Benefits of a dance program for women survivors of breast cancer

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BENEFITS OF A DANCE PROGRAM
FOR WOMEN SURVIVORS OF BREAST CANCER

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Abstract

The profession of Occupational Therapy focuses on a holistic approach to therapeutic intervention for individuals with many medical diagnoses. However, current literature in the field provides a limited amount of research on the role of occupational therapy in the treatment of women surviving breast cancer. The limited research that has been published regards physical improvement but does not discuss psychosocial improvement.

Participation in the dance program, Focus On Healing, is proposed to have several therapeutic, physical, and psychosocial benefits. This movement program was specifically designed for women surviving breast cancer. The purpose of the study was to determine if perceptions of occupational performance, body-image, and self-esteem significantly improved after a six-week dance program and if a relationship between the three constructs was formed.

Eight women survivors of breast cancer residing in Canada, Georgia, and Washington state completed the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale before and after the six-week dance program. Subjects were recruited through the Focus On Healing Network. Surveys were mailed to certified Focus On Healing instructors who ran the dance program and administered surveys to their participants.

After the six-week dance program, no statistically significant differences were found on the separate domains of self-esteem, body-image, and perceptions of occupational performance, although individual scores from pretest to post test showed improvement. When correlations were run between the domains no significant relationships between self-esteem and body-image, and intimate relationships and body-image were found. However, a strong significant relationship was found between self-esteem and perceptions of occupational performance after the six-week dance program.
The participants completing the surveys were selected based on a sample of convenience rather than a representative sample. As a result, this study was limited to a small number of participants, which may have decreased the statistical power of the tests run for relationships between variables. Further research is warranted to study the effects of the dance program with a larger population. Thus, future research that objectively measures occupational performance during and after the dance program may be of benefit. Further research to look at the effects of the changes in frequency, intensity, and length of dance sessions on survivors of breast cancer and other traumatic illnesses is also warranted.
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CERTIFICATE OF APPROVAL

This is to certify that the thesis of

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Submitted in partial fulfillment for the requirements for the degree of Master of Science in the Department of Occupational Therapy, School of Health Sciences and Human Performance at Ithaca College has been approved.

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Chapter I
Introduction

Breast cancer is the most prevalent cancer among women and it is predicted that in the year 2003, 211,000 women will be diagnosed with this form of cancer (www.cancer.org). Seventy-five percent of new cases occur in women over the age of 50 (Keitel & Kopala, 2000).

Medical sciences offer options for treatment through chemotherapy, radiation therapy, and surgery. Side effects and symptoms resultant of such treatments are decreased range of motion, fatigue, hair loss, removal of one or both breasts, and increased risk for lymphedema. These invasive treatments change the survivor's self-perceptions and possibly cause survivors to view themselves as disfigured and no longer feminine or attractive (Keitel & Kopala, 2000). Survivors' perception of their sexuality may be altered (Dennis, 1993). Due to invasive medical procedures, survivors may experience a disconnection in their perceptions of self-esteem, body-image, and occupational performance, that may affect their sense of self-efficacy and capabilities in controlling the course of survival. Surgery, chemotherapy, and radiation are parts of the medical breast cancer treatment in which the patient is a passive recipient, unable to exert control.

Occupational Therapy provides a holistic treatment that includes psychosocial and physical rehabilitation. Occupational therapy addresses client needs for autonomy, coping strategies, and quality of life through various theoretical models. The Model of Human Occupation (MOHO) (Kielhofner, 1997) identifies the constructs volition, habituation, and mind-brain-body performance. These three human subsystems are organized in a heterarchical manner. A disturbance in one subsystem will affect the others. In order to achieve optimal function in daily occupations, all three subsystems must be integrated without disturbances
The therapeutic use of dance as an occupation could create a medium for women survivors of breast cancer to integrate the three subsystems to function in a healthy state of being.

It is important for women survivors of breast cancer to remain physically active and develop a peer network during and after treatment (Lebed, Kleinfeld, & Molinaro, 1986). When physical ability and emotional stability are jeopardized, one's perceptions of occupational performance in activities of daily living (ADLs) may become impaired (Kielhofner, 1995). Therefore, it is vital for women to prevent this downward cycle by becoming involved in a treatment program that enhances their physical and emotional well-being. According to Lebed et al. (1986), dance may be an occupation in which breast cancer survivors may be able to positively influence their perceptions of their occupational performance, self-esteem, and body-image.

Dating back to the eighteenth century, African tribes and Native Americans utilized dance to cure the sick and bring communities together (Jonas, 1992). These tribal rituals laid the foundation for the creation of Modern dance. The pioneers of Modern dance originally used this form of movement as treatment for the psychiatric population. As practiced by the ancient tribal dancers and Modern dance pioneers, dance is an occupation that breast cancer patients could engage in that emphasizes psychosocial intervention as well as physical rehabilitation.

**Problem Statement**

The therapeutic use of occupation lays the foundation for occupational therapy treatment (Kielhofner, 1997). During occupational therapy intervention, individuals who experience physical or psychosocial dysfunction engage in an occupation that is meaningful and purposeful to increase occupational performance in daily tasks (Kielhofner, 1997).
Women diagnosed with breast cancer often experience physical limitations, depression, and anxiety, which may decrease individual functional capabilities in daily tasks (Keitel & Kopala, 2000). A traumatic diagnosis, such as breast cancer, influences how women perceive their physical appearance, self-esteem, and functional capacity (Keitel & Kopala, 2000). Research studies have proven that aerobic exercise alleviated depression and anxiety while increasing body-image, endurance, range of motion, and strength (MacVicar, 1989; Segar, 1998, & Lebed et al., 1986). Occupational therapy literature discusses techniques of lymphedema drainage and massage, but is very limited in demonstrating how the use of occupation can improve breast cancer survivor’s perceptions of occupational performance in daily tasks. A Canadian study examined the effects of the use of the occupation of gardening to cope with the effects of breast cancer, but this remains the only study to date on the benefits of therapeutic occupation for breast cancer patients (Unruh, Smith, Scammell, 2003).

Much like aerobic exercise, the occupation of dance increases endurance, strength, range of motion, body-image, and alleviates depression and anxiety (Lebed, 2002; Boas, 1974; & Dibbell-Hope, 2000). *Focus On Healing* is a dance program specifically designed for women survivors of breast cancer (Lebed et al., 1986). Research on this dance program has not yet determined if dance increases occupational performance and there is a limited amount of research supporting the use of occupation as therapeutic intervention for women surviving breast cancer.

*Rationale*

One in every eight women in the United States is diagnosed with breast cancer each year (Dibbell-Hope, 2000). For the year 2003, it is predicted that 211,000 new cases of breast cancer in women will occur (www.cancer.org). This report of high incidence has caused western society
to view breast cancer as a disease that must be fought. The expression ‘War against cancer’ alludes to a belief that cancer treatment is a battle, which we either win or lose (Keitel & Kopala, 2000). Although the incidence and prevalence of breast cancer remains high, death rates are declining with improved five-year survival rates (Pedro, 2001). It is estimated that 86% of all women newly diagnosed with breast cancer will survive beyond five years. The increased rates of survival now encourage health professionals to focus on quality of life in helping survivors adjust to the psychological, physical, and social stress of breast cancer (Dibbell-Hope, 2000).

Definition of Terms

4. Lymphedema: “Swelling as a result of obstruction of lymphatic vessels or lymph nodes and the accumulation of the large amounts of lymph in the affected region” (Dirckx (ed), 2001, p. 578).
5. Self-Efficacy: “Includes the perception of whether and how one controls one’s own behavior as well as the sense of one’s effectiveness in achieving desired outcomes of behavior” (Kielhofner, 1997, p. 190).
Purpose of the Study

The purpose of this study was to investigate the benefits of dance in occupational therapy treatment for breast cancer survivors and to determine whether a relationship existed between the therapeutic occupation of dance in the program *Focus on Healing* and breast cancer survivor’s perceptions of occupational performance, body-image, and self-esteem.
Chapter II

Literature Review

Perceptions of occupational performance, body-image, and self-esteem are components of self-efficacy (one’s perception of themselves) and personal causation (one’s ability to affect the environment) (Kielhofner, 1997). These terms are defined in the Model of Human Occupation. Theorists of that model discuss the therapeutic use of occupation to enable the client to create and adapt to a healthy state of being (Kielhofner, 1997). Consistent with this model it is suggested that the occupation of dance may be used therapeutically by women breast cancer survivors to create and adapt to a healthy state of being.

Model of Human Occupation

The Model of Human Occupation, a theoretical model of occupational therapy developed by Gary Kielhofner (1995), describes three human subsystems which organize occupational behavior: volition, habituation, and mind-brain-body performance. These three constructs of the human system, or subsystems, compose a dynamic open system that responds to input and feedback from the environment. The subsystems are heterarchical in arrangement. Change in one subsystem causes change in the other subsystems (Kielhofner, 1995).

