

THE EXPERIENCE OF EXERCISE: WOMEN SURVIVORS OF SEXUAL VIOLENCE

by

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AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

School of Family Studies and Human Services  
College of Human Ecology

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Manhattan, Kansas

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## **Abstract**

Sexual violence is pervasive in the lives of women across the globe. Survivors commonly experience a range of mental health conditions following sexual trauma, rendering the development and examination of effective treatments to be critical. Preliminary research supports the use of adjunct exercise interventions for the treatment of trauma. In order to explore the impact of exercise interventions for the treatment of sexual violence, specifically, it is necessary to first come to understand survivors' experiences of exercise. To better understand the experience of exercise among women survivors of sexual violence, a phenomenological study, informed by a feminist perspective, was conducted with survivors of sexual violence receiving services at a rape crisis center. Data analysis uncovered four themes that capture the survivors' experience: exercising (and avoiding exercising) fosters safety, exercising is risky, past trauma restricts exercise choices, and exercising is beneficial. Survivors' choices related to exercise were found to be conscious and deliberate and were impacted by their stage of recovery. Implications for future research and practice are discussed.

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Special thanks to my husband, Jon, for being my biggest fan.

## Preface

The following is a list of manuscripts that I have published during my time in the doctoral program. I also have five additional manuscripts that are currently in progress.

**Smith, E., & Barros-Gomes, P.** (2015). Soliciting Strengths Systemically: The Use of Character Strengths in Couple and Family Therapy. *Journal of Family Psychotherapy*, 26(1), 42-46. doi: 10.1080/08975353.2015.1002742

**Smith, E., Rotunda, R., & Cosio-Lima, L.** (in press). Cognitive behavioral therapy and aerobic exercise for survivors of sexual violence with posttraumatic stress disorder: A Feasibility Study. *Journal of Traumatic Stress Disorders and Treatment*.

**Smith, E., Cafferky, B., Dharnidharka, P., Mallory, A., Dominguez, M., High, J., & Stith, S.** (in press). Effects of childhood experiences of violence on adult partner violence: A Meta-analytic review. *Journal of Family Theory and Review*.

**Smith, E., Cafferky, B., Dominguez, M., Spencer, C., Van, K., Stith, S., & Oliver, M.** Military/civilian risk markers for intimate partner violence: A meta-analysis. (conditional acceptance). *Violence and Victims*.

## **Chapter 1 - Introduction**

Sexual violence is a widespread public health issue. Women across the globe are disproportionately impacted by the experience of sexual violence (WHO, 2013). In the United States, nearly one in five women aged 18 or older have been raped, 1.3 million women have survived rape or attempted rape in the last 12 months, and 42% of women have experienced other forms of sexual violence during their lifetime (CDC, 2011a). The majority of women will suffer from psychological distress following sexual trauma (Foa & Rothbaum, 1998) and many will develop a range of mental health conditions, including depression, anxiety, and posttraumatic stress disorder (PTSD; e.g., Foa, Keane & Friedman, 2000). The diagnosis of PTSD is particularly common, impacting over 50% of women who have been raped (Foa & Rothbaum, 1998). The development and examination of effective treatments to address the mental health needs of survivors of sexual violence is, therefore, critical (Rothbaum, Astin, & Marsteller, 2005).

Multiple interventions have been found to be effective in the treatment of trauma and PTSD, including Cognitive-Behavioral Therapy (CBT) (Schnurr et al., 2007), Prolonged Exposure (PE) (Rothbaum et al., 2005), Cognitive Processing Therapy (CPT) (Resick et al., 2008), Eye Movement Desensitization and Reprocessing (EMDR) (Rothbaum et al., 2005), pharmacotherapy (Panahi et al., 2011) and couples therapy (Sautter, Glynn, Thompson, Franklin, & Han, 2009). Survivors of sexual violence with a diagnosis of PTSD may be reluctant to seek formal treatment for a variety of reasons, including feeling that their symptoms will improve with time, viewing symptoms as a personal failure, or shame surrounding the traumatic experience(s) (Foa et al., 2000). Furthermore, for those who choose to pursue treatment for PTSD, approximately one fourth will “drop out” before completing services. Dropout rates

include 20.5% from exposure treatments, 22.1% from CPT, 26.9% from a combination of exposure and other CBT techniques, and 18.9% from EMDR (Hembree et al., 2003). Trauma survivors with co-occurring diagnoses may be “especially resistant to first line-therapy” (e.g., CBT) and may benefit from programs that include multiple treatment modalities (Foa et al., 2000, p. 553).

In order to promote the development of improved treatments for PTSD, the creative integration of new theoretically grounded approaches with demonstrated effectiveness in treating other conditions has been encouraged (Foa et al., 2000). Preliminary evidence, for example, supports the use of yoga as an adjunct treatment for Vietnam Veterans with PTSD (Carter et al., 2013) and for survivors of the 2004 South-East Asia tsunami (Descilo et al., 2010). Because sexual violence involves distinct types of physical violations of the body, such as penetration, where the survivor’s body is literally the scene of the crime (i.e., potentially requiring completion of a forensic exam/“rape kit” to collect physical evidence), it should not be assumed that interventions found to be effective for survivors of other types of traumatic events will be helpful to survivors of sexual violence, particularly at all stages of recovery from trauma.

Limited research has examined the use of adjunctive yoga and exercise interventions for survivors of sexual violence, specifically, although preliminary research supports further investigation of aerobic exercise as a treatment for PTSD among women survivors of sexual violence (Smith, Rotunda, & Cosio-Lima, in press). In order to most effectively explore the impact of exercise interventions for the treatment of sexual violence, it is necessary to first come to understand survivors’ experiences of exercise. This study, therefore, seeks to gain an understanding of the experience of exercise among women survivors of sexual violence receiving services at a rape crisis center.

## **Significance of Study**

### ***Absence of Research on Women and Exercise***

Research examining the experience of exercise among women who have survived sexual violence is warranted for many reasons. Although a long-time focus of feminist scholarship has been the promotion of gender equality through advocating for the unique health needs of women (Thompson & Walker, 1995), there is an absence of research examining women's experiences of exercise in general and following sexual trauma in particular. It may be that exercise interventions would appeal to survivors who may otherwise choose not to seek formal treatment or may improve treatment retention or outcomes. Exercise may also address the “physical, visceral, and body-based dimensions” of trauma that have been said to not be accessible through traditional therapy that is focused on cognitions, emotions, and trauma-related avoidance behaviors (Emerson, Sharma, Chaudry, & Turner, 2009, p. 124).

### ***Cardiometabolic Risk Associated with PTSD***

There is also a growing body of literature demonstrating that PTSD is not only a mental health condition, but also a physical health issue. PTSD is associated with an increased risk for both somatic diseases (e.g., hypertension and cardiovascular disease) and early mortality (Levine, Levine, & Levine, 2014). Current interventions target the psychological parameters of PTSD “with little emphasis on addressing the comorbid cardiometabolic risk factors that impair overall long-term health outcomes” among trauma survivors (Levine et al., 2014, p. 1).

Common cardiometabolic risk factors that are typically neglected in both medical and mental health treatments include weight gain, insulin resistance, and cardiometabolic diseases (e.g., hypertension, stroke, type 2 diabetes, heart failure, cardiac arrhythmia, sudden death, and reduced lifespan). Regular physical exercise may ameliorate symptoms of PTSD through enhancement of “executive function, hippocampus-dependent learning and memory,

neuroprotection, neurogenesis, synaptic plastic, neurotransmission, prefrontal blood flow, and hippocampal volume” (Levine et al., 2014, p. 14). Complementary interventions, such as encouraging survivors to connect with a physician who can educate them on preventive diet and other comprehensive treatment options, may reduce the long-term adverse health outcomes experienced by those suffering from PTSD, while increasing the potential for improved quality of life. Collaborations between mental health and medical providers targeting these risk factors may be particularly important for altering the vicious cycle experienced by trauma survivors, where trauma/stress manifestations worsen the physical stress-related structural and functional changes in the central nervous system that are associated with PTSD (Levine et al., 2014).

## **Definitions of Concepts**

### ***Sexual Violence***

The discussion of sexual violence can be challenging because definitions vary considerably across different contexts (Farris, Schell, & Tanielian, 2013). Both women and men are impacted by sexual violence, which may occur during childhood and/or adulthood (CDC, 2011). Childhood sexual abuse is “any act with a child or youth that is intended to sexually gratify an adult, and in certain cases, a child or youth” (Brohl, 2004, p. 3). Examples of child sexual abuse include clothed or unclothed exposure of the child’s genitalia, fondling, masturbation, intimate kissing, and vaginal, anal or oral intercourse (Brohl, 2004).

Sexual violence may also be defined using the revised FBI definition of rape, “The penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim” (Federal Bureau of Investigation [FBI], 2012). Examples of rape include forced oral, vaginal, or anal sex. Sexual assault may also be defined more broadly to include “all forms of unwanted or coercive sexual contact” (Farris et al., 2013, p. 2). The Department of Defense, for example, defines sexual

assault as “Intentional sexual contact characterized by use of force, threats, intimidation, or abuse of authority or when the victim does not or cannot consent. Sexual assault includes rape, forcible sodomy (oral or anal sex), and other unwanted sexual contact that is aggravated, abusive, or wrongful (including unwanted and inappropriate sexual contact), or attempts to commit these acts” (Farris et al., 2013, p. 1). Other types of sexual violence include sexual trafficking and sexual harassment.

For the purpose of this study, sexual violence will be defined broadly to include sexual violence that occurred during childhood and/or adulthood. Women who are 18 years of age or older and who self-identify as having experienced sexual violence are referred to here as survivors of sexual violence.

### ***Trauma***

Here, the term trauma will be used to refer to psychological trauma. Trauma is defined as an emotional response to an event, such as rape, that involves a range of reactions. Shock and denial are common reactions in the immediate aftermath of trauma, while longer term reactions may include unpredictable emotions, flashbacks, strained relationships and also physical symptoms, such as headaches (APA, 2015).

### ***Exercise***

Exercise is defined as a type of bodily movement (produced by the contraction of skeletal muscle and that substantially increases energy expenditure) that is planned, structured, and repetitive and completed with the primary purpose of improving or maintaining one or more components of physical fitness (i.e., cardio-respiratory fitness, muscular strength, muscular endurance, flexibility, and body composition; CDC, 2011b). Examples of exercise include aerobic exercise (which use the large muscle groups over an extended period of time) such as

running, walking, or swimming and anaerobic exercise (an intense activity) such as strength training and sprinting.

Reaching a definition of exercise for the purpose of this study was challenging. For this preliminary work examining survivors' experience of exercise, participants were permitted to self-define exercise. In reporting the results, the term exercise will therefore encompass physical activities that meet the scholarly definition of exercise (e.g., strength training and running) as well as physical activities that do not meet the scholarly definition of exercise (e.g., yoga and martial arts). This choice was made not to dismiss scholarly work in this area, but to explore the meaning of exercise as self-defined by survivors of sexual violence. In order to use the appropriate terminology, in the literature review and discussion sections, I will refer to activities that do not meet the scholarly definition of exercise as "physical activity."

## **Research Questions**

My overarching research question is, "What does the experience of exercise mean to women who are survivors of sexual violence?" Stated differently, "What is the lived experience of exercise for women who are survivors of sexual violence?" The specific research questions formulated for this study were informed by the work of Herman (1997) and my experience in providing clinical and victim advocacy services to adult survivors of sexual violence for over a decade. The specific research questions include:

1. How does being a woman who is a survivor of sexual violence relate to the decision whether or not to engage in exercise?
2. How does being a woman who is a survivor of sexual violence relate to specific choices about exercise?
3. What meaning do survivors of sexual violence find in exercise?



## **Chapter 2 - Review of Literature**

### **Theoretical Framework**

This study was guided by Herman's (1997) Stages of Trauma Recovery and by Self-determination Theory (Ryan & Deci, 2000), which are elaborated below. These frameworks were used to conceptualize the design of the study and in data analysis.

#### ***Stages of Trauma Recovery***

Herman (1997) developed a conceptual model of the stages of recovery from psychological trauma through her work with survivors of sexual and intimate partner violence. This model integrates an ecological view of psychological trauma with the idea that trauma recovery unfolds in identifiable stages that survivors will progress through in a typically non-linear fashion, and a complex definition of what constitutes recovery from psychological trauma (specifically related to achievements in memory, affect range and tolerance, memory and affect becoming linked, symptom mastery, self-esteem, attachment, and finding meaning; Lebowitz, Harvey, & Herman, 1993).

Herman (1997) explained that for survivors of traumatic events, recovery unfolds in these three stages: safety, remembrance and mourning, and reconnection. The central task of the first stage of recovery is for survivors to establish safety through learning to manage their most disturbing trauma-related symptoms, gain confidence in their ability to protect themselves, and begin to develop relationships that are both appropriately trusting and protective. The central task of the second stage of recovery is remembrance and mourning. This stage involves processing the traumatic experience(s) by reconstructing the story of the trauma and mourning the associated traumatic losses. The central task of the third stage of trauma recovery is reconnection with others and with day-to-day life. Although recovery from trauma has no "end point" and

resolution is never complete, survivors who have accomplished the tasks associated with this stage will feel a restored (or newly developed) capacity to find pleasure in life and will be able to engage fully in relationships.

