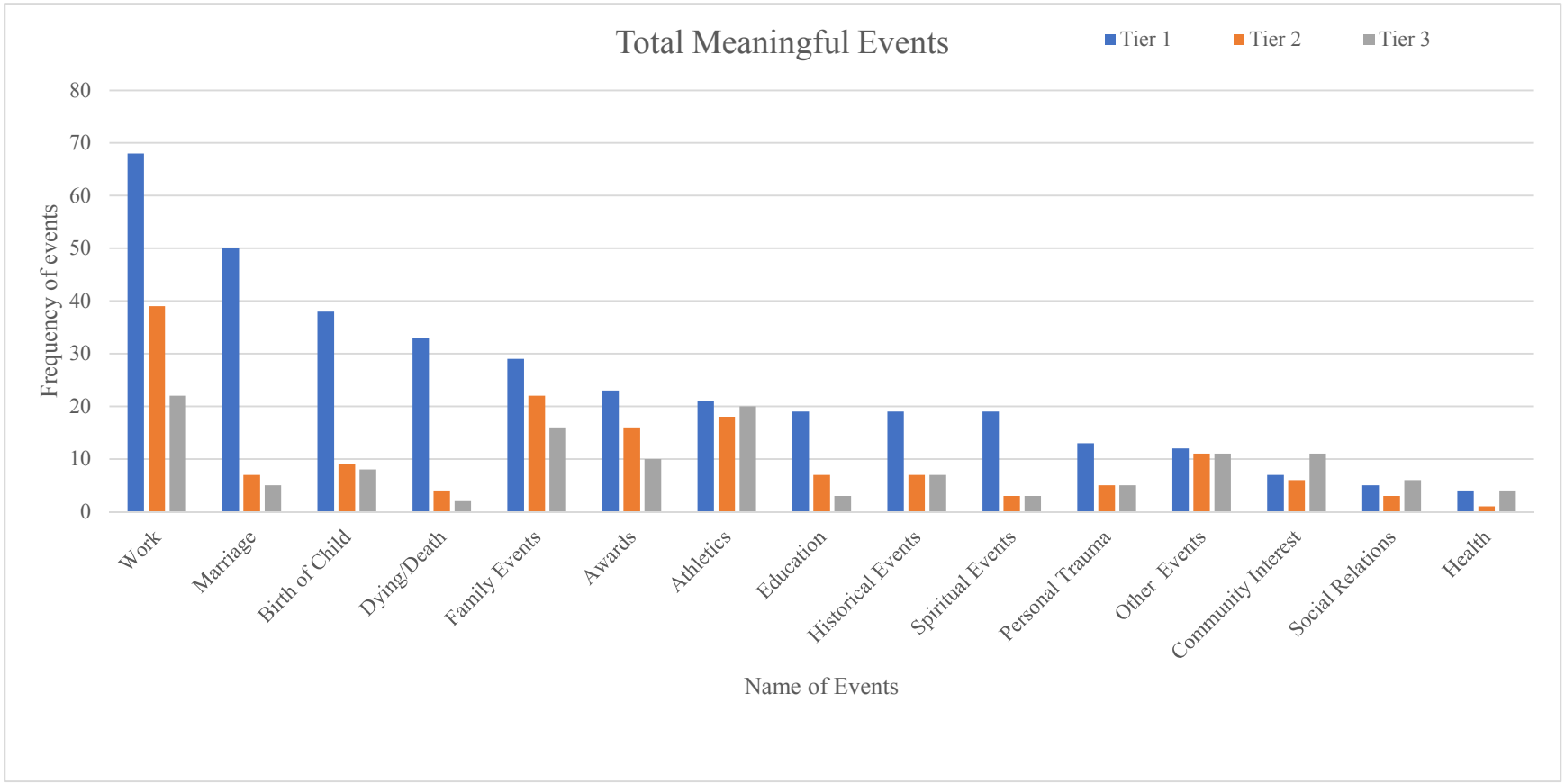
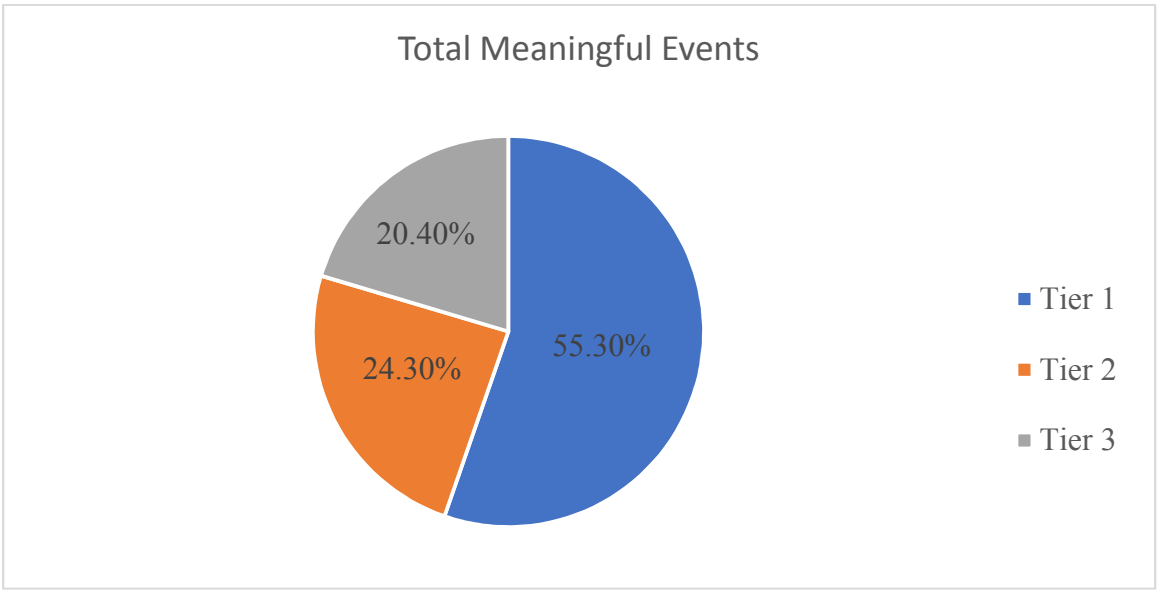