The volitional subsystem of the individual chooses the occupational behavior, while the habituation subsystem organizes the occupational behavior into patterns and routines. Skilled achievement of occupations occurs through the mind-brain-body subsystem. Performance is the “spontaneous assembly of requisite actions necessary to accomplish a given occupational behavior” (Kielhofner, 1997, p. 33). Individual physical and mental abilities determine the capacity for occupational performance.
Through the volitional system the person generates feelings, thoughts, and decisions about occupational behavior. These decisions are based on self-knowledge generated from personal causation, interests, and values. Personal causation is the subjective knowledge of what each individual believes he or she is capable of accomplishing (Kielhofner, 1995). Susan Harter’s (Messer & Harter, 1986) work on perceived competence runs parallel with Kielhofner’s idea of personal causation. Harter describes perceived competence as an individual’s belief about areas of capacity such as athletic ability and social competence (1986). Based on Harter’s studies of perceived competence, the developers of the Model of Human Occupation re-defined the definition of personal causation to encompass “self-knowledge concerning one’s capacities for and efficacy in occupations” (Kielhofner, 1997, p. 42). Through knowledge of capacity, individuals participate in tasks in which they feel confident and avoid those in which they feel insecure. When the individual is in a state of occupational dysfunction, lack of information prevents anticipation, choice, experience, and interpretation of occupational behavior (Kielhofner, 1995). An individual’s sense of efficacy stems from perceptions of self-control over one’s thoughts, emotions, and wanted outcomes in life. To perform at an optimal level, an individual must be able to control his or her emotions and demonstrate self-discipline. Dysfunction in self-efficacy will occur when an individual becomes overwhelmed with emotions, uncontrollable thoughts, or feelings of powerlessness. An individual must believe that a desired outcome is within his or her control (Kielhofner, 1995).

Often, the roles that people carry-out in society provide a sense of control. According to Kielhofner (1997), “roles provide a purpose and identity to behaviors” (p. 73). For example, the role of mother may require a woman to pick up her children, cook a meal, and provide a steady family income. If an acquired disability prevents a mother from engaging in those occupations,
she must now adjust her perception of her role as mother. The same is true for the role of spouse. There is an expectation of having the ability to engage in an intimate relationship. When a disease interferes with that expectation, an individual must adapt to a new perception of that role.

The way in which a person experiences dysfunction is unique to that person. Lifestyle and severity of the disability will vary personal experiences (Kielhofner, 1995). To address dysfunction, the theorists of the Model of Human Occupation suggest that by effecting change in one subsystem, another dysfunctional subsystem may also be changed. In this manner, the entire human system is changed. For example, if dysfunction exists in the volitional system, the mind-brain-body subsystem can be manipulated to effect change in the volitional subsystem. The three subsystems should never be manipulated one subsystem at a time. Rather the entire human system should be evaluated and change should occur throughout. Therefore after therapeutic intervention, the human system has completely evolved into a newer more functional system (Kielhofner, 1995).

**Breast Cancer**

*Diagnosis and statistics.*

For the year 2003, it is predicted that 211,000 women will be diagnosed with breast cancer. It is estimated that 86% of all new cases survive beyond five-years (www.cancer.org). Risk factors for breast cancer are that of lifestyle, family history and genetics, and personal medical history (Bashe & Teeley, 2000). When diagnosed, the level of invasion of the cancer is placed into one of five categories. As shown in Appendix A, the first level is in situ, referring to the cancer being restricted to the duct of the breast. In Stage I the cancer measures no larger than three quarters of an inch. Stage II includes axillary and underarm lymph nodes. Stage III, the
cancer spreads to the chest wall. Stage IV involves metastasis to the organs (Bashe & Teeley, 2000).

Surgery, chemotherapy, and radiation therapy can compromise physical functioning causing psychosocial sequela (Mock, 1994). Difficulty in adapting to the diagnosis of breast cancer can lead to disturbances in body-image and self-concept, and disruptions in social, sexual, and family relationships leading to emotional distress (Keitel & Kopala, 2000). On average, 20%-40% of women survivors of breast cancer report experiencing depression in their first year after treatment (Segar, 1998). Survivors continue to experience physical and emotional vulnerability years after the diagnosis (LaFortune, 1995). Common experiences of breast cancer survivors are fear of death and re-occurrence, anger, changing intimate/sexual relationships, feelings of guilt, and concern for unemployment and health insurance (LaFortune, 1995).

Effects of breast cancer on body-image.

Chemotherapy and radiation therapy are medical procedures that aim to kill cancer cells and surgery is the process of removing cancer cells. However, once those interventions are complete, women must live with the numerous possible side effects including lymphedema, weight gain, and hair loss (Lebed, 2002). Although hair loss and weight gain are not permanent, lymphedema, which occurs in 40% of survivors, is permanent once developed (Lebed, 2002). Lymphedema is swelling of a limb and occurs most frequently after the axillary dissection that is part of a radical mastectomy. The lymphatic system returns protein molecules to the bloodstream. When lymph nodes are removed there is an abnormal accumulation of protein in the soft tissues, thus causing mild to severe swelling (Dennis, 1993).

Lymphedema, hair loss, and weight gain may influence how women perceive their body-image and the perception of themselves as sexual beings (Keitel & Kopala, 2000). Losing a body
part such as the breast, which is seen as a symbol of sexuality, can alter sexual desire and intimate relationships. Many women may feel that they have lost their femininity and no longer view themselves as attractive (Keitel & Kopala, 2001). It is a challenge for any woman to accept a change in body structure and incorporate it into a healthy positive view of herself (Serlin, 2000). Body-image is associated with a desire to be attractive and desirable (Sands & Wettenhall, 2000). These body changes challenge women to find ways to alter lifestyles and rebuild and define a healthy perspective of themselves (Vrkljan, 2001).

**Effects of breast cancer on intimate relationships.**

Research examining the psychosexual adaptation of women survivors showed that women whose breasts were not removed during surgery had a significantly better body-image than those women who underwent mastectomies (Kemeny, Schain, & Wellisch, 1988). Women who experienced mastectomies showed a negative change in self-perception after surgery, particularly in areas of sexual desirability and satisfaction with physical appearance. They also rated the breast as a more significant body part than the control group who did not experience breast removal. There was a statistically significant decrease in the frequency of sexual relations in the experimental group and a trend of experiencing decreased orgasms from six months prior to surgery to the time of the questionnaire (Kemeny et al., 1988). However, no significant difference was found between the experimental and control groups for engaging in sexual activity and experiencing an orgasm. This is suggested to be due to the effects of being in a long-term relationship, which generates habit patterns based on feelings of security and comfort. These emotions appear to override the negative effects of surgery (Kemeny et al., 1988)
Effects of breast cancer on psychosocial well-being.

Whether in a long-term relationship or not, women have reported intrusive thoughts and worries about the diagnosis and medical procedures of breast cancer (Kemeny et al., 1988). Intrusive thoughts include anxiety about appearance of scars, wearing prostheses, future of their family, premature menopause, and lymphedema. Anniversary dates and scheduled physician appointments often increase levels of anxiety, depression, and fear of the prospect that the cancer may recur (Keitel & Kopala, 2000). In 1/3 of women, psychological distress causes impairments in daily functioning (Keitel & Kopala, 2000). The Model of Human Occupation theorists recognize the dynamic relationship between women's negative emotions and thoughts and occupational dysfunction that occurs when an individual is overwhelmed with uncontrollable thoughts and emotions and feels unable to control the outcome of his or her life. Occupational dysfunction may lead to increased negative perceptions of self-esteem, thus, a vicious downward spiral is created.

Self-esteem has been determined to be a predictor of how a person handles stress due to a diagnosis of cancer. Research has demonstrated that perceived quality of life is affected by self-esteem (Pedro, 2001). Quality of life includes all elements of physical, emotional, psychological, and social well-being. When correlated with quality of life, self-esteem was shown to be associated with success of role function, sexuality, and intimacy issues, which all reflect perceptions of one's self (Pedro, 2001). Positive coping mechanisms and adjustments of women breast cancer survivors result from their ability to reconfigure their self-esteem, thus preventing occupational dysfunction and resultant psychological distress.
Psychological adjustment and adaptation are addressed through various support groups that function for women to be informed, to help each other, to voice concerns, and to solve problems (Diekmann, 1988). Support groups embrace human needs for companionship, knowledge, and identity in an environment and enable women to share thoughts and feelings with other people in similar situations. This experience of peer support encourages women to channel emotions constructively (Diekmann, 1988). Through education and expansion of the knowledge base of cancer, support groups also function to increase the perceived controllability and predictability of stressors, which may diminish the negative effect of harmful threats. Altering perceived controllability of stressors runs parallel with Kielhofner’s (1997) idea of personal causation. Through the Model of Human Occupation, an individual’s self-concept and self-efficacy may increase once he or she is able to perceive themselves as positively controlling stressors in the environment.

