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Khanhsong Nguyen Therapeutic Aspects of Dance for Dancers Experiencing Life Adjustment Issues

## **ABSTRACT**

The following qualitative-interview based study explored the therapeutic benefits of dance training classes (i.e. ballet, jazz, contemporary, hip hop, etcetera) as reported by dancers who are currently in individual talk-therapy for life adjustment issues. Life adjustment issues are defined as, but are not limited to, loss of job, divorce, marital conflict, and gender issues. Using thematic coding, the researcher found that all participants reported that dance was therapeutic and/or mentally healing for life adjustment issues of mood disturbance (anxiety and depression), low self-esteem, eating disorders, medical diagnosis, and problems in personal relationships. Participants also reported that dance provided physical benefits, a non-verbal outlet for expression of difficult and painful emotions, increased motivation and energy, a meditative release and freedom from ruminating on negative thoughts, mind-body integration, and increased focus. These findings suggest that dance may be able to improve quality of life by reducing mental illness symptoms and increasing physical health and cognitive abilities possibly through mind body integration.

# THERAPEUTIC ASPECTS OF DANCE FOR DANCERS EXPERIENCING LIFE ADJUSTMENT ISSUES

A project based upon an independent investigation, submitted in partial fulfillment of the requirements for the degree of Master of Social Work.

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## **CHAPTER I**

## Introduction

This qualitative-interview based study will explore the therapeutic benefits of dance training (i.e. ballet, jazz, contemporary, hip hop, etcetera) as reported by dancers who are currently in therapeutic treatment for life adjustment issues, including but not limited to mental health issues. Does participating in dance training classes improve problems and/or symptoms associated with life-adjustment issues? Therapeutic benefits will be defined as improvements in mood and emotional health. Improvements in mood will be defined as changes in day-to-day emotional states. Improvements in emotional health will be defined as changes in ability to handle life's challenges, build strong relationships, adapt, and overall self-esteem. Life adjustment issues may be defined as but are not limited to, loss of job, divorce, marital conflict, and gender issues. The study will utilize Survey Monkey, for data collection using qualitative survey questions. Therapeutic benefits will be defined as improvements in mood and emotional health. Understanding the therapeutic efficacy of dance may allow movement based techniques to be better integrated into traditional 'talk-therapy' techniques.

There are numerous studies on the use of Dance Movement Therapy (DMT) and other movement therapy on physical health, specifically for individuals with cancer, traumatic brain injury, Parkinson's disease, and dementia (Bradt, Goodwill, & Dileo, 2011; Jeong et al., 2005). However, there is little research on the psychological and emotional benefits of dance and movement techniques and its efficacy in working with mental illness. It is important to pursue research in this area to examine new techniques in treating clients have who have mental illness

and experienced trauma. Delving into this research will allow clinicians to gain new strategies when working with clients with both the somatic and psychological symptoms of mental illness and gain knowledge about the mind-body connection, integrating both the mind and body into practice.

Historically, mental illness has been understood through the lens of psychodynamic theories and was mostly treated though the talking cure (Van der Kolk, 2002). However, more recent studies have shown that trauma is experienced through the body, suggesting both mind and body need to be considered in treatment of mental illness. "Until we understand that symptoms are physiological as well as psychological, we will be woefully inadequate in our attempts to help them heal." (Levine, 1997, p. 32) This current research project may possibly result in more somatic awareness in the therapeutic session for both client and therapist and provide a more holistic and integrative approach of the mind and body for practicing clinicians.

The following sections examine current literature, methodology used in this study, findings of this study and implications of these findings. The literature review examines current literature on dance, dance/movement therapy, mind-body connection and how dance participation impacts mental health and quality of life. The methodology sections reports on the procedure used to gather qualitative data. The findings section reports on the themes researcher found based on responses to qualitative interview-based questions. The discussion section examines the implications of these findings for relieving life adjustment issues through participation in dance training classes.

## \*Please add an outline of the rest of your thesis.

## **CHAPTER II**

## **Literature Review**

The examination of the following literature with explore how participation in dance training classes can improve problems associated with life adjustment issues by providing mind-body integration that can lead to physical, cognitive and emotional benefits. This literature review will explore the theoretical framework of the mind-body connection. It will explore the theory's relationship to dance and dance/movement therapies. In addition, this chapter will explore studies that demonstrate the mind-body connection and the importance of integrating physical, cognitive, and emotional states of an individual for optimal quality of life. It will also examine how dance and movement helps promote reintegration of the mind and body after an individual has experienced disruption of the mind-body connection due to mental illness or other psychological disturbance. Briefly relate your lit review to your research question.

