EFFECTIVENESS OF LIFESPAN INTEGRATION ON HOMELESS WOMEN
WITH ANXIETY AT A SEATTLE AREA SHELTER

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Abstract

The purpose of this mixed-methodology study was to explore Lifespan Integration as a treatment modality for homeless women at a rehabilitation shelter. The women had histories of trauma, intimate partner violence, addiction, mental illness, and psychosocial issues. This research utilized Lifespan Integration with this population in order to improve anxiety-related symptoms and increase coping skills. The researcher recruited 23 women from a local Seattle area women’s shelter. Each participant was randomly assigned to a treatment or control group. All participants completed the Beck Anxiety Inventory, Ways of Coping Questionnaire, and a demographic questionnaire before treatment. The women attended one-hour therapy sessions for six weeks. Those in the treatment group received four weeks of Lifespan Integration treatment as a therapeutic intervention, while the control group did not receive Lifespan Integration interventions.

At the end of treatment, participants in the treatment group responded to open-ended questions in semi-structured qualitative interviews investigating their experience with this treatment modality. All participants completed the Beck Anxiety Inventory and Ways of Coping Questionnaire post-treatment. Those who did and did not receive Lifespan Integration were compared on anxiety and coping strategies before and after treatment. To assess the relationship between BAI and WCQ scores, a correlational analysis was conducted. The researcher analyzed qualitative interview data to investigate participants’ experiences and perceptions of Lifespan Integration treatment. The quantitative results indicated no statistical evidence of changes in anxiety and coping skills. However, the qualitative results supported the efficacy of Lifespan Integration treatment on anxiety and coping. The quantitative research findings suggested that according to the BAI results
and WCQ results, the women in the treatment group did not experience a reduction in their symptoms of anxiety or an improvement in their coping skills as compared to those women in the control group. However, after thematic analysis of the qualitative interviews, there were suggestions of improvements in those areas, specifically with the use of Lifespan Integration intervention as a treatment strategy.

*Keywords*: Lifespan Integration, homeless women, coping, anxiety
EFFECTIVENESS OF LIFESPAN INTEGRATION

Table of Contents

Acknowledgments.............................................................................................................. vi
List of Appendices........................................................................................................... viii
List of Tables ..................................................................................................................... ix
Chapter 1: Introduction ........................................................................................................1
  Literature Review.......................................................................................................1
  Rationale ..................................................................................................................19
  Research Question and Hypotheses ........................................................................ 20
Chapter 2: Methods ........................................................................................................... 23
  Research Question and Hypotheses ........................................................................ 24
  Participants .............................................................................................................. 26
  Materials and Procedures ......................................................................................... 29
  Data Collection ....................................................................................................... 35
  Summary ................................................................................................................. 36
Chapter 3: Results ............................................................................................................. 38
  Data Analysis Strategy ............................................................................................ 38
  Findings .................................................................................................................... 43
  Quantitative Results ............................................................................................... 44
  Qualitative Results .................................................................................................. 48
  Summary ................................................................................................................. 56
Chapter 4: Discussion ....................................................................................................... 61
  Interpretation ............................................................................................................ 63
  Integration of Findings With Previous Research ....................................................72
Limitations of the Current Study ................................................................. 74
Future Directions and Recommendations ...................................................... 78
Conclusions .................................................................................................. 79
References .................................................................................................... 81
Appendices .................................................................................................... 96
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List of Appendices

Appendix A: Recruitment Letter and Informed Consent Form ........................................96
Appendix B: Demographic Questionnaire .......................................................................100
Appendix C: Ways of Coping Questionnaire .................................................................103
Appendix D: Interview Protocol ......................................................................................108
Appendix E: Secondary Coder Statement ........................................................................110
Appendix F: Quantitative Data Tables: Reliability ........................................................112
Appendix G: Quantitative Data Tables: Hypothesis Testing ...........................................120
List of Tables

Table 1: Demographics Summary of Treatment (LI) and Control Groups..................45

Table F1: Reliability Testing of Internal Consistency Using Cronbach’s Alpha on the Pre-
Test and Post-Test for the BAI and WCQ......................................................113

Table F2: BAI Test-Retest Investigation of Total Sample Reliability Using Question-by-
Question Pearson Correlation on Numerical Scores..............................................114

Table F3: BAI Test-Retest Investigation of LI Sample Reliability Using Question-by-
Question Pearson Correlations on Numerical Scores........................................115

Table F4: BAI Test-Retest Investigation of Control Sample Reliability Using Question-
by-Question Pearson Correlations on Numerical Scores...........................................116

Table F5: WCQ Test-Retest Investigation of Total Sample Reliability Using Question-
by-Question Pearson Correlations on Raw Scores..................................................117

Table F6: WCQ Test-Retest Investigation of LI Sample Reliability Using Question-by-
Question Pearson Correlations on Raw Scores.........................................................118

Table F7: WCQ Test-Retest Investigation of Control Sample Reliability Using Question-
by-Question Pearson Correlations on Raw Scores..................................................119

Table G1: BAI Post-Test Frequencies and Percentages per Score Category for Ordinal
Category Score Assessment.............................................................................121

Table G2: BAI Pre-Test Frequencies and Percentages per Score Category for Ordinal
Category Score Assessment............................................................................121

Table G3: Base Descriptive Statistics for BAI Ordinal Categorical Scores...............122

Table G4: Base Descriptive Statistics, Including Raw and Adjusted Means and Mean
Difference for BAI Raw Sample Totals, LI and Control Groups.........................123

Table G5: Base Descriptive Statistics, Including Raw and Adjusted Means and Mean
Difference for WCQ-PR Raw Sample Totals, LI and Control Groups...124

Table G6: Base Descriptive Statistics, Including Raw and Adjusted Means and Mean
Difference for WCQ-PR Relative Sample Totals, LI and Control Groups....125

Table G7: Base Descriptive Statistics, Including Raw and Adjusted Means and Mean
Difference for BAI and WCQ-PR Sample Totals, LI and Control Groups....126

Table G8: ANCOVA and Mann-Whitney U Hypothesis Testing for the BAI and WCQ-
PR Scale..........................................................................................................126
Table G9: BAI/WCQ-PR Post-Test Correlation Using Pearson and Spearman's Rank Correlation Coefficients on Raw Post-Test Scores
Chapter One: Introduction

The issues faced by homeless women are complex and often go beyond the monetary needs of shelter, sustenance, and clothing. Aside from housing issues, there is an agreement by the medical and mental health communities that treating mental health is essential for overcoming homelessness and to reintegrate these individuals back into society (National Alliance to End Homelessness, 2016b; Reinhardt et al., 2011). Often serious psychological issues are prevalent among homeless women due to childhood trauma, domestic violence, and addictions. Additionally, psychosocial stressors for homeless women are exacerbated due to child custody and life on the street. Due to the complexity of these problems, there are a variety of needs and barriers that exist in treatment to accommodate this population of women, and further investigation into effective treatment strategies is needed.

Literature Review

Homelessness. In the United States, 36.5% of the homeless population is comprised of families (U.S. Department of Housing and Urban Development [HUD], 2016). These families contain an average of three people, in 60% of cases as a mother with two children (HUD, 2016). Most of these homeless families are sheltered—185,824 (90.5%)—and 20,462 (9.5%) are unsheltered, living in cars, abandoned buildings, and under bridges (HUD, 2016). Homeless families with children are dominated by women or girls—60%. Of this percentage, 60% are children under 18 and 40% are women 18 and over (HUD, 2016).

Homeless parenting by single independent women can cause stress and an array of psychosocial issues; the care of children can be difficult (Paquette & Bassuk, 2009).
To succeed in this role, a single independent woman must be an employed worker, parent, and homemaker with sufficient financial resources and sufficient social supports to provide for the food, clothing, medical care, child care, and education of her children (Paquette & Bassuk, 2009). Few have been able to succeed. For example, researchers have noted that while 60% of these single independent women and 40% of men are parents, only 65% of these women and 7% of these men live with their children (Burt et al., 1999). In a 15-month research study, only one in three homeless mothers was found to be able to maintain custody of her children (Zlotnick, Tam, & Robertson, 2004).

Many women, living alone in a shelter, who are mentally ill, have had their children taken away by Child Protective Services, have been forced to separate from their children due to poverty, or have adult children (Paquette & Bassuk, 2009). Families of the homeless are frequently complex and nontraditional for a variety of reasons, including substance use disorders (SUDs), mental illness, requirements of shelters, children of multiple partnerships, and government custody requirements (Barrow & Laborde, 2008). Additionally, the family structure of the homeless can substantially change over time, with high rates of family separation due to involuntary incarceration, parental hospitalization, SUD, abusive relationships, inadequate child support from a male parent, and exclusion of older boys from some shelters (Barrow & Lawinski, 2009).

The homeless population in the United States is estimated to be 1.6 million individuals (National Alliance to End Homelessness, 2016a), although the long-term trend has been declining in recent years, according to the U.S. Department of Housing and Urban Development (HUD, 2016). From 2010 to 2016, homelessness in the United States declined by more than 72,000 people, an 11% decline (HUD, 2016). According to
Point-in-Time data from HUD, 206,286 people in families were homeless on a single night in January of 2015. More than 500,000 people in over 160,000 families used emergency shelters in 2014, according to the United States Interagency Council on Homelessness (2016). There are more individuals who are homeless (63.5%) than families (36.5%), although the proportion of individuals in shelters (52.5%) is just slightly greater than the proportion of families (47.4%). The overwhelming majority (69.3%) of all homeless individuals and families reside in shelters, although there are many more unsheltered individuals (88.2%) than families (11.8%) (HUD, 2016). Additionally, the greater proportion of the homeless population is African American (49%), compared to Caucasians (35%) and Hispanic (13%) (Notaro, Khan, Kim, Nasaruddin, & Desai, 2013). While there is a 60% to 40% prevalence of males over females in the total population of homeless, there is a 60% to 40% prevalence of females over males among the population of homeless families with children (HUD, 2016).

Homelessness is a major global public health concern (Baggett, O’Connell, Singer, & Rigotti, 2010; HUD, 2016). For more than 50 years, researchers have focused on mental disorders and addiction affecting the safety and well-being of those who find themselves in these circumstances (Fazel, Khosla, Doll, & Geddes, 2008; Fichter & Quadfieg, 2001; Plumb, 2000; Turnbull, Muckle, & Masters, 2007). The lack of a safe, secure, and stable shelter disrupts virtually all of the fundamental functions of living such as working, sleeping, preparing meals, caring for children, eating, and bathing (Turnbull et al., 2007). Moreover, many unsheltered homeless individuals lack what most consider basic necessities such as phone service, mail service, kitchens in which to store and prepare food, televisions and radios for entertainment, news, and education. Those who
live in shelters lack the simple benefits of privacy. Homeless individuals must forgo many of the things and experiences that make life convenient, safe, efficient, entertaining, and worth living, such as spending discretionary time in pursuit of their own happiness and well-being. Many studies link poverty or low socioeconomic status (SES) and depression (Gilman, Kawachi, Fitzmaurice, & Buka, 2002; Lorant et al., 2003; Scarinci et al., 2002).

In the Seattle area, the 2015 Street Count Results (Seattle/King County Coalition of Homelessness, 2016) found that 2,993 people were in transitional housing, 3,282 were in shelters, and 3,772 were on the streets, with the number of individuals on the street without a shelter having a 21% increase from the prior year (Seattle/King County Coalition of Homelessness, 2016). Attributing to this issue are the circumstances due to poverty, unemployment, untreated mental illness or addiction, and domestic violence (Seattle/King County Coalition of Homelessness, 2016). In addition, due to the crowded conditions of shelters, those individuals with severe substance dependence, mental disorders, or concurrent disorders are less likely to use shelters and more likely to sleep on the street (Reinhardt et al., 2011).

In addition to these challenges, a substantial population of homeless individuals has serious physical and mental challenges that require professional healthcare (Dawson, Jackson, & Cleary, 2013; Plumb, 2000). Chronic medical conditions exist among the homeless populations, with significant disparities and high rates of mortality, dental problems, sexually transmitted diseases, and susceptibility to infectious diseases such as hepatitis and tuberculosis (Baggett et al., 2010; Notaro et al., 2013). More susceptibility
to mental health conditions such as anxiety, depression, and bipolar disorder (Baggett et al., 2010) is also prevalent.

Single mothers heading families comprise one of the fastest growing segments of the homeless population (Banyard, 1995). Homeless women are defined as women sleeping without shelter or with inadequate or temporary accommodation (United Nations Economic and Social Council, 2016). The needs of these women go beyond lack of housing to issues related to domestic violence, substance abuse, parenting issues, jobs, and medical issues. Homeless mothers often have histories of victimization that include childhood and partner abuse, suicide, mental illness, and legal trouble (Slesnick, Glassman, Katafiasz, & Collins, 2012). Furthermore, women are more likely to experience psychosocial factors associated with having children and report having fewer people to count on who can help care for their children, causing added stress to the prevalent adverse circumstances (Slesnick et al., 2012).

**Issues facing homeless women.**

**Domestic violence and Intimate partner violence.** Intimate partner violence (IPV) involves “physical violence, sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former intimate partner” (Breiding, Basile, Smith, Black, & Mahendra, 2015, p. 11). In addition to post-traumatic stress disorder (PTSD), battered women may experience guilt and shame about multiple issues, including failed relationships, the effects of violence on their children, and prolonged repeated trauma (Kubany et al., 2004; Kubany & Watson, 2002).

Domestic violence is an immediate cause of homelessness for women (Dawson et al., 2013; Tischler, Radenmeyer, & Vostanis, 2007), and women are more likely to suffer
from mood disorders such as anxiety from victimization from childhood abuse and domestic violence. Mothers and children are a significant proportion of the homeless population, representing approximately 40% of the total homeless population (National Alliance to End Homelessness, 2016a), with most women becoming homeless because of domestic abuse or breakdown of family relationships (Tischler et al., 2007). Domestic violence is reported as the most common reason for homelessness of women (Tischler et al., 2007). The survivors of domestic violence lose financial resources and their abusers often isolate them from support networks and financial resources (National Alliance to End Homelessness, 2016a).

Because of the complex nature of their lives and trauma experiences, homeless mothers may experience a sense of powerlessness and loss, provoking significant psychological distress (Tischler et al., 2007). Tischler et al. (2007) identified one woman’s trauma-related experience:

My husband has been emotionally and physically violent towards me. He has tried to kill me, once he pushed me over and kicked me repeatedly in the back, I blacked out and was in so much pain, I stayed in bed for days, I was badly bruised. (p. 249)

Women who experience trauma are more likely to develop trauma-related symptoms and long-term negative consequences due to lack of treatment. Some of the trauma-related symptoms described by women experiencing IPV are depression, anxiety, hyper-arousal, paranoia, flashbacks, night terrors, and anxiety attacks (DePrince, Labus, Belknap, Buckingham, & Grover, 2012). In the study by DePrince et al. (2012), women who received treatment for IPV reported fewer symptoms of anxiety and depression than
women who did not receive treatment, who reported the same trauma symptoms and an increase in trauma-related anxiety.

**Psychosocial stressors.** Researchers noted that parenting-related stressors are likely to increase anxiety among homeless mothers (Banyard & Graham-Bermann, 1998; Ghate & Hazel, 2002; Tischler et al., 2007). Parenting relationships with their children are likely to be difficult for homeless women who experience mental health problems (Ghate & Hazel, 2002). Issues related to substance use, parenting skills, and medical treatment are all areas of need among homeless women (Buckner, Bassuk, & Zima, 1993; Tischler et al., 2007). Banyard (1995) noted problems with depression, parenting skills, and substance use among homeless substance-abusing mothers. Women report using alcohol and drugs to cope with stressful situations, which include being mothers and the responsibilities attributed to motherhood. Substance-abusing mothers in America have 8.4 times the mortality than other women of similar age who do not have substance use issues (Dawson et al., 2013). Substance use contributes to neonatal issues such as low birth weight, third trimester bleeding, neurobehavioral problems, and growth deficiency, as well as parenting stress and low self-esteem, which in turn can affect mother-infant attachment (Fajemirokun-Odudeyi et al., 2006).

This distress can lead to parenting problems. Weakened support and family networks perpetuate the need for resources to address the disparities of these individuals (Slesnick et al., 2012). There is a lack in parental control and issues related to public parenting (Kissman, 1999). When shelter staff or other mothers interfere with the discipline of their children (Kissman, 1999), the homeless mothers experience a lack of parental control and may feel undermined. With others questioning their parenting skills,
the mothers under stress may have inconsistent parenting skills, which in turn contribute
to disrupted parent-child relationships and additional stress on both the children and
mothers (Sheppard, 2004) and increased anxiety symptoms.

Creating self-efficacy in the homeless women will help to empower them to
recovery and reintegration into society (Slesnick et al., 2012), because many women
living in shelters experience feelings of being stigmatized and judged. Lessening the
stress related to living at the shelter helps to empower these women (Cosgrove & Flynn,
2005). Therefore, assessing these individuals’ mental health and developing an effective
mental health strategy helps to provide a more comprehensive treatment.

**Substance abuse and mental disorders.** Substance use disorder (SUD) is one of
the most common issues of the homeless population and often co-occurs with other
disorders (Geissler, Bormann, Kwiatkowski, Braucht, & Reichardt, 1995). More recent
evidence shows an increase in drug use dependence among homeless populations,
particularly among women (Dawson et al., 2013; Padgett, Hawkins, Abrams, & Davis,
2006; Torchalla et al., 2014). This issue complicates assessing these individuals to meet
their mental health needs (Reinhardt et al., 2011). Women are more likely than men to
suffer mood and anxiety disorders, trauma, and victimization from childhood abuse and
domestic abuse; women are also more likely than men to present with substance disorders
(Notaro et al., 2013; Padgett et al., 2006). Researchers have noted the co-occurrence of
SUD with depression and anxiety (Reinhardt et al., 2011), with anxiety twice as high in
women as in men (Grant et al., 2004) and social anxiety greater in women than men
(Schneier et al., 2010). There is a high prevalence of bipolar disorders (Notaro et al.,
2013), eating disorders (Holderness, Brooks-Gunn, & Warren, 1994), and PTSD among
women (Padgett et al., 2006; Stump & Smith, 2008; Torchalla et al., 2014), creating high dependence on clinical services and poor long-term prognosis (Dawson et al., 2013).

Khantzian (1985) postulated the self-medication hypothesis of addictive disorders, suggesting that individuals with psychiatric disorders use substances to relieve psychiatric symptoms and that this pattern of usage predisposes them to addiction. In the same article, Khantzian (1985) also postulated that the preferred substance is not random but is based on the unique pharmacological properties of the substance.

Post-traumatic stress disorder is a well-recognized outcome of trauma exposure (Brown, Stout, & Mueller, 1999). This disorder is characterized by re-experiencing symptoms (e.g., involuntary memories about the trauma), avoidance symptoms (e.g., effortful attempts to stay away from trauma reminders), negative alterations in cognitions and mood (e.g., exaggerated negative beliefs about oneself or the world), and hyperarousal (e.g., easily startled) (American Psychiatric Association, 2013). Brown et al. (1999) noted in their study that as many as 90% of individuals with SUD also reported trauma histories. Rates of PTSD among women in substance use treatment ranges from 30% to 59% (Schneider, Burnette, Ilgen, & Timko, 2009).

Explanations of the co-occurrence of SUD and PTSD or trauma symptoms are offered through several theoretical models (Ruglass, Lopez-Castro, Cheref, Papini, & Hien, 2014). These models include the self-medication model, high-risk model, and increased-susceptibility model (Ruglass et al., 2014). Each model proposes the etiology of SUD as related to the trauma.

Theorists who propose the self-medication model hypothesize that individuals use substances to help relieve the painful emotional state and stress related to their history of
past trauma (Khantzian, 1985; Ruglass et al., 2014). Because substance use may alleviate the painful emotional symptoms temporarily, “symptom relief reinforces drug use” (Ruglass et al., 2014, p. 2). Ruglass et al. (2014) noted that although there is some evidence in support of the self-medication hypothesis, many challenges to this theory also exist in the research literature.