In a study by Spiegel, Bloom, & Kraemer (1989), a support group was structured to focus on the psychosocial sequelae facing patients with metastatic breast cancer. The support group proved to significantly improve tension-anxiety, vigor, fatigue, and confusion and there were insignificant improvements in anger, denial, self-esteem, and sense of control (Spiegel et al., 1989). The support group for this study met weekly and focused on coping mechanisms and expression of feelings about the illness and its effect on lives. The group was led by a registered nurse and emphasis was placed on living as fully as possible, improving communication with family members and doctors, facing fears about death and dying, and controlling pain. Results indicated that survival time of the experimental group was twice as long, thus significantly higher than that of the control group (Spiegel et al., 1989). The psychosocial intervention of the
support group was the determining factor for increased survival. According to Spiegel et al., the following components of a support group encouraged survival rates (Spiegel, Bloom, & Kraemer, 1989, p. 890):

1. Social support to mediate how individuals cope with stress
2. Group environment provides a place of belonging/expressing
3. Involvement in the support group may have encouraged participants to comply with medical treatment more

Overall, support groups have been shown to positively influence self-esteem and self-concept by providing information, creating a peer support network, teaching coping mechanisms, and fostering an environment for emotional expression (Diekman, 1988).

Current Occupational Therapy Treatment for Breast Cancer Patients

Occupational Therapy (OT) has the potential to play a large role in the rehabilitation of women with breast cancer. Current occupational therapy literature on this topic is limited and focuses primarily on physical rehabilitation with few studies researching factors related to perception of occupational performance and emotional well being. A form of OT intervention is reduction and control of lymphedema (Dennis, 1993). Lymphedema can be relieved by elevation of the limb, muscle pumping, and use of compression pumps or pressure gradient garments (Dennis, 1993). If swelling persists after a few weeks, it may lead to chronic lymphedema with the onset of emotional stress due to deformity, loss of function, and constant risk of infection (Dennis, 1993). Although the psychosocial sequelae secondary to lymphedema such as emotional stress and decreased body-image are described, only one research article in OT literature addresses the psychological stress and self-perceptions of survivors with breast cancer. A Canadian study researched the effects of the occupation of gardening on three women survivors of breast cancer (Unruh, Smith, & Scammell, 2003). The researchers of this study suggested that the occupation of gardening enabled the participants to escape from their worries.
and stressful thoughts, creating an experience of being away. Gardening became a way to cope with cancer through release, escape, control, and relaxation (Unruh et al., 2003). By engaging in daily occupations such as gardening, survivors of breast cancer can once again perceive themselves as healthy and capable individuals (Vrkljan, 2001).

Occupational therapy also intervenes to improve client abilities such as: dressing, hygiene, grooming, range of motion, strength, endurance, use of adaptive equipment, and assistive technology (Romsgaas & Rosas, 1985). Because fatigue is prevalent in all forms of cancer, energy conservation and patient education are also included in treatment.

A diagnosis of cancer places demands on new living patterns and changes the patient's level of satisfaction with current physical, emotional, and social functioning. Change in functional performance in daily tasks such as household management may cause altered perceptions of individual capabilities (Pedro, 2001). Optimal function in personal causation occurs when individuals have an accurate self-knowledge of their capacities, and can be reached through successful engagement in an appropriately selected therapeutic occupation (Kielhofner, 1997). Participation in a therapeutic occupation enables individuals to adapt and create a healthy functional state of being (Kielhofner, 1997). Therapeutic occupation should relate to individual needs for future occupational behavior. Women who have just had surgery or are experiencing a few of the many side effects may view their functional abilities differently than they did prior to diagnosis and medical intervention. Thus, treatment in occupational therapy needs to address both the physical and psychosocial rehabilitation. Dance is an occupation in which breast cancer patients could engage that emphasizes psychosocial as well as physical adaptation.
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Dance and Dance Therapy

History of dance.

Primitive Hopi and Plain Indians believed that dance was essential in integrating the body and spirit (Jonas, 1992). When lives were threatened with starvation or destruction, the members of these Native American tribes gathered in community to perform a Ghost Dance. Their dancing continued for days until a prophecy occurred. Often, dances such as these caused people to enter into an euphoric trance experiencing a vision of good health, fortune, and community belongingness. Similarly in Africa, the Yoruba tribe performed dances worshipping their Gods so that they might have good health and fortune (Jonas, 1992). When members of African tribes were brought to the United States as slaves they continued to perform their ritual dances. Although Native American and African cultures are very different, they are similar in their use of dance. Dance brought rain, food, and land. 'Dance cured the sick and brought communities together. Dance was at the essence of life in the community (Jonas, 1992).

In 1880, people of Christian faiths acknowledged the tribal dances of the Yoruba and Native Americans, but felt that the dances were wild and unholy. Christians forced their beliefs onto these tribes emphasizing that dance is sacred when performed unto God (Jonas, 1992). At Christian weddings, people danced to celebrate the union of two people. This continues to be practiced today. Although tribal and Christian dances were very different, they both embraced a sense of community and celebration.

In the early 1900's, secular dancing became popular as a form of entertainment. Ballet and show dancing were often performed. However, ballet was viewed as being technical and conservative, while show dancing was thought to lack content (Levy, 1992). Pioneers of modern dance turned inward to seek forms of self-expression and communication of personal experience
and universal themes (Levy, 1992). They also turned to Greek theatre where the aim was for the audience to experience catharsis. Modern dance is very similar to tribal ritual dance in that communication and expression of human needs are communicated through use of the body in dance.

**History of dance therapy.**

Dance movement therapy is defined as, “the psychotherapeutic use of movement as a process which furthers the emotional and physical integration of the individual” (Stanton, 1991, p.108). Throughout history, the power of dance to heal the mind, body, and spirit cannot be denied. During the 1920’s, pioneers of dance/movement therapy (DMT) embraced modern dance as a way for people to use their bodies in assertive, confident, and competent ways, expressing feelings of independence and autonomy, which could carry over into their everyday lives (Levy, 1992). Blanche Evan and Liljan Espenak based this concept of modern dance on Alfred Adler’s theory that the aggressive drive was important for expression of feelings, thoughts, and behavior (Levy, 1992). In 1950, Paul Schilder conducted a study of body image examining the relationship between movement and emotional attitudes. His belief was that mental image forms emotional attitudes toward the body, thus, movement can build a stronger body image (Levy, 1992).

**Utilization of dance therapy.**

Originally dance movement therapy was used with the psychiatric population. Marion Chace, a pioneer of DMT, was the first to use dance as a medium to enable persons with psychiatric illnesses to gain insight into their emotions and relationships with others (Stanton, 1991). Individuals with schizophrenia often have a distorted sense of body image. In treatment, the patient mirrors the therapist’s movements and makes them larger and fuller (Boas &
Dance and Breast Cancer

Christrup, 1974). This gives patients a sense of what their bodies feel like in space. Kinesthetic and proprioceptive awareness of the body during movement gives clients an opportunity to explore and feel the capabilities of their body (Boas & Christrip, 1974). In exploring movement, the participant is free to move from the emotions he/she is feeling at the time. As each individual moves in a different way, each person feels different emotions. As a result, there is no set choreography. This encourages the body to take control of the individual by dancing through authentic movement (Segar, 1998). A trained dance therapist is able to analyze and verbally interpret what the client’s movement suggests through the use of improvisation (Stanton, 1991). The dance therapist can then experiment with different movements to elicit various emotions from the client. Clients are able to gain insight into how they are perceived by others, and how they perceive themselves through verbal interpretation and movement (Stanton, 1991). Structured improvisation enables clients to gather in a circle and talk about the positives and negatives of their day and their current emotional states. The group chooses music appropriate for the movement section based on the discussion (Stanton, 1991).

Effects of dance on women with breast cancer.

Dance can be used as a therapeutic modality to increase women’s awareness of their bodies as a means of expression and communication. Once a woman can understand her new body without a breast, or with a reconstructed breast, she can begin to accept her new body and move toward a positive perception of herself. Kinesthetic and proprioceptive awareness of her body during movement facilitates individual learning of capabilities. Recently, research has produced a few studies on the effect of various types of dance on psychological and physical aspects of women with breast cancer (Kern & Baker, 1997; Segar, 1998).
Besides dance movement therapy, which focuses primarily on improvised movement, the effects of aerobic dance exercise and structured dance have also been measured (Kern, & Baker, 1997). Studies have shown that through the use of mild to moderate aerobic dance exercise symptoms of depression and anxiety were significantly decreased over a ten-week period (Kern & Baker, 1997). Segar (1998) assumed that self-esteem would be correlated with depression, however, as measured by the Rosenberg Self-Esteem scale, self-esteem did not improve. It was suggested that had a support group been added as part of treatment, improvements in self-esteem would have been noticeably significant (Segar, 1998).