Herman (1997) explained that establishing/re-establishing safety begins with survivors' focus on regaining control over their bodies, including attending to basic health needs, such as exercise. She recommended the use of 'hard exercise' for trauma survivors beginning during the initial stage of recovery (safety) to assist with managing stress. At this time there is limited literature to guide psychotherapists in how to incorporate a focus on exercise into existing clinical models. Because Herman identified establishing safety as the foundation for successful trauma treatment, there is clearly a need for further research exploring the experience of exercise among survivors of trauma.

### ***Self-Determination Theory***

Motivation has been identified as a critical factor in supporting sustained engagement in exercise, which in turn is associated with positive physical and psychological health outcomes (Teixeira, Carraca, Markland, Silva, & Ryan, 2012). The empirical examination of self-determination theory (Ryan & Deci, 2000), which explains individual differences in motivation based upon contextual influences and interpersonal perceptions, has grown substantially in recent years. Self-determination theory provides a framework for understanding motivational processes in health behavior, particularly physical activity and exercise.

There is, therefore, the potential that much can be gained from combining concepts from self-determination theory with Herman's (1997) stages of trauma recovery. The basic premise of self-determination theory is in alignment with trauma-informed care, in that it embraces "the assumption that all individuals have natural, innate, and constructive tendencies to develop an

ever more elaborated and unified sense of self” (Deci & Ryan, 2002, p. 5). The theory also posits that social-contextual factors either support or impede this innate human tendency, thus offering an explanation for some of the outcomes commonly observed among survivors of sexual violence. The relationship between our innate tendencies and our social environment is, therefore, dynamic.

Self-determination theory has identified three basic, innate psychological needs that are the basis for motivation, including the needs for competence, relatedness, and autonomy. Competence means feeling effective in interactions with our social environment and experiencing a sense of confidence, which encourages the pursuit of challenge and novel opportunities. Relatedness refers to feeling connected to others and to our community and involves experiencing feelings of both caring and being cared for (Ryan & Deci, 2000). This concept, therefore, intersects with the tasks associated with the third stage of trauma recovery: reconnection (Herman, 1997). Finally, autonomy refers to viewing the self as the source of one’s own actions. These basic needs are essential to psychological growth and wellbeing and social environments that do not support these basic needs are expected to impede motivation.

It has been noted that the initial stage of trauma recovery is often prolonged and particularly challenging for survivors of sexual violence (Lebowitz et al., 1993). During this time, self-destructive behaviors are commonly carried out in effort to regulate intolerable feeling states as adaptive self-soothing strategies are being established (Lebowitz et al., 1993). It is, therefore, particularly important to mobilize multiple self-care strategies, including exercise, during this stage (Lebowitz et al., 1993), suggesting that applying theories of exercise motivation, such as self-determination theory, to the psychological treatment of survivors of sexual violence may promote improved treatment outcomes.

## Literature Review

Although there is limited research examining the impact of exercise interventions for the treatment of trauma in general and for sexual violence in particular, the psychological benefits of aerobic exercise for reducing symptoms of depression and anxiety are well recognized (Blumenthal et al., 2007). Since PTSD commonly co-occurs with depression and anxiety, aerobic exercise may also reduce symptoms of PTSD. Preliminary studies have, in fact, provided support for yoga (Carter et al., 2013) and aerobic exercise (e.g., Smith, Rotunda, & Cosio-Lima, in press) as adjunct treatments for PTSD as well as co-occurring anxiety and depression (Manger & Motta, 2005; Newman & Motta, 2007). Recent research also suggests that exercise approaches may not only address the cardiometabolic risk factors associated with PTSD that are typically neglected in traditional trauma treatments (Levine et al., 2014), but may also promote the most effective trauma processing that is the goal of traditional therapies (Dale et al., 2009).

There is also limited research examining how to assist survivors of sexual violence with developing healthy exercise habits. Such research is needed because survivors of trauma often experience poor physical health (e.g., Shipherd, Clum, Suvak, & Resick, 2014; Felitti et al., 1998). Survivors of sexual assault, for example, have been found to experience a variety of eating disorder symptoms. The first United States population-based study examining sexual assault history and eating disorder symptoms among White, Hispanic, and African-American women and men found significant associations between eating disorder symptoms and sexual assault when controlling for age, gender, ethnicity, income, socioeconomic status, and study site, although some associations varied by ethnicity, income, and age (Laws & Golding, 1996). This research was limited though in that it used the National Institute of Mental Health-initiated Epidemiologic Catchment Area Surveys conducted in Los Angeles and North Carolina, which

did not assess specifically for some eating disorders, such as bulimia, which may also be related to sexual assault.

Research conducted from The Adverse Childhood Experiences (ACE's) study, which examined the associations between childhood maltreatment and later-life health and wellbeing, has observed other negative health implications among survivors of interpersonal trauma. For example, the risk for obesity increased with the number and severity of each type of abuse investigated (sexual, verbal, fear of physical abuse, and physical abuse; Williamson, Thompson, Anda, Dietz, & Felitti, 2002). Some concepts from the ACE study were, in fact, grounded in the medical experiences of one of the co-principal investigators, Vincent Felitti, whose work involved assisting obese people with losing weight. He found that contrary to popular belief, those most likely to drop out of weight loss programs were those who were successfully losing weight. In a study of 286 patients who had “dropped out” of the weight loss program, he found that “many had been unconsciously using obesity as a shield against unwanted sexual attention, or as a form of defense against physical attack, and that many of them had been sexually and/or physically abused as children” (Redding, 2003, p. 1). Taken together, these results suggest that some weight changes experienced by survivors of sexual violence may be an intentional, though possibly unconscious, attempt at self-protection.

### ***Exercise for PTSD***

The National Center for PTSD, operated by the U.S. Department of Veteran's Affairs, recommends moderate exercise for trauma survivors suffering from PTSD (U.S. Department of Veteran Affairs, 2014). Preliminary studies have provided support for this recommendation. Manger and Motta (2005) examined the effects of a 10-week aerobic exercise program on PTSD and co-occurring anxiety and depression among a sample of adults who had experienced trauma.

Results revealed significant differences when comparing beginning baseline PTSD scores with post-treatment and follow-up scores and when comparing ending pre-treatment and follow-up scores. The results were limited by the high rate of those who were “non-compliant” with the requirements of the study. The study also lacked randomization to treatment groups.

More recently, Smith, Rotunda, and Cosio-Lima (in press) conducted a feasibility study to examine the impact of an 8-week adjunct aerobic exercise intervention for the treatment of PTSD among women survivors of sexual violence. Fourteen participants self-selected CBT or CBT plus group aerobic exercise sessions. The high rates of participant retention (93%) and satisfaction (100%) suggest that aerobic exercise may be an acceptable intervention among this population. The results offer support that a randomized controlled trial to explore the efficacy of aerobic exercise for the treatment of PTSD among women survivors of sexual violence would be both safe and feasible.

### ***Yoga for PTSD***

Including yoga in the treatment of trauma is becoming increasingly popular among some of America’s leading trauma experts (Emerson & Hopper, 2011). There is, in fact, preliminary support for the use of yoga with those who have survived interpersonal trauma. A randomized controlled trial examining yoga as an adjunctive treatment for PTSD among women survivors of interpersonal assaults with chronic, treatment resistant PTSD (defined as having three or more prior years of therapy for the treatment of PTSD) revealed that a weekly, one-hour yoga group significantly reduced PTSD symptomatology (van der Kolk et al., 2014a). Although the control group, which completed a weekly, one-hour, adjunct supportive women’s health education group, also experienced a significant reduction in PTSD symptoms during the first half of

treatment, participants in this group relapsed following initial improvement. This ten-week study did not include a formal follow-up to assess if improvements were maintained over time.

A preliminary study conducted at a rape crisis center in the Midwestern United States found that “the use of yoga with survivors of sexual and domestic violence shows positive results as a healing method in relation to survivor self-compassion and overall wellness” (Stoltz-Newton & Crews, 2013, p. 19). Adult survivors displayed increased connection to mindfulness and to self-kindness and experienced the group as a way to take care of both their body and mind (Stoltz-Newton & Crews, 2013).

### ***Martial Arts Training***

It has been stated that training in martial arts, such as karate, benefits women survivors of sexual assault (van der Kolk, 2014b). Qualitative research using a phenomenological approach has examined the connection between the practice of martial arts training and self-perceptions among women, with implications for the use of martial arts as an intervention following sexual trauma (Guthrie, 1997). One theme that emerged from this research is that martial arts training leads to enhanced self-esteem associated with healing from sexual trauma, particularly incest. Approximately one fourth of the sample in Guthrie’s (1997) study reported healing from incest, specifically, through their martial arts practice, though few of the women initially came to karate expressly for that purpose. Participants reported experiencing multiple improvements in their trauma-related symptoms as a result of martial arts practice, including improvements in their feelings of anger and pain related to their history of experiencing incest.

The incest survivors in Guthrie’s study also found value in integrating martial arts practice with traditional talk-based therapy services. It was not that incest survivors viewed karate as a replacement for traditional therapies, but instead as an important complementary

treatment, which addressed the body-based dimension of their sexual trauma experience. One participant stated,

*I believe therapy and martial arts are complementary forms; I am now convinced, however, that ultimately healing has to come through the body; I think this is a shortcoming of traditional talking therapy. It makes perfect sense to involve the body because the pain is located in the body, it's not just in the head. Therapists often assume that healing is just some sort of mental process; the physical realm can open up for you what is not possible in purely mental therapy. What happened to me as a child happened to my physical body. You cannot deal on a purely intellectual level, like what is emphasized in traditional therapy. Martial arts is a physically healing process. Feeling connected to your body and your bodily powers is the critical first step to being connected to the rest of the world and becoming an integrated person (p. 23).*

### ***Exercise for Depression***

Although few studies have examined the impact of exercise on symptoms of PTSD, many have explored the effects of exercise on symptoms of depression. A recent meta-analysis (Josefsson, Lindwall, & Archer, 2012) examined physical exercise interventions compared to no treatment, placebo-controlled treatment, or treatment as usual for clinical depression. Thirteen studies met the inclusion criteria and provided sufficient data to calculate effect sizes. Results revealed a significant and large overall effect of exercise interventions for clinical depression, with a larger effect when examining only trials that used no treatment or placebo-controlled conditions. When examining studies of high methodological quality only, the effect size was moderate. Findings support previous meta-analyses (e.g. Mead et al., 2009) and suggest “exercise may well be recommended for people with mild and moderate depression who are



willing, motivated, and physically healthy enough to engage in such a program” (Josefsoon et al., 2012, p. 269).

More specific recommendations have been offered by Stanton and Reburn (2014). Their systematic review of randomized controlled trials reporting a significant treatment effect of exercise for depression concluded that “a program of supervised aerobic exercise combining indoor or outdoor walking, stationary cycle or cross-trainer exercise in either group, individual, or combined formats, performed three to four times weekly, undertaken at low to moderate intensity or at the participant’s preferred intensity, with sessions lasting 30 to 40 min is beneficial in the treatment of depression” (Stanton & Reburn, 2014, p. 181).

### *Exercise for Anxiety*

Exercise has also been found to reduce symptoms of anxiety. For example, Broocks et al., (1998) conducted the first randomized, placebo-controlled study, which compared exercise to medication (Clomipramine <sup>TM</sup>) in the treatment of panic disorder, concluding that aerobic exercise alone may be associated with significant improvement in this diagnosis (Broocks et. al., 1998). A recent systematic review examined the effects of exercise when compared to other treatments (e.g., CBT) for anxiety disorders. Eight RCT’s were included and results suggest that exercise is effective as an adjunctive treatment for anxiety, although less effective when compared with treatment using antidepressant medications. Both aerobic and non-aerobic exercise seemed to reduce symptoms of anxiety (Jayakody, Gunadasa, & Hosker, 2014).

Although trauma survivors are more likely to suffer from poor physical health (e.g., Shipherd et al., 2014), limited research has explored approaches for integrating treatment to address the physical health effects associated with the experience of trauma. Novel exercise approaches have demonstrated some promise for addressing this neglected area. In order to

explore the use of exercise interventions for the treatment of sexual trauma, specifically, it is important to first come to understand survivors' experience of exercise.

## **Chapter 3 - Research Methods**

### **Methodology**

This study used a phenomenological approach, informed by a feminist perspective, to examine and give voice to women survivors of sexual violence regarding their experience of exercise. A phenomenological approach is a systematic attempt to uncover and describe the meaning of lived experience (van Manen, 1990). Through this approach, I sought to understand what it is like for women survivors of sexual violence to live this experience, the depth and complexity embodied in living this experience, the quality of this experience (Willig, 2008), and the meaning of this experience (Patton, 2002). A qualitative approach was ideal for pursuing the initial examination of such a novel concept. Qualitative research methods are also empowering and give voice to traditionally marginalized groups (Krueger & Casey, 2009), such as survivors of sexual trauma.