Theorists who propose the high-risk model suggest that those individuals with SUD are at increased risk for exposure to traumatic events; this theory is also known as the substance-induced hypothesis (Breese, Overstreet, & Knapp, 2005; Ruglass et al., 2014; Smith & Randall, 2012). Finally, those who propose the increased-susceptibility model suggest that individuals are more likely to develop PTSD following a traumatic event due to the impairments associated with substance use (Torchalla et al., 2014). These models have each provided a basis from which to distinguish the epidemiology of the co-occurrence of SUD and PTSD or trauma symptoms (Ruglass et al., 2014).

The co-occurrence of PTSD and SUD is associated with impairment in health-related outcomes and behavior (Braitstein et al., 2003; Torchalla et al., 2014). Some individuals with SUD reported having a history of sexual violence resulting in prostitution, suicide attempts, overdosing, severe substance use, and psychopathology (Braitstein et al., 2003; Torchalla et al., 2014).

Anxiety and mood disorders are more common among women than men (Dawson et al., 2013). Common risk factors for anxiety include chronic health conditions, stress, substance abuse, gender, and genetics (Baggett et al., 2010). Bangasser et al. (2010) found sex differences in corticotrophin-releasing factor, which may help to explain the higher incidence of stress-related mental health disorders among women than men. This
finding suggests a biological difference between genders, with the potential for females’
increased vulnerability to stress-related psychopathology such as depression and PTSD as
compared to males (Bangasser et al., 2010). Anxiety was reported greater among the
homeless population (20.5%) than among the general clinical population (13.8%)
(Baggett et al., 2010). Substance use disorders and mental health issues are common
among homeless mothers because of their current situation and the potential for losing
their children (Dawson et al., 2013). Reinhardt et al. (2011) reported high rates of mood
disorder episodes, anxiety disorders, and PTSD among this population.

Among a sample of 500 homeless individuals in British Columbia, 92% met
criteria for a current mental disorder, 82% met criteria for alcohol or drug dependence,
57% met criteria for anxiety disorder, and 31% met criteria for mood disorder (Reinhardt
et al., 2011). A high prevalence of substance abuse is common among homeless
populations, which potentially increases the risk of anxiety or depression, with depression
being more prevalent in women than men (Baggett et al., 2010).

Coping. Coping with trauma and other factors is essential for relapse prevention,
individuals who have been traumatized at a young age are more likely to develop poor
coping methods and destructive behaviors and increased displaced anger and anxiety
(Dennis et al., 2009; McRae et al., 2004; Pace, 2012; Slesnick et al., 2012; Stump &
Smith, 2008). It is a complex multidimensional process and is strongly related to
emotional regulation, especially distress throughout a stress process (Folkman &
Moskowitz, 2004; Lazarus & Folkman, 1984). Coping is defined as the process of
managing external or internal demands that tax or exceed the resources of the individual.
Coping is sensitive to both the environment and the personality of the individual. It is a
process that is context specific and a situation that unfolds within different contexts or situations, and is personally taxing, exceeding the individual’s resources for coping (Lazarus & Folkman, 1984). This information is gathered and when an individual’s appraisal implies subjective harm, loss, or a sense of being threatened, then there is an influx of often intense negative emotion requiring down-regulation, or emotional stabilization of the negative emotions that are stressful and may be interfering with coping strategies (Folkman & Moskowitz, 2004).

Cognitive behavioral theorists note that emotions play an integral role in the coping process throughout a stressful encounter and outcomes of coping (Kendall et al., 2016). Therefore, if an individual can down-regulate the negative emotions and create new information regarding a stressful situation, then the individual creates a reappraisal that promotes a positive emotional outcome, reinforcing a new coping strategy with positive emotional outcomes (Kendall et al., 2016).

Some of the benefits of good coping strategies were found in a study by Folkman and Moskowitz (2004). Individuals employing active coping strategies, such as problem-focused coping efforts aimed at changing the situation and seeking out social support, tended to adjust better to life stressors and to have fewer psychological symptoms (Folkman & Moskowitz, 2004). Folkman and Moskowitz (2004) noted that social support is therefore an important aspect of coping.

**Treatment.** Treatment development for trauma exposure and psychiatric disorders such as anxiety, specifically for women in homeless shelters, is limited (Slesnick et al., 2012; Tischler et al., 2007). However, there has been an evolutionary adaptation of cognitive behavioral therapy that has been effective with this population,
especially those with IPV (Kubany et al., 2004). Several well-tested interventions have been available for decades to address trauma, including prolonged exposure (Nayak, Powers, & Foa, 2012), cognitive processing therapy (Chard, Schuster, & Resick, 2012), and eye movement desensitization and reprocessing (EMDR; Shapiro, 2001). All are considered evidence-based treatments with successful outcomes when treating veterans (Chard et al., 2012; Kubany et al., 2004; Nayak et al., 2012; Shapiro, 2001). The intervention of prolonged exposure focuses on reducing the individual’s avoidant tendencies, relying on imaginal and in vivo exposure conducted outside the therapy session, while cognitive processing therapy focuses on dysfunctional thoughts and beliefs stemming from trauma (Chard et al., 2012; Nayak et al., 2012). In the evidence-based practice of EMDR a trained EMDR therapist utilizes bilateral brain stimulation to process trauma (Shapiro, 2001).

Kubany et al. (2004) adapted the elements employed by prolonged exposure and cognitive behavioral therapists to create an intervention specifically addressing the needs of those in IPV relationships: cognitive trauma therapy for battered women. This therapy was designed for community-dwelling women who have PTSD related to IPV exposure (Kubany et al., 2004). Outcome studies of this therapeutic intervention have shown decreases in PTSD and depression, with the quality of life associated with anxiety and self-esteem improving significantly (Beck et al., 2015).

The homeless population experiences psychosocial stressors related to parenting, domestic violence, mental illness, and substance use (Notaro et al., 2013; Padgett et al., 2006; Reinhardt et al., 2011; Stump & Smith, 2008; Tischler et al., 2007). The government and many nonprofit organizations are attempting to meet the needs of this
population to assist them through adverse circumstances associated with homelessness, hoping to address the multifaceted issues and increase these individuals’ ways of coping (Substance Abuse and Mental Health Services Administration [SAMHSA], 2013; United States Interagency Council on Homelessness, 2016). However, the subjective characteristic differences among homeless individuals has created limits in generalizability of research results when accounting for mental disorder prevalence rates in specific homeless populations (Reinhardt et al., 2011). With this gap, it is still important to develop more effective programming, especially for homeless women.

This population of homeless women needs effective mental health treatment (Nuttbrock, Rahav, Rivera, Ng-Mak, & Link, 1998; Reinhardt et al., 2011). These women have a wide range of needs to be addressed in their treatment (Finfgeld-Connett, 2010; SAMHSA, 2013). Specifically, women with substance use and comorbid mental health disorders need treatment that addresses housing, employment, family, intimate partner relationship dynamics, and parenting. To integrate these women back into society, treatment goals include reducing SUD, managing mental health disorders (Dawson et al., 2013), and increasing coping skills (Slesnick et al., 2012), as well as finding stable housing.

**Barriers to treatment.** There can be barriers to effective treatment for these women, including their lack of social infrastructure and stability (SAMHSA, 2011b; Tischler et al., 2007). To treat this population’s mental health needs, it is necessary to understand the impact of substance abuse, mental illness, and homelessness and how they interact. These women need person-centered treatment plans, which recognize and address the effects of trauma and psychopathology (SAMHSA, 2011b).
Slesnick et al. (2012) noted the importance of addressing SUD and relapse prevention by focusing on refusal skills training and functional analysis of using and non-using behavior, all while assessing motivation to change. Furthermore, those who are in treatment for mental health issues have better results than those who are not receiving treatment (Finfgeld-Connett, 2010). In a longitudinal study assessing treatment outcomes for homeless mentally ill individuals, Nuttbrock et al. (1998) noted that those who were in community-based residential programs where therapy was offered could be successfully treated and drug free, with a reduction in psychosocial stressors and anxiety. Therefore, these individuals need an effective treatment modality that is trauma-informed (Williams & Hall, 2009) and addresses the wide variety of issues that are common in the homeless population. Such treatment is needed for improved relapse prevention and community integration (Slesnick et al., 2012). Lifespan Integration (LI) is one such intervention (Pace, 2012).

**Lifespan Integration.** The theory of LI is based on neurobiology and the brain-body’s neural network systems (Pace, 2012). Individuals who are traumatized or neglected as children seem to have limited memories of childhood due to disassociation and are often chronically anxious and easily triggered by implicit bodily sensory memories (Pace, 2012). If these individuals can access repressed implicit memories through active imagination, then they can activate neural network systems promoting neural integration and healing from these chronic conditions (Pace, 2012).

Lifespan Integration is a body-based therapeutic that helps to integrate the mind and body through imagination and visualization techniques (Pace, 2012; Thorpe, 2008, 2012). Pace developed this therapeutic method in 2002 through her work with adult
survivors of childhood abuse and neglect; she found that LI was also beneficial for a wide range of ages and therapeutic issues including trauma, depression, anxiety, PTSD, and personality disorders (Pace, 2012; Thorpe, 2008). Pace (2012) noted that LI aided in a rapid decrease in symptoms related to pathology, especially in those with trauma backgrounds. The goal of LI is to help the brain create new neural connections through the process of neuroplasticity so that the individual will be better able to integrate past experiences into current self-conception (Garland & Howard, 2009; Pace, 2012). The intervention of LI helps individuals to resolve ineffective behavior patterns and promotes confidence and well-being when they are able to make these neural changes by repetitions of timelines (Pace, 2012).

Lifespan Integration therapists have reported this therapeutic intervention as having better outcomes, as compared to interventions of EMDR and psychoanalysis (Pace, 2012; Thorpe, 2008, 2012). The LI approach utilizes mental imagery and grounding techniques in order to access the memories and help the client reframe their past experiences, creating an autobiographical narrative through the use of mental imagery (Pace, 2012). Imagined use of the physical body can replicate similar synaptic connections to actual physical movements and triggers to actual movements (Schwartz & Begley, 2002).

Pace (2012) based LI on the hypothesis that psychological dysfunction results from insufficient neural organization (Pace, 2012) and that it is important to address the dysfunction neurologically in order to change. In LI, the client accesses his or her neural network system through a visual timeline of memories (Pace, 2012). The client views a memory image for each year of his or her life, and as the memory surfaces,
spontaneously a pattern or emotional theme emerges. A memory cue is one that is given by the client for each year of their life. A good memory cue would help evoke all five senses. Then the therapist uses this information from the client’s timeline to help guide the client through their life by accessing these memories. Accessing these memories and directing clients through their life can benefit them in healing from past issues. This modality challenges therapists to be attuned to their clients as they direct them through the process. The therapist’s job is an intricate part of the process. Lifespan Integration is a directive therapy that requires attunement to the client’s needs in order to modify what is happening in the intervention and source memory (Pace, 2012).

After a client’s LI timeline is created, a therapist can then use it for standard protocol (Pace, 2012). Standard protocol is an intervention used in LI to address current life stressors that are felt in a somatic way and tie them to the past, through a technique called an affect bridge (Pace, 2012). Through the use of the affect bridge, the client focuses on bodily sensation of emotions and connects to a past memory or source memory where they have felt a similar emotion or feeling. Once the client can identify their source memory, then the client can be taken through their timelines in a series of repetitions in order to build a relationship between the split off younger self and adult self. The purpose is to integrate the younger self with the adult self through repetitions of the mind-body system, creating integrations and better understanding of the current state. There is typically a need for five to 10 repetitions (Pace, 2012).

In this intervention, the therapist instructs the client to close their eyes and use visualization (Pace, 2012). First, the client is asked to access a source memory and briefly describe what is in the scene. Once they describe the scene, the LI therapist asks
the client what would have been helpful to hear during that time. Second, after the client re-experiences the source memory as described by them at the age of that memory scene, then the current adult self enters the scene. Once the adult self enters the memory, the therapist asks the client to introduce the adult self to the child self and directs the client to take the child self to a peaceful place, instructing the client to reassure their child self that they are safe now and what happened was not their fault. Third, the therapist tells the client that what happened was a long time ago and you have grown up to be me; then the therapist tells the client to remember these events. The therapist begins to read from the timeline, one memory cue at a time, until the child self enters the present. Fourth, the client is directed to bring their child self into their current home and show them around, asking the client if their child self has any questions for their adult self. Finally, the therapist asks the client to open their eyes and discuss the experience and check in on their child self. A body scan is a way to detect limbic system activation around a memory. The client is asked to locate where in their body they feel bodily sensations. For example, the client may report feeling tightness in the throat, heavy chest, or heavy stomach (P. Pace, personal communication, October 15, 2014).

Lifespan Integration relies on the innate ability of the body and mind to heal itself; through the process of repetitions of the LI timeline, the system becomes increasingly better organized and integrated, creating a shift between selves and self-state (Pace, 2012). The repetitions of the timeline create repeated shifts, allowing individuals to organize and stabilize the self-systems. This fluidity helps to contribute to stability of the self-system and solid core self, leading to long-term relief from trauma experience (Pace, 2012; Thorpe, 2008, 2012).
Balkus (2012) used LI as a counseling intervention at a Seattle area shelter with women who were diagnosed with PTSD. The researchers used two LI standard protocol interventions over the course of two months with 17 women. Participants were required to fill out an Impact of Event Scale (IES) before and after treatment of LI. Researchers used the IES because this measurement has psychometric properties related to the symptoms of PTSD. The scores on the IES indicated that the participants reported a decrease in distress after using LI over time. The women’s distress was significantly minimized, and they reported significantly less distress around their PTSD and trauma symptomology (Balkus, 2012).

**Rationale**

In order to add to the body of literature on effective treatment interventions for anxiety symptoms related to trauma, this study tested the therapeutic intervention of LI with women at a homeless women’s shelter in an urban area of the Pacific Northwest. Women and their families are one of the fastest growing groups among the homeless population, with psychosocial stressors related to IPV, parenting, abuse, trauma, addiction, and psychological issues (Banyard & Graham-Bermann, 1998; Buckner et al., 1993; DePrince et al., 2012; Ghate & Hazel, 2002; Paquette & Bassuk, 2009; Reinhardt et al., 2011; Tischler et al., 2007). Many of these women find coping through the use of substances that become addictions, which complicates the problem (Braitstein et al., 2003; Dawson et al., 2013; DePrince et al., 2012; Ghate & Hazel, 2002; Reinhardt et al., 2011; Stump & Smith, 2008; Torchalla et al., 2014). The complexity of these issues makes treatment strategies difficult (Slesnick et al., 2012; Tischler et al., 2007). Anxiety, due to psychosocial stressors and trauma, and lack of coping strategies are common key
features attributed to these women (Banyard & Graham-Bermann, 1998; Ghate & Hazel, 2002; Reinhardt et al., 2011; Tischler et al., 2007).

While Balkus (2012) studied the effects of LI standard protocol interventions on the distress levels of 17 homeless women with PTSD, the present study will add to the literature by examining the effects of standard protocol LI interventions on anxiety and coping skills of homeless women. In the Balkus (2012) study, which used the IES to assess the participants’ levels of distress, results suggested that the participants experienced a decrease in their distress levels after LI interventions, as indicated by their IES scores. In the present study, participants’ symptoms of anxiety as well as their psychological adaptability and cognitive strategies for coping were assessed pre- and post-LI interventions. The results of this study will add to the literature on effective treatment for anxiety symptoms related to trauma in this population.

There is a gap in the professional literature on appropriate and effective mental health treatment options to produce better outcomes with this population of homeless women (Ashley, Marsden, & Brady, 2009; Birks, 2012; Prisciandaro, Brown, Brady, & Tolliver, 2011; SAMHSA, 2011a, 2011b, 2011c). It is important to address the needs of these homeless women and to more effectively provide integrated mental health treatment, which can help these women with coping with the past, SUD recovery, and reintegration into society.

**Research Question and Hypotheses**

The purpose of this study was to test the effectiveness of LI in reducing anxiety and improving the coping method of positive reappraisal among homeless women seeking addiction treatment. The goal of the research study was to answer the question:
Does the therapeutic intervention of Lifespan Integration reduce anxiety and increase coping methods among homeless women enrolled in an addiction recovery program?

**Initial research hypotheses.** The initial research hypotheses were:

H1: Lifespan Integration treatment decreases anxiety symptoms among homeless women enrolled in an addiction recovery program, as compared to program participants who do not receive the additional LI component.

H2: Lifespan Integration treatment increases the coping method of positive reappraisal among homeless women enrolled in an addiction recovery program, as compared to program participants who do not receive the additional LI component.

H3: There is an inverse relationship between anxiety symptoms and the coping method of positive reappraisal.

**Refined research hypotheses.** The three initial research hypotheses were refined (see Methods), resulting in the following refined hypotheses:

H1a: There is a difference between mean BAI scores among homeless women enrolled in an addiction recovery program who were treated with LI and those who were treated with the regular intervention program when controlling for pre-test differences.

H2a: There is a difference between BAI ordinal anxiety categories for homeless women treated with the LI before or after treatment.

H3a: There is a difference between mean WCQ raw scores among homeless women enrolled in an addiction recovery program who were treated with LI and those who were treated with the regular intervention program when controlling for pre-test differences.
H₄(α): There is a difference between mean WCQ relative scores for homeless women treated with the LI before or after treatment when controlling for pre-test baseline.

H₅(α): There is a statistically significant linear correlation between raw BAI scores and raw WCQ scores.

H₆(α): There is a statistically significant ranked correlation between raw BAI scores and raw WCQ scores.

The purpose of this study was to test the effectiveness of LI in reducing anxiety and improving the coping method of positive reappraisal among homeless women seeking addiction treatment. In this study, the researcher initiated a program of LI at a shelter in an urban area to compare with the earlier study findings and add to the published research on the use of LI interventions. The researcher sought to examine symptoms of anxiety and the coping skills of homeless women in order to understand effective treatment strategies.
Chapter Two: Methods

This mixed-method study incorporated both quantitative and qualitative methods to understand the effects of LI treatment on anxiety symptoms and the coping strategy of positive reappraisal among women enrolled in an addiction recovery program for homeless individuals, as compared to those women who did not receive the treatment. The purpose of this study was to measure the effectiveness of a LI therapeutic intervention (Pace, 2012) among homeless women living in a women’s shelter in an urban area of the Pacific Northwest to reduce their anxiety and enhance their ways of coping, as compared to those who did not receive the treatment. These women initially presented at the homeless shelter with anxiety secondary to trauma, homelessness, and SUD. Many suffered from comorbid mental health issues such as anxiety or depression and SUD, as substance use is a primary coping strategy to mitigate psychosocial stressors (Dawson et al., 2013; Geissler et al., 1995; Padgett et al., 2006; Torchalla et al., 2014).

Treatment strategies are needed to help these women reintegrate back into society, heal, learn how to deal with their anxiety, and learn ways to cope and better parenting skills (Notaro et al., 2013; Padgett et al., 2006; Reinhardt et al., 2011; Stump & Smith, 2008; Tischler et al., 2007). Lifespan Integration may be an efficacious treatment for homeless women in order to help reduce anxiety and help women feel empowered with more coping skills to overcome some of their issues (C. Lindlow, personal communication, August 31, 2014; Thorpe, 2008, 2012). In a 2012 study, Balkus found LI standard protocol interventions to be effective in reducing homeless women’s levels of distress as measured by the IES. Balkus (2012) compared pre-intervention-post intervention analysis on the LI without comparison of a control group. In the present
study, the researcher focused on comparing an intervention of LI treatment with normal services that homeless women receive at the selected shelter, to expand on the earlier study findings and add to the published research on the use of LI interventions.