*Current use of dance in occupational therapy.*

Occupational therapists use dance most commonly in long-term care facilities with the elderly to remediate impairments with balance, range of motion, and endurance (Hoban, 2000). In recent studies, dance/movement therapy helped residents in a long term care facility engage in stimulating and meaningful interactions that had a positive effect on their physical, perceptual, and communication abilities (Maynard, Selznick, & Valentine-Garzon, 1992). Depression was alleviated and self-esteem increased. The use of a dance program, “Range of Motion Dancing”, also has shown positive effects such as increased self-esteem and decreased anxiety through a meaningful activity for the elderly (Maynard et al., 1992).

Much like the elderly, breast cancer survivors experience limitations with range of motion, endurance, balance, and fatigue after surgery and other medical treatments. In like fashion, the occupation of dance has the potential to be effective in the treatment of women survivors of breast cancer.

Dance is a form of complimentary therapy (Lebed, Kleinfeld, & Molina, 1986). Just as it has been observed in history to influence good health and develop community, so too could it be
useful for modern women survivors of breast cancer to improve perception of body-image, self-esteem, and occupational performance.

**Focus On Healing**

*Focus On Healing* began as a movement program designed by the founder for her mother diagnosed with breast cancer in 1979. Created by Sherry Lebed Davis, a professional dancer, and her two brothers, surgeons Marc and Joel Lebed, this dance program integrates the principles of physical therapy and dance therapy to ameliorate the side-effects of medical and surgical procedures that breast cancer survivors' have endured (Lebed, Kleinfeld, & Molinaro, 1986).

Instructors of this dance program attend an intense three-day workshop to become certified in the Lebed Method. Specific dance movements, routines, and techniques are taught to address the breast cancer survivors' experiences of pain, range of motion, swelling, strength, and endurance. Movements are placed into two categories: in the box and out of the box (Lebed, 2002). 'In the box' movements are not allowed to be changed in any way by the instructor (Lebed, 2002). If these movements are changed or not performed in the exact order, the dance program may increase the negative effects experienced by the breast cancer survivor. 'Out of the box' movements can be created for a dance routine in the last ten minutes of the session. The advantage to having 'in the box' movements is that no matter where the program takes place across the nation it generally always looks the same.

The dance program consists of client participation in a one-hour session of movement and discussion. As determined by the instructor, the group may meet once or twice a week for six to eight weeks. Each session begins with a warm-up routine to open the lymphatic system (Lebed, 2002). This involves deep breathing and chest expansion to increase the flow of lymph through the lymphatic system. After this ten-minute warm-up, three of the following sections can
Dance and Breast Cancer

Movements can be chosen: slow routine, fast routine, balance routine, or a sitting leg routine. All movements in these sections utilize techniques of ballet and jazz dance. Upper extremity movements in ballet promote stretching of scar tissue, facilitate correct posture and alignment, and strengthen muscles affected by the mastectomy. Jazz movements incorporate full body movements to enhance balance, coordination, and endurance. The last movement component is the dance routine combining all learned movements into a choreographed dance. Depending on the needs of the group, the leader can choose specific movements to address areas of difficulty for each woman (Lebed et al., 1986). Movements used in daily activities such as ironing, cooking, and driving are incorporated into the various exercises in the program to facilitate carry-over into everyday living.

Music selection plays a very important role in helping participants to find meaning and enjoyment with the program (Lebed, 2002). Music must be carefully selected to correspond to the women in the group. For example, women in their forties and fifties may find it more meaningful if the ‘Beach Boys’ were used rather than the music heard on the radio today. Choreography may also vary depending on the generations of the participants. The music is set at slower and faster paces and the women are encouraged to experience the freedom of expression through movement (Lebed, 2002).

Music and movement together can be used to trigger emotions emphasizing femininity and sexuality as body image changes (Lebed, 2002). As an example, music from ‘All that Jazz’ and choreography that includes many hip movements encourages women to feel attractive, to experience their femininity, and to resume their role as a sexual being. Music and movement in the mind-brain-body subsystem creates change in the women’s volitional subsystem in that they feel more attractive. This enables change in the habitual subsystem so that the women may
resume the role as sexual beings. This supports the theory of the Model of Human Occupation (Kielhofner, 1995) that effecting change in one subsystem will create change in another subsystem.

Engagement in physical rehabilitation through dance directly influences the mind-brain-body subsystem, which may enable the subsystems of volition and habituation to change. The occupation of dance, which involves use of the mind-brain-body subsystem, has the potential to change individuals' perceptions of their occupational performance, which is an aspect of the volitional subsystem. Through the dance program, an altered, more functional, human system may evolve.

**Summary**

An increasing number of women are surviving breast cancer due to advances in medical technology (Keitel & Kopala, 2000). While physical rehabilitation may improve range of motion and strength, many women continue to experience decreased body-image and low self-esteem (Keitel & Kopala, 2000). Thus, health professionals are encouraged to address the psychosocial sequelae associated with improving the quality of life for women surviving breast cancer. Current literature in occupational therapy is limited with regard to how OT treatment can improve the psychosocial stresses facing many survivors.

Over the years, dance has been proven to alleviate depression and increase self-esteem (Stanton, 1991). As a form of treatment, dance in occupational therapy has been utilized to increase balance and self-esteem in the elderly population (Hoban, 2000). However, research in occupational therapy has yet to determine if the occupation of dance influences the self-perceptions of occupational performance, body-image, and self-esteem in breast cancer survivors. Utilizing the dance program *Focus On Healing*, this study aims to determine whether
a relationship exists between the therapeutic occupation of dance and breast cancer survivor’s perceptions of occupational performance, body-image, and self-esteem.
Chapter III
Methodology

Research Questions

1. Do perceptions of body-image change after the course of the six-week FOH dance program?
2. Does self-esteem change after the six-week FOH dance program?
3. Do perceptions of occupational performance change after the six-week FOH dance program?
4. Is there a relationship between self-esteem and body-image in breast cancer patients?
5. Is there a relationship between perceptions of occupational performance and self-esteem in breast cancer patients?
6. Is there a relationship between being in intimate relationships and perceptions of body-image in breast cancer patients?

Limitations

The results of this study are not intended to be generalized to other women survivors of breast cancer participating in the Focus On Healing dance program in the United States or Canada. The subject pool completing the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale was limited to individuals able to read and complete these tools. This study did not eliminate any women who participated in other forms of exercise or support groups. Therefore, for those women who participated in other activities such as aerobics, walking, attending a gym or a support group, there is no way to differentiate whether improved perceptions of self-esteem, body image, or daily occupations were due to the six week program or to activities external to the program. From this study, it can only be determined if there was a significant change in
participants' self-perceptions during the six weeks of the dance program. Other factors such as occupation were not taken into account.

While this study provided some insights into the perceptions of women survivors of breast cancer concerning self-esteem, body-image, and occupational performance, it also highlights the need for a larger scaled study. Information from future studies may aid in expanding occupational therapy treatment planning for women survivors of breast cancer.

Assumptions

Participants completed the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale voluntarily, and it is assumed that they answered the assessment honestly and accurately. It is also assumed that the responses given on the pencil and paper assessment reflect the participant's actual self-perceptions of self-esteem, body-image, intimate relationships, and occupational performance. It is also assumed that the measures used accurately assess these areas.

Subjects and Selection Method

Participants of the study were women above age 25 who had undergone treatment of breast cancer through surgery, chemotherapy, and/or radiation therapy. They were at least four weeks post-surgery and within stage I or II of breast cancer. Participants were recruited through the Focus On Healing Network via certified instructors of the program. Certified instructors of the Lebed Method in the United States and Canada agreed to have surveys mailed out to them and to administer the pre and post surveys to their participants. All participants had to be new to the Focus On Healing program. Potential participants who had previously engaged in the FOH program were excluded from this study. All participants signed the informed consent and participated in all six FOH sessions.
Instrumentation

The Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale (see appendix C) were administered at the beginning and end of the six-week dance program. The Adult Self-Perception Profile (ASPP) was administered to measure perception of occupational performance, self-esteem, and body image. The Rosenberg Self-Esteem Scale was used as an additional measure of self-esteem.