## **Mind-Body Connection**

Dance and dance therapy is both a physical and psychological experience. (Krantz, 1999) Dance therapy is the psychotherapeutic use of movement to integrate emotional, cognitive, social, and physical aspects of an individual. (Gray, 2001; Krantz, 1999; Pratt, 2004) This integration is supported by Pally (1998), who states that the function of emotion is to coordinate the mind and body, which organizes perception, memory, thought, behavior, and other cognitive abilities. Integration of the physical and psychological aspects of an individual is called the mind-body connection. Psychological difficulties, such as mental illness and other distressing events, lead to disconnection of the mind-body connection that, in some cases, can create a state of hyperarousal

and avoidance that reduces overall quality of life (Gray, 2001; Pally, 1998). Dance Movement Therapy (DMT) is based on the mind-body connection, stating that the body and mind are inseparable. DMT and other movement based therapies may help remedy this disruption of the mind and body by reintegrating the mind and body after an individual experiences symptoms of mental illness and traumatic events and may improve quality of life. This reintegration may allow individuals with mental illness to literally reclaim their bodies by gaining more awareness and understanding about the way their body responds to triggering environmental stressors. It may also allow an individual to understand the meaning behind their behavior (Krantz, 1999; Van der Merwe, 2010).

Payne, Stevens, Stevens, and Brandes (1992) and Van der Merwe (2010), state dance and movement create a mind-body integration that can allow emotion to become conscious and expressed through specific movement. It becomes a psycho-physiological outlet that functions as a cathartic release (Krantz, 1999) because unconscious memories can be stored kinesthetically and can emerge through body movement, allowing an individual to express their subjective experience more easily that may not be easily put into words (Mills & Daniluk, 2002; Pratt, 2004).

Pally (1998) states this connection of emotional and physical states is best understood through the emotional process of fear conditioning to aversive stimuli. Fear conditioning dictates how an individual will actively respond to the dangers in their environment, which is directly associated with trauma and trauma disorders and, therefore, leads to mental illness. A perceived threat in the environment will activate the sympathetic nervous system increasing heart rate, blood pressure, cortisol, and adrenaline. When an individual experiences a traumatic event the sympathetic nervous system will be aroused, creating a physiological response in the individual. In many individuals with traumatic histories, the body will continue to react to environmental

triggers that remind them of the traumatic events(s) after the trauma has occurred.

Van der Kolk (2002) reports that when people with posttraumatic stress disorder are confronted with elements of the their original trauma, they have psychophysiological and neuroendocrine responses. This increase suggests a conditioned response to traumatic reminders as if the individual's body were re-exposed to the same trauma. The individual continues to react, mentally and physically, as if they were traumatized, even if much time has past since the event(s) occurred. This re-experiencing of trauma is characterized by an inability to properly place physical sensations into the context of current experience leading to hypervigilance, physical readiness or freezing. Mills and Daniluk (2002) hypothesize that DMT furthers emotional, cognitive, and physical integration, which could lead to integration of the mind and body for traumatic experiences. The trauma response is another example of the disruption of the mind-body connection. Based on these studies, integration of dance into therapeutic practice may improve somatic awareness for individuals with traumatic experiences and improve the mind-body connection.

Research demonstrates that trauma manifests in the body by triggering the sympathetic nervous system (Pally, 1998; Van der Kolk, 2002), showing the relationship between the mind and body. Increasing somatic awareness around environmental triggers of trauma and how the triggers affect the body through DMT may allow individuals who have experienced trauma to use their body as a warning system and develop strategies to cope with the stressor before it overwhelms them. Mills and Daniluk (2002), define DMT as "the psychotherapeutic use of movement as a process which furthers the emotional, cognitive, and physical integration of the individual (p.2)." Research conducted by Mills and Daniluk (2002) states that DMT can allow individuals with trauma to become more aware of the inhibition in themselves, which will help integrate the mind

and body after traumatic experiences; essentially, allowing an individual who has experienced trauma or have a trauma disorder a chance to reclaim their body. This supports Van der Merwe's (2010) claim that dance and dance/movement therapies will allow an individual to gain a deeper understanding of their internal state.

According to Mills and Daniluk (2002), DMT can allow people who have experienced trauma to become aware of the blocks and inhibitions in themselves and gradually learned how to move in ways that are more unconstrained and authentic. "Authentic movement involves relaxing the ego's defenses against spontaneous expression so that unconscious aspects of the client's inner world can be expressed (p.11)." This expression of the inner world may allow a client with a trauma history to begin to process and approach their trauma in a way that is less threatening and may allow space for emotions and experiences the client finds difficult or cannot express in words.

A qualitative study conducted by Mills and Daniluk (2002) examined the effects of DMT on five women who experienced sexual abuse as children. Using in-depth unconstructed, the researchers found six themes in common with these five women. These themes were: Sense of spontaneity, permission to play, struggle, freedom, intimate connection, and bodily reconnection. Mills and Daniluk suggest that DMT is a therapeutic modality that facilitates change and healing in clients' lives. The participants in this study reported that physical movement was seen as was to access their inner worlds and provided a release of intensely painful emotions. Participants also "underscored the importance of being able to move 'out of their heads' and past their cognitive defenses, so that they could begin to attend to their bodily sensations, feelings, and impulses (p 12)." In focusing on these sensations and the release of negative emotions, these women may be able to understand and recognize their triggers before re-experiencing or dissociation occurs due to trauma. This understanding can lead to more informed treatment for clients who have

experienced trauma and allow clinicians and client to create more specific strategies for the client to cope with the trauma.