Figure 2.

Total Proportions of Meaningful Events



Oklahoma State University Institutional Review Board

Date	Thursday, February 14, 2019	**Protocol Expires:**	**2/13/2020**

IRB Application No: HE1338

Proposal Title: Oklahoma's Oldest Citizens: The Oklahoma 100 Year Life Project 2.0

Reviewed and Processed as: Expedited **Continuation**

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Alex Bishop
233 HES
Stillwater, OK 74078

Tanya D. Finchum
207 Library
Stillwater, OK 74078

Approvals are valid until the expiration date, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

Enrollment closed subjects still in follow-up. One withdrawal due to health. No reportable events, complaints, or new/additional funding.

Remove Dr. Pearson-Little and Dr. Beach as Co-Pis

Oklahoma State University, Institutional Review Board — Thursday, February 14, 2019 Date

Oklahoma State University Institutional Review Board

Date:	07/01/2020
Application Number:	IRB-20-307
Proposal Title:	Extremely Meaningful Lived Events Linking to Survivorship
Principal Investigator:	Jyoti Bhatta
Co-Investigator(s):	
Faculty Adviser:	Alex Bishop
Project Coordinator:	
Research Assistant(s):	
Processed as:	Not Human Subjects Research

Status Recommended by Reviewer(s): Closed

Based on the information provided in this application, the OSU-Stillwater IRB has determined that your project does not qualify as human subject research as defined in 45 CFR 46.102 (d) and (f) and is not subject to oversight by the OSU IRB. Should you have any questions or concerns, please do not hesitate to contact the IRB office at 405-744-3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

Demographics

Read: I would now like to ask you a few questions about your social and demographic background.

1. **Gender:** _____Male _____Female

2. **Race/Ethnic Background**

_____White/White-Caucasian

_____ Black or African American

_____ Hispanic/Latino Origin

_____ American Indian

_____ Asian or Asian-American

_____ Native Hawaiian and Pacific Islander

_____ Alaska Native

_____Two or More Races/Multi-racial (**Specify**: _____)

_____ Other (Specify_____)

3. **Education**

_____ Grade school (K-8)

_____ Some high school
_____ High school diploma
_____ Trade school or vocational degree
_____ Some college

_____ Associate Arts degree

_____ College degree
_____Some post graduate education
_____ Graduate degree
_____Ph.D./Doctoral degree

Total years of education: _____

4. **Marital Status**

____Never married
____Married If so, since (year)_____
____Divorced If so, since (year)_____
____Separated If so, since (year)_____
____Widowed If so, since (year)_____

5. <u>Occupation</u>

a. What kind of work have you done most of your life: _____?