The Adult Self-Perception Profile

The Adult Self-Perception Profile was developed by Susan Harter to reflect the complexity and structure of the adult self-concept (Messer, 1986). This scale examines perceptions of competence and adequacy. The ASPP was designed as a domain-specific scale and enables the researcher to discern differences in adults' evaluations of their perceptions in eleven different domains (Harter, 1986). In addition, the ASPP measures global self-worth as an independent domain so that the researcher may address relationships between self-worth and domain-specific self-perceptions (Harter, 1986). Since Kielhofner included Harters' discussion of self-perception in his Model of Human Occupation (1995) it was deemed appropriate to utilize the assessment in this study.

The ASPP is composed of 50 questions with twelve subscales addressing sociability, job competence, nurturance, athletic competence, physical appearance, adequate provider, morality, household management, intimate relationships, intelligence, humor, and global self-esteem (Harter, 1986). The ASPP intentionally designates four questions to each of the eleven subscales. The twelfth subscale, global self-esteem, is represented by six of the 50 questions. For the purposes of this study, perception of body-image was tested by using the physical appearance subscale, and self-esteem was tested by using the global self-esteem subscale. The domains areas
were scored according to manual specification and these calculations produced the means of each subject’s score for the specific domains.

Although the ASPP does not have a domain to represent occupational performance, the twelve subscales are noted to be relevant to both intellectual and occupational performance (Harter, 1986). The author, however, did not mention which of the domains specifically represented occupational performance. For the purpose of this study, six of the twelve subscales were chosen by the researcher to represent perceptions of occupational performance.

To determine which of the domains would represent perceptions of occupational performance, the following definition of occupational performance taken from the Model of Human Occupation was used as a reference: “Occupational performance is spontaneously doing those actions required to accomplish an occupation, involving interplay of musculoskeletal, neurological, perceptual, and cognitive phenomena” (Kielhofner, 1997, p. 194). Based on this definition the following six domains were selected as a measure of participants’ perceptions of occupational performance: sociability, job competence, household management, nurturance, intimate relationships, and adequate provider. Each of these six domains are directly related to one’s perception of one’s ability to perform spontaneous actions in order to perform an occupation, and for that reason were combined to create a category of occupational performance. The sum of the means of each of the six domains representing occupational performance were calculated and divided by six to create a single mean score. This score representing occupational performance could then be used to address relationships formed between perceptions of occupational performance and the mean score of self-esteem for each individual participant. The remaining domains were not included because they did not reflect one’s perception of spontaneous actions to complete an occupation.
The operational definitions related to occupational performance in the ASPP are as follows:

1. **Sociability**: One’s behavior in the presence of others as measured by the sum of the scores from questions 2, 14, 27, and 39 on the ASPP.

2. **Job Competence**: Perceptions of one’s competence in one’s major occupation, job, or work as measured by the sum of the scores from questions 3, 15, 28, and 40 on the ASPP.

3. **Nurturance**: Process of caring for others as measured by the sum of the scores from questions 4, 16, 29, and 42 on the ASPP.

4. **Adequate Provider**: Supplying the means of support for oneself and one’s significant others as measured by the sum of the scores from questions 7, 20, 32, and 45 on the ASPP.

5. **Household Management**: Guiding or handling activities in the household as measured by the sum of the scores from questions 10, 22, 35, and 47 on the ASPP.

6. **Intimate Relationships**: Implies close, meaningful interactions with one’s mate, lover as measured by the sum of the scores from questions 11, 23, 36, and 48 on the ASPP.

The construct of physical appearance on the ASPP, used to determine perception of body-image, is defined as the perception of the way one looks and is measured by the sum of the scores from questions 6, 19, 31, and 54 on the ASPP as per manual specifications. The operational definition of global self-worth is one’s global perceptions of worth and is measured by the sum of the scores from questions 1, 9, 17, 25, 33, and 41 on the ASPP as per manual specifications (Harter, 1986).

The Adult Self-Perception Profile is designed specifically for use with adults and takes approximately 20 minutes to complete. Reliability coefficients are approximately .80 with no
test-retest reliability reported (Byrne, 1996). See Appendix B for the Adult Self-Perception Profile.

**Rosenberg self-esteem scale.**

In addition to the Adult Self-Perception Profile, the Rosenberg Self-Esteem Scale (See appendix C) was used to collect additional data on self-esteem. Previous studies examining survivors of breast cancer have shown that the Rosenberg Self-Esteem scale can be a valuable tool in determining whether an improvement in quality of life is directly correlated with an increase in self-esteem (Pedro, 2000). Thus the Rosenberg Self-Esteem Scale was chosen to determine changes in the participant’s levels of self-esteem, and if any relationships could be correlated to perceptions of occupational performance and body image.

The Rosenberg Self-Esteem Scale is a ten item, self-report scale of global self-esteem. It was originally designed for junior and senior high school adolescents, however, it has become a popular measure of self-esteem in the adult population (Byrne, 1996). Designed as a Likert-type scale ranging from one to four, the total score is the sum of 10 items, and 40 represents a high self-esteem. The survey takes approximately 10 minutes to complete. The alpha coefficient is approximately .77 with a validity coefficient of .55. Four test-retest reliability coefficients have been established but were not reported (Byrne, 1996).

**Data Gathering**

The surveys filled out by participants included the Adult Self-Perceptions Profile, the Rosenberg Self-Esteem Scale, a demographics sheet, a recruitment statement, and an informed consent form. (Please see attached appendices B, C, D, and E). Surveys were mailed to certified instructors of the dance program who read the recruitment statement and handed out the surveys before the first dance session and after the sixth dance session. All surveys were coded to
maintain confidentiality of the subjects. Instructors were told to only return the surveys of participants who engaged in the full six-weeks of the dance program.

Data Analysis

All data forms were labeled with subject numbers and coded, then entered into Statistical Package for Social Sciences (SPSS). The means and standard deviations were calculated on age and time since diagnosis. Descriptive frequencies were calculated on marital status, medical treatments, current therapeutic interventions, upper extremity symptoms, participation in previous dance programs, attendance of breast cancer support groups, and participation in outside aerobic activities.

Each of the research questions were addressed as follows:

1. To determine change in perceptions of body-image, the difference between the pre and post tests scores on the physical appearance domain from the ASPP were calculated and analyzed using the parametric matched pair t-test to establish whether a significant difference existed.

2. To determine change in perceptions of self-esteem, the difference between the pre and post tests scores on the global self esteem domain from the ASPP were calculated and analyzed, and the difference of the total scores from the pre and post tests from the RSES were calculated and analyzed using the parametric matched pair t-test to establish whether a significant difference existed.

3. To determine change in perceptions of occupational performance, the difference between the sum of the means on the pre and post tests scores on domains of job competence, sociability, adequate provider, nurturance, household management, and intimate
relationships from the ASPP were calculated and analyzed using the parametric matched pair t-test to establish whether a significant difference existed.

4. To determine if there was a relationship between self-esteem and body-image, the pre and post tests scores on the global self-esteem and physical appearance domains from the ASPP were calculated and analyzed using the Pearson Product Correlational Test to establish whether a significant relationship existed.

5. To determine if there was a relationship between self-esteem and perceptions of occupational performance, the pre and post tests scores on the global self-esteem domain from the ASPP were calculated on the totals for the domains of job competence, sociability, adequate provider, nurturance, household management, and intimate relationships using the Pearson Product Correlational Test to establish whether a significant relationship existed.

6. To determine if there was a relationship between intimate relationships and perceptions of body-image, the pre and post tests scores on the domains of intimate relationships and physical appearance from the ASPP were calculated and analyzed using the Pearson Product Correlational Test to establish whether a significant relationship existed.

Interpreting Data

The level of significance established for this study was a p-value of .05. Significant change from pretest to post test scores for the participants of this study would support the hypothesis that the Focus On Healing dance program was effective in improving self-perceptions of occupational performance, body image, and self-esteem for women survivors of breast cancer. The strength of any relationships were described as weak ($r=0-.50$); moderate ($r=.50-.75$); and strong ($r=.75-1.0$). If significant relationships were found then this would support the hypothesis
that relationships were formed between the domains of self-esteem, body-image, and perceptions of occupational performance. That is, change in one domain was associated with change in another domain.
Chapter IV

Results

Survey Results

Eight participants completed the Adult Self-Perception Profiles (ASPP) and Rosenberg Self-Esteem Scales (RSES). The ages of the participants ranged from 40 to 64 years with the mean age of 54.63 years (SD= 9.606). The length of time since diagnosis ranged from two to 120 months with a mean of 36.06 months (SD= 44.177). Seven participants (87.5%) were married. 100% had received surgical treatment for breast cancer. Prior to the dance program two participants (25%) received chemotherapy, one participant (12.5%) received radiation therapy, and two participants (25%) received hormonal therapy. During the dance program none of the participants (100%) were receiving chemotherapy, radiation therapy, lymphedema drainage and massage, physical therapy, or occupational therapy. Two participants (25%) were receiving hormonal therapy during the dance program. Two participants (25%) reported upper extremity pain. Four participants (50%) reported decreased movement in the upper extremity. Four participants (50%) reported upper extremity swelling. Two participants (25%) reported experiencing fatigue. One participant (12.5%) attended a breast cancer support group. Six participants (75%) engaged in outside fitness and aerobic activities and two participants previously participated in a different type of dance program.