This sample size of this study is small and likely does not allow for easy generalizability. More research needs to be conducted in this area to suggest that there is a strong relationship between DMT and ability to cope with and work through traumatic experiences. Also, the methods employed do not necessarily measure similar or consistent experiences for these women. The measures are subjective and it may possible that many other individuals who have experienced trauma will not feel the same way after engaging in DMT treatment.

## **Mirror Neurons and DMT**

A theoretical article by Berrol (2004) on mirror-neurons, DMT and empathy, may explain why DMT is a useful as a modality in understanding an individual's subjective emotional experience. According to Berrol (2004), mirror-neurons are neurons that fire simultaneously in two or more individuals. This firing occurs when an individual carries out an action and when another individual observes that individual carry out that action. Thus, the neuron in the observer mirrors the neurons activated by the behavior of the other as if the observer were carrying out the behavior. DMT is often uses mirroring of movement in treatment to allow individuals to process through strong emotions. Therefore, if the individual in DMT feels that the therapist is expressing their subjective experience through movement, than the individual's mirror-neurons will be activated and allow an individual to process through and understand their own internal world. This neural activation may allow an individual in DMT to feel as if another is sharing in their subjective emotional experience without having to say anything that may be more difficult to express in words. This mirror-neuron theory may also generalize to watching a dancer or dance instructor in

dance training classes and may suggest that participation in dance training classes has this similar therapeutic effect of DMT due to mirror-neuron. For example, watching another dancer have cathartic release through dance (Krantz, 1999) may also cause another to experiences some type of catharsis due to mirror-neuron activation. However, this theory needs to be further explored to demonstrate validity.

Grafton and Cross' (2008) study is another example of the relationship between mirrorneurons, mind-body connection and the cognitive benefits of dance. The researchers used dance
to investigate the cognitive mechanisms for observational and physical learning using behavioral
and neuroimaging procedures. The neural mechanisms being examined are mirror neurons.

Participants were divided into two groups. One group observed dance videos while the other
trained the movement in the video. Both groups were asked to perform the movement learned.

Results demonstrated that learning by observing and physical learning lead to the activation in the
similar neural networks based on functional magnetic resonance imaging (fMRI). However, results
indicate that premotor and parietal components responded more to the trained group, implying
stronger connectivity of neural networks with physical exposure versus passive observation,
suggesting physical movement may enhance the learning experience. In addition, this strong link
between learning by doing and learning by observation shows the interconnectedness of the mind
and body, as both physical movement and cognitive observation activate similar neural pathways.

This finding supports the theory of the mind-body connection.

#### **Dance and Mental Illness**

As mentioned previously, Mills and Daniluk (2002) claim that DMT facilitates change in individuals who engage in movement-based therapy. A study by Jeong et al. (2005) supports this

claim. Jeong et al. examined the effects of dance movement therapy (DMT) on reducing negative psychological symptoms of mild depression in 40 adolescent girls. The researchers randomly assigned each participant into either the DMT group or the control group. The DMT group participated in 12 weeks of DMT session and the control did not. The researchers measured this effect of DMT on depression symptoms through changes in serotonin and dopamine using high performance liquid chromatography with electrochemical detection. Jeong et al. also measured psychological distress using SCL-90-R before and after treatment for both groups. They found that serotonin concentration increased and dopamine concentration decreased. Researchers also found that all subscales scores on SCL-90-R decrease significantly for the DMT after 12 weeks of DMT therapy. The change in neurohormones suggest DMT may stabilize the sympathetic nervous system, which may mean an overall reduction in stress and dysregulated states for individuals who engage in DMT. Also, the reduction of SCL-90-R scores suggests that DMT likely plays a role in reducing negative psychological symptoms of mild depression and stabilization of the sympathetic nervous system (Pally, 1998). A study conducted by Dusso (2000) also found that dance and movement therapy increases serotonin levels and reduces dopamine levels.

There are many limitations to this study. First, the population used, Korean females, may not be as easily generalizable to adolescent males or adolescents of different cultural backgrounds. Also, the sample size was small and the time frame of the study was short. More randomized studies with larger sample size that are longitudinal will be needed to measure if DMT has a lasting effect on depression symptoms. Also, studies with an additional group engaging in some other type of exercise is required to rule out that it is DMT and not simply exercise that created these results.

Koch, Morlinghaus, and Fuchs (2007) found a similar relationship with DMT and

depression symptoms. This study looked at the effects of DMT on depression symptoms and positive affect in 31 psychiatric male and female patients. The participants were split into three groups: (1) A dance group that involved upbeat music, (2) A music listening group, and (3) A movement only group. The researchers found that the group showed significantly less depression than those of the music and movement only groups and showed more vitality based on post-test self reports. This study involved a one-time intervention, which does not allow researchers to definitively know if there is lasting relationship between decreased depressive symptoms and DMT. A longitudinal study of long-term treatment is required to measure the possible effects of DMT on depression.

Akandere and Demir (2011) also found that dance and movement therapy significantly reduced depression levels in 120 male and female conservatory students between the ages of 20 to 24. The participants were split into a control and experimental group. The researchers implemented a 12-week training program for the experimental group and found that individuals in the experimental group had a significant reduction in depression symptoms whereas the control group demonstrated no significant change. This result is consistent with the results of Jeoang et al. (2005) and Koch, Morlinghaus and Fuchs (2007).