**Research Question and Hypotheses**

The purpose of this study was to test the effectiveness of LI in reducing anxiety and improving the coping method of positive reappraisal among homeless women seeking addiction treatment, using a randomized control group design. The main research question was: Does the therapeutic intervention of Lifespan Integration reduce anxiety and increase coping methods among homeless women enrolled in an addiction recovery program?

**Initial research hypotheses.** The initial research hypotheses were:

H1: Lifespan Integration treatment decreases anxiety symptoms among homeless women enrolled in an addiction recovery program, as compared to program participants who do not receive the additional LI component.

H2: Lifespan Integration treatment increases the coping method of positive reappraisal among homeless women enrolled in an addiction recovery program, as compared to program participants who do not receive the additional LI component.

H3: There is an inverse relationship between anxiety symptoms and the coping method of positive reappraisal.

**Two-tail testing.** The hypotheses were adjusted to assess for difference so that two-tailed testing could be performed where appropriate. One-tailed testing in areas with little prior elucidation can contribute to missing directional information. It can also inflate \( p \) values, increasing the chance of a type I error (Ruxton & Neuhauser, 2010).
Test measurements. The initial hypotheses were refined to reflect the specific measurements that the BAI and WCQ Positive Reappraisal subscale make. The BAI measures how an individual’s level of distress is experienced in regard to a series of 21 somatic anxiety-related sensations. The BAI can be scored as categorical or numerical results; it is a Likert-scale measurement. The WCQ Positive Reappraisal subscale measures general appraisal of frequency of usage and number of positive reappraisal coping methods used and is also a Likert-scale measurement. It can only be scored as numerical results. Two scoring systems exist: raw and relative scores. The hypotheses were expanded to allow for all scoring systems.

Time versus groups. The data collection design allowed broad discretion for pre-test-post-test analyses, treatment and control group analyses, or a mixture of the two. The initial hypotheses were adjusted to solely reflect treatment and control analyses, calibrating on the pre-tests. No separate or integrated pre-test-post-test analyses were performed.

Refined research hypotheses. The refined research hypotheses were:

$H_{1a}$: There is a difference between mean BAI scores among homeless women enrolled in an addiction recovery program who were treated with LI and those who were treated with the regular intervention program when controlling for pre-test differences.

$H_{2(a)}$: There is a difference between BAI ordinal anxiety categories for homeless women treated with the LI before or after treatment.

$H_{3a}$: There is a difference between mean WCQ raw scores among homeless women enrolled in an addiction recovery program who were treated with LI and those
who were treated with the regular intervention program when controlling for pre-test differences.

H₄(a): There is a difference between mean WCQ relative scores for homeless women treated with the LI before or after treatment when controlling for pre-test baseline.

H₅(a): There is a statistically significant linear correlation between raw BAI scores and raw WCQ scores.

H₆(a): There is a statistically significant ranked correlation between raw BAI scores and raw WCQ scores.

In this chapter, the methodology of the research study is outlined, including participant selection criteria and recruitment, procedures for data collection, and instruments used.

**Participants**

The participants in the study were 23 women who were residents of the rehabilitation program for substance abuse at a shelter for homeless women in an urban area of the Pacific Northwest. The participants came to the shelter from the homeless population and were referred to the shelter’s program by judicial system or by self-admittance (C. Lindlow, personal communication, August 31, 2014).

The shelter is a faith-based inpatient rehabilitation facility for homeless women in an urban area who are caught in the cycles of abuse and addiction (C. Lindlow, personal communication, August 31, 2014). There were approximately 90 women and children living at the shelter at the time of this research study. Each family is provided basic accommodations and meals. The shelter’s program consists of drug recovery, parenting
classes and counseling, 12-step groups, on-site case management, and education about domestic violence. The goal of the program is to help the women to transition to a job through career development and to gain low-income housing.

There is a staff of 50 volunteers and employees who are enlisted to meet the needs of each individual through case management, treatment and counseling for chemical dependency issues, faith-based teaching, career development, and maintenance of the building (C. Lindlow, personal communication, August 31, 2014). Each woman has a case manager, who helps to personalize and individualize their program to their specific needs. The case manager works alongside each woman as a liaison with government agencies for welfare benefits and housing. In addition, the shelter’s program provides one-on-one counseling services to address the mental health and psychological needs of the women. There are further resources of support for the women to address issues related to parenting and child and family systems in counseling. The women attend required classes on parenting, boundaries, and chemical dependency support, which are taught by the counseling department. In the Learning Education Center, the women have additional opportunities; they can earn a general educational development (GED) certificate and take college preparatory courses for career development.

At the shelter, all shelter guests are first enrolled in Basic Services, the initial part of the program that familiarizes shelter guests with the program and its requirements. After orientation, the shelter guests meet individually with case managers and staff to determine if they are ready to commit to the full year program. The shelter’s program is divided into four phases; each phase is designed to teach life skills that help in the recovery process (C. Lindlow, personal communication, August 31, 2014). In Phase 1
and Phase 2, the women are in the beginning process of the program and it is typical of these women to undergo more psychosocial stressors as they adjust to their new lifestyle in the shelter. In addition, required classes tend to open internal wounds from their past, shedding light on some of their past issues and psychological pain. The classes that are typical of these phases are Patterns of Abuse, Boundaries, and Safe People. A counselor guides these one-hour interactive classes, which are presented in a group setting in each phase of the program and address boundaries, patterns of abuse, addiction, and emotional freedom from guilt and shame. Women and staff report that one of the most difficult sections of the program is Phase 2, when they take a class called Emotional Freedom and learn the effects of guilt and shame on their lives. In Phase 3, the emphases are on how to set boundaries, work on addiction issues, address trauma, and function as an adult, such as doing court paperwork, attending doctor visits, and getting government subsidies. In Phase 4, the focus is on transition, and the counselor helps the women to build a resume, get a job, and find housing, all while maintaining residence at the shelter.

Selection criteria and recruitment. The selection criteria for this study included that the participant be female and a resident of the homeless shelter in Basic Services, Phase 1, or Phase 2 of the shelter’s program. The staff invited women who were in Basic Services, Phase 1, or Phase 2 of the shelter’s program to participate in the study. Using a recruitment letter approved by the Institutional Review Board of Northwest University (see Appendix A), the staff members informed the women of the goals and rationale of the study and the criteria for participation. The women who elected to participate had their names placed in a drawing for a $100.00 VISA gift card for their time and willingness to participate in the study. Of those women who fit the criteria for this study,
23 women were selected and randomly assigned to either the treatment group or the control group. All women who participated in the study were eligible for the drawing regardless of their tenure, refusal to participate, or refusal to answer questions after they were selected and assigned to the treatment group or the control group. At the conclusion of the research study, the researcher completed the drawing and one participant received the $100.00 VISA gift card.

The age of the participants ranged from 23 to 58 years old. The average age of the participants was approximately 37 years old ($SE = 2.7$) with a standard deviation of approximately 12 years ($SD = 11.719$). The race of the participants ($N = 23$) was 60.9% Caucasian ($n = 14$), 13.0% African American ($n = 3$), 8.7% Asian American ($n = 4$), and 17.4% Other ($n = 14$).

**Materials and Procedures**

**Assessment instruments.** In the study, the assessment instruments included a demographic questionnaire, the Beck Anxiety Inventory (BAI), and the Ways of Coping Questionnaire (WCQ). Additionally, those women in the treatment group were interviewed by a counselor at the conclusion of the 6 weeks, in a one-on-one audiotaped interview.

**Demographic questionnaire.** Through the use of a demographic questionnaire, the researcher gathered information about each participant’s age, ethnicity, substance abuse, education, children (e.g., number of children, their minor status at time of study, custody status), and experience of mental illness (e.g., diagnosis, if any), and living situation or incarceration prior to residence at the shelter. See Appendix B for the demographic questionnaire.
Beck Anxiety Inventory. The BAI is an inventory that is used to measure the severity of clinical anxiety in adults and adolescents (Beck, Epstein, Brown, & Steer, 1988; Beck & Steer, 1990). Grant (2011) noted that the BAI “is a well-accepted self-report measure of anxiety in adults and adolescents for use in both clinical and research settings” (p. 215). The BAI is a 21-item multiple-choice self-report inventory. Clinicians use the BAI to assess the severity of anxiety, and because the BAI items represent the cognitive, emotional, and physical symptoms of anxiety, as opposed to depression, clinicians may use the BAI to assist them in differentiating between anxiety and depression (Beck et al., 1988; Grant, 2011). The BAI items each describe an anxiety symptom from one of these four aspects: subjective, neurophysiologic, autonomic, and panic-related (Grant, 2011). Beck et al. (1988) found the BAI to have high internal consistency and to be “moderately correlated” (p. 893) with the revised Hamilton Anxiety Rating Scale. Since its initial publication, researchers have used the BAI in studies with adults and adolescents, as well as studies with younger adolescents (Grant, 2011).

The BAI consists of 21 multiple-choice items, each representing a symptom of anxiety (Beck & Steer, 1990). The individual responds to each item by indicating how much they have been bothered by that symptom over the past month. The possible responses range from 0, Not at all; 1, Mildly: It did not bother me much; 2, Moderately: It wasn’t pleasant at times; and 3, Severely: It bothered me a lot (Beck & Steer, 1990). The BAI takes between 5 and 10 minutes to complete (Beck & Steer, 1990).

In the BAI, the Likert-scale responses convert to numerical scores ranging from 0 to 3. In this study, the researcher summed these scores to produce a total score, which
EFFECTIVENESS OF LIFESPAN INTEGRATION

could range from 0 to 63. According to the manual, the total scores fall into one of three
ranges. A total score of 0 through 21 indicates a low level of anxiety, a total score of 22
through 35 indicates a moderate level of anxiety, and a total score of 36 or above
indicates a high level of anxiety (Beck & Steer, 1990).

Ways of Coping Questionnaire-Positive Reappraisal subscale. Folkman and
Lazarus (1988a, 1988b) developed the WCQ (see Appendix C) to measure coping
processes by identifying thoughts and actions that individuals use to cope with stressful
encounters of everyday life. It is a 66-item questionnaire that has an average completion
time of 10 minutes. Folkman and Lazarus (1988a) developed the WCQ to help therapists
identify the coping processes and strategies that are used, rather than coping styles or
dispositions (Conger & Hess, 1992).

The WCQ consists of eight subscales: Confrontive Coping, Distancing, Self-
Controlling, Seeking Social Support, Accepting Responsibility, Escape-Avoidance,
Painful Problem Solving, and Positive Reappraisal. In this study, only the Positive
Reappraisal subscale (WCQ-PR), comprised of eight questions, was used in order to limit
the number of analyses conducted and reduce the potential for family-wise error. The
researcher selected this subscale to narrow down the data to allow for statistical analysis
due to a small sample size. The subscale was preselected prior to the research
experiment. The subscale’s questions consist of responses that note changes in coping.
The Positive Reappraisal subscale elicits an introspective positive approach to coping by
providing answers highlighting positive personal growth. In this subscale, three of the
questions elicit potential spiritual strategies to coping, such as finding new faith, praying,
and changing something about themselves. The researcher also chose this subscale
because of the context in which it was administered. The particular shelter site for this research is a program that is spiritually based, utilizing spiritual practices such as prayer and finding faith through scripture reading and teaching.

The instructions on the answer sheet ask the respondent to think of the most recent stressful event that they experienced in the past week and think about the details of this stressful situation before responding to the items of the WCQ. The WCQ questionnaire uses a 4-point Likert scale format that allows individuals to indicate the frequency with which they use each strategy. The researcher used the scoring sheets obtained from the publisher to calculate the raw scores and relative scores for each participant (Conger & Hess, 1992; Folkman & Lazarus, 1988b). The raw score is the addition of the target subscale’s component scores. The researcher calculates the relative score for the subscale by first calculating the average item score for the items on that subscale by dividing the sum of the rating on the scale by the number of items on that scale, then calculating the sum of the average item score across all eight subscales, and finally dividing the average item score for a given subscale by the sum of the average item scores across all eight subscales.

The instrument’s authors, Folkman and Lazarus (1988a), stated that the WCQ is not a test of coping styles, but rather a way of measuring coping styles within a research context (Conger & Hess, 1992). They also noted that because the WCQ was not created to serve as a test, they did not intend for it to be reviewed on traditional measures of reliability such as test-retest reliability (Conger & Hess, 1992). The authors addressed both construct validity and face validity of the WCQ, claiming that the instrument has adequate construct and face validity (Conger & Hess, 1992).
Researchers have used the WCQ in many different populations and settings. Researchers Senol-Durak, Durak, and Elagoz (2011) found the WCQ to be an effective instrument cross-culturally and stated that its reliability and validity were acceptable. Folkman and Lazarus (1988a, 1988b) noted that their WCQ instrument could be used to measure the effects of interventions within clinical settings, thus making it appropriate for this study (Conger & Hess, 1992). Kieffer and MacDonald (2011) performed a meta-analysis of 130 research studies concerning the WCQ and its subscales and found the subscales with the highest reliability above the .70 threshold (in descending order) were Seeking Social Support, Planful Problem Solving, Positive Reappraisal, and Escape-Avoidance. Positive Reappraisal was chosen as the metric for this study.

**Qualitative interview.** At the final session, counselors met with each woman from the treatment group to conduct a one-on-one brief qualitative interview, using the questions in the Interview Protocol (see Appendix D). During the audiotaped interview, each participant had the opportunity to answer questions about the effectiveness and acceptability of the LI treatment. Kazdin (1980) and Rabbitt, Kazdin, and Hong (2015) noted the importance of evaluating the acceptability of treatment. Qualitative inquiry into participants’ views on the acceptability of treatment provides valuable information that may be used to supplement quantitative data in the evaluation of treatment’s efficacy (Kazdin, 1980; Rabbitt et al., 2015). During the qualitative interview, participants responded to open-ended questions about their experiences in the six weeks of LI treatment.

**Procedures.** Those women who elected to participate in the research study signed an informed consent form (see Appendix A), indicating their understanding and
acceptance of the study’s goals, rationale, and methods, as well as confidentiality and their ability to withdraw from the study at any time.

Those participants who were assigned to the treatment group were expected to attend six counseling sessions in that six-week period. The sessions took place in the onsite counseling offices with the counseling staff. At the initial session, participants filled out the demographic questionnaire, the BAI (Beck et al., 1988), and the WCQ (Folkman & Lazarus, 1988a) instruments. Interviews were conducted by one of the three onsite licensed mental health counseling staff members, who were informed on how to administer the BAI and the WCQ instruments.

Following the initial session, the participants were required to attend five subsequent counseling sessions. In four of the subsequent sessions, each participant received LI standard protocol intervention. According to LI therapists, this protocol has shown to be effective in four sessions for helping alleviate anxiety symptoms (C. Thorpe, personal communication, December 12, 2016). To help ensure implementation integrity, each counselor completed a weekend of LI training under the direction of a certified LI therapist, and they each received a certificate of completion of Level 1 LI training and received weekly LI supervision from a Level 2 LI therapist. Additionally, each counselor followed the step-by-step manualized protocol for the LI standard protocol sessions. In the final session, the participants were asked to retake the BAI and the WCQ and had a one-on-one audiotaped interview with their counselor.

Participants assigned to the control group attended the shelter’s regular classes and programs and received regular services during the time when the treatment group was receiving the LI interventions as described. Following the treatment group’s
completion of the six weeks of treatment, the participants in the control group completed the same instruments, with the exception of the one-on-one interviews.

**Data Collection**

Participants were provided with paper copies of the BAI and WCQ before and after their intervention sessions. Some participants filled out the instruments, and some reported their answers to the counselor assisting them. A data handling guide was created prior to analysis to address issues that can arise with handwritten forms. Data were entered and cleaned in statistical software according to this guide. Data were transformed as necessary to apply descriptive and inferential procedures. Demographic data were assessed with non-inferential descriptive statistics.

In addition to the quantitative data, qualitative data from those participants in the treatment group were collected in brief one-on-one qualitative interviews at the sixth session. The Interview Protocol (see Appendix D) included four core questions about the acceptability and effects of LI treatment, as well as open-ended questions also related to the participants' experiences of the treatment. These interviews were audiotaped and transcribed, and the resulting transcripts were analyzed for emerging themes (Yin, 2016).

The research design for this study was a concurrent mixed-methods design, in which the quantitative and qualitative data were collected and analyzed concurrently (Hanson, Creswell, Plano Cark, Petska, & Creswell, 2005). This mixed-method approach produces richer data than a strictly quantitative or qualitative design and allows for an in-depth inquiry into the participants' experiences (Hanson et al., 2005; Yin, 2016).

Additionally, the researcher made field notes after listening to each audiotaped interview, noting such factors as tone of voice of participant and counselor or
interviewer, the ways in which the interviewer followed the interview protocol for each interview, as well as the ways in which the interviewer did not follow the protocol. These field notes assisted the researcher in analyzing the qualitative interview transcripts and in reflecting upon thoughts and impressions during the data collection and analysis processes. The notes served as one part of triangulation of the data, which was gathered through the four core questions, the responses to the open-ended questions, and the researcher’s field notes (Oliver-Hoyo & Allen, 2006).

Data collection period and sample size. The sample selection period was 12 days in Spring, 2017. The intended sample size was 40 participants. The actual total sample size was 23; 13 participants were randomly assigned into the LI treatment group and 10 participants were randomly assigned to the control group. The intended sample size was not attained due to potential participants’ rejection of participation in the research study. The data collection period was 14 weeks, from Spring to Summer, 2017.

Summary

In this chapter, the methodology for the research study has been described, including the participants and setting, participant selection criteria, recruitment, procedures, and instruments used. In this research study, 23 homeless women enrolled in a residential addiction recovery program were recruited and randomly divided into two groups of equal proportions; half received standard care in the program and the other half received an intervention of four Lifespan Integration therapy sessions. Baseline anxiety and the use of coping strategies were measured, using the BAI and WCQ respectively, at the beginning of the study and after six weeks. Participants who received LI treatment
were also interviewed following the sixth session. The next chapter will describe the findings of this research study.
Chapter Three: Results

The purpose of this chapter is to describe the findings of this research study. This study utilized a mixed-method approach using qualitative and quantitative findings. The quantitative sections in this chapter include data analysis, descriptive statistics, and tables addressing the research hypotheses related to anxiety, coping, and LI treatment. The qualitative sections in this chapter include the treatment group participants’ responses to four core interview questions and themes that emerged from in-person interviews of the treatment group regarding anxiety, coping, LI treatment, and hope for the future.

Data Analysis Strategy

Mixed-methods research studies demand the collection and analysis of both quantitative and qualitative data (Creswell, Klassen, Plano Clark, & Smith, 2011). The researcher selected this method to acquire a better understanding of the treatment group’s subjective points of view post-LI treatment. From analysis of the interview transcripts, the researcher gained more insight into participants’ experience of LI treatment and discovered themes that might otherwise have been missed by the standardized assessments. Fielding (2012) noted the value in obtaining meaningful data from both quantitative and qualitative inquiry with the participants in research studies. The interviews with the treatment group about their experiences with LI treatment and its impact on their anxiety, ways of coping, and hope for the future provided rich, meaningful data that would otherwise be difficult to obtain with this diverse population.
Quantitative analysis strategy.

Statistical software. Data entry, cleaning, and analysis was completed using IBM SPSS Statistics Software (Version 25.0; IBM Corporation, 2017).

Data cleaning. No participants were excluded from total sample analysis. Due to a misplaced pre-test, one participant in the control group was excluded from all analyses associated with the WCQ. Exclusions from demographic categories varied based on participant responses or non-responses. Those exclusions are reported in the demographic section of findings. Data collection instruments were handwritten. Where responses were illegible, items were coded as such and excluded from the final tally. On the BAI, where participants checked multiple boxes or checked the space between two boxes, their multiple Likert selections were averaged and rounded up. On the WCQ, where participants wrote more than one rating level, those numbers were averaged and if not a whole number, rounded up. Demographic write-ins were coded to allow for numerical assessment.