### **Sampling Strategy**

I used a purposeful sampling strategy to interview women who are survivors of sexual violence about their experience of exercise. Through collaboration with program staff at the Kansas Coalition Against Sexual and Domestic Violence (KCSDV), I developed a relationship with a rape crisis center in a Midwestern city in the United States in reference to this project. I then used typical case sampling to select information-rich cases. This involved requesting the assistance of staff members at the rape crisis center as key informants who shared information about the study with survivors participating in one of two integrative yoga groups at the center. This sampling strategy allowed me to highlight what is the typical, or common, experience of exercise for women survivors of sexual violence interested in participating in an intervention

involving physical activity at a rape crisis center. To be eligible for participation in this study, participants needed to be aged 18 or older and to self-identify as a survivor of sexual violence.

### **Description of Participating Rape Crisis Center**

The rape crisis center where the survivors were receiving services is located in an upper-class business district in a larger, Midwestern city. The center itself is housed in an office building that is safeguarded by a security guard to ensure that all visitors sign-in through providing their name. Both the office building and the center itself are very nicely appointed. The researcher did not inquire as to how this location may have impacted survivors' decisions to attend services, although several participants offered during their individual interviews that they drive a significant distance to access services at the center. It may be, for example, that survivors feel more comfortable to access services at this center because of the safe location and the safety parameters in place (e.g., security guard on duty in building). It also may be that this location may be too remote or inaccessible for some survivors.

### **Research Team**

In order to enhance the quality and trustworthiness of my findings, I formed a diverse interpretive community, as recommended by Gilligan, Spencer, Weinberg, & Bertsch (2003). This group consisted of me and two additional researchers who assisted with the collection of data at the focus group and with analysis of the individual interviews. One research team member is a PhD student in the Marriage and Family Therapy program at Kansas State University whose research interests include both trauma and qualitative methodology. She has completed two graduate courses in qualitative methodology and has prior experiencing in using the analysis method selected for use in this study. Her role was to assist with the creative activities employed during the focus group, so that I could focus on asking the interview

questions. Another research team member is a Master's student in the Marriage and Family Therapy program at Kansas State University whose research interests include trauma and loss. She has teaching and clinical experience in the area of interpersonal trauma. Her role was to take notes during the focus group interview, paying particularly attention to which participant made each statement, so that I could focus on asking the interview questions. Research team members of the same sex as the participants were selected, as recommended by Daly (2007), because this study focused on “extremely sensitive gendered experiences that include issues of misused power or abuse” (p. 206).

### **Participants and Data Collection**

I first conducted one culturally-responsive focus group (Rodriguez, Schwartz, Lahman, & Geist, 2011) with women survivors of sexual violence. The focus group was held primarily to establish safety for recruiting participants who would be interested in taking part in an individual, in-depth interview about their experience of exercise. The focus group interview was also used to triangulate the data through obtaining general information about survivors' participation in and experience of exercise.

### **Focus Group Interview**

The culturally-responsive focus group included eight women who were currently attending one of two separate integrative yoga groups for survivors of sexual violence at the rape crisis center. Demographic details of the participants are presented in Appendix A. The 90-minute focus group was conducted at the rape crisis center where the women were receiving services and was audiotaped for transcription.

The culturally responsive focus group (Rodriguez et al., 2011) was held in a naturally-occurring environment that was already shared by participants. This type of environment is

believed to be the safest, comfortable, and affirming for those who are members of a marginalized group. This choice also honored the basic need of relatedness put forward by self-determination theory. Conducting the focus group interview in an environment where survivors already felt safe was believed to increase participants' comfort in sharing their story with an outsider. Additionally, the culturally responsive focus group format draws on the idea that there is power in reconnection, an important concept in Herman's (1997) work, which guided the development of this study.

First, I asked participants to read and sign the informed consent for this IRB approved study, encouraging them to ask any questions that they may have about participation before signing. I then invited participants to complete the Godin Leisure-Time Exercise Questionnaire (Godin & Shephard, 1997; see Appendix B) in order to collect data on the types of exercise that participants engage in and how frequently they engage in each type of exercise (e.g., moderate exercise such as fast walking two times per week). Next, participants completed a demographic questionnaire, which included several questions regarding what stage(s) of trauma recovery (Herman, 1997) they have experienced as well as identification of their current stage of recovery (see Appendix C).

I then asked ten questions from a list of fifteen possible questions during the focus group interview (see Appendix D). It is typical for a two-hour focus group to include about 12 questions (Krueger & Casey, 2009) and since this focus group was approximately 90 minutes in length, fewer questions were posed. Questions were selected from the interview guide in following the priority areas identified prior to the focus group. Although I have over a decade of experience specializing in providing clinical services to survivors of sexual violence, I also shared my focus group interview questions with the participating rape crisis center as the

community gatekeepers in order to gain further insight. The staff members did not voice any concerns with the interview questions or suggest any additional questions for inclusion based upon their expertise in treating survivors of sexual violence.

I followed the recommendation of Krueger and Casey (2009) by beginning the focus group with questions that were factual before moving into questions designed to foster conversation among participants. Because it has been recommended that focus group moderators “consider going beyond oral questions and using strategies that require greater involvement” (Krueger & Casey, 2009, p. 42), I developed several methods for engaging participants in a creative way as a part of the group process. First, I invited participants to use sticky notes™ to identify the benefits and challenges related to participating in the integrative yoga group at the rape crisis center. Later, I used a chart that I created on a sheet of poster board, which listed various types of exercise (e.g., walking, running, and strength-training). In this activity, I invited participants to indicate how appealing it would be to them to engage in each type of exercise program, if offered at the rape crisis center where they were receiving services, by using a thumbs-up sign for appealing/I would be interested, a thumbs-sideways sign for uncertain/I would need more information, and a thumbs-down sign for not appealing/I would not be interested. I then asked participants additional questions to elicit what information they would need in order to make a decision regarding trying this type of exercise group and to provide feedback on what they shared. For example, “What patterns do you see?” and “Is there anything that surprises you?”

At the conclusion of the focus group, I invited participants to complete a closing questionnaire which allowed each woman to identify whether or not she would be interested in participating in an individual interview with me and, if so, the telephone number at which she

would like to be contacted and if it was okay to leave a message (see Appendix E). The closing questionnaire also informed participants that their real name would be kept confidential in reporting the results of the study. In recognizing the methodological and ethical significance of “naming” people (Guenther, 2009), I invited participants to choose the pseudonym that they would like for me to use when reporting the findings.

At the conclusion of the focus group, as a reminder, I encouraged survivors to follow-up with staff members at the rape crisis center if needed. The two staff members who facilitate the integrative yoga groups at the participating rape crisis center also made themselves available in a designated room near where the focus group was conducted in support of the survivors. Therefore, if the research process brought up distressing thoughts or feelings for any of the participants, they had a trusted person available for immediate support and intervention. This was another opportunity to promote relatedness for the survivors. These staff members also led the participants in a brief relaxation exercise immediately prior to the focus group, while the researchers were in another room preparing. These intentional strategies offered additional opportunities to foster safety for participants.

### **Individual Interviews**

Seven of the eight participants from the focus group expressed interest in participating in an individual interview. Six of the seven participants who initially expressed interest responded when I contacted them to schedule an individual interview. I interviewed these six survivors individually using a semi-structured interview guide (see Appendix F).

Demographic information for the participants is presented in Appendix A. Interviews were conducted in-person at the rape crisis center where the women were receiving services or via telephone, depending upon the participant’s preference. These options were provided to



promote autonomy, one of the basic needs identified in self-determination theory, and to foster safety for the survivors participating in this study. Some survivors, for example, may feel most comfortable participating in an interview via telephone in the privacy of their own home, while others may feel most comfortable at the rape crisis center where they have access to program staff if needed. In the end, five participants chose to participate in an interview via telephone and one participant chose to participate in an in-person interview at the rape crisis center.

The interviews ranged from 52 minutes to 67 minutes in length and were audiotaped for transcription. During the individual interviews, I asked eight questions from a previously developed semi-structured interview guide, in addition to any relevant follow-up questions based upon participant's experiences (see Appendix F). As recommended by Patton (2002), interview questions for the individual interviews began with questions about survivors' present experience, moved to questions about their past experience, and concluded with questions about their hopes for their future experience.

All participants received one \$25 VISA® gift card following participation in the focus-group interview and one \$25 VISA® gift card following participating in an individual interview. VISA® gift cards were selected as the participation incentive for this study based upon my prior experience in conducting research with survivors of sexual violence at a rape crisis center who expressed a preference for this form of participation incentive. Gift cards were funded through a research award that I received through the School of Family Studies and Human Services at Kansas State University.

### **Securing and Transcribing Data**

I used a digital audio recording device to record all interviews. Each interview was labeled and stored on the device and then transferred to my computer immediately, where it was

protected using AxCrypt password protection. I transcribed the focus group interview and five of the six individual interviews in order to immerse myself in the data. The member of the research team with the least experience in qualitative methodology transcribed the remaining interview so that she could familiarize herself with the transcription process before analyzing interviews. I reviewed this transcript, matching it to the audiotape, to ensure accuracy.

In recognizing the theoretical and ethical implications of data transcription, I made specific choices related to transcribing the data prior to beginning the transcription process (Davidson, 2009). In honoring the confidentiality of survivors' experiences, I deliberately avoided the use of hired transcribers. Interviews were transcribed verbatim using naturalized (i.e., use of commas and periods that do not actually occur in spoken language) and denaturalized (i.e., preserving the use of statements such as "um", pauses, and stutters that are prevalent in oral language) transcription processes. I also used available technology to upload each audio file to Express Scribe Digital Dictation Software, so that this software could assist in transcribing each interview. This software allows the researcher to slow down the speed of speech to aid in transcription. After each interview was transcribed, the data were moved to Microsoft Word, and then a second review of the audio file was completed, matching it to the transcript. Finally, a third review of each transcript was completed to ensure accuracy. The transcripts were password protected using AxCrypt. After each transcription was completed, I also compared the audio recording with my field notes, which had been saved and password protected, and included any additional relevant thoughts.

### **Data Analysis**

My research questions, which were developed from the work of Herman (1997) and my lived experience as a psychotherapist specializing in the treatment of sexual violence, guided

data analysis. Data were analyzed using the Listening Guide (Gilligan et al., 2003). The Listening Guide (Gilligan et al., 2003) is a voice-centered relational method, which moves beyond reading the transcribed interviews to identify general themes. This analysis method was selected for use in this study for several reasons. First, the Listening Guide (Gilligan et al., 2003) aligns with the phenomenological approach and feminist perspective applied in this study (Brown & Gilligan, 1992). It has been used to give voice to members of marginalized groups who have traditionally been silenced (Brown & Gilligan, 1992), making it a particularly appropriate method for analyzing the experience of women survivors of sexual violence. This method is “best used when one’s question requires listening to particular aspects of a person’s expression of her own complex and multilayered individual experience and the relational and cultural contexts in which they occur” (Gilligan et al., 2003, p. 169) and, therefore, offers a valuable approach to systematically attending to the contrapuntal voices and contextual experiences of survivors of sexual violence. The emphasis on social and environmental contexts also aligns with the basic needs posited by self-determination theory.

Additionally, self-awareness and reflection are built into this analysis method in effort to reduce the likelihood that a participant’s voice will be overridden by the researcher’s voice (Gilligan et al., 2003). The researcher is actively involved in data analysis through identifying, in writing, her own impressions and biases, making the reflexive process more overt. Finally, this relational method recognizes the complex relationship between participant and researcher when women are sharing their experiences of subjugation.

The Listening Guide (Gilligan et al., 2003) involves a minimum of four sequential listenings with four specific steps of data analysis: 1) listening for the plot, 2) writing “I poems”, 3) listening for contrapuntal voices, and 4) composing an analysis. The first part of Step 1 (the

first listening) involved listening for the plot. During this step, each member of the research team and I attended to the main themes, images, metaphors, absences, contradictions, and contexts in each interview. The second part of Step 1 involved constructing our own individual response to the interview. The next step (the second listening) consisted of creating I poems, which involved moving through the text and underlining each “I” and accompanying verb and/or associated words to construct a poem. I poems were used to assist in the development of the overall interpretation and analysis. Step 3 involved at least two additional listenings for contrapuntal (multiple) voices (e.g., a voice that finds exercise to be beneficial and a voice that finds exercise to be risky). As I completed each listening, I remained aware of my overarching research question: What is the experience of exercise among women survivors of sexual violence? Finally, Step 4 involved composing the analysis.

Through this analysis process, common themes among the survivors’ experience of exercise began to emerge. In identifying emerging themes, my research team and I regularly returned to the transcripts to verify that the themes were, in fact, an accurate reflection of the participants’ experiences. I also identified quotes from survivors that represented the powerful exemplars that emerged based upon their experiences for inclusion in reporting the findings.

Before beginning data analysis, I met with each member of the research team to review the analysis procedure as outlined in the Listening Guide (Gilligan et al., 2003). One of the research team members and I had previous experience with using the Listening Guide (Gilligan et al., 2003) to analyze qualitative data and, therefore, were familiar with the procedure at the onset of this study. The other research team member and I met to discuss this method in more detail to ensure that she had an accurate understanding of the steps involved, since she did not have prior experience with using this method.