Another study by Erwin-Grabner, Goodill, Hill, and Von Neida (1998), looks at the effects of DMT on reducing test anxiety in 21 graduate and undergraduate students. Participants were randomly assigned to a control group and experimental group. The experimental completed four 35-minute sessions of DMT. Pretest measures where taken to measure anxiety. Results demonstrated that the experimental group had a greater significant reduction in test anxiety suggests that DMT may be an effective intervention in reducing anxiety. If DMT is effective is reducing hyperaroused states, such as anxiety, is may also be able to reduce hyperarousal in people

who have experienced trauma. Similar to the study conducted by Jeong et al. (2005), the researchers need to rule out that DMT caused the reduction in anxiety and not simply exercise itself. The sample size in this study was also small, making it not easily generalizable. It may also be possible that this finding only applies to graduate and undergraduate students.

Another study by Hui, Chiu, and Woo (2008) look at the effects of dance on the physical and psychological well being of 111 older adults. They split the participants into a control group and a dance therapy. The dance therapy group engaged in 12 weeks sessions. Results based on self-report questionnaires found overall quality of life had significantly improved for those in the dance therapy group. Demonstrating that DMT has a positive effect on psychological well-being. This study is not easily generalizable to the general population as it looks at 111 older adults in China. The culture around adults is much different than the culture around the United States and may not yield the same quality life scores in a more individualistic culture like the United States. Pratt (2004) also reports similar results that dance and movement therapy reduce depression and anxiety and increase work productivity supporting the findings of the previous studies.

Pratt (2004) reports dance and dance therapy can also be useful when working with individuals with schizophrenia. Movement therapies may allow individual with schizophrenia to express their subjective reality and allow emotions to be expressed that cannot be easily put into words. It may allow an individual with schizophrenia to focus on feelings rather than symptoms (Ellis, 2001; Pratt, 2004). Dance and dance therapy can also help individual with schizophrenia, narcissism, and psychotic illnesses organize affective problems such as abandonment, rage, loss, grief, and pain.

In addition, Pratt (2004) states that dance therapy helps with problems associated with the trauma of sexual abuse. Dance and dance therapy helps with problems such as distorted body

image, dissociative disorders, low self-esteem, behavioral problems, and self-mutilation.

## **Physiological and Cognitive Benefits**

In addition to the improvements on mental health, DMT and dance training classes strengthens body image, provides an outlet for physical tension due to anxiety and aggression, reduces cognitive and kinesthetic disorientation, and increases ability to sense and feel emotions. (Pratt, 2004; Seide, 1986). This increased ability to sense and feel is useful in working with individuals with eating disorders as DMT helps bring awareness to sensations such as hunger and satiety. Dance and dance therapy also increases communication, pleasure, spontaneity, and supports other therapeutic medical goals.

A study by Berrol, Ooi, and Katz (1997) examines the benefits of dance therapy for individuals over the age of 60 who have suffered a cerebral vascular accident that led to traumatic brain injury (TBI). The researchers assigned 40 participants to a control group and 60 participants experimental group. The experimental group involved two 45 minutes dance/movement interventions a week for five months. Using pre and post-test measures, researchers found those in the experimental group has significant physical, psychological, and cognitive functioning. This study has a large sample size, which may provide for generalizability. However, the significant findings may not generalize to those who have not experienced a TBI or cerebral vascular assault.

A meta-analysis by Bradt, Goodwill, and Dileo (2011) reported that dance/movement therapy had a large effect on quality of life in cancer patients. This analysis found that dance/movement therapies reduces stress, anxiety, depression and provides social support for patients with cancer In addition, the analysis reported that dance/movement therapy reduces fatigue and improves role performance, social functioning, emotional functioning, and physical

functioning. The authors suggest that more randomized control trials need to be implemented to strengthen the evidence reported. This analysis demonstrates the benefits of dance movement therapy for individuals who may not have a formal mental illness diagnosis, which suggest that involvement in dance/movement therapy for physical and mental illness can have a positive impact on mental health, physical health, and social functioning for a diverse range on individuals.

## **Summary**

The literature presented demonstrates a relationship between dance and movement based interventions, improved mental health symptoms, and overall quality of life. Based on the literature presented, the connection of the mind and body can be integrated using dance and movement based interventions. It is possible that the mind-body connection can be explained through mirror neurons as this theory demonstrates how physical movement and expression help alleviate symptoms and process difficulties associated with mental illness. As reported by Bradt, Goodwill, and Dileo (2011), dance and movement therapy help individuals learn to reconnect with their bodies, build self-confidence, enhance self-expression, addressing feelings of isolation, depression, anger, fear and distrust, and strengthen personal resources (Dibbell-Hope, 2000). Therefore, dance may be able to improve quality of life by reducing mental illness symptoms and increasing physical health and cognitive abilities, which this study will further explore (Gray, 2001; Krantz 1999; Pratt, 2004).