Demographics. Collected demographics were subjected to frequencies or percentages; mean, median, mode (where appropriate), and basic distribution analyses. Demographics displayed a mix of distributions. The LI treatment group and control group distributions were often non-normal and did not align. Hypothesis testing for differences between groups or differences in distributions was not performed.

Reliability. To assess internal consistency, Cronbach’s alpha was performed on the pre-test and post-test for the total sample and sample groups for the BAI and WCQ. To assess pre-test-post-test consistency, Pearson’s coefficient was performed for the total sample and sample groups (see Table F1).
Beck Anxiety Inventory. The BAI had high internal consistency and moderate to strong pre-test-post-test positive correlations for most items (see Tables F2, F3, and F4). The Cronbach’s alpha for the total sample for pre-test was .911 and for post-test was .868. The Cronbach’s alpha for the LI sample for pre-test was .937 and for post-test was .850. The Cronbach’s alpha for the control sample for pre-test was .860 and for post-test was .897.

Ways of Coping Questionnaire. The WCQ had high internal consistency but low pre-test-post-test correlations (see Tables F5, F6, and F7). The Cronbach’s alpha for the total sample for pre-test was .837 and for post-test was .862. The Cronbach’s alpha for the LI sample for pre-test was .847 and for post-test was .883. The Cronbach’s alpha for the control sample for pre-test was .844 and for post-test was .807. For the total sample, pre-test-post-test correlations on items 36 and 60 were moderate to strong correlations and statistically significant. For the LI treatment sample, pre-test-post-test correlations on items 38 and 60 were strongly correlated and highly statistically significant. For the control sample, items 60 were strongly correlated and highly statistically significant.

Assumption testing. For BAI and WCQ hypothesis testing, normality was assessed through inspection of histograms, assessment of skew statistics, Kolmogorov-Smirnov test of normality for categorical variables, and Shapiro-Wilk test of normality for non-categorical variables. Homogeneity and heteroscedasticity were assessed through inspection of scatterplots, assessment of Levene’s statistic of equal variances, and use of an F-test for heteroscedasticity. Box plots and Q-Q plots for standardized residuals were also examined.
Correlation analyses were conducted to determine the relationship between dependent variables BAI and WCQ-PR scores. Significance ($\alpha$) was set at $p = 0.05$ (two-tailed). To investigate whether there was a linear or monotonic relationship between BAI and WCQ scores, a correlation analysis was conducted. For the correlation hypothesis, scatterplots were inspected for a linear relationship and monotonicity. Inspection of scatterplots for the correlation hypotheses indicated that the relationship may or may not be linear or monotonic except where adjusted for outliers. The independence of variables assumption for ANOVAs was violated through the paired pre-test-post-test design.

*Test selection.*

*Beck Anxiety Inventory and Ways of Coping Questionnaire hypothesis testing.* An analysis of covariance (ANCOVA) was performed on the BAI numeric scores, the WCQ raw scores, and the WCQ relative scores from the LI treatment group and the control group. In each case, the post-test was the dependent variable, the treatment groups were the fixed factors, and the pre-tests were the co-variate. This was done to test for differences between the LI treatment group and control treatment group and to calibrate on the pre-test scores. The ANCOVA is generally robust enough to account for the paired nature of the pre-test-post-test design (Wu & Lai, 2015). The Mann-Whitney U test was selected to hypothesis test the BAI categorical data. The $p$ value was set at .05 for all tests.

*Beck Anxiety Inventory and Ways of Coping Questionnaire correlation.* Both Pearson’s correlation coefficient and Spearman’s rank coefficient were performed to account for potential non-linearity and non-monotonicity. The data were then adjusted for outliers and the tests re-performed.
Qualitative analysis strategy. The participants from the treatment group (n = 13) were each interviewed by a member of the shelter counseling staff at the end of the 6 weeks of LI treatment (see Appendix D for the Interview Protocol). The interview included four core questions related to anxiety, coping, LI treatment, and hope for the future. The interviewer asked each participant to respond to each of the four core questions using a Likert scale. Open-ended subquestions followed each of the core questions. The counselors audio-recorded the interviews and a professional transcriptionist created transcripts of the interviews, which the researcher then analyzed. Interview data were analyzed to investigate participants’ experiences and perceptions of LI.

The researcher tallied the participants’ Likert-scale responses to the four core questions. The researcher then coded each transcribed interview. As described by Creswell (2007) and Holliday (2007), the coding process allows for the emergence of themes. This classification process occurred naturally during repeated readings of the transcripts, coding, and recoding the text of the transcripts. The researcher noted seven themes that emerged from the coding process and thematic analysis. These themes are presented, with representative quotes from the participants’ responses, in the Findings section of this chapter. These emergent themes assisted the researcher to better understand the participants’ experiences of the LI treatment. The task of assigning names to the themes became an important part of the data analysis process.

The use of a secondary coder, who reviewed the interview transcripts, codes, and themes, further increased the integrity of the research. The researcher provided the secondary coder with a sample of five interview transcripts and a preliminary list of
codes. The secondary coder then independently assigned these codes to the text of the transcripts. Next, the researcher compared the secondary coder’s coded transcripts with the researcher’s coded transcripts, noting that the coding matched in 88% of instances. McHugh (2012) noted that the traditional measure of interrater reliability is percent agreement, which is “calculated as the number of agreement scores divided by the total number of scores” (p. 276). Where there was disagreement, the researcher and secondary coder engaged in discussion and clarification, in a process that Campbell, Quincy, Osserman, and Pedersen (2013) refer to as “negotiating discrepancies” (p. 306). Following discussion and the resolution of several coding disagreements, the researcher recalculated the percentage of agreement, which then reached 92%. This interrater agreement statistic represents a 92% interrater reliability percentage and is well within the accepted percentage for qualitative coding (McHugh, 2012). Appendix E, Secondary Coder Statement, contains the secondary coder’s statement and signature, attesting to her confidential and professional review of the codes and transcripts. Additionally, the researcher made and reflected upon field notes, beginning in the period before the data collection and continuing throughout the data collection and analysis period. The use of field notes enhanced the research study’s integrity and trustworthiness, as the researcher’s reflexive writing in the field notes served as an “audit trail” of the researcher’s thoughts and impressions while collecting and analyzing the data (Nowell, Norris, & White, 2017, p. 3).

Findings

For this study, the researcher utilized a mixed-method research approach. The quantitative findings provided quantitative descriptive statistics, inferential statistics,
effect size, and statistical significance addressing the proposed hypotheses. For the qualitative findings, the researcher utilized in-person therapist-directed interviews with four core questions that explored the theory of LI treatment outcomes for anxiety and coping skills, as well as open-ended subquestions that allowed the participants to speak in more depth about their experiences. The researcher noted themes that emerged from the transcribed interviews, which helped the researcher to understand these issues and which provided additional support for the proposed hypotheses.

Quantitative Results

Demographics. All participants (N = 23) in this study were women who were residents of a homeless shelter in the Seattle area. Using an online randomizer, the researcher assigned these participants randomly to a control group, who were to receive customary protocol (n = 10), and a treatment group, who were to receive the LI treatment (n = 13). The researcher collected data for this study from April, 2017, through July, 2017. The participants answered a series of demographic questions at the time of test completion; their responses formed the quantitative descriptive statistics reported here.

Table 1 represents a summary of the demographic statistics describing the treatment (LI) and control groups.
Table 1

Demographics Summary of Treatment (LI) and Control Groups

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>LI(^1)(^3)</th>
<th>Control(^2)(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>42.18(11.07)(^4)</td>
<td>29.3 (8.14)(^4)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>46.2% [6]</td>
<td>80% [8]</td>
</tr>
<tr>
<td>African American</td>
<td>23% [3]</td>
<td>0</td>
</tr>
<tr>
<td>Asian American</td>
<td>15.4% [2]</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>15.4% [2]</td>
<td>20% [2]</td>
</tr>
<tr>
<td><strong>Parenting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients with children</td>
<td>92.3% [12]</td>
<td>80% [8]</td>
</tr>
<tr>
<td>Clients with children under 18</td>
<td>58.3% [7](^5)</td>
<td>50% [4](^8)</td>
</tr>
<tr>
<td>Clients with children not in full time custody</td>
<td>66.7% [4](^6)</td>
<td>60% [3]</td>
</tr>
<tr>
<td>Children not in full time custody</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76.2% [16](^9)</td>
<td>50% [5](^7)</td>
<td></td>
</tr>
<tr>
<td><strong>Length of time at shelter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 30 days</td>
<td>25% [3](^5)</td>
<td>10% [1]</td>
</tr>
<tr>
<td>&gt; 30 days, &lt; 120 days</td>
<td>33.3% [4](^5)</td>
<td>70% [7]</td>
</tr>
<tr>
<td>≥ 120 days</td>
<td>41.7% [5](^5)</td>
<td>20% [2]</td>
</tr>
<tr>
<td><strong>Living situation prior to shelter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Street(^10)</td>
<td>6.25% [1](^13)</td>
<td>14.29% [2](^14)</td>
</tr>
<tr>
<td>Friends or family(^11)</td>
<td>62.50% [10](^13)</td>
<td>50.00% [7](^14)</td>
</tr>
<tr>
<td>Different shelter(^12)</td>
<td>31.25% [5](^13)</td>
<td>28.25% [4](^14)</td>
</tr>
<tr>
<td>Stable housing</td>
<td>0</td>
<td>7.14% [1](^14)</td>
</tr>
<tr>
<td><strong>Any history of</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Street drug use</td>
<td>100% [13]</td>
<td>100% [10]</td>
</tr>
<tr>
<td>Prescription drug use</td>
<td>92.3% [12]</td>
<td>100% [10]</td>
</tr>
<tr>
<td>Mental health diagnosis</td>
<td>81.8% [9]</td>
<td>87.5 [7]</td>
</tr>
<tr>
<td>Incarceration</td>
<td>61.5% [8](^15)</td>
<td>70% [7]</td>
</tr>
<tr>
<td>No high school diploma</td>
<td>50.0% [6](^5)</td>
<td>10% [1]</td>
</tr>
</tbody>
</table>

\(^1\)Percent denominator = 13 unless otherwise stated. \(^2\)Percent denominator = 10 unless otherwise stated.
\(^3\)Except for age, all categories are expressed in %[count]. \(^4\)Age is expressed in mean [standard deviation].
\(^5\)Percent denominator = 12. \(^6\)Percent denominator = 6. \(^7\)Percent denominator = 5. \(^8\)Percent denominator = 9. \(^9\)Percent denominator = 9. \(^10\)Includes an abandoned house. \(^11\)Includes a romantic partner. \(^12\)Includes identified shelters different than the source shelter for participants and a church. \(^13\)Percent denominator = 16. \(^14\)Percent denominator = 14. \(^15\)Percent denominator = 11.
Hypothesis testing.

**Beck Anxiety Inventory.** In the quantitative stage of this research study, the following hypotheses were tested using the BAI (Beck et al., 1988), with these results (see Tables G1 through G9 for data tables illustrating the hypothesis testing).

**H1a:** There is a difference between mean BAI scores among homeless women enrolled in an addiction recovery program who were treated with LI and those who were treated with the regular intervention program when controlling for pre-test differences.

The post-BAI test mean for the LI treatment group was 13.62 ($N = 13, SD = 9.23$). The post-BAI test mean for the control group was 13.80 ($N = 10, SD = 10.59$). The mean difference between the two groups was a .18 decrease in anxiety scores.

The adjusted mean for the LI treatment sample was 13.04 ($SE = 1.97$) and the adjusted mean for the control sample was 14.70 ($SE = 2.26$). The mean difference between the two groups was a 1.66 decrease in anxiety scores.

The mean difference in the BAI scores was not statistically significant, $F(1, 19) = .003, p = .954, ES = .00$.

**H2(a):** There is a difference between BAI ordinal anxiety categories for homeless women treated with the LI before or after treatment.

There was no change in BAI anxiety level categories between the compared groups. There was no statistical significance for the difference in BAI anxiety categories.

**Ways of Coping Questionnaire.** In the quantitative phase of this research study, the following hypotheses were tested using the WCQ (Folkman & Lazarus, 1988a), with these results.
H₃a: There is a difference between mean WCQ raw scores among homeless women enrolled in an addiction recovery program who were treated with LI and those who were treated with the regular intervention program when controlling for pre-test differences.

The LI treatment sample (N = 13) had a mean of 13.77 (SD = 6.04) for the post Positive Reappraisal scores on the WCQ. One case was excluded from the control sample as a result of missing scores in the pre-test. The control sample (N = 9) had a mean of 16.39 (SD = 4.73). The mean difference between the LI treatment sample and the control sample was 2.62.

The adjusted mean for the LI treatment sample was 13.75 (SE = 1.52) and for the control sample was 16.40 (SE = 1.82). There was a 2.67 decrease in mean quantity of use of positive reappraisal coping methods by the LI intervention group as compared to the control group.

The mean differences in the WCQ scores were not statistically significant, F(1, 18) = .97, p = .34, ES = .05.

H₄(a): There is a difference between mean WCQ relative scores for homeless women treated with the LI before or after treatment when controlling for pre-test baseline.

In the LI treatment sample there were 13 participants. One participant was excluded from the pre-test and one from the post-test for missing answers in subscales required for relative score calculation. The final sample size for relative scores for this group was 11 participants (N = 11). The mean for the pre-LI treatment was 16.05% (SD = 6.37). The post-test mean was 11.28% (SD = 5.33).
In the control sample there were 10 participants. One participant was excluded due to missing pre-test data. The final sample size for relative scores for this group was 9 participants \((N = 9)\). The mean for the pre-LI treatment was 14.95\% \((SD = 5.74)\). The post-test mean was 11.33\% \((SD = 2.14)\). There was a .05\% decrease in positive reappraisal coping mechanism use by the LI group versus the control group.

The adjusted mean for the LI treatment sample was 11.1\% \((SE = 1.20\%)\). The adjusted control sample mean was 11.2\% \((SE = 1.30\%)\). There was a .1\% decrease in positive reappraisal coping mechanism use by the LI group versus the control group.

The mean differences in the WCQ scores were not statistically significant, \(F(1, 16) = 4.07, p = .06, ES = .20\).

**Ways of Coping Questionnaire and Beck Anxiety Inventory correlations.** For the Pearson coefficient there was a weak negative correlation between the BAI total sample post-test \((M = 13.70, SD = 9.16, N = 23)\) and the WCQ total sample post-test \((M = 15.11, SD = 5.6, N = 23)\) that was not statistically significant, \(r = (-.207), p = (.342), ES = (-.207)\). For the Spearman’s correlation coefficient there was a weak negative correlation between the BAI total sample post-test and WCQ total sample post-test that was not statistically significant \(r = (-.336), p = (.1170), ES = (-.336)\). After adjusting for outliers, correlations were not statistically significant.

**Qualitative Results**

**Qualitative analysis of participants’ Likert-scale interview responses.** During the one-on-one interviews, the 13 participants from the treatment group responded to the four core questions with Likert-scale responses.
Core Question 1. All 13 participants provided a Likert-scale response to Core Question 1: How effective would you say the Lifespan Integration treatment interventions were for you during the counseling sessions? A total of 85% (n = 11) of the participants in the treatment group found the Lifespan Integration treatment interventions to be either extremely effective (54%, n = 7) or very effective (31%, n = 4), while 15% (n = 2) of participants described the LI procedures as moderately effective. No participants responded that they found the LI procedures to be slightly or not at all effective.

Core Question 2. Only 11 participants gave Likert-scale responses to Core Question 2: How would you rate your average level of anxiety after the four counseling sessions? Of the participants responding, 9.09% (n = 1) rated their level of anxiety after the four counseling sessions as very anxious, 9.09% (n = 1) reported that they were moderately anxious, and 45.45% (n = 5) of respondents reported that they were slightly anxious following the four counseling sessions, while 36.37% (n = 4) said that the treatment did not affect their anxiety levels.

Core Question 3. Only 11 participants gave Likert-scale responses to Core Question 3: How much do you feel your coping skills have improved since your Lifespan Integration treatment? The responses to Core Question 3 indicated that there were improvements in coping skills. Of the participants responding, 36.365% (n = 4) reported that their coping skills had improved extremely, 36.365% (n = 4) reported that their coping skills had improved very much, 18.18% (n = 2) reported that their coping skills had moderately improved, and 9.09% (n = 1) indicated that their coping skills were slightly better. None of the participants reported lack of effectiveness in improvement in coping skills.
Core Question 4. All 13 participants provided Likert-scale responses to Core Question 4: How would you rate your level of hope for your future? Their responses to Core Question 4 indicated that participants’ level of hope for the future improved, as 85% (n = 11) indicated excitement for the future and 15% (n = 2) indicated moderate hope for the future. No participants responded with “Not at all,” “Slightly better,” or “Optimistic” to Core Question 4.

Qualitative thematic analysis of participants’ interview responses. Seven themes emerged during the qualitative analysis of the transcripts from the participants’ interviews.

Theme 1: I found the process of going back to the memory and repeating it to be hard, but also helpful and healing. This theme emerged when asking participants about the LI treatment. This process seemed difficult for the participants because of their past experiences. These experiences included instances of abuse, domestic violence, incarceration, and substance addiction. In the LI treatment process, they were asked to create a timeline of their life, starting at childhood, often bringing up past memories of abuse. The LI treatment protocol of repeating memories can often create anxiety in bringing up trauma, and thus it may be a difficult part of the LI treatment process. Participants noted that they found the LI treatment process to be hard, yet also healing and helpful. One participant noted that “It was hard. It was painful” (P9). Another participant explained:

It helps you, to know, get out a lot of anxiety and a lot of, you know, your past that you was thinking of, and trying to remind yourself in your mind that you’re
not in that anymore. And it helps you get it out, to talk about it over and over, and it helps you get it out to be at ease. (P23)

One participant described her experience:

Because I feel I got it all off of my chest, and said what I had to say that I never said to my abuser, you know, and I got to say it, you know through healing, of what I wanted to say. And it helps. (P23)  [This quote’s context is regarding a memory of past and confronting the abuser during LI treatment intervention.]

Another participant noted:

Well, the feelings that you have to go through to get through the healing. But it all is required and helps you to feel, and to just heal that wound, to seal up its scarring, you know. It’s still there, but yet it’s mentally better. (P22)

*Theme 2: Since treatment, I still have some anxiety but my anxiety is less intense and it doesn’t last as long.* Participants spoke about the changes in their anxiety following LI treatment:

I’d say I’ve slowed down a lot in my thinking and actions, and so my anxiety isn’t as, ’cause I can actually, instead of crying my eyes out, I just [NOISE like “whoop”], instead of getting anxious. So other than, I mean, if you could have done that to me months ago, I would have been devastated, there was nothing I could have done, I would have given up, so. (P22)

Other participants noted: “I feel like my anxiety is less intense, that I can handle it and work through it” (P21); “It doesn’t last as long. I mean, it’s not like the responses that I have are as extreme” (P15); “It’s better. I mean, I would say probably way better. Like I say, my anxiety is more about my future than about my past” (P14); “That I could live
through the situation and again, if I had to and be okay” (P10); and “My anxiety has gone
way down. I am now doing things that before, I couldn’t do. Like before, I could not
drive. And now I’m driving myself to places” (P11).