The three of us then analyzed two interviews individually before our first research team meeting. At our first meeting, we worked together to analyze each of the interviews, one at a time. We then discussed the themes that we saw emerging. We individually analyzed two interviews prior to each meeting, over the course of three meetings, so that we were familiar with the data prior to our team analysis.

In analyzing each interview, we followed, in sequence, the steps outlined in the Listening Guide (Gilligan et al., 2003). We first listened for the plot, including where we are, what is happening, when, where, with whom, and why (Step 1). We also identified the repeated images and metaphors that we observed in each interview as well as the contradictions and absences (Step 1). We then discussed with one another, in detail, our personal response to the interview and how our own personal experiences and biases could potentially impact our analysis (Step 1). Next, we shared the relevant “I poems” that we identified in each interview (Step 2) before discussing the contrapuntal voices that we heard in each interview (Step 3). Finally, we discussed our overall analysis of the interview, emphasizing what we learned about each research question through the analysis process and how we came to know this (Step 4).

Through our diverse interpretive community, each member of the research team brought her own unique perspective to data analysis. Whenever there was disagreement among research team members, we discussed the differences in perspective until consensus was reached. My major professor then assisted with confirmability/dependability of the findings by offering an outside perspective grounded in her extensive experience with qualitative data analysis.

### **Enhancing Quality and Credibility**

There are a number of ways to enhance the quality and credibility of qualitative methodology (Tracy, 2010). In addition to forming a diverse interpretive community of analysts

with differing cultural experiences and individual experiences related to exercise, I also triangulated the data through conducting both focus group and individual interviews. I first piloted the individual interview questions with a Victim Advocate at a rape crisis center in a small, Midwestern city with experience facilitating yoga classes for survivors of sexual violence. This interview was completed after contacting my undergraduate mentor, Katherine Allen, whose research program has focused on qualitative methodology and the use of feminist theories, who shared her feedback and suggestions regarding the first draft of my proposed interview questions. I invited staff members at the rape crisis center participating in this study to review the interview questions and to provide feedback based upon their expertise in working with survivors of sexual violence. I also completed two graduate courses in qualitative methodology at Kansas State University and attended a two-day workshop on coding and analyzing qualitative data in order to expand upon my understanding of qualitative data analysis. Finally, I have prior experience collecting data through focus group and individual interviews and coding and analyzing qualitative data.

To further enhance the credibility of this study, I took detailed notes in order to regularly reflect on any changes within myself as the researcher as a result of conducting the inquiry. I used rich and descriptive quotes and “I poems” from participants to support the themes identified as having emerged from the data. I discussed the emerging themes with my research team as well as with my major professor as they emerged in order to minimize the potential for bias. I also provided a written overview of the results of the study to the survivors who participated in an individual interview and requested their feedback regarding the accuracy of my portrayal of their lived experiences. Through providing a description of the themes that emerged from the data, I invited the participants to offer their suggestions for additions, deletions, or changes to the

findings, so that they most thoroughly and accurately reflected their lived experience. Seeking “member reflections” provided not only an opportunity for reflexive elaboration on the research findings, but also a way to further collaboration and dialogue with participants (Tracy, 2010), consistent with a feminist approach to research. Finally, I have credibility as a Licensed Clinical Marriage and Family Therapy and Certified Trauma Specialist with a background in Exercise Science, which places me in a unique position to be able to investigate this phenomenon.

### **Self-of-the-Researchers**

As is true in all research endeavors, I bring a variety of strengths and limitations to this study. In line with my social constructionist perspective that is informed by a feminist perspective, I value authenticity and desire to be reflexive through describing how my own experiences and background have shaped the formation of this project and my inquiry. Self-reflexivity is also one of the most celebrated practices of qualitative research (Tracy, 2010). Specifically, I have over one decade of experience specializing in providing clinical and victim advocacy services to adult survivors of sexual violence and their family members. This work and the development of my research questions are, therefore, informed not only by my familiarity with the literature, but are also influenced by my lived experiences as a psychotherapist and victim advocate who has worked exclusively with victims/survivors of violent crimes during the majority of my professional career. My beliefs based on my anecdotal experiences and prior research with trauma survivors include that exercise is effective for those survivors of sexual violence who elect to incorporate it as an adjunct to their therapy services and also that a body-based dimension of healing may be necessary in order for survivors to fully recover from the impact of trauma.

To my knowledge, I am not an insider to the experience of sexual violence. Thus, I do not have insider's knowledge about this topic to inform my work, although I often feel as if I do after so many years working in the field of trauma recovery and must remind myself that I do not. Additionally, although I have not used exercise personally to recover from a traumatic experience, I have participated in long-distance/endurance running as a hobby and I hold a Master's degree in Exercise Science. I am, therefore, admittedly biased towards the benefits of exercise. Additionally, although I value all forms of exercise, I am also personally biased towards aerobic exercise. As I operate from a social constructionist worldview, the curious "not-knowing" stance that is a trademark of this approach benefited me during the study so that I remained reflexive throughout this process.

It is also important for me to be reflexive about the intersections of my own social positions as a middle-class, White, heterosexual, able-bodied female who is relying on the literature and her lived experiences that have predominately involved working with White women. Additionally, my social location as a thin and healthy woman who asked other women about their engagement in exercise, which is traditionally a sensitive topic for women in our society, was important to keep in mind. This was particularly critical, as women who are survivors of sexual violence may be especially sensitive about this topic because of the common impact of trauma on survivors' perceptions of their body (Herman, 1997). Attending to the intersections of my race, age, gender, and additional social locations in reference to the intersections and social locations of my participants was most valuable.

### ***Research Team Reflexivity***

I invited each member of the research team to provide a written description of her own self-reflexivity. One research team member identifies as a biracial (White American and



Chinese), heterosexual, middle-class, female who is fluent in Chinese and younger than the participants. Although she is not an insider to the experience of sexual trauma and has limited clinical experience as a marriage and family therapist in working with the unique population of women survivors of sexual trauma, she has experience with the practice of yoga. At the time of this study, she had practiced yoga for approximately six months, and—as she also identifies as being of faith— particularly enjoys incorporating her spirituality into the practice of yoga. This analyst's lived experiences with yoga helped her to understand participants' descriptions of their experiences with yoga practice, especially in regards to the positioning of the body and the connection between the body and mind during movements. Her lived experiences as an ethnic minority and someone who has chosen to be of a certain faith also influenced her to give more attention to participants' potential experiences with having to redefine their identity and close relationships after sexual trauma. In other words, this analyst is more biased in terms of her view about there being a complex intra-psychic, body-mind, identity challenge for women survivors of sexual trauma who are attempting to recover through exercise.

The second research team member identifies as a White, middle-class female who is of a younger age than the participants in this study. She acknowledges that some personal experiences with sexual assault may shape some of her opinions and interpretations and feels this is a strength that she brought to data analysis. This individual believes in physical and spiritual wellness, and is influenced by her own religious beliefs that inform her that a person's self and safety includes not only their mind, but also their body and their soul. This research team member also has both language and cultural experiences in the Hispanic culture, including having achieved fluency in the Spanish language and studying abroad.

## **Chapter 4 - Findings**

Analysis of the individual interviews with six survivors of sexual violence yielded the following four themes: a) Exercising (and not exercising) fosters safety, b) Exercising is risky, c) Past trauma restricts exercise choices, and d) Exercising is beneficial. Each theme is explained below and is supported with survivor quotes and “I poems”. I poems allowed us to ‘tune into’ survivors’ voices in order to most accurately portray their lived experience. Data collected from the focus group interview is also integrated into each theme where applicable.

### **Exercising (and Avoiding Exercising) Fosters Safety**

Most of the survivors described exercise as serving a safety function. Some survivors explained that certain aspects of exercise helped them to feel safer following their experience of trauma while others expressed that it was avoiding engagement in exercise that helped them to feel safer. Two subthemes emerged: exercising protects and avoiding exercising protects.

#### ***Exercising Protects***

Several of the survivors who stated that exercise served a protective function described engaging in martial arts to help to increase their feelings of safety. While some of the survivors had actually taken up martial arts for this reason, some wished they had the skills. In fact, seven of the eight focus group participants said that they would definitely be interested in participating in a martial arts group if offered at the rape crisis center at which they were currently receiving services.

How martial arts is viewed as protective is clearly exemplified in CJ’s description of how karate helped her to feel “tough.” Karate, in fact, was the only type of exercise that she felt safe

to participate in during the eight years following her sexual trauma. CJ's I poem below exemplifies her intentional use of this form of exercise to feel "tough":

*I did...karate  
I felt safer  
I wanted to...defend myself  
I really, that was all  
I could do  
I...did  
I ended up quitting  
I went...to college  
I was seventeen*

*I guess  
I felt like  
I had to be...the tough girl  
I, I didn't feel  
I could...have fun  
I felt like whatever  
I did, it had...to be tough*

*I guess  
I started  
I got a punching bag  
I would...lift weights  
I was tough*

Lucy, a survivor who elected to participate in the focus group, but not an individual interview, shared that her martial arts practice has given her the confidence to protect herself. Although she has not had to use it, she feels prepared and assured that she can protect herself:

*For about ten to twelve years, I studied martial arts and actually a second degree black belt, so that's what I learned, it helped me survive. I never had to use it, but I had the courage and just knowing that I could protect myself...but, definitely a safety thing. I feel a lot more confident.*

Survivors who had not taken up martial arts post-trauma saw the value in this form of exercise, such as Zero, who wished that she knew Chinese Kenpo, which in her view can disable

a person, *“In my younger years if I would have, I wish I would have taken Chinese Kenpo...it teaches you how to fight. And, do it in a way where, um, you can disable that person quickly.”*

Besides martial arts, half of the survivors described intense exercise as a strategy they used to help them to feel safe. The perception was that to be strong enough to protect themselves, they had to push themselves to the limit and be tough. Victoria’s I poem, for instance, captures how engaging in very intense exercise helped to give her the confidence to protect herself:

*I wanted to know  
I could beat the living crap out of a guy  
I think  
I knew  
I could...it’s feeling safe,  
it’s that safety piece*

### ***Avoiding Exercising Protects***

Several survivors explained that avoiding exercising helped them to protect themselves from unwanted attention. They noted that not exercising was coupled with weight gain, maintenance of weight gain, and wearing clothing that concealed their bodies – all of which served a protective function. These survivors appeared to have an impression of what attributes the American society views as most attractive and wanted to alter their own physical appearance so that they were not perceived to be attractive. They recognized that although this safety tactic put their health at risk, they felt that it allowed them to better protect themselves from potential perpetrators. For example, CJ’s I poem below reflects how her abuse experience previously led her to want to conceal her body to avoid drawing attention to herself:

*I think  
I became  
I just wanted to hide my body  
I mean  
I would wear baggy clothes  
I put on weight  
I just  
I just...wanted to hide*

*I wasn't comfortable moving around in front of people*

A similar strategy of maintaining a larger physical size in order to 'hide' from danger was apparent in Melody Rae's I poem:

*I am the size*

*I am*

*I maintain the size*

*I do*

*I can fade*

*I don't exercise*

*I haven't*

### **Exercising is Risky**

All of the survivors described exercise as risky. Risks ranging from experiencing triggers during exercise to pushing one's self too hard during exercise were experienced across all stages of recovery, although the latter was primarily experienced during the earliest (safety) stage of recovery. Triggers include a feeling, memory, or sensory cue, such as a smell, sound, or sight, that leads to an uncomfortable physical response, such as elevated heart rate and rapid breathing, that reminds survivors of their traumatic experience(s).

The majority of participants explained that the physiological intensity of aerobic exercise and the associated cardiovascular impact (e.g., elevated heart rate and difficulty with their heart rate returning to baseline post-exercise) led them to feel uncomfortable and unsafe. Survivors also spoke, specifically, to difficulty maintaining their breathing during aerobic exercise. These physiological reactions were one of the reasons why several survivors preferred low impact activities and avoided aerobic exercise. Melody Rae explained that this is one of the reasons why she is uncomfortable with, and avoids, running:

*I have problems maintaining my breathing, um, and so I either, pretty sure it's hyperventilate or I just forget to breathe all together and so I'm not getting enough oxygen and so either way makes me dizzy and, um, so it doesn't really work out real well.*

*And, I have no idea if that's related to the trauma or not. I know that, I know that I like to stop breathing on a general basis, or to shallowly breathe on a general basis, um, so, something to think about.*

Zero, who experienced similar elevated heart rate during some forms of exercise, shared that this was the reason why she stopped engaging in aerobics, although she feels comfortable to run:

*I don't like aerobics. They go too fast...I, I had done aerobics for a class, oh many years ago, and they had to stop me because my heart rate was going so fast...I figured that was it. So, never aerobics. Not for me.*

Melody Rae, who described having difficulty regulating her breathing, wished that she did not have this problem because then she could engage in more types of exercise. She views her exercise choices as greatly restricted at the present time because of this risk of physiological discomfort during exercise:

*I would really like to figure out the whole breathing thing, get the breathing down so I feel like I can actually make it through something without forgetting to breathe or, you know, breathing too heavily or whatever happens on either side of that scale, to actually make it through something without feeling like, okay my breathing's a problem.*

A preference for engaging in lower-impact exercise was apparent, based upon survivors' feedback during both the focus group and individual interviews. During the focus group, survivors voiced the least interest in participating in strenuous exercise. Six of the eight survivors expressed that they would not be interested in participating in a running group, if offered at the rape crisis center where they are currently receiving services, and five of the eight survivors expressed that they would not be interested in participating in an aerobics group, if offered at the

rape crisis center where they were currently receiving services. Thus, it appeared that even in an environment where they had established safety, the physiological triggers associated with exercise were sufficient to restrict the types of exercise survivors would engage in.