## **CHAPTER III**

## Methodology

The purpose of this study is to understand the therapeutic efficacy of dance. This qualitative-interview based study explored the therapeutic benefits of dance training (i.e. ballet,

jazz, contemporary, hip hop, etcetera) as reported by 11 dancers who are currently in individual therapeutic treatment for life adjustment issues. Therapeutic benefits will be defined as improvements in mood and emotional health. Improvements in mood will be defined as changes in day-to-day emotional states. Improvements in emotional health will be defined as changes in ability to handle life's challenges, build strong relationships, adapt, and overall self-esteem. Life adjustment issues may be defined as but are not limited to, loss of job, divorce, marital conflict, and gender issues. Therapeutic benefits will be defined as improvements in mood and emotional health.

## **Participation Criteria**

At the time of this study, participants met the following inclusion and exclusion criteria. All participants are in dance training classes, as defined above, and are currently in individual therapeutic treatment for life adjustment issues. All participants are attending treatment at least once a month. Participants are 18 years old or older and were willing to sign an informed consent. Participants were not currently in an inpatient unit and not currently in treatment for suicide attempts or thoughts of suicide. Participants do not have a cognitive disability, such as severe deficits or difficulties with memory, problem solving, attention, reading and verbal comprehension that would make it difficult to provide informed consent.

## Sample

The sample population of this study included individuals who simultaneously participated in dance training classes and individual talk-therapy in the United States. At the time of this study all participants meet all participation criteria. Demographic data on age and gender was collected

during screening process through participant's replies to screening email.

## **Procedure**

This study recruited 11 participants using nonprobability convenience methods of sampling and primarily recruited participants using the snowball sampling technique. A convenience sample of participants was recruited through this researcher's personal circle of contacts and social media. A recruitment letter was posted on dance related pages on social media websites and emailed to dancers and dance teachers for whom the researcher has contact information. Potential participants were asked to contact researcher through email. Participants were sent a screening email explaining inclusion and exclusion criteria, informed consent, and process for returning informed consent to researcher. Participants were given opportunity to ask questions about the study and informed consent before signing consent. Informed consent contained information describing the purpose of the study, eligibility requirements, protections and confidentiality, and the risks and benefits of participation. Participants were asked to provide an address to send informed consent form. Informed consent was sent to participant via mail with a pre-stamped, self-addressed envelope for participant to return form. Some participants returned informed consent to researcher in person in an unmarked envelope to protect confidentiality. After receiving informed consent for participants, participants were sent a link to an open-ended interview questions. Participants were asked to complete questions, which asked about experiences with dance and life adjustment issues.

## **Interview Questions**

Participants were asked to answer three open-ended interview questions. The questions asked participants (1) for what life-adjustment issues they were seeking therapy, (2) how dance

impacted these problems, and (3) if they found dance therapeutic or mentally healing. The first two questions examine the impact of dance on life adjustment issues and the third seeks to understand what is therapeutic about participating in dance training classes.

The questions were based on the results of the meta- analysis conducted by Bradt, Goodwill, and Dileo (2011), which reports that dance/movement therapies reduces stress, anxiety, and depression. The questions are also loosely modeled after by Mills and Daniluk's (2002) study that looked at the mind-body connection and hypothesized improvement in cognitive, physical, and emotional integration that may lead to improvements of mental health symptoms. The openended interview questions were subject to participant interpretation, which could have impacted validity of questions.

## **Data Collection and Analysis**

The study utilized an online survey questionnaire for data collection using open-ended interview-based survey questions. A thematic coding process was used to analyze data collected through the open-ended interview questions to find common themes among the data. Themes that emerged included common life-adjustment issues for which participants were seeking therapeutic treatment, the ways dance impacted these issues, and the ways in which participants found dance to be a therapeutic/mentally healing experience. These themes will be elaborated on in findings section. Provide more details about generated themes.

#### Limitations

This small sample size and nonrandomized sampling of this study does not allow for easy generalizability. Also, all participants were female, which further limits generalizability.

Therefore, the results of this study may not reflect the general population of dancers. Structuring the open-ended interview questions online did not allow for follow-up questions and did not provide the opportunity for participants to receive immediate clarification to questions. Follow-up questions and clarification could have been provided in live interviews. This may have impacted the reliability and validity of questions.

## **Expected Findings**

The researcher expected results to demonstrate an improvement in problems and symtpoms associated with life-adjustment issues. The expected findings are similar to the findings of Hui, Chui and Woo (2008), which found that individuals who participated in dance reported higher quality life ratings. Findings were also expected to be similar to Jeong et al. (2005) and Erwin-Grabner, Goodill, Hill and Von Neida (1998) that reported lower levels of depression and anxiety for individuals who participated in dance class or DMT. The consistently of the results of this study with other studies suggests that dance, through the mind-body connection, can impact and improve problems associated with life adjustment issues and that dance training may have a therapeutic component. In addition to these expected findings, the researcher also found some support for mirror neurons and some findings that dance training can negatively impacted quality of life and life adjustment issues. These results will be further explored in finding and discussion sections.

Include what you expected to find and what you didn't expect to find.