**Theme 3: Since treatment, when I feel anxiety coming up, I know I can openly
talk about things and ask for help rather than stuffing it down.** Participants spoke
about their ability to talk about their feelings of anxiety since completing LI treatment,
comparing this ability to their previous tendency to withdraw and repress their feelings of
anxiety:

I like that I could go back to myself now and go through the timeline. Also I
liked that I could let out things that I haven’t told anybody else, all the abuse that
I’ve suffered, to be honest with somebody that’s open and trustworthy, knowing
that all my past. I had never talked about my past before with anybody, especially
some of the issues. I’ve changed a lot ’cause now I was open to telling you
everything. (P13)

Another commented:

When it comes to the things that we’ve worked on, I’m able to deal with those
feelings, without feeling anxious, you know. I’m able to deal with them. I can
actually talk about those certain things without crying or feeling nervous or
anxious. (P6)

A further participant shared:

I’m willing to sit down and think about what is better for my life, for my
children’s life, for my future and my health. So it has done a lot of changes for
me. I can really be able to do what I need to do, instead of worry about the past or
worry about the hurts of the past trauma or the past history. Even though the trauma’s going to be there and a lot of hurt is going to be there, but to really just sit there and just let it turn over into yourself, I’m not going to do that. I’m willing to be vulnerable, I want to talk about it because I need to let it go, so I’m very open and forward about it. (P2)

Theme 4: Since treatment, I feel safer and more confident. Participants spoke about their feelings of safety and confidence since completing the LI treatment: “And dealing with my anxiety, my fear has gone way down and I feel a lot safer” (P9) and “Oh, I feel very safe. I feel very confident in where I’m at and I know that nothing is going to happen, so I’m very confident about that, extremely confident, extremely confident on that” (P2). One participant noted:

I can really be able to do what I need to do, instead of worry about the past or worry about the hurts of the past trauma or the past history. Even though the trauma’s going to be there and a lot of hurt is going to be there, but to really just sit there and just let it turn over into yourself, I’m not going to do that. I’m willing to be vulnerable; I want to talk about it because I need to let it go, so I’m very open and forward about it. (P2)

Another participant explained: “Um, I think they just helped me a lot with self-esteem and how I feel, you know, about, I think it’s helping me with recovery” (P1).

Theme 5: Since treatment, I have a variety of coping skills that I know I can use. Participants spoke about their ways of coping since completing the LI treatment, comparing the variety of skills that they now possess to those prior to treatment:
I think I have grown immensely as a person. I look at things totally different. My coping mechanism, everybody around me says they have seen so much growth. I know a lot of it is due to counseling. And because of my counseling, two of my girls have taken some of the information from her and have asked their counselors to do [LI treatment] with them. (P9)

One participant also shared:

I know how to cope and, you know, like I said, I can talk to somebody when I’m feeling down and out, or a bad thing creeps back up on me, I can talk to you. Yea, so now I know I’ve got help and I can take some deep breaths and do the same pattern again and get it out! (P23)

While another described the following:

I think I’ve matured in my emotional status, just because the fact that I can even bring it out and talk about it. I never did that, never. I was just closed-minded and just put it in the back of my memory bank and not even think about it. Or just not dwell on it at all, but we’re having to dwell on it three times, four times, you know? (P22)

Another participant noted that “I’ve been able to like start persevering through things instead of just not dealing with them” (P15).

**Theme 6: Since treatment, I have grown in my faith in God.** Participants spoke about their growing faith in God since completing LI treatment: “I have a lot of trust in going through my counseling sessions, and I have a lot of faith in God” (P10); “With God anything is possible. So I think together, we’re going to, I want to go into the ministry, so I’m very excited” (P9); “I don’t have to worry about anything. The Lord got it!” (P2);
“[Experience of hope] in ways I’ve never expressed before, that God has more plans for me than I’ve got myself. So yeah, it’s, if I continue like this, taking one step forward in faith, I’ll let God do the rest” (P2); “I feel more spiritually stronger. My faith is just stronger” (P26); and “I think I’ve changed quite a bit. Believing in God a lot more, and, like I said before, happier, and happier, and that’s it” (P25).

Participants elaborated:

And now I know because God’s took me through the fire first and now He wiped me clean, and He has better choices in life for me, so I want to walk by His choice that he has, instead of my own choices, I’m going to let Him lead me the right way. I’m happy! (P23)

Another participant added:

My life is a painting, an unfinished painting, you know, and I feel like I’m somewhere out there in that universe, God has a calling for me. And I’m just still figuring out how all the painting is going to be finished. I am an unfinished painting. (P22)

**Theme 7: Since treatment, I am hopeful and excited about my future, making goals and plans for my life.** Participants spoke about their feelings of hope and excitement when thinking about their futures. They expressed having goals and making plans for their futures and they reflected on how different they feel about the future since completing LI treatment:

I experience hope every day. When I get up in the morning at five o’clock, I get into the Word, so He gives me hope every day. And I can just see, in little things, hope. You know, I always tell, I wasn’t just hopeless; I had no hope. That’s less
than being hopeless. Now, I have so much hope. Before, I didn’t really. Now I have dreams. (P9)

Participants further explained: “I’m going to have a brighter future with all this, you know? I feel very grateful and blessed to be able to be here and to have you as my counselor and to the opportunities I have today” (P6); and “I feel that I can do and make better choices in life now, because of the experiences I went through” (P23).

Another participant elaborated:

Well, when I experience hope, I see it in my children, you know, I mean, I know that I can give them a lot better upbringing than my upbringing, and a lot more, like a whole, like the whole piece of the pie, not just one part, you know? But the whole piece, the emotional things too, you know, like when, especially when I ask my daughter, you know, how is she feeling, she can tell me that she’s sad and know that mommy really cares. (P22)

Likewise, a further participant encapsulated her hope for the future:

A chance to get back on my feet. Because just staying with people, just like treading water, you know, you’re not getting anywhere, you know? I think here, you have opportunities to actually get back on my feet, back in a place of my own and back. So I think, just being here, I’m hopeful for a brighter future. (P14)

And a final participant shared:

I think my future’s pretty bright. I, you know, I’m a procrastinator at times, but I do plan on going and getting my GED and going back to school and actually doing a job that I’m going to love, that’s going to help people who have no voice. (P10)
Summary

This mixed-method research produced both quantitative and qualitative findings, which were summarized in this chapter. The women recruited to participate in this six-week research study were from an addiction rehabilitation shelter. This sample was then randomly assigned to a treatment group and a control group. Each participant was administered a demographic survey, the BAI, and the WCQ. Both groups completed the BAI and the WCQ pre- and post- the six-week time period. The participants in the treatment group were then given LI as a treatment intervention. At the end of the 6 weeks, the treatment group was interviewed to gain more insight into participants’ experience of LI treatment and elicit themes that might otherwise be missed by the standardized assessments.

In the quantitative stage of this research study, the results indicated that the mean difference in the BAI (Beck et al., 1988) scores among homeless women enrolled in an addiction recovery program who were treated with LI and those who were treated with the regular intervention program was not statistically significant, $F(1, 19) = .003, p = .954, ES = .00$. The results also indicated that there was no statistical significance for the group rank difference in BAI anxiety categories.

In the quantitative phase of this research study, analysis of the WCQ (Folkman & Lazarus, 1988a) scores indicated that the mean differences in the WCQ raw scores were not statistically significant, $F(1, 18) = .97, p = .34, ES = .05$. The results also indicated that the mean differences in the WCQ relative scores were not statistically significant, $F(1, 16) = 4.07, p = .06, ES = .20$. 
There was a weak negative linear correlation between the BAI total sample post-test ($M = 13.70$, $SD = 9.16$, $N = 23$) and the WCQ total sample post-test ($M = 15.11$, $SD = 5.6$, $N = 23$) that was not statistically significant, $r = (-.207)$, $p = (.0.342)$, $ES = (-.207)$. There was also a weak monotonic correlation between the BAI total sample post-test and WCQ total sample post-test that was not statistically significant, $r = (-.336)$, $p = (.117)$, $ES = (-.336)$. After adjusting for outliers, correlations were not statistically significant.

Raw scores between pre-test and post-test measurements indicated that both the LI group and the control group decreased their anxiety, that the LI group decreased its coping methods usage, and the control group increased its coping method usage. These scores were not hypothesis tested and no conclusions can be drawn as to whether they are statistically significant or due to random variation. The Likert-scale scores from the qualitative data indicated that for the majority of the participants, there were improvements in anxiety and ways of coping after the course of treatment.

The qualitative findings utilized in-person therapist-directed interviews with four core questions that explored the theory of LI treatment outcomes for anxiety and coping skills, as well as open-ended subquestions that allowed the participants to speak in more depth about their experiences. The Likert-scale findings for LI treatment indicated that 85% of the participants found the Lifespan Integration treatment to be either extremely effective or very effective, while 15% of participants described the LI treatment as moderately effective. Participants rated their level of anxiety after receiving four LI counseling sessions; 9.09% rated themselves after the four sessions as very anxious, 9.09% reported being moderately anxious, and 45.45% of respondents reported being slightly anxious, while 36.37% said that the treatment did not affect their anxiety levels.
Participants responded about improvements in coping skills, with 36.365% who reported that their coping skills had improved extremely, 36.365% indicated that their coping skills had improved very much, 18.18% stated that their coping skills had improved moderately, and 9.09% reported slightly better coping skills. None of the participants reported a lack of effectiveness in improvement in coping skills. Finally, participants rated that their level of hope for the future improved. Of the participants who responded, 85% indicated excitement for their future and 15% indicated moderate hope for their future.

Seven themes emerged from the interviews post-LI treatment interventions based on the open-ended therapist-directed interviews. Themes included finding the repetition of LI timelines to be hard, but also helpful and healing; having some anxiety but finding that their anxiety was less intense and did not last as long, and when they did experience feelings of anxiety, knowing how to talk about them rather than keep them “stuffed down.” After treatment, most participants reported feeling safe and more confident, having a variety of coping skills, growing in their faith in God, and feeling hopeful about the future.

The qualitative portion allowed the participants to expand on how treatment affected their anxiety and coping skills. The themes that emerged regarding anxiety levels post-treatment were that it was less intense and did not last as long, and the women were able to seek help from others when feeling anxious. The themes that emerged for coping were that participants had a variety of coping skills to utilize in situations, grew as a person, and found strength in their faith in God, utilizing spiritual strategies to cope in stressful situations, all of which elicited a sense of hope and excitement for the future.
Although the results of the quantitative portion did not reflect the findings in the qualitative interview, there were some interesting parallels. On the WCQ Positive Reappraisal subscale, there were questions eliciting skills in spiritual strategies used to cope. The spiritual strategies were finding new faith, rediscovering what is important in life, and praying. Those participants reporting about anxiety and coping skills post-treatment mentioned several ways that spiritual strategies helped them with anxiety and coping and provided hope for the future. These qualitative results provided some evidence of the effectiveness of the LI treatment intervention. The findings will be further discussed in the final chapter.
Chapter Four: Discussion

The purpose of this study was to test the effectiveness of LI in reducing anxiety and improving the coping method of positive reappraisal among homeless women seeking addiction treatment. The goal of the research study was to answer the question: Does the therapeutic intervention of LI reduce anxiety and increase coping methods among homeless women enrolled in an addiction recovery program? Participants were 23 women recruited from a local area shelter who were randomly assigned to a control and treatment group, with the treatment group receiving four LI treatment interventions. The experiment had a proposed six-week time frame from April, 2017, to July, 2017; however, in some cases it went beyond the six weeks due to attrition and life disruptions of participants. These women completed a demographic questionnaire, the BAI, and the WCQ pre- and post-experiment. At the end of the six-week time frame, the women selected for the treatment group participated in one-on-one open-ended interviews with their therapist, to further assess the effectiveness of LI treatment intervention on anxiety and coping skills. Following transcription of the interviews, the researcher analyzed the transcripts, assigning codes to the material; seven themes emerged during this qualitative analysis. The quantitative research findings suggested that according to the BAI results and WCQ results, the women in the treatment group did not experience a reduction in their symptoms of anxiety or an improvement in their coping skills. However, after thematic analysis of the qualitative interviews, there were suggestions of improvements in those areas, specifically with the use of LI intervention as a treatment strategy.

Quantitatively, the method used to assess the LI intervention’s effectiveness was to compare it to conventional treatment in the control group. Pre-intervention testing was
used as a calibration baseline to account for differences in group composition between the LI treatment group and the control group. The researcher cannot conclude from the quantitative results that the LI had no effects on anxiety, but rather that there was no statistical evidence that pre-test-post-test effects on anxiety or coping were not due to random variation. Due to sample size and instrumentation issues, the researcher also cannot conclude that the LI had no effect on anxiety as compared to the control group, but that we cannot reject the null hypothesis that the LI was not more or less effective than the control group in impacting anxiety and coping mechanisms. Both interventions could have, or could not have, impacted anxiety and coping method use. This design could not find these impacts.

Though not statistically significant, BAI scores were in line with the qualitative experience of the participants. WCQ scores, however, contradicted the qualitative experience in that the LI treatment decreased WCQ coping method scores both in pre-test-post-test means and in control-LI intervention comparisons. This finding could be attributed to random variation, sample size, an incompatibility of means testing sensitivity, or an instability in the WCQ instrumentation as applied in this research context.

The qualitative interview responses suggested that the participants experienced reduced anxiety, found the LI treatment helpful, and were able to utilize new coping strategies. The WCQ’s Positive Reappraisal subscale questions elicited introspective strategies related to spirituality. The interview responses seemed to connect these questions to the participants’ responses, suggesting that the women found strength in God and faith. The responses suggested that the women were able to find better ways to cope
utilizing these strategies. Qualitatively, there seemed to be a connection between LI treatment and a reduction in their symptoms of anxiety or an improvement in their coping skills, specifically through the utilization of spiritual strategies.

**Interpretation**

The quantitative data collected from this research study did not yield statistically significant results, thus it cannot be interpreted as support for the theoretical stance that LI treatment intervention helps with anxiety symptoms and improved coping strategies, as compared to standard treatment at the shelter for homeless women. The reason the effect was not found may be due to the combination of sample size and psychometric properties of instruments utilized in the research study. The sample of 23 participants was already low-powered. It was also intolerant of data collection error that could cause data exclusion. The design included a time axis and a control group axis. The use of the control group axis and pre-test-post-test axis halved the functional population sample to the lowest sample in a given comparison. For post-test comparisons, this reduced the sample size effective limit to 10 for the BAI analysis, 9 for the WCQ analysis, and 11 for the BAI/WCQ correlation analysis.

The test-retest design also impacted which statistical tests could be used, which was further reduced by the control design. Pre-test-post-tests call for paired statistical tests. Control and treatment groupings benefit from assessment of pre-test baseline. The combination of paired data points and multiple groups necessitated a much larger sample to meet all underlying statistical assumptions. As such, the sample size limited statistical test options and resulted in assumption violations for the ANCOVA and correlations.
The psychometric properties of instruments may also have impacted results of this research study. Little research exists on LI therapy, none of it exploratory or investigating stand-alone appropriate instrument matching for the population and design. As such, literature was used to select psychometric instruments. While literature suggested that the BAI and WCQ could be appropriate instruments for the study, other factors may have been at play.

The BAI is heavily studied and considered to be gold standard instrumentation. Reliability results indicated that it was mostly stable in this study, but some instability was seen in the control group test-retest comparisons. This may have been due to low sample size, as most of the instability presented in the form of non-statistically significant results. One might be cautious in the future about the somatic measurements of the BAI, as homeless women may not be in a position to seek diagnosis or treatment of physical illnesses that may share somatic components.

The WCQ is also fairly well studied. However, it suffers from certain disadvantages. The subscale appears to cover a variety of coping methods, but has positive, negative, and neutral items inside of scale constructs. Whether certain subscale coping methods are positive, negative, and neutral depends on the circumstances and context of the subject using those coping methods. Further, subscales often had items that measured more than one construct, sometimes none of which appeared to be the construct in the scale label. This can introduce confounders.

The WCQ also suffers from a scoring complexity. The Likert system on the WCQ does not lend to numerical scoring; it does lend to categorical scoring. The only scoring system offered and well researched, however, is the numerical scoring system.
This brings into question the interpretive ability of numerical statistical tests on WCQ scores. The long form can engage participant fatigue but may reduce certain biases by separating the scale components. The short subscale scoring can alleviate participant fatigue, but it may signal the clients to perceive the coping methods in a more positive light than they might with the long form.

Although the findings from the quantitative portion of this research study did not support the research hypotheses, some of the themes that emerged from the qualitative interviews appeared to be contradictory to those findings. From their responses in the qualitative portion of the research study, all of the participants in the treatment group stated that they found the LI treatment to have effectiveness. The underlying difference in design accounts for potential differences in the findings. The quantitative portion was designed to test whether there was an improvement in treatment by the LI over conventional interventions. The qualitative portion was designed to elicit a deeper understanding of the participants' experience with LI therapy. The statistical data collected for the hypotheses indicated that there was no significant improvement in anxiety or coping skills post-LI treatment interventions. Raw results indicated that both anxiety and coping skills decreased with LI intervention, but these results were small (less than 3 coping units out of a potential maximum of 28 and less than 1 anxiety unit out of a potential maximum of 61). These decreases were not statistically significant and could be a result of random variation.

In lieu of these findings and after thematic analysis of qualitative results, some useful information was extracted that supports the theoretical stance that LI treatment intervention is useful in anxiety symptom relief and enhancing coping strategies (C.
Lindlow, personal communication, August 31, 2014; Thorpe, 2008, 2012). It is well postulated that useful treatment strategies are necessary for the homeless population and due to the transient life circumstances and vast demographic backgrounds of these individuals, capturing a specific and useful strategy has been difficult (Nuttbrock et al., 1998; Reinhardt et al., 2011; Slesnick et al., 2012; Tischler et al., 2007).

**Demographics.** Efforts to improve treatment modalities for this population are useful for treating this population’s multifaceted issues. Therefore, information gained from the demographic questionnaire can help to confirm previous research and inform other researchers of the diversity of the homeless population, particularly women and the demographics of age, race, children and custody status, mental health, incarceration, living situation, education, and drug abuse.

As expected, there were convergent similarities in treatment group and control groups’ demographics. The demographic diversity, particularly street drug abuse and mental health, was similar in each group. The majority of both the control group and treatment group participants had experienced previous drug abuse and had mental health issues. Similar to existing statistics and demographics of the homeless population in the United States, the majority of this research population was Caucasian (60.9%) (HUD, 2016). Though the total sample was in line with previous findings on homeless populations, the control group and treatment group diverged in their racial distributions. It is not surprising that findings from this study are consistent with previous findings associated with the demographic and the general homeless population.

Most of the women in this study had children and the majority of the children were under the age of 18 and not in their full-time custody, indicating that the majority of
the women are in custodial situations that increase, creating extra stress and parenting issues. There were 23 total number of children distributed among 7 total number of participants who had children not in their full-time custody, whereas there were 10 total number of children distributed among 5 total participants in full-time custody. This demographic information supports the theoretical basis of this research indicating that increased psychosocial stressors related to parenting can increase anxiety and mental health issues (Banyard & Graham-Bermann, 1998; Ghate & Hazel, 2002; Paquette & Bassuk, 2009; Tischler et al., 2007).

Also notable were indications of divergent demographic profiles between the treatment and control groups, which may have had an effect on outcomes. The treatment group was more racially homogenous than the control group. Racial disparities can impact application of therapeutic treatments and participant perception and response to treatment. There was a wide range of age, particularly mean age, of the control group (mean age 29) and treatment group (mean age 42). In addition to the gap in age, there was skewed age range from a normal curve in the control group as compared to the treatment group. The treatment group had also been at the shelter for longer periods of time, which could have introduced an extra element of stability for the treatment group than the controls. This may have affected results due to expected lifespan, stage in life, and lifestyle differences of the age groups. The treatment group’s age and normal distribution may have affected results because of their matured stage of life. The maturation of the women may imply there may be more self-awareness, life issues, adult children, and longer experience working on social/mental health issues, as well as fewer psychosocial stressors. Whereas due to age of maturation, the women in the control
group may be in an unstable stage of life, with young children and custody issues, and may have more psychosocial stressors, the women in the treatment group have had more time in which to possibly work on skills to overcome life obstacles. The control group may be more unstable in life skills and less equipped to overcome psychosocial stressors than those women in the treatment group, possibly receiving less support with young children and public parenting that is attributed to shelter dwelling (Kissman, 1999; Slesnick et al., 2012). Therefore, the treatment group’s level of psychosocial stressors may have been different in nature than that of the women in the control group; this difference may have affected the research outcomes.