Factors Affecting Perceptions of Occupational Performance, Body-Image, and Self-Esteem

1. No significant difference between the pre and post test scores on the physical appearance domain from the ASPP was found \([t(7)=-2.260, p=.058]\).

2. No significant difference between the pre and post tests scores on the global self-esteem domain from the ASPP was found \([t(7)=-1.528, p=.170]\). A t value could not be computed.
for the difference between the pre and post tests from the RSES because the standard error of the difference was zero.

3. No significant difference between the pre and post test scores on domains of job competence, sociability, adequate provider, nurturance, household management, and intimate relationships from the ASPP was found \((t(4)=-2.611, p=.059)\).

4. No significant relationship between the pre tests scores on the global self-esteem and physical appearance domains from the ASPP was found \((r=-.012, p=.978)\). No significant relationship between the post test scores on the global self-esteem and physical appearance domains from the ASPP was found \((r=.499, p=.208)\).

5. No significant relationship between the pre tests scores on the global self-esteem and the domains representing occupational performance from the ASPP was found \((r=.362, p=.550)\). However, a strong significant relationship between the post test scores on the global self-esteem domain and the domains representing occupational performance from the ASPP was found \((r=.997, p=.000)\).

6. No significant relationship between pre tests scores on the domains of intimate relationships and physical appearance from the ASPP was found \((r=-.606, p=.203)\). No significant relationship between the post test scores on the domain of intimate relationships and physical appearance from the ASPP was found \((r=-.220, p=.635)\).
Chapter V

Discussion

The purpose of this study was to determine whether a six-week dance program positively influenced breast cancer survivors’ perceptions of body-image, self-esteem, and occupational performance.

Although Focus On Healing emphasizes physical rehabilitation, no significant difference was found between the participants pre and post test scores on the domain of physical appearance from the ASPP, which represents body-image. Further investigation using a larger sample is needed. Also further investigation on the effects of time using a control group study is warranted. A large period of participation and increased frequency in FOH may change the outcome.

Women who have received medical treatments including surgery, chemotherapy, and radiation therapy must live with the secondary effects such as lymphedema and breast removal. In other studies, women who experienced breast removal demonstrated a decrease in body-image and rated their breasts as more significant than women whose breasts were not removed (Kemeny et al., 1983). In this current study, 100% of the participants experienced breast removal surgery. It is also possible that in order to achieve a significant improvement in body-image, the intensity and frequency of the dance program may need to increase. Further studies examining different lengths of participation and intensity may be warranted. It is important to consider a comparison study that evaluates the difference between those who experienced breast removal and those who did not.

Self-esteem and occupational performance did not significantly change after the dance program. Further investigation with a larger sample size is needed. Segar (1998) found that self-
esteem does not significantly improve with physical and aerobic activity and suggested that the reason self-esteem did not significantly improve in women with breast cancer was because the component of a support group was lacking. Even though Focus On Healing creates an atmosphere of peer support the emphasis is placed on physical rehabilitation. It is suggested that if Focus On Healing incorporated formal components of a support group such as discussions of coping mechanisms, then improvements in self-esteem and occupational performance may result. It is also possible that in order to achieve a significant improvement in self-esteem and perceptions of occupational performance, the intensity, frequency, and length of the dance program may need to increase. Further investigation of this issue with a larger subject population is warranted.

No statistically significant relationship was found between intimate relationships and body-image. These findings support current literature discussing the psychosexual adaptation of women who have undergone surgical treatment. Although women do experience a decrease in self-esteem and body-image after surgery, this does not interfere with the frequency of intimate sexual relationships or in disrobing and orgasm (Kemeny et al., 1988). Kemeny et al.’s study also suggested that being in a long-term relationship creates a sense of comfort and security, which overrides the negative effects of surgery on body-image and self-esteem. In this study 87.5% of the participants were married, which supports Kemeny et al.’s argument that body-image is not related to the level of intimate relationships, but is more likely associated with being in a long term relationship. No statistically significant relationships were found between the pretest scores of self-esteem and perceptions of body-image or the pretest scores of self-esteem and perceptions of occupational performance. These results indicated that prior to the dance
program, participant's increased or decreased levels of self-esteem did not influence their perceptions of body-image or perceptions of occupational performance.

After the dance program, a statistically significant, strong relationship was found between self-esteem and perceptions of occupational performance. This suggests that through the use of movement/dance, self-esteem and perceptions of occupational performance became integrated so that the effects of one component influenced the other. In this study, when self-esteem improved so did perceptions of occupational performance. This supports the theory of the Model of Human Occupation (Kielhofner, 1995) that creating change in one subsystem will directly effect the other subsystems. In this study, the mind-brain-body subsystem, which incorporates the musculoskeletal system, appeared to be effected through the occupation of dance to create change in the volitional subsystem. Although a strong/significant relationship was found, these results may be limited in reliability as the original format of the ASPP was altered by the researcher by selecting six domains to represent perceptions of occupational performance.

*Focus On Healing* did not significantly improve the scores of the individual components of perceptions in self-esteem, body-image, and occupational performance. However, after participation in the occupation of dance a strong significant relationship developed between self-esteem and perceptions of occupational performance. Theorists of the Model of Human Occupation have discussed the importance of the therapeutic use of occupation. Occupations used in therapy must be carefully selected and relate to the life circumstances of the individual and needs for future occupational behavior (Kielhofner, 1997). Through the use of carefully selected occupations, individuals are able to transform themselves into more adaptive and healthy beings (Kielhofner, 1997). It is possible that this dance program provides the medium through which participants reconsider the integration of self-esteem and body-image or self-
esteem and perceptions of occupational performance to transform themselves into healthy beings.
Chapter VI

Conclusion

Eight women survivors of breast cancer completed the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale. It was found that through the use of the dance program Focus On Healing, there was no significant improvement in perceptions of self-esteem, body-image, and occupational performance as isolated components for women survivors of breast cancer. A positive correlation was found between the components of self-esteem and perceptions of occupational performance.

The lack of significant improvement in the perceptions of self-esteem supports findings from previous studies that found that self-esteem did not improve with dance or aerobic programs for women with breast cancer. Although an informal peer network can be formed among the participants, a formal support group did not take place. If formal discussions of coping and sharing were included in the program, self-esteem may have improved significantly as supported by the literature. Further studies in this area are warranted.

No statistically significant relationship was found between self-esteem and body-image. Pretest scores in body-image were low in comparison to self-esteem and perceptions of occupational performance. Further investigation into the area of body image after breast cancer is warranted. No statistically significant relationship was found between intimate relationships and body-image. This supports the concept that regardless of self-esteem levels, disrobing and orgasm are based on the feelings of comfort and security of being in a long-term relationship, which overrides the effects of surgical treatment.

A strong, statistically significant relationship was found between the post test scores of self-esteem and perceptions of occupational performance. This suggests that through the
occupation of dance, the participants were able to integrate the isolated components of self-esteem and perceptions of occupational performance. As self-esteem increased so did their perceptions of their abilities of occupational performance.

This study is intended to serve as a pilot study to encourage further research in the area of the effects of a dance program on women survivors of breast cancer. There were many limitations to this study. Altering the original format of the Adult Self-Perception Profile by selecting six domains to represent occupational performance may have decreased the reliability of the results of this study. Frequency and duration of the Focus On Healing classes may also have limited the strength of the results as well as the small sample of participants. For this reason, further research is recommended. Further investigation of the effectiveness of the dance program Focus On Healing may provide information that would assist therapists when they are deciding to incorporate Focus On Healing in their therapy program.
References


### Appendix A

#### Diagnostic Levels and Medical Treatment of Breast Cancer

<table>
<thead>
<tr>
<th>Stages</th>
<th>Location</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>In situ</td>
<td>Cancer is within the duct of the breast and has not infiltrated to other parts of the breast</td>
<td>Partial/total mastectomy, Lumpectomy</td>
</tr>
<tr>
<td>Stage I</td>
<td>Cancer measures no larger than ( \frac{3}{4} ) of an inch and has not spread to other parts of the breast</td>
<td>Partial/total mastectomy, Lumpectomy, Chemotherapy</td>
</tr>
<tr>
<td>Stage II</td>
<td>Cancer measures between 2-5 inches and involves axillary/underarm lymph nodes</td>
<td>Partial/total mastectomy, Lumpectomy, Chemotherapy, Hormonal therapy</td>
</tr>
<tr>
<td>Stage III</td>
<td>Lymph nodes become attached to each other or the cancer has spread to the skin, chest wall, or breast bone</td>
<td>Radical mastectomy, Chemotherapy, Radiation therapy</td>
</tr>
<tr>
<td>Stage IV</td>
<td>Cancer has metastasized to other organs</td>
<td>Mastectomy, High dose chemotherapy, Radiation therapy, Bone marrow transplant</td>
</tr>
</tbody>
</table>

Appendix B

WHAT I AM LIKE

These are statements which allow people to describe themselves. There are no right or wrong answers since people differ markedly. Please read the entire sentence across. First decide which one of the two parts of each statement best describes you. Then go to that side of the statement and check whether that is just sort of true for you or really true for you. You will just check ONE of the four boxes for each statement.