## **CHAPTER IV**

## **Findings**

This study examined whether participating in dance training classes improves problems and/or symptoms associated with life-adjustment issues. This study surveyed 11 dancers who were currently in individual therapeutic treatment for life adjustment issues. All participants identified as female and resided in the United States. Age of participants ranged from 19 to 46 years of age.

Individuals outside the dance training community and individuals who did not identify as female were not surveyed. This limits generalizability of the study to individuals who do not have technical dance training and individuals who do not identify as female.

Participants were presented with three questions in the form of an online survey questionnaire. The first question asked participants for what life adjustment issues they were seeking therapy. The second question asked participants to describe how dance impacted these life adjustment issues. The third asked the participants if they found dance therapeutic/mentally healing and to describe why or why not it is therapeutic/mentally healing. Themes were generated by examining patterns across responses to each question. Themes included common life-adjustment issues for which participants were seeking treatment, the ways dance impacted these issues, and ways participants found dance to be a therapeutic/mentally healing experience. Themes related to the therapeutic aspects of dance training classes and the relationship of dance training and life-adjustment issues.

## **Life Adjustment Issues**

Participants most frequently reported life adjustment issues of mood disturbance (anxiety and depression), low self-esteem, eating disorders, medical diagnosis, and problems in personal relationships. Ten of eleven participants reported that they were engaged in individual therapy for mood disturbance, specifically anxiety and depression. Seven of eleven participants reported engagement in individual therapy for low self-esteem. One participant reported that they were engaged in individual therapy for a medical diagnosis. Six participants reported that they were engaged in individual therapy for problems with personal relationships, specifically with family and significant others.

Eight participants reported comorbid life adjustment issues. Four of these participants stated that mood disturbance impacted their self-esteem and personal relationships. One of these participants stated that low self-esteem impacted their ability to connect in relationships with their significant other. One of these participants stated that their medical diagnosis impacted their mood, ability to maintain personal relationships, and self-esteem. Two of these participants reported that they were engaged in individual therapy for comorbid eating disorder, mood disorder, low self-esteem, and personal relationship problems.

## **Impact of Dance on Life Adjustment Issues**

Participants most frequently reported that dance impacted mood symptoms, self-esteem, ability to connect with others, control over eating disorder, coping skills, and working with trauma. Ten of eleven participants reported that dance decreased mood symptoms of anxiety and depression. Four participants reported that dance increased their self-esteem. Six reported that dance helped them connect with others. One participant reported that dance helped them gain control over body and eating disorder. Two reported that dance is a coping mechanism when stressed. Three participants that dance helps work through trauma. Two participants reported that dance also negatively impacts their life adjustment issues by increasing self-doubt, feelings of inadequacy, body image issues, and performance anxiety.

## **Therapeutic and Mentally Healing Experience**

All participants stated that they found dance to be a therapeutic and/or mentally healing experience. Participants frequently reported that dance provided physical benefits, a non-verbal outlet for expression of difficult and painful emotions, increased motivation and energy, a

meditative release and freedom from ruminating on negative thoughts, mind-body integration, and increased focus. In addition, as reported above, participants also reported that dance provided decreased mood symptoms, increased self-esteem, ability to connect with others, control over eating disorder, coping skills, and helped work through trauma.

Five participants reported physical benefits of dance providing increased endorphins and a way to maintain healthy body weight. Two reported increased energy and motivation. Six participants stated that dance provided a non-verbal outlet. Ten participants stated that dance provided a meditative release and freedom from ruminating on negative thoughts. Four participants reported that dance provided mind body integration. Two participants stated that dance has helped work through trauma.

## **CHAPTER V**

## **Discussion**

This study examined whether participating in dance training classes improves problems and/or symptoms associated with life-adjustment issues. The following discussion will explore how participation in dance training classes can improve problems associated with life adjustment

issues by providing mind-body integration and relieving physical, cognitive and emotional struggles, provide an introduction of your thesis beginning with research question.

In this study, all participants reported that dance is therapeutic and/or emotional healing for issues of mood disturbance, low self-esteem, eating disorders, medical diagnosis, and problems in personal relationships. This finding supports the literature presented previously, which stated that dance and movement can help individuals experiencing life adjustment issues reconnect with their bodies, build self-confidence, enhance self-expression, address feelings of depression and anxiety, cope with stress, work through trauma, improve physical health, and improve cognitive abilities (Bradt, Goodwill, & Dileo, 2011; Dibbell-Hope, 2000; Gray, 2001; Krantz, 1999; Pratt, 2004). The findings also support mind-body connection and mirror neurons theories (Berrol, 2004; Payne, Stevens, Stevens, & Brandes, 1992). These findings suggest that involvement in dance training classes and dance/movement therapy can have a positive impact on mental health, physical health, and social functioning for a diverse range on of life adjustment issues (Bradt, Goodwill & Dileo). This section explores how these finding further supports previous research findings and theories, providing evidence that participating in dance training classes have a therapeutic effect for individual engaged in dance and individual talk-therapy. This finding may generalize to individuals engaged in movement-based practices.