**Treatment.** As previously noted, LI intervention as a treatment strategy for homeless women has very little research support. The women, in this case, have a history of trauma, abuse, and addiction. The only support given to the usefulness of LI with this particular population is through the Balkus (2012) study, which used LI intervention as a trauma-informed intervention. Balkus (2012) compared pre-intervention-post-intervention analysis on the LI without comparison of a control group; the results of Balkus’s (2012) study indicated a significant effect on trauma-related symptoms. In contrast, the research design of the present study utilized a control group, to test whether the same LI intervention could significantly impact anxiety and coping strategies. In addition, this research design included a qualitative interview, which provided richer data. Although the quantitative results were not significant, the qualitative interview data provided evidence to the contrary.

Of the women interviewed, 100% of the participants in the treatment group found the Lifespan Integration treatment to have effectiveness. This process seemed difficult
for the participants because of their past experiences. The LI treatment participants noted that they found the LI treatment process to be hard, yet also healing and helpful. The participants noted that repeating the memory timelines gave them ease and that their abusers no longer have power over them. Some participants further explained a new coping strategy of reframing, stating that although there are still wounds and scarring, they learned to hold these wounds in a mentally healthy way.

**Lifespan Integration treatment anxiety symptom relief.** It is well documented that homeless women experience trauma (DePrince et al., 2012; Schneider et al., 2009; Tischler et al., 2007). Women who experience trauma are more likely to develop trauma-related symptoms and long-term negative consequences due to lack of treatment. Some of the trauma-related symptoms described by women experiencing IPV are depression, anxiety, hyper-arousal, paranoia, flashbacks, night terrors, and anxiety attacks (DePrince et al., 2012).

This study sought to address anxiety. Lifespan Integration treatment in theory is to provide anxiety and symptom relief by healing the neural network system (C. Lindlow, personal communication, August 31, 2014; Thorpe, 2008, 2012). The treatment group provided some evidence of improvements, with approximately 65% indicating that their levels of anxiety improved over the course of four weeks of LI treatment intervention. Two themes emerged regarding anxiety post-treatment as being less intense and that if they are experiencing feelings of anxiety, then they feel more equipped to openly talk about feelings. One participant noted that “I’ve slowed down a lot in my thinking and actions.” This has helped this individual not to feel so anxious, with the propensity to give up and feel defeated. Another participant indicated that their anxiety is less intense
and they feel empowered to work through it. These changes in their anxiety levels emerged following LI treatment.

One individual stated that although she has a traumatic past, it was helpful to talk about it. Another woman stated that she finds comfort in being able to be honest, going through her timeline, letting things out that she has never told anyone. All of these reasons indicate that talking about their feelings, perhaps creating a timeline as per LI treatment, is useful in processing some of their past trauma and in turn eliminating or reducing their anxiety, coping through speaking about these past issues.

Coping strategies. Participants from this study indicated that through LI treatment interventions they have gained new coping strategies. Two strategies which were highlighted in this study were seeking social support and spiritual coping mechanism (prayer and faith). The spiritual coping strategies may have been developed due to the spiritual emphases this particular shelter utilizes in its program.

It is established in literature that social support is necessary to good coping strategies (Folkman & Moskowitz, 2004). These findings were consistent with previous research. Through thematic analysis of interviews, the researcher concluded that participants found it helpful to have a trustworthy individual with whom to talk and process stressful life situations. One woman stated that “to be honest with somebody that’s open and trustworthy, knowing that all my past, I had never talked about my past before with anybody, especially some of the issues. I’ve changed a lot 'cause now I was open to telling you everything.” This observation is consistent with the findings of Folkman and Moskowitz (2004) that employing the active coping strategy of seeking social support tended to equip individuals to adjust better to life stressors and have fewer
psychological symptoms. This may not be directly related to the use of LI, but the nature of this shelter's program utilizes a team of individuals, including a therapist, to help women in the recovery process.

This researcher discovered that spiritual coping was also a beneficial coping strategy for the participants, as indicated by their qualitative interview responses as well as their responses on the WCQ-PR. Participants indicated that faith in God, reading scripture, and prayer were beneficial. The utilization of these spiritual practices empowered participants to feel stronger, happier, and hopeful. One woman stated in her interview that “I feel more spiritually stronger. My faith is just stronger” (P26). This is consistent with previous research on the benefits of utilizing spiritual practices to help with health, psychological issues, and coping (Cole & Pargament, 1999; Dein & Stygal, 1997; Pargament, 1997; Pargament, Smith, Koenig, & Perez, 1998).

**Confidence.** Participants in this study spoke about their feelings of safety and confidence since completing the LI treatment. It is well formulated that homeless women have a sense of powerlessness and loss, provoking significant psychological distress (Tischler et al., 2007). After LI treatment, a majority of participants felt a sense of confidence, that they are now safe and fear is not as prevalent. One woman explained that she feels extremely confident that nothing (bad) is going to happen to her again. Another woman used the word “self-esteem” as a form of confidence. In previous research, the goal of therapy is to strengthen self-esteem in order to empower this population to be agents of change in their lives, helping to empower them in recovery and reintegration into society (Slesnick et al., 2012).
Hope for the future. Participants in this research study spoke about their feelings of hope and excitement when thinking about their futures. They expressed having goals and making plans for their futures and they reflected on how differently they feel about the future since completing LI treatment. This hope gave some of the participants the ability to think positively and dream. One woman reported that she visualized a brighter future for her children as motivation to continue to improve in order to create a better life for her children. Hope inspired several women to get an education, and acting as an agent of change in their life, to seek out career opportunities and reach for previously lofty career goals (Deegan, 1998). After several sessions of LI, clients have reported that they feel better about life, perhaps more hopeful, and self-accepting. The result of this therapy is that through self-acceptance of an individual’s timeline, integration, there is hope that there will be a better future because of the resolution of the past (Lifespan Integration, 2018). In addiction recovery, hope is a theme that is important in relapse prevention. Hope seems to have a positive impact on recovery, as individuals in recovery are open to change (Palmer & Daniluk, 2007).

Integration of Findings With Previous Research

It is well formulated above that the results of the quantitative data did not produce significant data. However, unlike those results, the qualitative data indicated that participants found LI treatment to be extremely effective, providing evidence of LI treatment. Also, the results indicated the women had an excitement for the future and were hopeful.

It is well established in literature that homeless women experience chronic health issues and mental health problems such as anxiety, depression, and bipolar disorder
EFFECTIVENESS OF LIFESPAN INTEGRATION

(Baggett et al., 2010), while struggling with limited resources and access to services to treat these issues (SAMHSA, 2013; Tischler et al., 2007). Furthermore, those who are in treatment for mental health issues seem to have better results than those who do not receive treatment (Finfgeld-Connett, 2010). The issue of mental health issues and access to services is a problem. The results of this data indicated that with the support offered at the shelter and by the counseling staff, the women reported some anxiety relief and an increased ability to cope with difficult situations, with 36% of the treatment group participants reporting “extremely” in improved coping skills since beginning treatment, providing some evidence of the effectiveness of LI as an intervention and targeting anxiety-related symptoms.

Therapeutic interventions and treatment are needed to improve mental health outcomes for this population and this study provides some support for the potential of LI’s effectiveness. The needs of these women go beyond lack of housing to lifestyle issues of parenting, legal troubles, victimization, and jobs. The added stress in addition to histories of sexual abuse, domestic violence, and mental illness creates difficulty for these women in achieving successful outcomes. Many of the lifestyle issues may not be addressed in therapy but create added stress; therefore, offering hope and alleviating anxiety is useful (Palmer & Daniluk, 2007).

The nature of LI as a therapeutic intervention is to provide treatment for a variety of issues. It is well established in the professional literature that these individuals need an effective treatment modality that is trauma-informed (Williams & Hall, 2009) and addresses the wide variety of issues that are common in the homeless population. The
nature of LI as a treatment modality offers a variety of interventions to treat attachment problems, trauma, and other psychological issues.

However, it is difficult to determine whether LI impacts long-term results or is as or more effective than conventional therapy. The lack of support for prolonged success is limited and usually absent after transitioning back into society, which makes sustained positive mental health results hard to maintain. Many of the women come from low income/poverty and barriers to make life convenient, safe, and worth living (Dawson et al., 2013). These issues remain persistent, so having support and safety are essential. Often, the length of stay at shelters is limited and not meant to be long term. In addition to long-term services, creating self-efficacy in the homeless women will help to empower them to recovery and successful reintegration into society (Slesnick et al., 2012). Therefore, long-term mental health support is necessary to sustain lasting results and to increase hope of a life worth living.

Limitations of the Current Study

This research study had limitations. Each of the following is a consideration for the effectiveness of this study: participant population and recruitment, attrition, LI intervention, instrumentation, counselor execution of intervention, and counselor execution of interview protocol. When studying any homeless population, researchers encounter issues in gathering data due to attrition and the unstable circumstances of homelessness, creating limits in generalizability of research results (Reinhardt et al., 2011); therefore, it was not surprising that the results of this research study of homeless women would have similar difficulties with methodology and data collection. Some proposed remedies are presented following the description of limitations.


**Participant population and recruitment.** Participants were gathered from the fewer than 100 individual women living in the shelter. For this reason, the number of participants from which to recruit was limited. In addition, the attendance of women in the shelter’s program is unpredictable and can change daily. Women remain at the shelter as needed and are free to leave at any time. These factors narrowed the researcher’s access to participants and limited the requirements for being in this research study.

**Attrition.** The volatility and unpredictability of circumstances of a transient lifestyle also contributed to this study’s outcome. Most of the participants had addiction and parenting or custody issues. Drug relapse and adherence to requirements of the program often are cause for a forced exit of the shelter, therefore resulting in participants leaving the research study unexpectedly. Also, most of the women struggled with custody issues and lifestyle challenges associated with co-parenting. The women must choose living conditions that are best suited for their children and support system. All of these factors combined to make it difficult for the women to adhere to the rules and regulations of the shelter’s program and remain in the research study.

**Lifespan Integration intervention.** Lifespan Integration therapy has a limited research base on its effectiveness and is subjective in nature (Pace, 2012; Thorpe, 2008, 2012). In addition, LI therapy is a subjective intervention, using a timeline that is created by each individual from their lived experience (Pace, 2012; Thorpe, 2008, 2012). Creating the timeline is a collaborative effort, guided by the therapists (Pace, 2012; Thorpe, 2008, 2012). This process is often difficult for the therapist and participant, requiring a trusting relationship and rapport (Thorpe, 2008, 2012).
Instrumentation.

*Beck Anxiety Inventory.* Because the BAI focuses predominantly on somatic symptoms of anxiety, in certain populations with physical illnesses that share the same or similar somatic symptoms, this can limit the effectiveness of the BAI. This population of homeless women may or may not have had adequate nutrition, health care, or the ability to focus on their health in order to receive diagnoses or treatment for ongoing health problems. One participant noted on the BAI that an item she marked was due to a physical illness.

The BAI had not previously been tested in this specific population and research setting prior to confirmation testing. Data predominantly indicated that it has internal and test-retest consistency; however, the BAI was more unstable with controls. This may be due to the limited sample size in this research study. The BAI is otherwise a strong and well-respected instrument for assessing anxiety.

**Counselor execution of intervention.** There were eight therapists enlisted to execute this research study. Some of the therapists had experience with the intervention and the practice of LI as a treatment modality prior to the research. However, some of the counseling staff were limited in their experience of LI treatment and standard protocol. It seems appropriate to expect that those with less experience may not have executed LI as trained. The therapists with less LI experience may have had some difficulty in creating a timeline and executing the intervention.

**Counselor execution of interview protocol.** The eight LI therapists, who also served as the interviewers in the qualitative portion of the study, were guided by the researcher on a weekly basis. The purpose of these meetings was to ensure clarity of
methodology and research objectives. Upon reviewing the documentation and transcripts of participants’ exit interviews, the researcher noted some issues with the way that therapists used the interview protocol. Specifically, therapists did not use a uniform questioning style; they sometimes strayed from the interview protocol. The LI therapists were sometimes too strict to the questions’ objectives, not able to explore or explain the questions without misleading the participant. Additionally, some therapists seemed to use a leading interview strategy, possibly to address or alleviate participants’ resistance. In some instances, the therapists did not obtain a clear participant response to the Likert-scaled core questions. At times, the therapists read aloud only portions of the Likert-scale response options, thus inadvertently leading the participant to respond only with certain responses rather than selecting a response from the entire scale of response options.

For these reasons, consistent coaching and rehearsal of the interview protocol might have improved the validity of the interview outcome and its findings. As noted by Goodell, Stage, and Cooke (2016), qualitative research gains in trustworthiness when interviewers receive training in how to carry out the interview protocol.

**Proposed remedies.** One remedy to the limitations of the present study would be to draw from a larger participant population by recruiting homeless women from other local area shelters. To assist with sample size, researchers may consider a longer sample selection and induction period or rolling samples. The shelter’s program requirements of classes and external support groups could possibly be suspended during the research period in an effort to eliminate additional interventions and place the focus on the LI intervention as the sole treatment intervention.
Researchers should select a suitable instrument for assessment with good psychometric properties, accounting for attrition due to unstable living situations of homeless women. Instruments other than the WCQ would likely be a better fit for future coping research in homeless populations. An instrument with categorical scoring rather than Likert-scale design would be preferable. Researchers who are interested in learning more about this population should specifically research an instrument’s validity in this population and then in LI research, performing exploratory analysis before using for confirmatory research, or choose other well-validated instruments.

Finally, to ensure a more uniform and appropriate use of the interview protocol, researchers could carry out a training for therapists to ensure a consistent implementation of the qualitative interviews. Additionally, therapists could be sufficiently trained in LI intervention to obtain the LI Level II certificate of completion, increasing their confidence and mastery of the LI intervention.

**Future Directions and Recommendations**

The qualitative results of this study indicate that LI has potential as an effective therapeutic intervention for homeless women. However, there were some issues of consideration for future research on the effectiveness of LI. Some of these considerations are related to the length of the study, participants, and instrumentation.

**Suggestions for future research.** This study took place over the course of a six-week period, although in some cases the length of time was extended to accommodate subjective situations that arose in the participants’ lives. Because the women who reside in the shelter have had traumatic experiences and drug rehabilitation, it may be useful to initiate a longitudinal study with LI treatment interventions, providing insight to efficacy
of interventions on anxiety and coping with a similar population over a longer period of time.

Another consideration for future research that may be useful is to expand the research to other populations such as students, low-income individuals, children, and men in order to seek a more universal understanding of the effects of LI as a therapeutic intervention. Also, addressing other psychological issues such as depression, chronic health issues, or stresses related to daily living in different circumstances related to context, gender, or lifespan development may be helpful in examining LI’s usefulness in a variety of therapeutic situations.

**Practical applications and recommendations.** Overall, the findings of this study are promising through the qualitative results. If researchers address the areas of limitation and implement more research, the results of future research studies may indicate that LI is an effective therapeutic intervention for treating anxiety and coping. The findings of the qualitative portion of this study revealed that participants reported decreased anxiety and increased hope for the future following their LI treatment. These improvements in anxiety and hope can be useful in bringing about psychological change for women who struggle with anxiety and homelessness. However, the research on LI is limited and it is necessary to continue to study its efficacy within a variety of contexts and populations over long periods of time to gain a better understanding of its usefulness as a therapeutic intervention.

**Conclusions**

Overall, the researcher could not conclude from the quantitative research findings that the women in the LI treatment group experienced a reduction in their symptoms of
anxiety or an improvement in their coping skills as compared to those women in the control group. However, after thematic analysis of the qualitative interviews, there were suggestions of improvements in those areas in the treatment group, specifically with the use of LI intervention as a treatment strategy.

The qualitative interview responses suggested that the participants in the treatment group experienced reduced anxiety, found the LI treatment helpful, and were able to utilize new coping strategies. The WCQ-PR questions elicited introspective strategies related to spirituality. The interview responses seemed to connect these questions to the participants’ responses, suggesting that the women found strength in God and faith. The responses seemed to imply that the women were able to find better ways to cope utilizing these strategies. Although the quantitative data did not support these claims, the qualitative data suggested a connection between LI treatment and amelioration of anxiety symptoms, specifically through the utilization of spiritually based coping skills. Future research may be useful in determining whether LI treatment is effective in treating anxiety and coping strategies in homeless women, as well as other populations.
References


Appendix A
Recruitment Letter and Informed Consent Form

Lifespan Integration Study at Hope Place

Consent Form

Doctoral Dissertation Research, Northwest University

Rachel Wilson

You are invited to participate in a research study conducted by Rachel Wilson, counseling psychology doctoral student at Northwest University and mental health counseling intern at Hope Place. The study is being conducted as a part of Rachel Wilson’s doctoral degree requirements for her PsyD in counseling psychology. The purpose of this study is to determine if Lifespan Integration has a significant impact on decreasing anxiety and increasing coping skills in women who are going through recovery or domestic violence. Lifespan Integration is a therapy technique that is used to help individuals who are experiencing severe trauma symptoms, such as anxiety.

If you agree to participate in the study, you will receive six sessions of individual therapy, and four of them will be sessions of LI. These LI therapy sessions will last about an hour to an hour and a half each and will be scheduled with the LI researchers. The LI therapy uses a timeline that will be developed between you and your LI counselor, using brief memories that provide a mental image, like riding your bike at age 5. The sessions involve three to five repetitions of the timeline. You will fill out two questionnaires, the Beck Anxiety Inventory (BAI) and the Ways of Coping Scale (WSQ), in order in the first session and again at the end of the sixth session. These questionnaires will take from 10 to 20 minutes to complete. You will also fill out a demographic questionnaire. Following
the sixth session, you will meet with your counselor in a one-on-one brief interview, which will be audio-taped.

There are some minimal risks associated with participation in this study. Some individuals may be uncomfortable answering personal questions. You may recall certain memories when going through the LI timeline and some are traumatic in nature. If the exposure to these events causes you significant distress, you may contact Carol Lindlow 206-628-2008 at Hope Place, who will coordinate with your case manager and chemical dependency counselor to provide you with the best means of support at Hope Place. There are also outside resources for mental health through Sound Mental Health at 206-302-2300.

The benefit of taking part in this study is the opportunity to participate in the research process as a research subject. Individuals who participate in the study will gain LI therapy sessions that will help to reduce anxiety symptoms due to current situation and past trauma. The participants can have some resolution to their events in their lives that cause anxiety and distress and learn the benefits of using LI as a counseling intervention. The participants of this study will be enrolled in a drawing to win a $100 VISA gift card. The winner will receive their gift card three weeks after the completion of the study.

Participation in this study is voluntary. You may choose not to participate in this study at any time and for any reason. There will be no negative consequences for you if you refuse to participate. You may refuse to answer any questions asked. You may withdraw from the study during the LI sessions or between the LI sessions, by speaking directly with your counselor. You will still be eligible for the gift card drawing even if you withdraw from the study. All responses will be kept confidential. You will be
assigned a code number that will be kept in a locked cabinet at Hope Place to protect your confidentiality. Only Rachel Wilson will have access to the research records. All of the assessments and code numbers will be shredded four months after the study has been completed. You may keep this consent form for your records.

The results from this study will be presented at a professional conference at Union Gospel Mission’s Hope Place in Seattle, Washington. Rachel Wilson will also be applying to share the research findings at the annual American Psychological Association Convention in the summer of 2017.

If you have any questions about this study, contact Rachel Wilson at 206-240-4444 or rachel.wilson12@northwestu.edu. If you have further questions, please contact Dr. Kim Lampson, dissertation chairperson, at kim.lampson@northwestu.edu. You may also contact the Chair of the Northwest University IRB, Dr. Molly Quick, at molly.quick@northwestu.edu or 425-889-5327.