<table>
<thead>
<tr>
<th></th>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th></th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td></td>
<td>Some adults like the way they are leading their lives</td>
<td>BUT Other adults don't like the way they are leading their lives</td>
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<td>2.</td>
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<td></td>
<td>Some adults feel that they are enjoyable to be with</td>
<td>BUT Other adults often question whether they are enjoyable to be with.</td>
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<td>3.</td>
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<tr>
<td></td>
<td>Some adults are not satisfied with the way they do their work</td>
<td>BUT Other adults are satisfied the way they do their work</td>
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<td>4.</td>
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<td></td>
<td>Some adults see caring or nurturing others as a contribution to the future</td>
<td>BUT Other adults do not gain a sense of contribution to the future through nurturing others</td>
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<td></td>
<td>In games and sports some adults usually watch instead of play</td>
<td>BUT Other adults usually play rather than just watch</td>
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<td>6.</td>
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<td></td>
<td>Some adults are happy with the way they look</td>
<td>BUT Other adults are not happy with the way they look</td>
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<td>7.</td>
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<td></td>
<td>Some adults feel they are not adequately supporting themselves and those who are important to them</td>
<td>BUT Other adults feel they are providing adequate support for themselves and others</td>
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<td>8.</td>
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<td></td>
<td>Some adults live up to their own moral standards</td>
<td>BUT Other adults have trouble living up to their moral standards</td>
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<td>9.</td>
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<td></td>
<td>Some adults are very happy being the way they are</td>
<td>BUT Other adults would like to be different</td>
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<td>10.</td>
<td></td>
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<tr>
<td></td>
<td>Some adults are not very organized in completing household tasks</td>
<td>BUT Other adults are organized in completing household tasks</td>
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<td>11.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Some adults have the ability to develop intimate</td>
<td>BUT Other adults do not find it easy to develop intimate</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Number</td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>Really True for Me</td>
<td></td>
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<tr>
<td>12.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults don't necessarily feel stupid when they don't understand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults have a hard time laughing at themselves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults feel uncomfortable when they have to meet new people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults worry about whether they can do their work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults enjoy fostering the growth of others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults feel that they are a worthwhile person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults are afraid they might not do as well at physical activities they haven't ever tried</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults think that they are attractive or good looking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults are dissatisfied with how they provide for these people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults think that they are quite moral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults have trouble keeping their household running smoothly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults do not have difficulty establishing intimate relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>☐ ☐</td>
<td>☐ ☐</td>
<td>BUT Other adults question whether they are very intelligent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>BUT</td>
<td>Other adults are quite pleased with themselves</td>
<td></td>
<td></td>
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<td>-------------------</td>
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<td>-----------------------------------------------</td>
<td></td>
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<tr>
<td>25.</td>
<td></td>
<td></td>
<td>Other adults are disappointed with themselves</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Some adults are disappointed with themselves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td></td>
<td></td>
<td>Some adults find it very easy to joke or kid around with friends and colleagues</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults find it hard to act in a joking or kidding manner with friends or colleagues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td></td>
<td></td>
<td>Some adults are quite shy</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults are not very shy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td></td>
<td></td>
<td>Some adults are very productive in their work</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults are not very productive in their work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td></td>
<td></td>
<td>Some adults are very nurturant</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults are not very nurturant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td></td>
<td></td>
<td>Some adults do not feel that they are very good when it comes to sports</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults feel they do very well at all kinds of sports</td>
<td></td>
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<tr>
<td>31.</td>
<td></td>
<td></td>
<td>Some adults do not like their physical appearance</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults like their physical appearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32.</td>
<td></td>
<td></td>
<td>Some adults are adequate to provide for the material necessities of life</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults cannot provide for the material necessities of life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33.</td>
<td></td>
<td></td>
<td>Some adults are satisfied with themselves</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults are dissatisfied with themselves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34.</td>
<td></td>
<td></td>
<td>Other adults often don't do what they know is morally right</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other adults usually do what they know is morally right</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td></td>
<td></td>
<td>Other adults are efficient in managing activities at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Some adults are not very efficient in managing activities at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td></td>
<td></td>
<td>Other persons shy away from close relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Some people seek out close relationships</td>
<td></td>
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</tr>
<tr>
<td>37.</td>
<td></td>
<td></td>
<td>Other adults feel that they are not very intellectually capable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Some adults do not feel that they are very intellectually capable</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td></td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
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</tr>
<tr>
<td>38.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults wish their sense of humor was better.</td>
<td>□</td>
</tr>
<tr>
<td>39.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults are sociable.</td>
<td>□</td>
</tr>
<tr>
<td>40.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults are not very proud of what they do.</td>
<td>□</td>
</tr>
<tr>
<td>41.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults would like to be someone else.</td>
<td>□</td>
</tr>
<tr>
<td>42.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults enjoy being nurturant.</td>
<td>□</td>
</tr>
<tr>
<td>43.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults don't feel they can play as well.</td>
<td>□</td>
</tr>
<tr>
<td>44.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults like their face and hair the way they are.</td>
<td>□</td>
</tr>
<tr>
<td>45.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults feel they do not provide adequately for these needs.</td>
<td>□</td>
</tr>
<tr>
<td>46.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults feel that their behavior is usually moral.</td>
<td>□</td>
</tr>
<tr>
<td>47.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults do not use their time efficiently.</td>
<td>□</td>
</tr>
<tr>
<td>48.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults in close relationships feel that it is easy to communicate openly.</td>
<td>□</td>
</tr>
<tr>
<td>49.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults wonder if they are as smart.</td>
<td>□</td>
</tr>
<tr>
<td>50.</td>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>Other adults are able to find humor in their life.</td>
<td>□</td>
</tr>
</tbody>
</table>

Appendix C

ROSENBERG SELF-ESTEEM SCALE

Please respond to each item by circling one of the four numbers.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel that I'm a person of worth, at least on an equal plane with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>I feel that I have a number of good qualities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>All in all, I am inclined to feel that I am a failure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>I am able to do things as well as most people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>I feel that I do not have much to be proud of.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>I take a positive attitude toward myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>On the whole, I am satisfied with myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>I wish I could have more respect for myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>I certainly feel useless at times.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>At times, I think I am no good at all.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

For example, if you strongly agreed that "I feel that I'm a person of worth, at least on an equal plane with others", you would circle the number 1 for item 1; if you strongly disagreed with this statement, you would circle the number 4.
Appendix D

Demographic Information:

Date: ___/___/___

1. Age: _______________

2. Marital Status: _______________

3. How long ago were you diagnosed with breast cancer? _______________

4. Which medical treatments have you received?

☐ Surgery ☐ Chemotherapy ☐ Radiation therapy ☐ Hormonal Therapy

Other: _______________

5. Are you currently receiving any of the following therapeutic interventions?

☐ Physical Therapy ☐ Occupational Therapy ☐ Lymphedema Treatment

☐ Chemotherapy ☐ Radiation therapy ☐ Hormonal Therapy

Other: _______________

6. Are you experiencing any of the following symptoms in the upper extremities?

☐ Pain ☐ Decreased movement ☐ Swelling ☐ Fatigue

Other: _______________

7. Have you ever participated in a dance program before? ☐ Yes ☐ No

8. Do you currently attend a breast cancer support group? ☐ Yes ☐ No

9. Do you engage in any fitness or aerobic activity outside of Focus On Healing? If yes, please name the activities and how often you participate.