## **Mental Health Improvements: Mood and Trauma**

Many participants stated that dance improved mood symptoms. The following statements demonstrate how participants in this study found dance helpful in alleviating mood symptoms:

I am always in a better mood after I spend an hour and a half in a Ballet class dancing to the beautiful classical music, or after I dance an emotionally charged lyrical piece to a song that resonates with me on some level. Dance helps me to feel like I don't have to be rigid and can be more authentic and expressive while physically releasing the stress and anxiety that impact my mental health and self esteem.

In terms of my health, if I am having a rough day physically, going dancing helps to alleviate some of the emotional symptoms that come along with it. For however long I am dancing, it takes my focus off of that problem and often times I forget I am feeling bad afterward.

My mood greatly increases while I'm dancing

I think the physicality of moving around really helps to lift my mood. But you could get that from any form of exercise. What dance does that other forms of exercise don't do for me is that it is a sort of spiritual experience (and I'm an atheist). Moving to the music is just so transformative and all encompassing that it makes everything else melt away.

These statements are consistent with studies that found that dance and movement based therapies decrease symptoms of depression, anxiety, and increase psychological well-being (Akandere & Demir, 2011; Bradt, Goodwill, & Dileo, 2011; Hui, Chiu, & Woo, 2008; Jeoang et al., 2005; Koch, Morlinghaus, & Fuchs, 2007). These statements demonstrate that dance is an effective therapeutic medium to relieve mood symptoms for participants and may be effective in working through life adjustment issues for other individuals is similar movement-based therapies.

In addition, consistent with findings in Mills and Daniluk (2002) and Pratt (2004), participants also discussed how dance helped them worked through trauma.

I credit performance with lifting me out of a traumatic childhood by encouraging the authentic me to come to the surface and share.

The artistic and creative component allows me to deal with my major life issues by placing the traumas and the emotions caused by them into the dances.

I tell stories, I heal my own scars.

Mills and Daniluk reported that physical movement was a way to access inner worlds and provided a release of intensely painful emotions, such as trauma experienced by these participants. These statements support Mills and Daniluk findings, which suggests that participating in dance training

classes and movement based-therapy may help some individuals process through trauma. However, as stated previously, the measures in this study and Mills and Daniluk's study are subjective and it may possible that many other individuals who have experienced trauma will not feel the same way after engaging in dance training classes and DMT treatment.

## Self-Esteem, Personal Resources, Physical Health and Cognitive Benefits

Participants discussed improvements in self-esteem, personal resources, physiological health, and cognitive benefits. The following statements demonstrate how dance improved self-esteem for participants, which is consistent with research by Bradt, Goodwill, and Dileo (2011) and Pratt (2004) that stated dance improves self-confidence.

It boosts my self-esteem because I am able to accomplish goals and see my progress that I make on a daily basis.

It has given me so many more opportunities to improve my confidence in myself and learn that I am still able to do things even though my brain may try to convince me otherwise.

[It] Physically releasing the stress and anxiety that impact my mental health and self esteem.

Not only is in art form but it is athletic and is good exercise and helps maintain weight control and that provides great self-esteem.

In addition, participants also reported strengthening in personal resources, including ability to connect with others and coping skills. These statements were consistent with reports by Bradt, Goodwill, and Dileo that dance and movement improve social functioning and supports Dibbell-Hope's (2000) study that dance strengthens personal resources.

I speak to other people through movement

Helps me relate to others better on a deep nonverbal level

It [dance] has allowed me to form relationships with my fellow dancers...and is the coping skill I rely on most

Dance is the single greatest coping skill for me.

Finally, participants also discussed physiological and cognitive benefits such as maintaining weight and ability to stay focus. These statements align with reports by Bradt, Goodwill, and Dileo (2011) and Pratt and Seide (1986) that dance and dance therapy improve physiological health and cognitive ability.

Not only is in art form but it is athletic and is good exercise and helps maintain weight control and that provides great self-esteem. It also has always been a good source of discipline.

The physical activity releases endorphins and brightens my mood

Dance is a way to express and release tension and endorphins.

Also the workout with rush of endorphins and pure exhaustion that comes with dance helps me sleep and make better, healthier choices through out the day. I am more positive, more happy person.

It [dance] provides m[e] with the courage and power to stay focused.

In addition to the mental health benefits explored earlier, the statements above demonstrate that involvement in dance training classes can have a positive impact on self-esteem, social functioning, physical health, and cognitive functioning. These statements show that participation in dance improves quality of life for these participants and may improve quality of life for other individuals who engage in movement-based therapies.

## **Emotional Processing through Nonverbal Expression: Mind-Body Connection**

In this study, participants indicated that dance reintegrates the mind and body, creates a sense of control, and has the ability to help move through sad and painful emotions by providing a space for non-verbal expression and catharsis. These findings support the mind-body connection as defined by Payne, Stevens, Stevens, and Brandes, (1992) and Van der Merwe's (2010). These

studies stated that dance and movement create mind-body integration that can allow emotion to become conscious and expressed through specific movement. It also supports Krantz's (1999) study that dance is a psycho-physiological outlet that functions as a cathartic release of conscious and unconscious memories that are stored kinesthetically. It allows an individual to process through emotional states that they may not be fully aware. One participant's statement supports these studies' idea of conscious memories becoming unconscious:

Dance helps to express deep, hidden things that we cannot always articulate.