The intensity of triggers from aerobic exercise was also related to the survivors' stage of recovery. Jenn, for example, shared that only when engaging in more advanced trauma recovery work did she become triggered during aerobic exercise. She described the re-traumatization experience as sensory and leading her to dissociate:

*Being more triggered...not that it, it didn't stop me from exercising again, but at the time when it happened, yes, it [exercise] did stop...it was just a, um, you know, some type of body memory triggering that was happening for me and it was, it was definitely breathing and heart rate, um, and sensation related. But, I can't, it hasn't, it doesn't happen every time, but occasionally...usually what it feels like is almost, a, um...like a...slow dissociative state that happens...it's actually probably been, um, only about two years ago that I started experiencing that, um, which (clears throat) for me personally has coincided with, um, a deeper level of trauma work.*

The fervent need to engage in intense exercise as a method for coping with past trauma was the reason why one survivor temporarily stopped engaging in strenuous exercise during her early adulthood. Victoria shared that although she did not want to discontinue her engagement in exercise, the risks of experiencing triggers and “pushing” herself too hard led her to feel that this was the safest option for her at the time:

*I avoided exercising because of how it was making me feel. There was just a lot of triggers there...pushing myself way too hard, not really listening to the body...I just, I wasn't connected, and so what I thought was a good thing actually was not, and that*

*wasn't a healthy rhythm for me, so I got completely out of it and I just stopped like okay, I don't know what to do, how to do it. I know I want to do something, but I don't know why I want to do something.*

Being triggered during aerobic exercise did not typically deter survivors from engaging in future exercise. Survivors were in-tune with what their body needed and responded by reducing the intensity of exercise or with yoga, modifying poses. CJ, for example, who experienced triggers during aerobic exercise, found that this risk was reduced when she exercised in the privacy of her own home. When exercise triggered her trauma experience, she chose a less intense form of exercise. She described her experience:

*If I start becoming triggered or feeling vulnerable while I'm doing cardio, then I just, my whole body seems to become really weak and I just kind of shut down and then my heart seems like it's beating a lot faster and I just start getting dizzy, so then I worry about it, and I feel like I have to stop. And then it discourages me from wanting to do it the next time...and with exercise at home, I think when I've been triggered, I've, it's not probably been as much. I haven't been triggered as much at home, but if I am, then I'll just do some strength training workouts instead and just kind of slowly get back into cardio.*

The majority of survivors who described having experiences of being triggered during yoga believed that this experience was directly related to their experience of sexual violence. Jenn shared how modifying poses that trigger her has helped:

*There are definitely positions that I'm more comfortable in and, um, some of those that I avoid as well or would modify...usually positions that are, um, standing are fine, most sitting positions are fine, it would be more of prone positions [lying flat with the chest*



*down and back up], you know, or on my stomach, or, yeah, there are certain positions that I've done before, um, laying on my back where those are a little bit more um, uncomfortable, for me more due to sexual trauma. So, I would avoid those and just change the position or modify.*

The yoga positions that survivors described as triggering past trauma happened mostly when yoga was practiced in a group setting with other people. Practicing yoga in the privacy of their homes was less likely to be triggering. CJ explained:

*I don't like bending over, um, and now that I think it's probably related to sexual abuse. Um, I feel like, and I don't like sitting with my legs spread apart cause that also seems like a sexual thing...So, yeah, anything that could seem sexual, it always, like I always jump to that in my mind and then it feels uncomfortable. At least when I'm around other people, sometimes by myself, too.*

In having to be conscientious of protecting their bodies, both physically and from how their bodies may be viewed by others, survivors were mindful of the positions they were in as well as where their body parts faced while practicing yoga. Zero explained, *"There were positions I didn't like. I put myself...I situate myself [in the room] where my butt isn't exposed."* Melody Rae explained that the arrangement of participants in the room where the yoga group is conducted is particularly important for rape crisis centers interested in beginning such groups to understand:

*If you can have your back against the wall, or not literally against the wall, but have your back to where the wall is to you and the instructor in front of you, it tends, people seem to feel a lot more comfort...*

Half of the survivors explained that another challenge that they have faced related to exercise was the past experience of participating in intense, aggressive, or tough forms of exercise. Victoria noted throughout her interview that she engaged in “intense” exercise early in her recovery as a coping mechanism, in an effort to feel strong and in control. For her, engagement in intense weight lifting was a “*more quote unquote acceptable, um, way for me as an adult to hide what I was going through.*” Her I poem illustrates how she abused exercise, putting herself through physical pain, in effort to avoid addressing the painful effects related to her trauma history:

*I can dissect  
I was  
I think  
I did it (exercise) more for avoidance  
I did  
I didn't think pain  
I did things very intensely  
I was an intense athlete*

*I exercised  
I did intense exercise and really wanted to feel, um, strong and in control  
I wanted to feel  
I could protect myself  
I was in control  
I was avoiding*

*I was really struggling  
I was  
I was fighting myself and nobody knew it but me  
I was putting my body physically through so much and that to me was directly related to  
my trauma  
I, I can  
I can put my body through a lot of pain, that's one of the ways that  
I cope*

Victoria shared her belief that other women survivors may also abuse exercise as a way of coping. Her I poem captures her wonderment:

*I feel  
I used  
I not just used  
I abused exercise  
I just  
I think  
I look at other women  
I, I, I just wonder*

There were other forms of physical activity that triggered survivors such as dance that required specific bodily movements and postures. Melody Rae explained during both the focus group and in her individual interview that, for her, it was the physical opening of the body that accompanies exercise such as dance that she found to be particularly risky. This appeared to be connected, specifically, to her experience of sexual trauma, where postures that exposed her body led her to feel vulnerable. During the focus group interview, she stated, *“Dance requires a lot more willingness to be open. You’re opening your body into wide movements.”* She also shared during her individual interview that the process of “opening up” her shoulders when she first started exercising (walking out in the “open”) was also very challenging for her:

*That first process of taking a walk and opening up my shoulders and dear god that took me forever to be able to do without it being just the most gigantic process known to mankind...you’re talking baby steps, and what baby steps mean could be, you know, you made that the first step, you actually made the motion of opening up and closing.*

### **Past Trauma Restricts Exercise Choices**

All of the survivors described facing restricted choices related to exercise. It was clear that the survivors made conscious and deliberate choices about their exercise behavior in order to feel most safe during the process. Three subthemes emerged from the data, including a) where to exercise, b) with whom to exercise, and c) types of exercise. Each was connected to Herman’s (1997) stages of trauma recovery. Although survivors’ choices related to when and where to

exercise, with whom to exercise, and what types of exercise to engage in intersected (e.g., Sue felt most safe exercising in a ‘neighborhood place’ close to her home and so she practiced yoga because this is what was offered there), these three subthemes helped to explore the significance and nuances of each dimension. The connection between these themes creates a tapestry of restricted choices based upon survivors’ need to feel safe and in control.

### *Where to Exercise*

Survivors were restricted regarding where they felt safe to exercise, considering that exercise increased their perceived vulnerability. For most survivors, this meant exercising either within the safety of their homes or in a location close to their homes. The limitations survivors felt in regards to where they could exercise also meant that the type of exercise and with whom they exercised were equally restricted. For Melody Rae, who identified as being in the safety stage of recovery, restrictions to her exercise choices speak to the intersection between location and type of exercise:

*Unless I’m going to get my own set [weights] at home, I’m not going to weight lift because that would require going to a gym and that requires being in uh, a masculine presence at some point in time...I love swimming...if I had my own pool, I would just be swimming all year long, um, but that’s the drawback of swimming is for me is there requires, inevitably, it’s going to be a public pool, which inevitably means there’s other people.*

She further explained that her choices related to where to exercise were directly related to her experience of sexual trauma:

*I think I would be more comfortable exercising if it [sexual trauma] hadn’t happened, if I wasn’t so hyperaware of this being, you know, again going to the gym and there that is*

*a male person right there...so, I feel like it limits what I would choose to do. Um, it definitely cuts down, it definitely makes me hyperaware of what I'm going to choose to do and how I'm going to choose to do it, um, and where I'm comfortable, which limits my choices, in my opinion...While I'm comfortable with walking, I'm not necessarily comfortable with my options of where to do it, which is again the reason that I like yoga because I can do it at home without anybody watching me, without worrying about anybody around me, and it's very contained.*

Sue, who expressed that she has always selected exercise locations based upon their proximity to her home, described the intersection between where she prefers to exercise and with whom she prefers not to exercise:

*I would not feel comfortable going to a gym setting. The places that I've been to are not gym settings. I wouldn't feel comfortable going there. Um, there'd be a lot of people, um, mostly these are girls in my classes, ladies, other young ladies, there's a few guys, but not very many, so I don't think, I wouldn't feel comfortable going into a gym setting where there's just...a lot of noise, a lot of people. I don't think I would like that. I've never done that...I know it's related [to my sexual trauma history] because I would, I have this problem throughout my whole life of, I'm thinking people are constantly judging me, watching me and judging me and they probably don't even notice me being there...I feel more comfortable in a smaller setting and these yoga groups that I go to, um, are smaller more intimate-type settings.*

The close proximity of facilities to their homes provided survivors with opportunities to exercise in a structured environment. The lack of such facilities limited survivors who needed a structured facility. Sue, for instance, found herself in a predicament when the facility that she

was going to near her home closed. Her experience of being left in a position of not knowing where to go or how to connect to an exercise facility where she felt safe and comfortable is reflected in her I poem:

*I was  
I didn't know what to do  
I didn't know where to go  
I go  
I wasn't doing any exercise  
I noticed  
I, there was a coupon about this neighborhood place  
I thought  
I thought  
I can go there  
I really got into the yoga because that's all that he offered  
I go...now  
I am just into yoga*

Jenn, who identified as being in the safety stage of recovery, described facing limitations related to where to exercise based upon needing to have access to a telephone and a “safe place” to recover if she experienced a trauma-related trigger during exercise. Her I poem captures her process of having to consider safety factors:

*I wouldn't put myself  
I didn't have access  
I didn't have access  
I was more isolated  
I would stay away  
I would  
I would avoid that*

Despite the challenges survivors face in finding a safe place to exercise, they are resourceful. Sue (focus group), for instance, who identified as being in the safety stage of recovery and who only participated in the focus group, explained, although “*I feel like I can't really get comfortable in the [yoga] class,*” she would “*do a lot of it [yoga] at home.*” This

suggests that survivors' who find value in exercise are determined to engage in it, even if it means taking what they learn in groups at rape crisis centers to the safety of their own home.