Thank you for your consideration of this request.
Appendix B
Demographic Questionnaire

Age:

Race/Ethnicity:
- Caucasian
- African American
- Asian American
- Other: ____________

Education:
- High school diploma
- GED
- Did not graduate from High School
- College degree: completed or not completed

Parenting:
- Children 18 years and younger: How many? _____
- Children over 18 years: How many? _____
- No children
- Number of children in full-time custody: _____
- Number of children NOT in full-time custody: _____

Living situation:

How long have you been at Hope Place? _____

Prior to Hope Place, where were you living?
- Street
- Car
- Friends
- Family members
- Other: ________________________________________

Past Substance Use:
- Drugs/alcohol? _____ Yes _____ No
  List: ____________________________________________

- RX drugs? _____ Yes _____ No
  List: ____________________________________________

Mental Health:

- Current/Previous
  Diagnosis: ______________________________________

Incarceration: _____ Yes _____ No
Appendix C
WAYS OF COPING QUESTIONNAIRE

Instructions: Identify a stressful encounter that occurred recently, where it took place and what happened. Next, read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described.

Not Used-0; Used Somewhat-1; Used Quite A Bit-2; Used a Great Deal-3

1. Just concentrated on what I had to do next – the next step.
2. I tried to analyze the problem in order to understand it better.
3. Turned to work or substitute activity to take my mind off things.
4. I felt that time would make a difference – the only thing to do was to wait.
5. Bargained or compromised to get something positive from the situation.
6. I did something which I didn’t think would work, but at least I was doing something.
7. Tried to get the person responsible to change his or her mind.
8. Talked to someone to find out more about the situation.
9. Criticized or lectured myself.
10. Tried not to burn my bridges, but leave things open somewhat.
11. Hoped a miracle would happen.
12. Went along with fate; sometimes I just have bad luck.
13. Went on as if nothing had happened.
14. I tried to keep my feelings to myself.
15. Looked for the silver lining, so to speak; tried to look on the bright side of things.
16. Slept more than usual.
17. I expressed anger to the person(s) who caused the problem.
18. Accepted sympathy and understanding from someone.
19. I told myself things that helped me to feel better.
20. I was inspired to do something creative.
21. Tried to forget the whole thing.
22. I got professional help.
23. Changed or grew as a person in a good way.
24. I waited to see what would happen before doing anything.
25. I apologized or did something to make up.
26. I made a plan of action and followed it.
27. I accepted the next best thing to what I wanted.
28. I let my feelings out somehow.
29. Realized I brought the problem on myself.
30. I came out of the experience better than when I went in.
31. Talked to someone who could do something concrete about the problem.
32. Got away from it for a while; tried to rest or take a vacation.
33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.
34. Took a big chance or did something very risky.
35. I tried not to act too hastily or follow my first hunch.
36. Found new faith.
37. Maintained my pride and kept a stiff upper lip.
38. Rediscovered what is important in life.
39. Changed something so things would turn out all right.
40. Avoided being with people in general.
41. Didn’t let it get to me; refused to think too much about it.
42. I asked a relative or friend I respected for advice.
43. Kept others from knowing how bad things were.
44. Made light of the situation; refused to get too serious about it.
45. Talked to someone about how I was feeling.
46. Stood my ground and fought for what I wanted.
47. Took it out on other people.
48. Drew on my past experiences; I was in a similar situation before.
49. I knew what had to be done, so I doubled my efforts to make things work.
50. Refused to believe that it had happened.
51. I made a promise to myself that things would be different next time.
52. Came up with a couple of different solutions to the problem.
53. Accepted it, since nothing could be done.
54. I tried to keep my feelings from interfering with other things too much.
55. Wished that I could change what had happened or how I felt.
56. I changed something about myself.
57. I daydreamed or imagined a better time or place than the one I was in.
58. Wished that the situation would go away or somehow be over with.
59. Had fantasies or wishes about how things might turn out.
60. I prayed.
61. I prepared myself for the worst.
62. I went over in my mind what I would say or do.
63. I thought about how a person I admire would handle this situation and used that as a model.
64. I tried to see things from the other person’s point of view.
65. I reminded myself how much worse things could be.
66. I jogged or exercised.

Scoring: To determine the predominant methods you used for coping, calculate your total score for each of the subscales below. Do this by summing the item scores noted for each scale.

**Scale 1: Confrontive coping**
46. Stood my ground and fought for what I wanted _____
7. Tried to get the person responsible to change his or her mind _____
17. I expressed anger to the person(s) who caused the problem _____
28. I let my feelings out somehow __________
34. Took a big chance or did something very risky________
6. I did something which I didn’t think would work, but at least I was doing something ______
Total for Scale 1 _______

**Scale 2: Distancing**
44. Made light of the situation; refused to get too serious about it ______
13. Went on as if nothing had happened ______
41. Didn’t let it get to me; refused to think too much about it ______
21. Tried to forget the whole thing ______
15. Looked for the silver lining, so to speak; tried to look on the bright side of things ______
12. Went along with fate; sometimes I just have bad luck ______
Total for Scale 2 _______

**Scale 3: Self-controlling**
14. I tried to keep my feelings to myself ______
43. Kept others from knowing how bad things were ______
10. Tried not to burn my bridges, but leave things open somewhat ______
35. I tried not to act too hastily or follow my first hunch ______
54. I tried to keep my feelings from interfering with other things too much ______
63. I thought about how a person I admire would handle this situation and used that as a model ______
Total for Scale 3 _______

**Scale 4: Seeking social support**
8. Talked to someone to find out more about the situation ______
31. Talked to someone who could do something concrete about the problem ______
42. I asked a relative or friend I respected for advice ______
45. Talked to someone about how I was feeling ______
18. Accepted sympathy and understanding from someone ______
22. I got professional help ______
Total for Scale 4 _______

**Scale 5: Accepting responsibility**
9. Criticized or lectured myself ______
29. Realized I brought the problem on myself ______
51. I made a promise to myself that things would be different next time ______
25. I apologized or did something to make up ______
Total for Scale 5 _______

**Scale 6: Escape-Avoidance**
58. Wished that the situation would go away or somehow be over with ______
11. Hoped a miracle would happen ______
59. Had fantasies or wishes about how things might turn out
33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication
40. Avoided being with people in general
50. Refused to believe that it had happened
47. Took it out on other people
16. Slept more than usual
Total for Scale 6

Scale 7: Planful problem-solving
49. I knew what had to be done, so I doubled my efforts to make things work
26. I made a plan of action and followed it
1. Just concentrated on what I had to do next – the next step
39. Changed something so things would turn out all right
48. Drew on my past experiences, I was in a similar situation before
52. Came up with a couple of different solutions to the problem
Total for Scale 7

Scale 8: Positive reappraisal
23. Changed or grew as a person in a good way
30. I came out of the experience better than when I went in
36. Found new faith
38. Rediscovered what is important in life
60. I prayed
56. I changed something about myself
20. I was inspired to do something creative
Total for Scale 8

Appendix D
Interview Protocol

1. On a scale of 0 to 4, how effective would you say the Lifespan Integration procedures were for you during the counseling sessions?
   Not at All (0)  Slightly (1)  Moderately (2)  Very (3)  Extremely (4)
   *What did you like about treatment? What did you dislike about treatment? What would you change about treatment?*

2. On a scale of 0 to 4, how would you rate your average level of anxiety after the four counseling sessions?
   Not at All (0)  Slightly (1)  Moderately (2)  Very (3)  Extremely (4)
   *When you think about your past, do you experience any anxiety? Tell me what anxiety is like now, after going through these four counseling sessions. How do you experience feelings of safety?*

3. On a scale of 0 to 4, how much do you feel your coping skills have improved since your Lifespan Integration treatment?
   Not at All (0)  Slightly (1)  Moderately (2)  Very (3)  Extremely (4)
   *How have you grown or changed as a person?*

4. On a scale of 0 to 4, how would you rate your level of hope for your future?
   Not at All (0)  Slightly better (1)  Moderate (2)  Optimistic (3)  Excited for future (4)
   *How do you feel about your future? In what ways do you experience hope?*
Appendix E
Secondary Coder Statement

I, Dr. Sabrina Rood, served as the secondary coder for Rachel Wilson in her research study. Between October 31 and November 2, 2017, I confidentially reviewed the interview transcripts and assigned codes to the material. I then reviewed the codes as assigned by Rachel Wilson, and I found them to be consistently applied to the material. Additionally, she explained the process by which she created the codes from the interview material. I have an EdD in counseling psychology from Argosy University, Seattle, Washington, and an MA in counseling psychology from Bethel University, St. Paul, Minnesota. I have training and experience in both qualitative and quantitative research methods, and I abide by the Code of Ethics of the American Psychological Association as well as the requirements set forth by the Institutional Review Board of Northwest University.

Signed: Sabrina M. Rood, EdD

Date: April 1, 2018
Quantitative Data Tables: Reliability

Table F1

*Reliability Testing of Internal Consistency Using Cronbach's Alpha on the Pre-Test and Post-Test for the BAI and WCQ*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Total Sample</th>
<th>Cronbach's Alpha</th>
<th>Control Sample</th>
<th>LI Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>.911</td>
<td>.868</td>
<td>.937</td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>.868</td>
<td>.897</td>
<td>.850</td>
<td></td>
</tr>
<tr>
<td>WCQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>.837</td>
<td>.844</td>
<td>.847</td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>.862</td>
<td>.807</td>
<td>.883</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* BAI alphas were calculated on the numerical scores, not ordinal categorical scores. WCQ alphas were calculated on the raw scores, not relative scores.
Table F2

**BAI Test/Retest Investigation of Total Sample Reliability Using Question-by-Question Pearson Correlation on Numerical Scores**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Test Mean$(sd)^{**}$</th>
<th>Retest Mean$(sd)^{**}$</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Numbness or tingling</td>
<td>.83 (.114)</td>
<td>.61 (.891)</td>
<td>.478</td>
</tr>
<tr>
<td>2</td>
<td>Feeling hot</td>
<td>1.52 (1.201)</td>
<td>1.22 (.951)</td>
<td>.453</td>
</tr>
<tr>
<td>3</td>
<td>Wobbliness in legs</td>
<td>.87 (1.014)</td>
<td>.26 (.54)</td>
<td>.562</td>
</tr>
<tr>
<td>4</td>
<td>Unable to relax</td>
<td>1.65 (1.191)</td>
<td>1.07 (.908)</td>
<td>.442</td>
</tr>
<tr>
<td>5</td>
<td>Fear of the worst</td>
<td>1.30 (1.185)</td>
<td>1.26 (1.176)</td>
<td>.528</td>
</tr>
<tr>
<td>6</td>
<td>Dizzy or lightheaded</td>
<td>.70 (1.020)</td>
<td>.59 (.937)</td>
<td>.671</td>
</tr>
<tr>
<td>7</td>
<td>Heart pounding or</td>
<td>1.17 (.984)</td>
<td>.96 (.928)</td>
<td>.755</td>
</tr>
<tr>
<td></td>
<td>racing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Unsteady</td>
<td>.91 (1.083)</td>
<td>.57 (7.28)</td>
<td>.469</td>
</tr>
<tr>
<td>9</td>
<td>Terrified</td>
<td>.57 (.896)</td>
<td>.48 (.898)</td>
<td>.383</td>
</tr>
<tr>
<td>10</td>
<td>Nervous</td>
<td>1.43 (.945)</td>
<td>1.48 (1.163)</td>
<td>.505</td>
</tr>
<tr>
<td>11</td>
<td>Feelings of choking*</td>
<td>.17 (.491)</td>
<td>.00 (.000)</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>Hands trembling</td>
<td>.48 (.947)</td>
<td>.13 (.458)</td>
<td>.479</td>
</tr>
<tr>
<td>13</td>
<td>Shaky</td>
<td>.91 (1.041)</td>
<td>.39 (.839)</td>
<td>.093</td>
</tr>
<tr>
<td>14</td>
<td>Fear of losing control</td>
<td>1.26 (1.137)</td>
<td>.83 (1.029)</td>
<td>.507</td>
</tr>
<tr>
<td>15</td>
<td>Difficulty breathing</td>
<td>.52 (1.039)</td>
<td>.48 (.898)</td>
<td>.403</td>
</tr>
<tr>
<td>16</td>
<td>Fear of dying</td>
<td>.26 (.752)</td>
<td>.09 (.288)</td>
<td>.520</td>
</tr>
<tr>
<td>17</td>
<td>Scared</td>
<td>.74 (.864)</td>
<td>.96 (1.065)</td>
<td>.333</td>
</tr>
<tr>
<td>18</td>
<td>Indigestion or</td>
<td>1.09 (1.240)</td>
<td>.74 (1.204)</td>
<td>.644</td>
</tr>
<tr>
<td></td>
<td>discomfort in abdomen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Faint</td>
<td>.22 (.518)</td>
<td>.22 (.518)</td>
<td>-.184</td>
</tr>
<tr>
<td>20</td>
<td>Face flushed</td>
<td>.96 (1.065)</td>
<td>.74 (1.010)</td>
<td>.623</td>
</tr>
<tr>
<td>21</td>
<td>Sweating (not due to</td>
<td>1.17 (1.154)</td>
<td>.65 (1.071)</td>
<td>.162</td>
</tr>
<tr>
<td></td>
<td>heat)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Score</strong></td>
<td>18.74 (12.750)</td>
<td>13.70 (9.613)</td>
<td>.722</td>
</tr>
</tbody>
</table>

Note. * Item 11, “Feelings of Choking,” had no correlation results because all participants marked a score of 0 for either or both test and retest.

**For all items for test and retest (N = 23). $^a$p ≤ .05. $^b$p ≤ .01. $^c$p ≤ .001**
### Table F3

**BAI Test/Retest Investigation of LI Sample Reliability Using Question-by-Question Pearson Correlations on Numerical Scores**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Test Mean(s.d)</th>
<th>Retest Mean(s.d)</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Numbness or tingling</td>
<td>.92 (1.188)</td>
<td>.77 (1.013)</td>
<td>.608</td>
</tr>
<tr>
<td>2</td>
<td>Feeling hot</td>
<td>1.46 (1.330)</td>
<td>1.15 (0.987)</td>
<td>.576</td>
</tr>
<tr>
<td>3</td>
<td>Wobbliness in legs</td>
<td>1.15 (1.068)</td>
<td>.38 (0.650)</td>
<td>.747</td>
</tr>
<tr>
<td>4</td>
<td>Unable to relax</td>
<td>1.69 (1.251)</td>
<td>1.12 (1.003)</td>
<td>.429</td>
</tr>
<tr>
<td>5</td>
<td>Fear of the worst happening</td>
<td>1.46 (1.266)</td>
<td>.92 (1.115)</td>
<td>.736</td>
</tr>
<tr>
<td>6</td>
<td>Dizzy or lightheaded</td>
<td>.92 (1.115)</td>
<td>.65 (1.028)</td>
<td>.701</td>
</tr>
<tr>
<td>7</td>
<td>Heart pounding or racing</td>
<td>1.15 (0.987)</td>
<td>1.00 (1.00)</td>
<td>.675</td>
</tr>
<tr>
<td>8</td>
<td>Unsteady</td>
<td>.69 (.947)</td>
<td>.38 (0.650)</td>
<td>.479</td>
</tr>
<tr>
<td>9</td>
<td>Terrified</td>
<td>.62 (0.870)</td>
<td>.31 (0.630)</td>
<td>.386</td>
</tr>
<tr>
<td>10</td>
<td>Nervous</td>
<td>1.31 (.947)</td>
<td>1.54 (1.050)</td>
<td>.406</td>
</tr>
<tr>
<td>11</td>
<td>Feelings of choking</td>
<td>.31 (.630)</td>
<td>.000</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>Hands trembling</td>
<td>.38 (0.870)</td>
<td>.08 (0.277)</td>
<td>-.133</td>
</tr>
<tr>
<td>13</td>
<td>Shaky</td>
<td>.69 (1.032)</td>
<td>.46 (0.776)</td>
<td>-.328</td>
</tr>
<tr>
<td>14</td>
<td>Fear of losing control</td>
<td>1.54 (1.127)</td>
<td>.77 (1.166)</td>
<td>.610</td>
</tr>
<tr>
<td>15</td>
<td>Difficulty breathing</td>
<td>.46 (.877)</td>
<td>.62 (1.044)</td>
<td>.392</td>
</tr>
<tr>
<td>16</td>
<td>Fear of dying</td>
<td>.38 (0.961)</td>
<td>.08 (0.277)</td>
<td>.505</td>
</tr>
<tr>
<td>17</td>
<td>Scared</td>
<td>1.00 (1.000)</td>
<td>.92 (1.038)</td>
<td>.562</td>
</tr>
<tr>
<td>18</td>
<td>Indigestion or discomfort in abdomen</td>
<td>1.08 (1.256)</td>
<td>.92 (1.038)</td>
<td>.708</td>
</tr>
<tr>
<td>19</td>
<td>Faint</td>
<td>.23 (.439)</td>
<td>.31 (0.630)</td>
<td>-.278</td>
</tr>
<tr>
<td>20</td>
<td>Face flushed</td>
<td>1.00 (1.080)</td>
<td>.69 (0.947)</td>
<td>.652</td>
</tr>
<tr>
<td>21</td>
<td>Sweating (not due to heat)</td>
<td>1.38 (1.121)</td>
<td>.54 (1.050)</td>
<td>.234</td>
</tr>
</tbody>
</table>

**Total Score** | 19.85 (14.473) | 13.62 (9.233) | .815 | .001<sup>c</sup> |

*Note.* *Item 11, “Feelings of Choking,” had no correlation results because all participants marked a score of 0 for either or both test and retest. **For all items for test and retest (N = 13). *p < .05. b p < .01. *p < .001
### Table F4

**BAI Test-Retest Investigation of Control Sample Reliability Using Question-by-Question Pearson Correlations on Numerical Scores**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Test Mean(s.d) **</th>
<th>Retest Mean(s.d) **</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Numbness or tingling</td>
<td>.70 (1.059)</td>
<td>.40 (.699)</td>
<td>.180</td>
<td>.619</td>
</tr>
<tr>
<td>2 Feeling hot</td>
<td>1.60 (1.075)</td>
<td>1.30 (.949)</td>
<td>.240</td>
<td>.505</td>
</tr>
<tr>
<td>3 Wobbliness in legs</td>
<td>.50 (.850)</td>
<td>.10 (.316)</td>
<td>-.207</td>
<td>.567</td>
</tr>
<tr>
<td>4 Unable to relax</td>
<td>1.60 (1.174)</td>
<td>1.00 (.816)</td>
<td>.464</td>
<td>.177</td>
</tr>
<tr>
<td>5 Fear of the worst happening</td>
<td>1.10 (1.101)</td>
<td>1.70 (1.160)</td>
<td>.461</td>
<td>.179</td>
</tr>
<tr>
<td>6 Dizzy or lightheaded</td>
<td>.40 (.843)</td>
<td>.50 (.850)</td>
<td>.620</td>
<td>.056</td>
</tr>
<tr>
<td>7 Heart pounding or racing</td>
<td>1.20 (1.033)</td>
<td>.90 (.876)</td>
<td>.885</td>
<td>.001</td>
</tr>
<tr>
<td>8 Unsteady</td>
<td>1.20 (1.229)</td>
<td>.80 (.789)</td>
<td>.390</td>
<td>.266</td>
</tr>
<tr>
<td>9 Terrified</td>
<td>.50 (.972)</td>
<td>.70 (1.160)</td>
<td>.444</td>
<td>.199</td>
</tr>
<tr>
<td>10 Nervous</td>
<td>1.60 (.966)</td>
<td>1.40 (1.350)</td>
<td>.648</td>
<td>.043</td>
</tr>
<tr>
<td>11 Feelings of choking*</td>
<td>.00 (.000)</td>
<td>.00 (.000)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12 Hands trembling</td>
<td>.60 (1.075)</td>
<td>.20 (.632)</td>
<td>.748</td>
<td>.007</td>
</tr>
<tr>
<td>13 Shaky</td>
<td>1.20 (1.033)</td>
<td>.30 (.949)</td>
<td>.612</td>
<td>.060</td>
</tr>
<tr>
<td>14 Fear of losing control</td>
<td>.90 (1.101)</td>
<td>.90 (.876)</td>
<td>.450</td>
<td>.192</td>
</tr>
<tr>
<td>15 Difficulty breathing</td>
<td>.60 (1.265)</td>
<td>.30 (.675)</td>
<td>.547</td>
<td>.102</td>
</tr>
<tr>
<td>16 Fear of dying</td>
<td>.10 (.316)</td>
<td>.10 (.316)</td>
<td>1.000</td>
<td>.000</td>
</tr>
<tr>
<td>17 Scared</td>
<td>.40 (.516)</td>
<td>1.00 (1.155)</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>18 Indigestion or discomfort in abdomen</td>
<td>1.10 (1.287)</td>
<td>.50 (1.080)</td>
<td>.600</td>
<td>.067</td>
</tr>
<tr>
<td>19 Faint</td>
<td>.20 (.632)</td>
<td>.10 (.316)</td>
<td>-.111</td>
<td>.760</td>
</tr>
<tr>
<td>20 Face flushed</td>
<td>.90 (1.101)</td>
<td>.80 (1.135)</td>
<td>.605</td>
<td>.064</td>
</tr>
<tr>
<td>21 Sweating (not due to heat)</td>
<td>.90 (1.197)</td>
<td>.80 (1.135)</td>
<td>.147</td>
<td>.685</td>
</tr>
</tbody>
</table>