☐ Yes ☐ No

Activities: _______________

10. On a scale of one to ten, how do you feel today?

😊 1 2 3 4 5 6 7 8 9 10 😞
Appendix E

ALL-COLLEGE REVIEW BOARD
FOR
HUMAN SUBJECTS RESEARCH

COVER PAGE

Investigators: Jill Dennis

Department: Occupational Therapy

Telephone: 607-533-4903 203-338-0041
(Campus) (Home)

Project Title: Benefits of a Dance Program for Women Survivors of Breast Cancer

Abstract:

The purpose of this study is to determine the benefits of a dance program entitled Focus On Healing, for women survivors of breast cancer. Participants will be recruited for a six-week program through the Focus On Healing Network in Washington State, Georgia, and Canada. The dance classes are held once a week for 60 minutes. Certified dance instructors in the Lebed Method (CLM), will lead the various class sessions. Prior to treatment, participants will complete two self-report questionnaires: The Adult Self-Perception Profile (ASPP) and the Rosenberg Self-Esteem Scale (RSES). The ASPP is composed of 50 items with twelve subscales addressing sociability, job competence, nurturance, athletic competence, physical appearance, adequate provider, morality, household management, intimate relationships, intelligence, humor, and general self-esteem. The RSES is a ten item self-report scale of global self-esteem. Upon completion of the six-week program, participants will be asked to complete both questionnaires again.

Proposed Date of Implementation: November 11 - December 16

Jill Dennis Carol Knight

Print or Type Name of Principle Investigator and Faculty Advisor

Signature (Use blue ink) Principle Investigator and Faculty Advisor
1. General Information about the Study
   a) **Funding**: The Occupational Therapy department will fund travel expenses and photocopies of the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale. Participants will not pay for the dance classes as they are held free of charge through Memorial Sloan Kettering.
   b) **Location**: The focus on healing dance classes will be held in various dance classrooms within Canada and the states of Washington and Georgia. The assessments will be completed in the same room.
   c) **Time Period**: The dance classes will be held once a week for six weeks. The participants will be asked to complete the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale prior to starting the exercise classes and after the last class has been completed.

2. Related Experience of the Researcher
The primary researcher is certified in the Lebed Method, however will not be involved in administering dance classes to prevent researcher bias. The primary researcher also has fifteen years of dance experience in ballet through the Royal academy of dance, and two years of modern dance through Ithaca College. Research and statistical analysis experience of the primary researcher includes the following courses: Biostatistics (670-39000), Research Seminar (672-49500), and Research Methods (672-670000). Additionally the primary researcher has performed an extensive literature review on breast cancer, dance therapy, influencing psychosocial factors, and traditional occupational therapy for cancer patients.

3. Benefits of the Study
The Focus On Healing classes are designed specifically for women survivors of breast cancer who have undergone surgery. The movements taught in the program improve lymphedema, strength, endurance, and ROM in the upper extremity. Other benefits include positive influences on femininity, body-image and self-esteem. There is very little research as to whether the dance program improves survivors perceptions of occupational performance in daily living tasks. This will be the focus of the study and as a result participants may benefit by experiencing increased positive perception of occupational performance. By exploring these benefits, Focus on Healing may prove to be an efficient way of treating women survivors of breast cancer in occupational therapy. Expansion of the use of dance in occupational therapy will contribute to the knowledge of the profession.

4. Description of the Subjects
   a) Six - ten subjects will be recruited for the FOH program.
   b) The subjects will posses the following characteristics:
      - Female ages 25 and above
      - Underwent surgery/chemotherapy/radiation therapy for breast cancer
      - Within stage I or II of breast cancer
      - Free of cognitive/emotional deficits and any other major health problems
5. **Description of Subject Participation**
Participants are currently signed up to enroll in the Focus On Healing dance program. To meet FOH requirements, participants will attend one 60 minute session every week for six weeks. During the first and last session, participants will be asked to fill out the Adult Self Perception Profile (ASPP), and the Rosenberg Self-Esteem Scale (RSES). The ASPP is composed of 50 items with twelve subscales addressing sociability, job competence, nurturance, athletic competence, physical appearance, adequate provider, morality, household management, intimate relationships, intelligence, humor, and general self-esteem. The RSES is a ten item self-report scale of global self-esteem.

6. **Ethical Issues – Description**
   a) **Risks of Participation:** Some of the questions on the ASPP and RSES discuss sensitive topics. The participants will be informed that they are free to omit any answers that they do not feel comfortable answering. Additionally, risks will be minimized by the participants possession of the right to withdraw from the study at any time and each participant can choose not to answer any of the questions on the ASPP or RSES.

   If upon data collection, the dance program proves to have a significant negative influence on participants, the founder of Focus On Healing, Sherry Lebed Davis will be informed of the results.

   b) **Informed Consent:** Completing the questionnaires, indicates permission for use in this study.

7. **Recruitment of Subjects**
   a) **Recruitment Procedures:** Subjects will be recruited through the Focus On Healing Network. Dance instructors certified in teaching the dance program in Canada and Washington and Georgia states have agreed for me to mail out surveys to their dance participants. Individuals who sign up and meet the inclusion and exclusion criteria will participate in the study.

   b) **Inducement to Participate:** There is no inducement to participate in this study.

8. **Confidentiality/ Anonymity of Responses**
   To ensure confidentiality, the collected data will be kept in a locked cabinet in the researcher's apartment. Surveys will be returned with age, sex, and date of completion filled out. Subjects will be instructed not to write any other information that they may negatively influence their anonymity. Once the pre and posttests are collected for each subject, the identifying information will be destroyed. After the data is analyzed, the completed ASPP and RSES will be destroyed.

9. **Debriefing**
   Not applicable.

10. **Compensatory Follow-up**
    Not applicable.
Recruitment Statement:

Hello! My name is Jill Dennis and I am an Occupational Therapy Graduate student from Ithaca College conducting a Masters Thesis on the benefits of a dance program with women survivors of breast cancer. This study aims to explore how the dance program, Focus On Healing, may possibly change perceptions in quality of life of breast cancer survivors. To measure this study, two pencil and paper surveys will be administered before and after the six-week dance program: The Adult Self-Perception Profile (ASPP) and the Rosenberg Self-Esteem Scale (RSES).

These surveys ask questions pertaining to sociability, job competence, nurturance, athletic competence, physical appearance, adequate provider, morality, household management, intimate relationships, intelligence, humor, and self-esteem. The surveys should take no longer than 20 minutes to complete.

Participation is voluntary and will not affect your ability to participate in the dance program. You may skip any questions you do not wish to answer, and you may withdraw from the study at anytime.
INFORMED CONSENT FORM
Benefits of a Dance Program on Women Survivors of Breast Cancer

1. Purpose of the Study
The purpose of this study is to determine the benefits of a dance program entitled Focus On Healing, for women survivors of breast cancer using the Adult Self-Perception Profile and the Rosenberg Self-Esteem Scale.

2. Benefits of the Study
One of the goals Occupational Therapists have when working with breast cancer survivors is to enhance clients' occupational performance in daily tasks. If participants improve their perceptions of quality of life as a result of the dance program, it may indicate that this dance program, Focus on Healing, is an effective intervention to improve performance of daily living skills of women survivors of breast cancer. Use of dance as an occupational therapy treatment modality might expand the effectiveness of intervention for breast cancer survivors.

3. What will you be asked to do?
For this study, you will be asked to complete two pencil and paper surveys before and after the six week session. It is expected it will take you 20 minutes to complete the questionnaires. The Adult Self-Perception Profile is composed of 50 items with twelve subscales addressing sociability, job competence, nurturance, athletic competence, physical appearance, adequate provider, morality, household management, intimate relationships, intelligence, humor, and general self-esteem. The Rosenberg Self-Esteem Scale is a ten item self-report scale of global self-esteem.

4. Risks of participation
There is minimal risk of your participation. Some of the questions on the ASPP and RSES discuss sensitive topics. You may omit any questions you do not wish to answer. Participation is voluntary and will not affect your ability to participate in the dance program.

5. If you would like more information about the study
If you would like more information about this study at any time, you may contact the principal investigators: Carol John 607-2741374 cjohn@ithaca.edu.

6. Withdrawal from the study
You may choose not to complete any of the surveys that you are uncomfortable with at any time. You are also free to withdraw at any time without penalty.

Initials: _______________ Date: __/__/____
Benefits of a Dance Program on Women Survivors of Breast Cancer

7. **How the data will be maintained in confidence**
While anonymity is not possible given the nature of the study, all data will be maintained in confidence. Subjects will be given a subject number upon enrollment in the study and at no time will their name be associated with the data collected. The collected data will be kept in a locked cabinet in my Thesis Advisor's office in the Occupational Therapy Department. At the end of the study any information that identifies you as a subject will be destroyed.

I have read the above and I understand its contents. I agree to participate in the study. I acknowledge that I am 18 years of age or older.

Print or Type Name

______________________________

Signature

Date