(1) Farm/general laborer **b.) Total Years in line of work**: _____

(2) Unskilled/Homemaker
(3) Farmer 50+ acres
(4) Semi-skilled/Operative
(5) Skilled/Foreman
(6) Clerical, sales, technical
(7) Service
(8) Manager/Administrator/Supervisor
(9) Professional

6. Health

a. How would you rate your overall health at the present time?

____Excellent ____Good ____Fair ____Poo

AGE VALIDATION

PARTICIPANT AGE: _____

Read: Persons 100 years of age and older often possess various documents or records which legally verify or authenticate their date or birth and/or age. Do you have any of the following types of documents or records that confirm the age you say you are?

1.) First, do you have any of the following documented sources which provide a legally recorded and authenticated date of birth and/or age that can be physically viewed for confirmation?				
TIER I : Legal/Authenticated Records of Birth/Age	**Proof**	**Date of Birth**	**Place of Birth**	**Age**
Birth Certificate	YES NO			
Marriage license	YES NO			
Legal divorce record(s)	YES NO			
Baptismal record(s)	YES NO			
Citizenship/Immigration record(s) or paper(s)	YES NO			
Immigration papers	YES NO			
Death record(s)	YES NO			
Other:				

NOTES:

2.) Second, do you have any of the following documented sources with an official or authorized date of birth and/or age that can be physically viewed for confirmation?

TIER II	**Proof**	**Date of Birth**	**Place of Birth**	**Age**
Driver's license/State ID	YES NO			
Passport/Visa	YES NO			
Voter registration or identification card	YES NO			
Military ID	YES NO			
Tax register/document	YES NO			
Family genealogy record (e.g., family bible, book, tree	YES NO			
Child's birth certificate	YES NO			
Membership ID card (e.g., union, civic club, insurance)	YES NO			

NOTES:

3.) **Third, do you have any of the following documented sources that may indicate your date of birth or age relative to events that may have occurred (e.g., birth, death, employment, migration, hospitalization)?**

TIER III	**Proof**	**Date of Birth**	**Place of Birth**	**Age**
Census record(s)/form(s)	YES NO			
Education/grade record(s)	YES NO			
Employment/retirement record(s)	YES NO			
Family burial record(s)	YES NO			
Marital/divorce record(s)	YES NO			
Medical record(s)	YES NO			
Insurance record(s)	YES NO			
Court record(s)	YES NO			
Family/guardian reference(s)	YES NO			
Other:	YES NO			

NOTES:

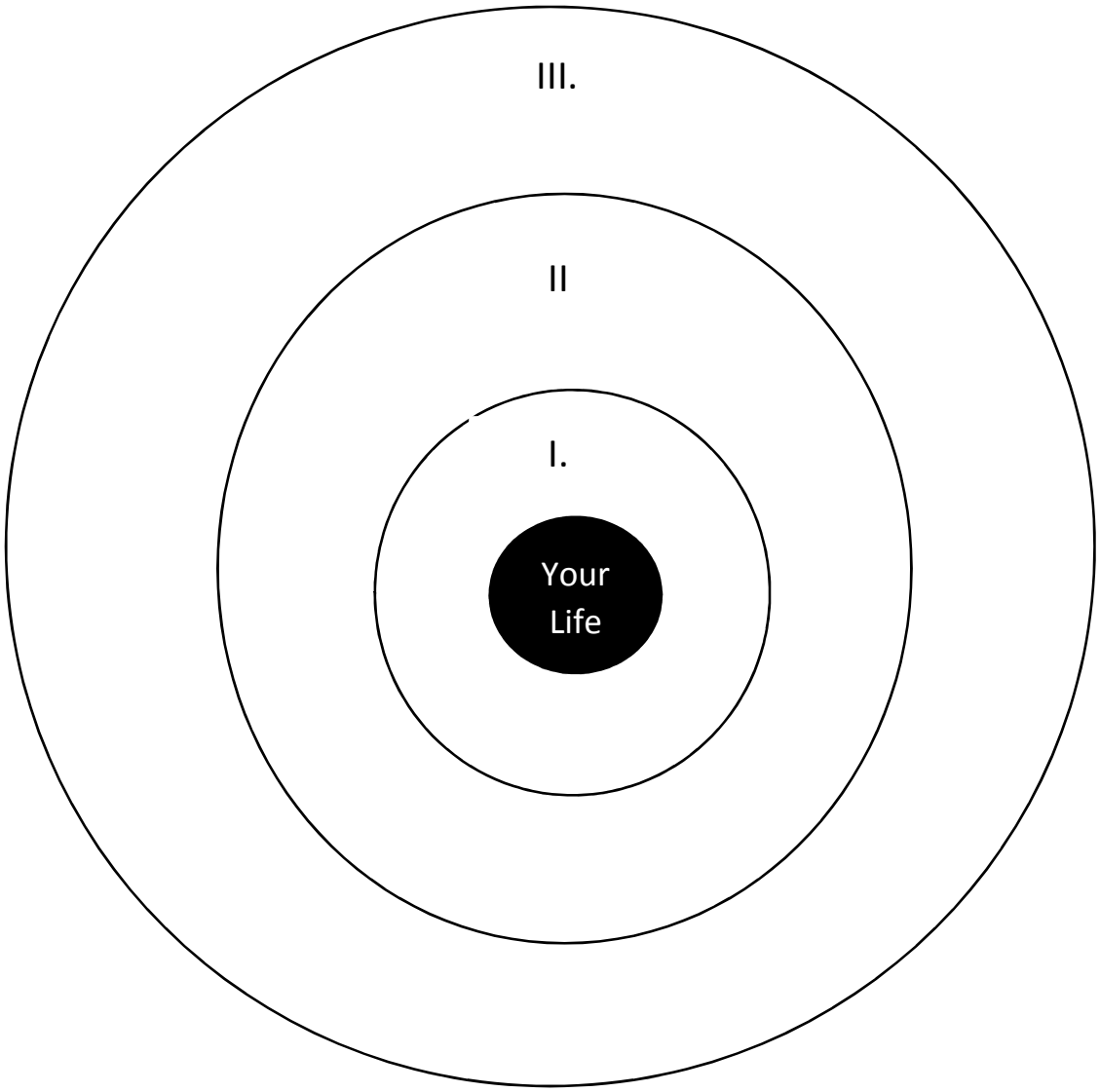
LIFE EVENTS: PART I

Think about past and current life events and experiences that have been emotionally enduring and important to you. Then, complete the following for each circle designated as "I," "II," and "III":

Circle I: Think of those events and experiences that are so emotionally meaningful and important to you that it is hard to imagine how life may have turned out without them. List these events in "CIRCLE I."

Circle II: Think of those events and experiences that may not be as emotionally meaningful yet remain important to you. List these events in "CIRCLE II."

Circle III: Think of those events and experiences you have not already mentioned but which are important enough for you to mention. List these events in "CIRCLE III."


III.
II
I.
Your
Life

LIFE EVENTS (SUPPLEMENT-CI)

CIRCLE I: EVENT	AGE	STAGE C A YA AD MAD OAD	POS/NEG + / -	CONTEMPLATION How often do you spend time thinking about this event?	LEGACY How often do you talk about this event with others (e.g. family, friends)?
		C A YA AD MAD OAD	+ -	Never Rarely Neutral Often Always 1 2 3 4 5	Never Rarely Neutral Often Always 1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5

LIFE EVENTS (SUPPLEMENT-CII)

CIRCLE II: EVENT	AGE	STAGE C A YA AD MAD OAD	POS/NEG + / -	CONTEMPLATION How often do you spend time thinking about this event?	LEGACY How often do you talk about this event with others (e.g., family, friends)?
		C A YA AD MAD OAD	+ -	Never Rarely Neutral Often Always 1 2 3 4 5	Never Rarely Neutral Often Always 1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5

LIFE EVENTS (SUPPLEMENT-CIII)

CIRCLE III: EVENT	AGE	STAGE C A YA AD MAD OAD	POS/NEG + / -	CONTEMPLATION How often do you spend time thinking about this event?	LEGACY How often do you talk about this event with others (e.g., family, friends)?
		C A YA AD MAD OAD	+ -	Never Rarely Neutral Often Always 1 2 3 4 5	Never Rarely Neutral Often Always 1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5
		C A YA AD MAD OAD	+ -	1 2 3 4 5	1 2 3 4 5

VITA

Jyoti Bhatta

Candidate for the Degree of

Master of Science

Thesis: EXTREMELY MEANINGFUL LIVED EVENTS LINKING TO SURVIVORSHIP

Major Field: Human Development and Family Sciences

Biographical:

Education:

Completed the requirements for the Master of Science in Human Development and Family Sciences at Oklahoma State University, Stillwater, Oklahoma in July, 2020.

Completed the requirements for the Bachelor of Science in Nursing at Rajiv Gandhi University of Health Sciences, Bangalore, India in 2015.

Experience:

Graduate Teaching Assistant, Human Development and Family Sciences, August 2018 – May 2020

Graduate Research Assistant, Human Development and Family Sciences, January 2019 – May 2020