### ***With Whom to Exercise***

Almost all of the survivors reported a preference for exercising alone at the present time. For most, this meant exercising with no one else in sight. For those who chose to exercise outdoors, they preferred a public area where they can be seen in case they needed help. The need to be engaged in more solo exercise, though, was not considered ideal, but rather a necessity. Jenn's statement was reflective of this: "*I feel, primarily I've been doing more individual, um, you know, allowing that part of my pattern of more of an isolating, um, not saying that that's great...it's more alone.*"

Zero is an example of a survivor who preferred to exercise in a place where she was surrounded by others with whom she did not need to interact, but whose presence provided her with assurance. She shares, "*When I'm doing either [running or weight training], I'm safe because I'm by myself, and, um, when I run, I run in areas where I can be seen, and uh, I'm always looking around when I'm running.*"

Half of the survivors voiced discomfort exercising in the presence of men. The thought of being looked at by men while they were in outfits that may be form-fitting, hence revealing, was enough to deter the survivors from exercising in certain locations. Lucy, for example, shared her experience with men in a yoga class prior to joining the all-women yoga group at the rape crisis center:

*I took yoga for a, a while before the group yoga [at the rape crisis center] and ah it was very awkward because there were a lot of men in the class. And so it's a lot more comfortable doing it here because I was you know thinking that they were looking at me in a sexual way with*

*yoga pants on, so it's a lot more comfortable being around women that can understand where you're coming from.*

For the survivors who found it helpful to have a personal [exercise] trainer, they found themselves limited in whom they could work with until they were ready to attempt working with a male trainer. This progression may correspond to survivors' stage of trauma recovery. Zero's experience illustrates this. She explained that although she has felt restricted to work out with only female personal trainers in the past, she is now working out with a male personal trainer, who was recommended to her by someone she trusts. Her first session with him started out with some fear. Zero's ability to work with a male trainer was also related to the trainer's smaller, non-intimidating physical build, as well as where the training was conducted – in public view at the gym where she had already established a feeling of safety. Zero's I poem captures this:

*I mean, he's real positive and he's a little bitty guy  
I had my first session  
I thought, wow  
I stuck with him  
I was afraid  
I don't want to be alone with you  
I, I want to be out where everybody can see me  
I don't care how funny  
I look. It's kind of like he already knew that  
I didn't have to tell him  
I mean, I'm, I'm out there where everybody can see*

With regard to exercise instructors, the survivors voiced a preference for exercising with an instructor who is also a psychotherapist, or at minimum someone who has training in both trauma and mental health, so that the instructor is familiar with the unique challenges they may face as a survivor of sexual trauma. Victoria's statement reflected this:

*I think the other thing that would be important to me would be having a certified instructor who has a background in, um, working with, uh, sexually abused people*



*and already has an understanding of what that looks like, because...I wouldn't probably ever communicate that to an instructor because I don't want the sympathy. I want, I want to be worked out hard and I don't want to be looked at as anybody different but, I do want somebody to have an understanding...*

### ***Types of Exercise***

The types of exercise the survivors engaged in were mostly connected to their history of sexual trauma and their current stage of recovery. For example, Zero explained that the amount of weight that she uses while weight training must be an amount that she could throw, thus limiting her training. Her I poem implies that being able to protect herself at all times is critical:

*I know with um, weight training  
I always want to make sure that when  
I pick up the weights  
I can throw it if  
I had to*

Referring to a question that was posed to survivors during the focus group interview, Victoria noted that she was 'struck' by how survivors' choices regarding the types of exercise they engage in was connected to their stage of recovery. She said:

*I think one of the things that kind of struck me when I was in the focus group, especially when you were going to the different types of exercise, if they were to be offered, I was really struck by the correlation between the aerobic and nonaerobic...I just think that there's something to do with the protective piece, that if a woman's not ready, that somehow she's going to protect herself.*

Most of the survivors also voiced that there are specific forms of exercise (such as forms of martial arts and dance) that they would like to try, but that they have not yet felt comfortable to try and they related this discomfort specifically to their trauma history. Victoria stated:

*I've tried a lot of different things, um, the ones, what's, what's interesting is the ones that I really want to do, like, um, self-defense and and and those sorts of things, I shied away from. I just, I just, I do think that that is specifically correlated to, um, my trauma.*

CJ, who was comfortable with various forms of exercise, shared that there are still some types of exercises that she would not engage in: *"I've gotten to the point where I feel pretty comfortable with just about anything. I, I haven't been brave enough to do like hip hop stuff yet, so dancing kinds of exercise."* She later explained the process of elimination she used to explore exercises that were safe and that would not lead her to feel badly about herself:

*I just, I always, always feel like oh, I'm too heavy to be bouncing around like that or, you know, if it's a move that might look somewhat provocative, even if I'm by myself, I feel like kind of a slut...I just feel like my identity is bounced back and forth and, um, I guess, I'm always trying to find the alternative to feeling like a chubby little kid or feeling like a provocative whore, you know, and I don't want to feel either of those and so, I, I kind of have to try out different types of exercising and make sure that I'm not going to feel one way or the other, that I can find a different way to feel, I guess, about it that's comfortable.*

The ability to progress to additional forms of exercise was related to the progression made in the recovery process as well as feeling connected to others. CJ spoke to her exercise choices becoming less restricted as she continued on her journey of recovery and this is reflected in her I poem:

*I had never really lifted weights before  
I was  
I started doing the soccer  
I started running*

*I eventually started adding some weight lifting  
I did some specific workout programs*

Many survivors explained that it was the encouragement of others with whom they felt safe that allowed them to feel comfortable to try new forms of exercise, suggesting that the disconnection with others commonly faced by survivors of sexual trauma as part of the trauma-related sequelae may also place them at increased risk for less engagement in exercise. The power of encouragement is reflected in Zero's I poem:

*I was  
I was  
I figured  
I went to her class  
I go to her class  
I knew her  
I graduated with her (family member)  
I was  
I just  
I went  
I don't know if somebody else  
I don't know  
I would have went*

All of the survivors related their choices about exercise to their current stage of recovery (e.g., safety). Melody Rae, who identified as being in the safety stage of recovery, shared:

*Right now, I am all about how I feel safe. What I feel safe and comfortable doing, what I feel like will not cause so many problems or what will balance between me being aware of my body and me being comfortable and able to function because function is my number one goal.*

Jenn, who also identified as being in the safety stage of recovery, voiced:

*I think that just knowing where I'm at right now, more in a safety, um, type of place, um, yeah, it changes, you know, where, where I exercise, and it changes the ah, you know, the, um, time of day that I exercise, and um, the location, those types of things, I definitely*

*keep that in mind more than, um, than I have in the past when I was in different, different, a different place or a different phase. I'm just more aware of it now, more hypervigilant about it now.*

### **Exercising is Beneficial**

Although all of the survivors experienced challenges with exercising, they also reported benefiting from exercise. These benefits made the challenges that they faced related to exercise worthwhile. The benefits, both physical and psychological, helped survivors' to better manage trauma-related symptoms including depressive symptoms and self-injurious behaviors, to improve self-care, self-esteem, and body image, and to connect with themselves and others, all of which had been negatively impacted by their trauma history.

Zero, who reported exercising five days per week, explained that exercise was beneficial in that it allowed her to better manage her self-injurious behavior and eating disorder (which commonly co-occur with sexual trauma):

*I've had a lot of problems over the years with the eating disorder, with the cutting... exercise has really helped me out a lot. I notice that when I don't exercise, I do not feel good at all...I think it's a lot more beneficial than people think, especially for mental wellness.*

Victoria, who exercised five days per week, spoke of how exercise is her form of self-care:

*I know that it's [exercise] something that's good for my body, and it's, um, a good way for me to recognize that I'm taking care of myself, um, which is a step in my healing plan. It's something that I feel is uh, helping me recognize on a daily basis that I am in*

*fact doing something for me. Um, which was hard for me to identify for the longest time (laughs) why I wanted to work out.*

Melody Rae, who was beginning to re-engage in exercise and reported exercising between one and three days per week, described her love hate relationship with exercise:

*Let's be honest, I hate exercise. Um, it's not that I don't see the value in it, I do, but it's one that I have a love hate relationship with...I recognize the necessity and that it's good for me, not necessarily lovin' it.*

Half of the survivors recognized how exercise helped to alleviate symptoms of depression (which commonly co-occur with sexual trauma). CJ, who reported exercising six days per week on average, stated:

*When I did start [exercising], I noticed that it, it was really hard at first and I didn't enjoy it, and, um, but I was doing it to be healthy really and um, then the more I got into it and I got into some sports I, I just started realizing that it felt really good and that it helped with the depression.*

Like CJ who struggled with depression, Melody Rae knew that exercise would help to alleviate her symptoms of depression. Her I poem captures her struggle with depression:

*I probably had been severely depressed  
I was  
I wasn't moving  
I made it  
I was doing good  
I needed  
I needed to get up and move [referring to exercise]*

Several of the survivors noted that exercise positively improved their self-esteem and self-confidence. Sue spoke about how muscular strength and visibility from exercising improved her self-confidence. This is visible in her I poem:

*I noticed  
I could....tell the muscles....were developing  
I loved  
I just remember  
I walk  
I keep my head up...and walk tall  
I didn't...years ago*

Several survivors also connected the benefits of exercise to positively impacting not only their self-esteem, but also their body image. CJ's experience is reflected in her I poem:

*I couldn't lift  
I kind of felt like a wimp  
I started...challenging myself...gaining muscle  
I, I just felt  
I felt...it....transformed my body image  
I guess  
I knew  
I started  
I started feeling  
I...it was really helpful*

Sue, the oldest survivor in the study, viewed exercise as beneficial, especially in helping her to maintain independence and mobility in her later years. The assurance that exercise provided is captured in her I poem. Sue exercises four times per week.

*I just started...exercising  
I enjoy it  
I want to get...keep myself fit  
I age  
I, I live alone  
I enjoy the benefits*

Sue also explained that exercise helped her to become more involved and less isolated across different areas of her life:

*I'm doing a lot, a lot more, um, activities, um that I've become involved in, whether it's through church or through volunteer groups, which I've never done before and I know that I'm able to do this because I have a more positive self-image of myself. And, I, and*

*I know that exercise, um, is a part of it, is a part, is a part of the reason why I feel this way.*

There was also recognition that certain minority groups may view some forms of exercise as non-permissible. Zero, who self-identified as Hispanic, stressed the need to dispel any notion of exclusivity of exercise; implying that certain sports/activities may be thought of as restricted to certain racial groups. She emphasized the importance of ensuring that survivors from minority racial and ethnic groups are aware that exercise can benefit them, too, and is an option available to them:

*With people, or women of color, or people of color, I can't say just women...if you're going to suggest exercise, which I think is good, it's good for them, is then bringing it across to them that, it's alright, if, you know, it's all right for you, for you to look at a different outlet, like running and cycling or golfing or tennis...that way you can focus on something else...Um, exercise...is gonna help along with your therapy. It's gonna help you move to the next level...once they feel comfortable they don't feel left out, or this is, you know, not for me. It's like, you know, it is for you, it is for you, it's to, it's to help you.*

The majority of survivors also explained that exercise fostered a connection to their body, which they described as both challenging and beneficial. Melody Rae shared this about her own experience of being more aware of her body through exercise and not being comfortable with this experience and it is captured in her I poem:

*I don't like it  
I don't like being that hyperaware of my body  
I know  
I don't like being that hyperaware of my body  
I don't like it  
I shouldn't  
I don't like it*

Jenn described exercise as increasing her connection to herself:

*Exercise means, um, health, it means, um (clears throat) connection with myself...just more the physical and spiritual connection that, for me personally, that I receive, um, when I'm doing any type or form of exercise, um, more a deeper connection to myself.*

Almost all of the survivors explained that their current choices related to exercise involved exercising on their own, with the exception of the yoga group that they currently participate in at the rape crisis center, which offers an opportunity for connection to others who shared a sexual trauma experience. This connection survivors made through the yoga group was seen as positive and beneficial to their recovery process. Melody Rae echoed this sentiment:

*I used to struggle with to realize that I wasn't alone in my problems with movement or doing something so simple really did just freak me out that badly. So, again, sometimes just having that group of people is just as important in confirming what's going on as, as the movement itself.*

The connection the survivors made in these groups were so valuable that for Victoria, she would participate in additional exercise groups, if offered by the rape crisis center, just to connect with other women survivors:

*The way I exercise today, just to exercise, and what I enjoy about that is kind of being in my own element, but if I were to participate in something outside of that or in addition to that...I would want it to be a place where I could connect with women. I don't know if it's because I love exercising so much with other women or just want that team bonding feel again, just a connection of, 'hey, we're in this together,' and camaraderie and you can do it, just being able to motivate another woman.*



Sharing the value of connection from these yoga groups was Sue, who with deep sadness explained that it was a lack of connection to others that at least in part contributed to her lifelong disengagement from exercise until recent years. Sue's I poem again suggests that the disconnection that commonly accompanies the experience of trauma may limit a survivor's opportunity to exercise:

*I sometimes  
I get angry  
I wish  
I was doing this before  
I, I didn't have anybody  
I just  
I never had anybody  
I wish  
I had been doing this years before  
I just kind of put a wall up  
I just  
I kept behind a closed door*

## **Chapter 5 - Discussion**

The overarching research question formulated for this study was “What does the experience of exercise mean to women who are survivors of sexual violence?” Findings revealed that survivors’ experience of exercise is complex and is related to their connections with self and their social-environmental context. Some survivors viewed exercise as an opportunity to connect with themselves in a healthy way, while others were fearful of the connection and bodily awareness that comes with physical movement. Survivors also reported a preference for exercising individually and most described that they were particularly uncomfortable engaging in exercise in the presence of men and larger groups, highlighting the role of social context in exercise behavior.

Although exercise was beneficial for survivors and often fostered safety, it also came with risks. These risks included experiencing trauma-related triggers during exercise, experiencing physiological discomfort during higher impact exercise, and engaging in intense and potentially compulsive exercise in the early stage of recovery from trauma. Survivors’ choices related to exercise were also found to be restricted due to their past experience of sexual trauma and the accompanying limitations related to the types of exercise and environmental contexts that they experienced as safe. Despite the many challenges that survivors’ faced related to participating in exercise in the aftermath of sexual trauma, they voiced a desire for engagement in physical activity.

### **Stages of Trauma Recovery**

Findings of this study support Herman’s (1997) research describing recovery from traumatic events as occurring in three stages (e.g., safety, remembrance and mourning, and reconnection), in which survivors’ commonly move back and forth across time. Survivors’

choices related to exercise were also impacted by their stage of recovery. It appears that the exercise behavior of survivors of sexual violence may take one of two paths in the earliest (safety) stage. Although some of the participants described pursuing intense exercise during this stage, which is consistent with Herman's (1997) assertion that "hard exercise" may be used during this stage to manage stress, this did not capture the experience of all participants. Some participants, instead, voiced an avoidance of such forms of exercise, particularly related to the autonomic arousal that for them accompanied exercise (i.e., difficulty with their heart rate returning to baseline post-exercise). For these participants, it was lower impact physical activity (e.g., yoga) that they preferred during this stage of recovery.