**Total Score** | 17.30 (10.678) | 13.80 (10.590) | .631 | .050 |

*Note.* "Feelings of Choking," had no correlation results because all participants marked a score of 0 for either or both test and retest. **For all items for test and retest (N = 10). a p < .05. b p < .01. c p < .001
Table F5

*WCQ Test/Retest Investigation of Total Sample Reliability Using Question-by-Question Pearson Correlations on Raw Scores*

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Test Mean (sd) **</th>
<th>Retest Mean (sd) **</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1.00 (1.272)</td>
<td>1.39 (1.373)</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>23</td>
<td>2.09 (1.109)</td>
<td>2.457 (.9404)</td>
<td>.253</td>
<td>.255</td>
</tr>
<tr>
<td>30</td>
<td>1.95 (1.290)</td>
<td>2.30 (.822)</td>
<td>.057</td>
<td>.802</td>
</tr>
<tr>
<td>36</td>
<td>2.36 (.953)</td>
<td>2.30 (1.063)</td>
<td>.455</td>
<td>.033</td>
</tr>
<tr>
<td>38</td>
<td>2.68 (.894)</td>
<td>2.39 (.988)</td>
<td>.295</td>
<td>.183</td>
</tr>
<tr>
<td>56</td>
<td>1.59 (1.297)</td>
<td>1.74 (1.389)</td>
<td>.293</td>
<td>.185</td>
</tr>
<tr>
<td>60</td>
<td>2.50 (1.058)</td>
<td>2.52 (.846)</td>
<td>.865</td>
<td>.000</td>
</tr>
<tr>
<td>Total Score</td>
<td>14.182 (5.654)</td>
<td>15.1087 (5.600)</td>
<td>.321</td>
<td>.145</td>
</tr>
</tbody>
</table>

*Note.* **The WCQ is a 6-question instrument consisting of seven subscales.** The items listed are the subconstruct of the 7-item positive reappraisal scale that are disbursed throughout the 66-item WCQ instrument. **For all items for test data (N = 22) and retest data (N = 23).** *p ≤ .05, **p ≤ .01, ***p ≤ .001
Table F6

WCQ Test/Retest Investigation of LI Sample Reliability Using Question-by-Question Pearson Correlations on Raw Scores

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Test Mean(sd)</th>
<th>Retest Mean(sd)</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Changed or grew as a person in good way</td>
<td>1.23 (1.363)</td>
<td>1.15 (1.281)</td>
<td>-.070</td>
<td>.821</td>
</tr>
<tr>
<td>23 Came out of experience better than went in</td>
<td>1.85 (1.214)</td>
<td>2.154 (1.1435)</td>
<td>.259</td>
<td>.394</td>
</tr>
<tr>
<td>30 Found new faith</td>
<td>1.92 (1.320)</td>
<td>2.08 (.954)</td>
<td>.005</td>
<td>.987</td>
</tr>
<tr>
<td>36 Rediscovered what is important in life</td>
<td>2.31 (.947)</td>
<td>2.15 (1.144)</td>
<td>.491</td>
<td>.088</td>
</tr>
<tr>
<td>38 I prayed</td>
<td>2.69 (.855)</td>
<td>2.31 (1.032)</td>
<td>.683</td>
<td>.010&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>56 I changed something about myself</td>
<td>1.54 (1.266)</td>
<td>1.31 (1.377)</td>
<td>.232</td>
<td>.446</td>
</tr>
<tr>
<td>60 I was inspired to do something creative</td>
<td>2.69 (.855)</td>
<td>2.62 (.870)</td>
<td>.836</td>
<td>.000&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total Score</td>
<td>14.231 (5.755)</td>
<td>13.769 (6.044)</td>
<td>.407</td>
<td>.167</td>
</tr>
</tbody>
</table>

Note. * The WCQ is a 66-question instrument consisting of seven subscales. The items listed are the subconstruct of the 7-item positive reappraisal scale that are disbursed throughout the 66-item WCQ instrument. **For all items for test and retest (N = 13). * p ≤ .05. b p ≤ .01. c p ≤ .001
Table F7

*WCQ Test/Retest Investigation of Control Sample Reliability Using Question-by-Question*

*Pearson Correlations on Raw Scores*

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Test Mean(sd)</th>
<th>Retest Mean(sd)</th>
<th>Correlation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Changed or grew as a person in good way</td>
<td>.67 (1.118)</td>
<td>1.70 (1.494)</td>
<td>.198</td>
<td>.610</td>
</tr>
<tr>
<td>23 Came out of experience better than went in</td>
<td>2.44 (.882)</td>
<td>2.850 (.3375)</td>
<td>-.334</td>
<td>.380</td>
</tr>
<tr>
<td>30 Found new faith</td>
<td>2.00 (1.323)</td>
<td>2.60 (.516)</td>
<td>.179</td>
<td>.644</td>
</tr>
<tr>
<td>36 Rediscovered what is important in life</td>
<td>2.44 (1.014)</td>
<td>2.50 (.972)</td>
<td>.392</td>
<td>.297</td>
</tr>
<tr>
<td>38 I prayed</td>
<td>2.67 (1.000)</td>
<td>2.50 (.972)</td>
<td>-.205</td>
<td>.596</td>
</tr>
<tr>
<td>56 I changed something about myself</td>
<td>1.67 (1.414)</td>
<td>2.30 (1.252)</td>
<td>.385</td>
<td>.307</td>
</tr>
<tr>
<td>60 I was inspired to do something creative</td>
<td>2.22 (1.302)</td>
<td>2.40 (.843)</td>
<td>.924</td>
<td>.000 c</td>
</tr>
<tr>
<td>Total Score</td>
<td>14.111 (5.862)</td>
<td>16.850 (4.691)</td>
<td>.201</td>
<td>.604</td>
</tr>
</tbody>
</table>

*Note.* 
* The WCQ is a 66-question instrument consisting of seven subscales. The items listed are the subconstruct of the 7-item positive reappraisal scale that are disbursed throughout the 66-item WCQ instrument. **For all items for test data (N = 9) and retest data (N = 10). \(^a p \leq .05. \(^b p \leq .01. \(^c p \leq .001*)
Appendix G
Quantitative Data Tables: Hypothesis Testing

Table G1

*BAI Post-Test Frequencies and Percentages per Score Category for Ordinal Category Score*

*Assessment*

<table>
<thead>
<tr>
<th>Ordinal Category</th>
<th>BAI Post-Test Frequencies*</th>
<th>BAI Post-Test Percentages**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>LI Sample</td>
</tr>
<tr>
<td>0 Normal to no anxiety</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>1 Mild to moderate anxiety</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>2 Moderate to severe anxiety</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>3 Severe anxiety</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>13</td>
</tr>
</tbody>
</table>

*Note.* * Frequencies are of the number of participants whose final scores fell into each ordinal scoring category.
** Percentages represent the portion of the number of participants with a given score out of the total number of participants and not proportion of the treatment groups out of total frequency for each ordinal category.

Table G2

*BAI Pre-Test Frequencies and Percentages per Score Category for Ordinal Category Score*

*Assessment*

<table>
<thead>
<tr>
<th>Ordinal Category</th>
<th>BAI Pre-Test Frequencies*</th>
<th>BAI Pre-Test Percentages**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>LI Sample</td>
</tr>
<tr>
<td>0 Normal to no anxiety</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>1 Mild to moderate anxiety</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>2 Moderate to severe anxiety</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>3 Severe anxiety</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>13</td>
</tr>
</tbody>
</table>

*Note.* * Frequencies are of the number of participants whose final scores fell into each ordinal scoring category.
** Percentages represent the portion of the number of participants with a given score out of the total number of participants and not proportion of the treatment groups out of total frequency for each ordinal category.
Table G3

*Base Descriptive Statistics for BAI Ordinal Categorical Scores*

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>Total Sample</th>
<th>LI Sample</th>
<th>Control Sample</th>
<th>Mean Diff.</th>
<th>BAI Post-Test Ordinal Category Data</th>
<th>BAI Pre-Test Ordinal Category Data</th>
<th>Mean Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>23</td>
<td>13</td>
<td>10</td>
<td>0</td>
<td>Total</td>
<td>1.00</td>
<td>1.39</td>
</tr>
<tr>
<td>Raw</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0</td>
<td>Control</td>
<td>1.31</td>
<td>1.50</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.-19</td>
</tr>
<tr>
<td>SD</td>
<td>1.00</td>
<td>1.00</td>
<td>1.05</td>
<td></td>
<td></td>
<td></td>
<td>1.08</td>
</tr>
<tr>
<td>SE</td>
<td>.21</td>
<td>.28</td>
<td>.33</td>
<td></td>
<td></td>
<td></td>
<td>.22</td>
</tr>
<tr>
<td>CI</td>
<td>[.50, 1.32]</td>
<td>[.40, 1.60]</td>
<td>[.25, 1.75]</td>
<td></td>
<td>[.92, 1.90]</td>
<td>[.64, 1.98]</td>
<td>[.73, 2.27]</td>
</tr>
<tr>
<td>Median</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>IQR</td>
<td>0,1,2</td>
<td>0,1,2</td>
<td>0,1,2</td>
<td></td>
<td>0,1,2</td>
<td>0,1,2</td>
<td>.75,1.5,2.3</td>
</tr>
<tr>
<td>[Min, Max]</td>
<td>[0,3]</td>
<td>[0,3]</td>
<td>[0,3]</td>
<td></td>
<td>[0,3]</td>
<td>[0,3]</td>
<td>[0,3]</td>
</tr>
<tr>
<td>Skew (SE)</td>
<td>.597</td>
<td>.591</td>
<td>.712</td>
<td></td>
<td>.068</td>
<td>.143</td>
<td>.000</td>
</tr>
<tr>
<td>Kurtosis (SE)</td>
<td>-.709</td>
<td>-.618</td>
<td>-.450</td>
<td></td>
<td>-1.213</td>
<td>-1.283</td>
<td>-1.032</td>
</tr>
</tbody>
</table>

*Note:* The ordinal categories were coded: 0 - Normal to no anxiety, 1 - Mild to moderate anxiety, 2 - Moderate to severe anxiety, 3 - Severe anxiety.
Table G4

*Base Descriptive Statistics, Including Raw and Adjusted Means and Mean Difference for BAI*

**Raw Sample Totals, LI and Control Groups**

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>BAI Post-Test Raw Scores</th>
<th>BAI Pre-Test Raw Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>LI Sample</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Raw Mean</td>
<td>13.70</td>
<td>13.62</td>
</tr>
<tr>
<td>SD</td>
<td>9.61</td>
<td>9.23</td>
</tr>
<tr>
<td>SE</td>
<td>2.00</td>
<td>2.56</td>
</tr>
<tr>
<td>CI</td>
<td>[8.90, 16.92]</td>
<td>[8.04, 19.20]</td>
</tr>
<tr>
<td>Median</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>IQR</td>
<td>6,11,21</td>
<td>8,10,21</td>
</tr>
<tr>
<td>[Min, Max]</td>
<td>[0,36]</td>
<td>[3,36]</td>
</tr>
<tr>
<td>Skew (SE)</td>
<td>.669</td>
<td>1.272</td>
</tr>
<tr>
<td>Kurtosis (SE)</td>
<td>-.110</td>
<td>1.559</td>
</tr>
</tbody>
</table>

**ANCOVA Specific Descriptive Statistics**

<table>
<thead>
<tr>
<th>Adjusted Mean</th>
<th>-</th>
<th>14.70</th>
<th>13.04</th>
<th>1.66</th>
<th>18.74*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE</td>
<td>-</td>
<td>1.97</td>
<td>2.26</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>95% CI</td>
<td>-</td>
<td>[8.92, 17.16]</td>
<td>[9.97, 19.43]</td>
<td>[-7.93, 4.61]</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *Covariate.*
Table G5

**Base Descriptive Statistics, Including Raw and Adjusted Means and Mean Difference for WCQ-PR Raw Sample Totals, LI and Control Groups**

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>WCQ-PR Post-Test Raw Scores</th>
<th>WCQ-PR Pre-Test Raw Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>LI Sample</td>
</tr>
<tr>
<td>N</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Raw Mean</td>
<td>15.12</td>
<td>13.77</td>
</tr>
<tr>
<td>SD</td>
<td>5.60</td>
<td>6.04</td>
</tr>
<tr>
<td>SE</td>
<td>1.17</td>
<td>1.68</td>
</tr>
<tr>
<td>CI</td>
<td>[12.37, 17.31]</td>
<td>[10.12, 17.42]</td>
</tr>
<tr>
<td>Median</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>IQR</td>
<td>11.3, 16.5</td>
<td>9, 18</td>
</tr>
<tr>
<td>[Min, Max]</td>
<td>[0, 21]</td>
<td>[0, 21]</td>
</tr>
<tr>
<td>Skew (SE)</td>
<td>-1.041 (.481)</td>
<td>-.974 (.616)</td>
</tr>
<tr>
<td>Kurtosis (SE)</td>
<td>.649 (.935)</td>
<td>.519 (1.191)</td>
</tr>
</tbody>
</table>

**ANCOVA Specific Descriptive Statistics***

<table>
<thead>
<tr>
<th>Adjusted Mean</th>
<th>Total Sample</th>
<th>LI Sample</th>
<th>Control Sample</th>
<th>Mean Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.40</td>
<td>13.75</td>
<td>16.0</td>
<td>-2.65</td>
</tr>
<tr>
<td>SE</td>
<td>-</td>
<td>1.82</td>
<td>1.52</td>
<td>2.37</td>
</tr>
<tr>
<td>95% CI</td>
<td>- [10.57, 16.93]</td>
<td>[12.57, 20.23]</td>
<td>[2.33, 7.63]</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* For the purpose of the ANCOVA, the n was 9 instead of 10 and the non-adjusted control mean was 16.40 (4.72) instead of 16.85 (4.69). **Covariate.
Table G6

*Base Descriptive Statistics, Including Raw and Adjusted Means and Mean Difference for WCQ-PR Relative Sample Totals, LI and Control Groups*

<table>
<thead>
<tr>
<th>Statistic Type</th>
<th>WCQ-PR Post-Test Relative Scores</th>
<th>WCQ-PR Pre-Test Relative Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>LI Sample</td>
</tr>
<tr>
<td>N</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>Raw Mean</td>
<td>.11</td>
<td>.11</td>
</tr>
<tr>
<td>SD</td>
<td>.04</td>
<td>.05</td>
</tr>
<tr>
<td>SE</td>
<td>.01</td>
<td>.02</td>
</tr>
<tr>
<td>Median</td>
<td>.12</td>
<td>.11</td>
</tr>
<tr>
<td>IQR</td>
<td>.10, .12, .07, .11, .10, .13</td>
<td>.14, .16</td>
</tr>
<tr>
<td>Skew (SE)</td>
<td>-.861 (.992)</td>
<td>-.740 (.661)</td>
</tr>
<tr>
<td>Kurtosis (SE)</td>
<td>2.003 (1.279)</td>
<td>.703 (1.400)</td>
</tr>
</tbody>
</table>

**ANCOVA Specific Descriptive Statistics**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>WCQ-PR Post-Test Relative Scores</th>
<th>WCQ-PR Pre-Test Relative Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted  Mean</td>
<td>-</td>
<td>.11</td>
</tr>
<tr>
<td>SE</td>
<td>-</td>
<td>.01</td>
</tr>
<tr>
<td>95% CI</td>
<td>-</td>
<td>[.086, .139]</td>
</tr>
</tbody>
</table>

*Note: *This item is larger than its source means indicate, and is three decimals, because of rounding of the group sample means. **Covariate.
Table G7

*Base Descriptive Statistics, Including Raw and Adjusted Means and Mean Difference for BAI and WCQ-PR Sample Totals, LI and Control Groups*

<table>
<thead>
<tr>
<th>Test</th>
<th>Sample</th>
<th>N</th>
<th>Raw Mean</th>
<th>SD</th>
<th>SE</th>
<th>Adjusted Mean</th>
<th>Covariate Mean</th>
<th>95% CI</th>
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</tr>
<tr>
<td>BAI</td>
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</tr>
<tr>
<td>Raw</td>
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<tr>
<td>Total</td>
<td>23</td>
<td></td>
<td>13.70</td>
<td>9.61</td>
<td>2.00</td>
<td>18.74</td>
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<td>9.23</td>
<td>2.56</td>
<td>14.70</td>
<td></td>
<td>[8.92, 17.16]</td>
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<td>13.80</td>
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<tr>
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<td></td>
<td>- .18</td>
<td></td>
<td></td>
<td>1.66</td>
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<tr>
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<td></td>
<td>[-7.93, 4.61]</td>
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</tr>
<tr>
<td>Total</td>
<td>23</td>
<td></td>
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<td>5.60</td>
<td>1.17</td>
<td>14.18</td>
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<tr>
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<tr>
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<td>.01</td>
<td>.16</td>
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<tr>
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<td>11</td>
<td>.05</td>
<td>.02</td>
<td>.11</td>
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<td>[.086, .139]</td>
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<td>[-.04, .04]</td>
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<td></td>
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<td>[-.04, .04]</td>
</tr>
</tbody>
</table>

*Note. *This item is larger than its source means indicate, and is three decimals, because of rounding of the group sample means.

Table G8

*ANCOVA and Mann-Whitney U Hypothesis Testing for the BAI and WCQ-PR Scale*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>F</th>
<th>Df</th>
<th>P</th>
<th>Effect size</th>
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<td>BAI</td>
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<tr>
<td>Raw scores</td>
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<td>1.19</td>
<td>.954</td>
<td>.000</td>
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<td>Ordinal Anxiety Categories</td>
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<td>-</td>
<td>.974</td>
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<tr>
<td>Raw scores</td>
<td>.97</td>
<td>1.18</td>
<td>.34</td>
<td>.05</td>
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<td>Relative scores</td>
<td>4.07</td>
<td>1.16</td>
<td>.06</td>
<td>.20</td>
</tr>
</tbody>
</table>

Table G9

BAI/WCQ-PR* Post-Test Correlation Using Pearson and Spearman's Rank Correlation Coefficients on Raw Post-Test Scores

<table>
<thead>
<tr>
<th>Item Number</th>
<th>BAI** Mean (sd)</th>
<th>WCQ-PR** Mean (sd)</th>
<th>Correlation Pearson</th>
<th>p-value</th>
<th>Correlation Spearman</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13.70 (9.16)</td>
<td>15.11 (5.6)</td>
<td>-.207</td>
<td>.342</td>
<td>-.336</td>
<td>.117</td>
</tr>
</tbody>
</table>

Note. *The BAI is a 21-item questionnaire. Raw scores were totaled using all 21 items. The WCQ is a 66-question instrument consisting of seven subscales. The correlation was based on the total score of the 7-item Positive Reappraisal scale, whose subconstructs are dispersed throughout the 66-item WCQ instrument. **(N=23).