### **Self-Determination Theory**

Findings of this study support competence, relatedness, and autonomy as basic needs influencing exercise motivation among survivors of sexual violence. For the survivors, it was not low interest in exercise or low confidence in their ability to exercise, but restricted exercise options that were perceived as safe that influenced exercise motivation. A variety of social-contextual factors were described by the survivors as supporting or impeding their motivation to exercise. Engaging in physical activity in the safety of their own home and in the presence of other women survivors at the rape crisis center were, for example, social environments that the survivors explained supported their motivation to exercise. Alternatively, other social environments, including contexts where they would be exercising in the presence of men, were perceived as unsafe and impeded exercise motivation. The rape crisis center appeared to be one refuge where they experienced increased confidence in their ability to exercise and increased feelings of relatedness.

Although the basic needs of competence and relatedness appeared to have been impacted by the experiences of sexual violence, the survivors displayed motivation to exercise in the face of risks and restricted choices related to exercise and to physical activity. This was evidenced by their reports of continuously searching for and making deliberate choices about how to exercise in a way that was safest for them. It appeared that weighing their choices regarding exercise was psychologically taxing and involved intentional safety planning (e.g., creating their own methods for managing trauma-related triggers that occurred during exercise). The survivors, therefore, displayed autonomy.

### **Strengths and Limitations**

To my knowledge, this is the first empirical examination of the experience of exercise among survivors of sexual violence. The findings of this study provide an initial direction for the development of exercise interventions for survivors of sexual violence receiving services at rape crisis centers. Recommendations for future research can also be made, including pilot programs to examine adjunct exercise interventions for the treatment of sexual trauma. The survivors who participated in this study were particularly interested in the use of adjunct martial arts interventions for survivors of sexual violence receiving services at rape crisis centers.

This study also followed the recommended approach of forming a partnership with a rape crisis center, because enhanced psychotherapist/researcher partnerships are believed to promote increased safety for survivors of sexual violence participating in research (Woody & Beldin, 2012). My extensive experience in providing clinical services to survivors of sexual trauma also fostered my ability to carefully consider each decision made in the research process.

Notwithstanding these strengths, this study also has several limitations, which should be noted. First, all participants interviewed were recruited from a rape crisis center where they were

participating in an integrative yoga group. Not all survivors participating in the groups elected to participate in this study. There may be differences, therefore, in stage of recovery or in other aspects from survivors who elected to participate and those who did not. Additionally, not all survivors were participating in therapy services at the rape crisis center. Some participants explained that they attended only the integrative yoga group offered at the center. The results, therefore, may not be transferable to survivors of sexual violence who are not pursuing services at a crisis center or who are pursuing therapy services at a rape crisis center. It was a goal of this study to specifically explore the experience of exercise among women survivors of sexual violence seeking services at a rape crisis center who were also interested in participating in an exercise group at the center in order to offer knowledge and recommendations for such centers that desire to incorporate exercise interventions into their existing programming.

The participants who were interviewed as part of this study also reported being in various stages of recovery from their experience of sexual trauma. Of those who participated in an individual interview, three participants reported being in the safety stage, while one reported being in both safety and remembrance and mourning, and one reported being in reconnection. It was apparent that stage of recovery impacted the experience of exercise, but I was unable to fully explore the unique experiences of survivors during each stage of recovery due to the limited number of participants. Additional work is needed to further explore the experiences of exercise among survivors in each stage of recovery. Following the experiences of exercise among survivors of sexual violence across time could help illuminate any changes in exercise behavior.

I chose to focus on survivors' experiences of exercise at their self-reported stage of recovery. Thus, I did not inquire about the details of the sexual trauma that each participant experienced (e.g., age at time of sexual trauma(s) and relationship to offender). It is also a

strength of this study that the interviews did not include a focus on obtaining participants' accounts of the details of the sexual violence that they endured. This decision was made in effort to foster increased feelings of safety among participants. In fact, when asked during the individual interviews if they had any concerns initially about participating in this project, several survivors noted concerns regarding how much detail they would be asked to disclose related to their sexual abuse experience(s) and these participants were reassured that I would not be asking any such questions.

Nuances in individual survivors' histories that may relate to their experience of exercise awaits future exploration and may be best conducted through similar psychotherapist/researcher partnerships, so that survivors are not asked to disclose information about their sexual trauma experiences to researchers with whom they do not have an established relationship. I also did not inquire about the nature of any other experiences of interpersonal trauma that participants may have endured. Future research may benefit from exploring the experience of exercise among survivors of sexual violence who have experienced multiple types of interpersonal trauma, being that the experience of exercise may not be related solely to the experience of sexual trauma.

Although culturally sensitive methods were used, as a result of the geographical location in which the study was conducted, this sample also yielded little racial diversity. It will be important for future research to explore the experience of exercise among women survivors of sexual violence from diverse racial and ethnic groups. As is true in all research endeavors, it will also be important for this work to be replicated. Finally, in qualitative research, generalizability is thought of differently than in quantitative research and is often referred to by the term transferability (Merriam, 2002). Since qualitative research uses small samples that are selected purposefully in order to gain thick description through in-depth analysis, "what we learn in a

particular situation we can transfer to similar situations subsequently encountered” (Merriam, 2002, p. 28). It is this “rich, thick description” that is “a major strategy to ensure for external validity or generalizability in the qualitative sense” (Merriam, 2002, p. 29). Thus, the rich description of survivors’ experiences of exercise provided in this study suggests that the results may be transferable to other survivors of sexual violence who are receiving services at rape crisis centers. Qualitative research has also defined reader generalizability, where those who are reviewing this work may themselves determine the extent to which the findings from this study can be applied to their context (Merriam, 2002).

### **Challenges in Conducting this Research**

I faced several unexpected challenges while conducting this study. First, based upon my extensive experience in working with survivors of sexual violence, rape crisis centers, and state coalitions dedicated to improving services for survivors of sexual trauma, I anticipated that I would be viewed as an “insider” by crisis programs. The first crisis center that I contacted in effort to establish a partnership to conduct this study was disinterested in collaborating and informed me that survivors of sexual violence rarely access services at their center because it is a dual domestic violence/rape crisis program. Another center that I contacted informed me that they were unable to collaborate at this time because they had plans to conduct a similar research project investigating the use of yoga for the treatment of trauma. This study, therefore, would not have been possible without the support of the staff members at the participating rape crisis center and also the staff at the KCSDV who connected me to this agency.

Another challenge that I faced was related to naming participants. Two of the eight survivors interviewed requested to use the same pseudonym “Sue” in my reporting the results of the study. In recognizing the political and ethical significance of “naming” people (Guenther,

2009), I chose to honor both survivors' requests and in this text, have used 'Sue (focus group)' to denote the survivor who was a part of the focus group, but chose not to participate in an individual interview. I used 'Sue' to refer to the survivor who participated in both an individual and focus group interview. I specifically chose not to use 'Sue (focus group and individual interview)' in the interest of space because her name appears frequently in reporting the findings of the study. One participant elected not to choose a pseudonym, preferring that I/the research team select one for her. Although I intended to use this approach of allowing survivors to choose their own pseudonym in order to avoid naming participants, I found myself being requested to do so and honored the request of this participant. One member of the research team suggested a pseudonym and the remainder of the research team agreed that this name seemed to resonate for her. When I mailed the results of the study to this particular participant, I explained that this pseudonym had been selected by the research team and invited her to let me know if she would prefer that I use a different pseudonym in reporting the findings. Finally, one participant requested to use her own name, which I was unable to honor due to the need to uphold confidentiality in this research. We, therefore, chose a pseudonym for this participant and I also invited her to let me know if she would prefer that I use a different pseudonym in reporting the findings.

I also encountered expected challenges related to defining exercise and to merging scholarly work from the fields of mental health and exercise science. Although physical activities such as yoga and martial arts do not fit the accepted scholarly definition of exercise, some survivors personally view these as forms of exercise. I attempted to honor survivors' personal experiences of exercise while also using accepted definitions when discussing the interpretation



of findings. Multidisciplinary collaboration will be valuable in order to address the methodological challenges inherent in conducting this research.

### **Implications for Future Research**

Given the recent interest in the empirical examination of yoga and the preliminary support for this intervention as an adjunct treatment for PTSD related to interpersonal trauma (Emerson & Hopper; van der Kolk, 2014a), it would be beneficial for future research to explore the use of various exercise interventions for the treatment of trauma. Research has revealed that survivors of trauma, both with and without a diagnosis of PTSD, display significantly depressed heart rate variability, an indicator of autonomic nervous system dysregulation (e.g., Tan, Dao, Farmer, Sutherland, & Gevirtz, 2011). Most survivors in this study voiced a preference for low-impact exercise and many connected this preference to difficulty regulating their breathing during and following engagement in more strenuous exercise. It would be beneficial for future research to measure heart rate variability among survivors of sexual violence who engage in various types of physical activities. It would also be valuable to compare additional physiological measures, such as cortisol levels.

Future research would also benefit from seeking the voices of psychotherapists who provide exercise interventions and yoga classes at rape crisis centers. How do instructors, for example, determine what programs are needed and the curriculum? How do they determine if they have enough experience in the modality to be able to safely conduct the group? When they do not have adequate experience in the modality, how do they determine who does? How do they balance their dual roles of psychotherapist and instructor? Also, how do they balance encouraging survivor participation while not pushing survivors before they actually feel “ready” for participation in an exercise program?

## **Implications for Practice**

### ***Recommendations for Psychotherapists***

It was evident from participants' reports of their experience of exercise that traditional therapy services likely do not offer the comprehensive and intentional dialogue about exercise that survivors of sexual violence may need in order to initiate and maintain safe engagement in exercise. Because participants described a continuous navigation of choices that at times in their recovery were more restricted than others, it seems that survivors of sexual violence would benefit from therapeutic services that facilitated a safe space for ongoing conversations about their exercise behavior. Survivors may, in particular, be in need of assistance with safety planning, such as creating strategies for managing trauma-related triggers that arise during exercise.

Those who have survived sexual violence may also need assistance with monitoring the balance between pushing themselves to engage in exercise and knowing when they are pushing themselves in such a way that actually places them at risk (e.g., for injuries related to engagement in exercise that is too intense). Since this study found that exercise is associated with this risk, particularly early in recovery, the use of "hard" exercise during the initial stage of recovery, as recommended by Herman (1997), may be particularly risky. These results, if replicated, indicate that it may not be recommended for all survivors of sexual violence to use "hard exercise" during early recovery or that such activity be closely monitored by a well-informed medical professional to promote safe and healthy exercise behavior.

Furthermore, survivors of sexual violence may be familiar with pushing themselves through pain, as described by one participant, which may lead them to have increased difficulty recognizing when they are pushing physically beyond a safe place for them. One participant described this as being out of a 'healthy rhythm.' Such experiences of pushing one's self may

also impact survivors of other types of interpersonal trauma. Olympic gold medalist, Frank Shorter, has shared his own story of experiencing physical abuse by his father (several of his sisters have also reported experiencing sexual abuse by their father) and the resultant impact on his success as a long-distance runner. During an interview with Runners World Magazine, Frank Shorter described his experience in the 1972 Olympic Marathon:

*“The whole second half, I kept hitting my pace. I had the talent to go out fast, by myself, and **ride the pain** [emphasis added]. I learned that from watching Clayton and Ron Clarke, but it was also something I internalized from my childhood...I isolated my pain where I could watch it and control it. That way I could keep it secret, and eventually I could forget it - or at least seem to forget it”* (Runners World, 2011).

Frank Shorter’s story suggests that those who endure and survive traumatic experiences may develop an internalized resiliency, which can lead to phenomenal athletic accomplishments, such as Shorter’s, but that there also may be a thin line between healthy accomplishment and risky exercise behavior. Therapeutic services focusing on survivors’ experiences (and also avoidance) of exercise may assist those who have survived trauma with determining and monitoring their own ‘healthy rhythm.’

### ***Recommendations for Rape Crisis Centers and Trauma Treatment Facilities***

It is becoming increasingly clear that the experiences of trauma and PTSD have both a mental health and physical health impact on survivors (e.g., Dale et al., 2009; Levine et al., 2014). For this reason, therapeutic services at facilities such as rape crisis centers and outpatient programs would benefit from offering adjunct exercise interventions for survivors of trauma. Based upon the interviews with survivors of sexual violence conducted for the purpose of this study, it appears that rape crisis centers may benefit from offering a variety of mostly lower

impact exercise interventions for their clients. The integrative yoga group format adopted at the participating rape crisis center appeared to be an excellent way to gradually introduce survivors to one form of exercise, yet most survivors voiced interest in participating in additional groups at the center. Groups that involve a form of martial arts, in particular, were desired by the participants in this study and may be especially valuable when incorporated at rape crisis centers. The development and ongoing facilitation of such programs will likely require multidisciplinary collaboration. The participants stated that in order to feel safe, they need instructors who are both trained as psychotherapists and trained in the form of exercise being delivered. Otherwise, these providers need to engage in ongoing coordination of their exercise and therapy services, which they viewed as complimentary forms of treatment. This sentiment is consistent with research emphasizing the importance of integrated treatment for trauma and co-occurring diagnoses (SAMHSA, 2014).

Survivors stressed that multiple forms of exercise interventions should be available at rape crisis centers. Victoria offered this idea for rape crisis centers:

*I would recommend making sure we go through a cycle, let's do the walking this time, let's do martial arts this time, and let's do this this time, and if somebody's hesitant, why? What's their hesitancy? Like, for example, if somebody asked me today, would you want to go for a walk? Would I look at that as exercise? Why or why not? So, I'm asking myself. I'm kind of check pointing myself. Of, um, you know. Am I trying to use this as a coping mechanism in an unhealthy way again?...So, it's almost just like, um, putting it through a cycle (laughs) and keeping it balanced and, um, if somebody just wants to stay in walking for a long period of time, why? Why don't they want to reach out and be in a group or do more of a physical martial artsy kind of thing? Is it the type of movement or what, what is, is there something there? Something's there. And I think that would help that person step out of their comfort zone enough to where,*

*they're reaching new levels of health in every way – mentally, physically, emotionally, spiritually, I think it just all kind of connects.*

It seems that programs such as rape crisis centers may benefit from reaching out to their community to involve exercise physiologists in the development and implementation of various exercise endeavors. To be most effective cross-discipline training will be needed, where those with a background in exercise science educate psychotherapists and rape crisis center staff members on the physiological aspects of exercise, who in turn educate physiologists about common reactions following trauma, trauma-informed care practices, and other aspects critical to fostering safety in exercise programs.

### ***Recommendations for Promoting Self-care for Providers***

It will be important for providers working with survivors of sexual trauma to examine their own personal experiences and biases related to exercise. Those psychotherapists who do not currently engage in exercise may have difficulty discussing such topics with their clients. Every provider would benefit from reflecting on their own choices and preferences related to exercise in order to gain a deeper understanding of how their preferences may bias their clinical work. Psychotherapists and physiologists who have survived trauma may themselves be at risk for being triggered during the experience of working with survivors of trauma, both in traditional therapy and during exercise programs. In order to foster safety for survivors, both organizations and individual providers should monitor indicators of vicarious trauma in order to promote the safety of all involved in exercise programming.

## **Conclusions**

The consequences of sexual violence are multifaceted, encompassing both psychological and physiological domains. For survivors of sexual violence receiving services at rape crisis centers, there very well may be a place for exercise in psychotherapy.

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## Appendix A - Detailed Description of Participants

Table 1. Detailed Description of Participants (N = 8)

Participant	Age	Race	Current Stage of Recovery	Number of times/week		
				Mild Exercise	Moderate Exercise	Intense Exercise
C.J.	31	White	1	1	1	4
Jenn	44	White	1 and 2	1 to 2	5 to 6	0
Lucy	40	White	2	5	5	6
Melody Rae	31	White	1	1	0	0
Sue	63	White	2	1	4	0
Sue (focus group)	47	White	1 and 2	3	0	0
Victoria	42	White	3	7	“?”	4 to 5
Zero	59	Hispanic	1	0	3	3

*Note.* Sue (focus group) refers to Sue who participated in the focus group, but not an individual interview. Sue refers to Sue who participated in both the focus group and an individual interview. The symbol “?” is the symbol that Victoria used to respond to this particular question. Stage 1: Safety, Stage 2: Remembrance and Mourning, Stage 3: Reconnection.

## Appendix B - Godin Leisure-Time Exercise Questionnaire

### INSTRUCTIONS

In this excerpt from the Godin Leisure-Time Exercise Questionnaire, the individual is asked to complete a self-explanatory, brief four-item query of usual leisure-time exercise habits.

### CALCULATIONS

For the first question, weekly frequencies of strenuous, moderate, and light activities are multiplied by nine, five, and three, respectively. Total weekly leisure activity is calculated in arbitrary units by summing the products of the separate components, as shown in the following formula:

$$\text{Weekly leisure activity score} = (9 \times \text{Strenuous}) + (5 \times \text{Moderate}) + (3 \times \text{Light})$$

The second question is used to calculate the frequency of weekly leisure-time activities pursued “long enough to work up a sweat” (see questionnaire).

### EXAMPLE

$$\text{Strenuous} = 3 \text{ times/wk}$$

$$\text{Moderate} = 6 \text{ times/wk}$$

$$\text{Light} = 14 \text{ times/wk}$$

$$\text{Total leisure activity score} = (9 \times 3) + (5 \times 6) + (3 \times 14) = 27 + 30 + 42 = 99$$

Godin G, & Shephard, R. J. (1985). A simple method to assess exercise behavior in the community. *Canadian Journal of Applied Sport Sciences*, 10, 141-146.

## Godin Leisure-Time Exercise Questionnaire

1. During a typical **7-Day period** (a week), how many times on the average do you do the following kinds of exercise for **more than 15 minutes** during your free time (write on each line the appropriate number).

**Times Per  
Week**

**a) STRENUOUS EXERCISE**

**(HEART BEATS RAPIDLY)**

(e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling)

**b) MODERATE EXERCISE**

**(NOT EXHAUSTING)**

(e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing)

**c) MILD EXERCISE**

**(MINIMAL EFFORT)**

(e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snow-mobiling, easy walking)

2. During a typical **7-Day period** (a week), in your leisure time, how often do you engage in any regular activity **long enough to work up a sweat** (heart beats rapidly)?

OFTEN

1.0

SOMETIMES

2.0

NEVER/RARELY

3.0

## Appendix C - Demographic Questionnaire

Thank you for your interest in participating in this study. Please complete the questions below so that we'll know a little about you in preparation for our focus group today.

1) Name: \_\_\_\_\_

(Please note that your name will be kept confidential and will not be attached to the results of this study.)

2) Age: \_\_\_\_\_

3) Race/Ethnicity: \_\_\_\_\_

4) How long have you been participating in the integrative yoga group here? \_\_\_\_\_

Please see the next page for a few more questions.



Recovery from trauma is considered to be a process, where people move back and forth across different places in recovery (Herman, 1992). Below is a description of different places in recovery and what each place commonly looks like.

Place in Recovery	What the Place Looks Like
Safety	<ul style="list-style-type: none"> <li>- Focusing on control of the body – attending to basic health needs, such as sleeping, eating, exercising, managing symptoms of traumatic stress, and addressing any medical concerns</li> <li>- Focusing on control over one’s environment – establishing a safe living situation, financial security, mobility, and a plan for self-protection,</li> <li>- Focusing on establishing a social support system</li> <li>- Gaining a sense of control over one’s most disturbing trauma-related symptoms</li> </ul>
Remembrance/Mourning	<ul style="list-style-type: none"> <li>- Focusing on grieving the losses associated with the trauma</li> <li>- Focusing on sharing one’s story in therapy</li> <li>- Finding one’s self able to focus more on life in the present without feeling pulled back to the past</li> </ul>
Reconnection	<ul style="list-style-type: none"> <li>- Fostering new relationships</li> <li>- Feeling able to engage fully in relationships with trusted others</li> <li>- Developing a new sense of self</li> <li>- Developing a survivor mission (such as becoming involved in volunteer work)</li> <li>- Feeling able to fully take pleasure in life</li> </ul>

5) Which of these places would you say that you’ve experienced? Please circle all the places that you have experienced.

Safety

Remembrance/Mourning

Reconnection

6) Please circle which of these places you would say best describes where you are today?

Safety

Remembrance/Mourning

Reconnection

## Appendix D - Interview Guide for Focus Group

- 1) One thing that I'm interested in is the groups that you are a part of and the people who are a part of them. Tell me your story of being in one of the groups, which incorporates the use of yoga. Since stories have a beginning, middle, and end, tell me about your beginning.

Probes: How did you come to get involved in the group?

How did you make the decision to participate?

What made the difference for you in stepping forward to participate?

(Provide instructions for writing ideas about next two questions on sticky notes.)

- 2) What did you anticipate would be the benefits of participating in the group?
- 3) What concerns did you have about participating in the group?

(Participants will place sticky notes on board or wall. Research Assistant will move and group sticky notes per participant's instructions while I continue to lead conversation. Then move on to next question.)

- 4) When you joined the group, what did you think about yoga being a part of it?
- 5) How does your experience compare to what you expected?
- 6) What influences your decision to continue participating in the group?
- 7) If you were to talk to a survivors of sexual trauma about the group, what would you say?
- 8) How will you know when you've accomplished what you hoped to from participating in the group?

Probe: How will you know when you're ready to stop coming?

- 9) What ideas do you have for how rape crisis centers could help people to feel safe to try a group such as the ones that you are a part of?
- 10) What recommendations do you have that could enhance a group such as these?
- 11) Now, let's think a little broader. What place does yoga play for you? That yoga is involved in this group process?

12) How do you see that yoga relates to exercise, if at all?

Probe: Do you view yoga as a form of exercise? Do you view this group as exercise?

(Next, explain activity and allow participants time to complete activity. Then move to next question)

13) What was the activity like for you?

- i. What patterns do you see?
- ii. Is there anything here that surprises you?
- iii. I noticed no one selected\_\_\_\_, how if at all do you think your responses are different because you are a survivor of sexual trauma?
- iv. I noticed that everyone selected\_\_\_\_, how if at all do you think your responses are different because you are a survivor of sexual trauma?
- v. How do you think these responses would be different if we were talking with those who were not survivors of sexual trauma?
- vi. Do you think your responses would have been the same or different if you were at a different place in your recovery? How so?

14) What recommendations would you have for someone like me who wanted to offer exercise programs at a rape crisis center?

15) Is there anything that I have not asked you about today that you would like to share or that you think would be important for me to know about your experience of being in this group, which incorporates the use of yoga?

## Appendix E - Closing Questionnaire

Thank you for participating in this study! Please answer the questions below and return this form before leaving today.

1) First Name: \_\_\_\_\_

2) Please check one:

\_\_\_\_ I would be interested in participating in an individual interview with Erika. Please call me at this telephone number: \_\_\_\_\_

\_\_\_\_ It is okay to leave a message.

\_\_\_\_ It is not okay to leave a message.

\_\_\_\_ I would like to have more information before deciding if I would like to participate in an individual interview with Erika. Please call me at this telephone number with more information: \_\_\_\_\_

\_\_\_\_ It is okay to leave a message.

\_\_\_\_ It is not okay to leave a message.

\_\_\_\_ I would not be interested in participating in an individual interview with Erika at this time.

3) I understand that my real name will be kept confidential when Erika reports the results of this study. The name that I would like to go by when Erika reports the result is:

\_\_\_\_\_

## Appendix F - Interview Guide for Individual Interviews

- 1) First, I'm interested in learning about how you came to the decision to participate in this interview about adult women survivors' experiences with exercise?
  - a. What about this project appealed to you?
  - b. Did you have any concerns about participating in this project?
  
- 2) What has been your experience with exercise?  
(Probe: That is, some people like exercising and others don't like it as much.)
  - a. What types of exercise have you engaged in during the past month?
    - i. How often have you exercised during the past month?
    - ii. For about how long?
    - iii. Was the exercise completed individually, with friends, family, others, as part of a group, or a combination of these?
  
- 3) When it comes to exercise, tell me about your experience of the types of exercise that are most comfortable for you? (Probe: Such as certain positions in Yoga)
  - a. Tell me about the types of exercise that you feel more comfortable or more safe engaging in?
    - i. Do you believe this may be related or unrelated to your sexual abuse history?
  - b. Tell me about the types of exercise that you feel less comfortable or less safe engaging in?
    - i. Do you believe this may be related or unrelated to your sexual abuse history?
  
- 4) Now, I'd like to ask you about your experiences with several different kinds of exercise.
  - a. What was been your experience with Yoga? Can you tell me about that?  
(Probe: Were there positions that you liked or did not like?)
    - i. What impacted your decision to try (or not to try) Yoga?
  - b. What has been your experience with aerobic exercise? Can you tell me about that? (Probe: Walking, running, swimming, cycling)
    - i. What has been your experience with different types of aerobic exercise?
    - ii. What impacted your decision to try (or not to try) different types of aerobic exercise?
  - c. What has been your experience with anaerobic exercise? (Probe: Weight-lifting, tennis, basketball, soccer)

- i. What has been your experience with different types of anaerobic exercise?
    - ii. What impacted your decision to try (or not to try) different types of anaerobic exercise?
  - d. What has been your experience with other forms of exercise?
    - i. What has been your experience with other forms of exercise?
    - ii. What impacted your decision to try (or not to try) different types of these other forms of exercise?
- 5) How has your experience of exercise changed over time, if at all?
  - a. How would you say your experience of exercise changed following your sexual trauma?
- 6) What would you like for your experience of exercise to be like for your future?
  - a. Would you like for your experience of exercise to remain to the same or to change in some way?
- 7) What recommendations do you have for rape crisis centers that would like to start different types of exercise programs for survivors?
- 8) Is there anything that I have not asked you about during this interview that you would like to share or that you think would be important for me to know about your experience of exercise as a survivor of sexual violence?