This statement and the following statements also demonstrates that allowing emotional memories to process through body movement allows an individual to express their subjective experience more easily than putting the emotional experience into words (Mills & Daniluk, 2002; Pratt, 2004).

It [dance] is a way to use the body without having to verbalize the feelings that I may be experiencing. Sometimes I don't want to talk about how I am feeling because it brings me down. When I am dancing, no one asks questions. I am able to move my body in the way that I feel is necessary to convey the emotions I am experiencing.

Dance allows me to express emotions that may be hard to speak. I am able to go deep into myself, exploring aspects of myself that words do not.

In addition, many participants' statements supported cathartic emotional processing reported by Krantz (1999) and expression of subjection experience reported by Pratt and Mills and Daniluk (2004). One participant stated that:

I throw all my anger and oppression and sadness into my body and there is nothing that anyone can say or do to disagree because it's my own personal expression of how I feel. I don't have to have the words. Sometimes emotions are too strong to name, so I just dance what I am feeling. It's almost as if I am meditating because I loose track of time. My body and mind are one.

Another participant supported how the catharsis of dance helps move and process through strong emotions stating:

It's like dancing helps you deal, not just to forget and get lost, but also to actually move through obstacles in life...the movement literally helps you deal with issues you're facing

I don't know how it does it but it does. I have changed from someone who wanted nothing but to die and leave this world to someone who wants nothing more but to dance through this beautiful life.

A third participant also supports the mind-body connection stating:

The movement of dance itself is also an emotional release for me. I can take the fear, anxiety or pain I am feeling and express it through the movement. There is no release quite like it...The music is cathartic and stimulating. Connecting my body, mind and emotions to the music creates a very lively sensory environment. I am always in a better mood...

## A fourth participant stated:

Dance helps me to feel liberated and relaxed, more able to be in my body and in the world, focusing less on thoughts and more on movement, action, and mind/body connection.

Based on these statements, the experience of dance has a cathartic and integrative influence on the mind and body for these participants. Therefore, it is possible that DMT and other movement-based therapies may help remedy disruption of the mind and body caused by symptoms of mental illness and life adjustment issues. Dance and dance therapies may remedy this disruption by reintegrating the mind and body through movement that allows for processing of strong and/or painful emotions, leading to a therapeutic and mentally healing experience. This idea is further supported by the fact that all participants stated that dance is therapeutic and/or mentally healing.

## **Support for Mirror Neurons**

The experience the following participant has when audience members stop and talk to her after being emotionally moved by their performance supports the mirror neuron theory used to explain how DMT works as a therapeutic modality (Berrol, 2004).

I find dance to be therapeutic and healing for others around me, whether it be the students in my class, the other dancers dancing with me or the audience observing a piece. I have had several people stop and talk to me after a performance and communicate a loss they have suffered and explain how my dance made them cry or made them feel better. I have

seen students use dance as a lifeline while things at home are in turmoil around them. I have seen students who are in trouble turn to dance as a positive outlet to keep them out of negative activities. Dance helps to express deep, hidden things that we cannot always articulate. It helps the dancer and the observer in this way.

This statement suggests that the mirror-neuron theory may generalize to watching a dancer in class or performance and may suggest that participation in dance training classes has this similar therapeutic effect of DMT due to mirror-neurons. It is possible that watching a dancer having a cathartic release through dance, in class or in a performance, (Krantz, 1999) may also cause an observer to experiences some type of catharsis due to mirror-neuron activation. This neural activation may allow an individual observing dance to feel as if another is sharing in their subjective emotional experience without having to say anything that may be more difficult to express in words. Hence, dance may not only help individuals engaged in dance but also observers of dance. It is possible that participating in dance training classes provides therapeutic experiences not only through active participation but also through the observation of other dancers. This statement also supports the efficacy of DMT but still needs further research to provide validity.

## Limitations

The measures in this study are subjective and it may possible that many other individuals who have experience these life adjustment issues will not feel the same therapeutic experience after engaging in dance training classes or movement-based therapies. For example, one participant discussed how dance disrupts their sense of wholeness, stating:

I think being a dancer forces you to some[times] stop seeing yourself as whole, and rather, you see a (singular) body part exclusively.

This demonstrates that dance is not always an integrative experience of the mind and body for everyone who engaged in dance training classes. However, this participant does states that dance still has some benefit, even if it is not complete integrative, stating:

Dance is freeing. Even on the days I am not "whole," my body can remind to me and prove to me that I AM whatever I want to be. I express freedom through my movement.

Also, the limited sample size of this study does not allow for easy generalizability to findings to other populations outside of this sample. In addition, all participants identified as female, which further limits generalizability.

Other limitations include cultural differences, socioeconomic status and dance technique. This study was conducted on individuals who found dance training and the use of the body to be an acceptable form of expression. However, the movement done in dance training classes may not be an appropriate form of expression for some individuals of varying cultural backgrounds and could be seen as inappropriate or disrespectful. For some individuals, participation in dance, as a dancer or audience member, may be culturally inconsistent or offensive instead of being therapeutic. Socioeconomic status (SES) is another limitation of this study. Often, participation in dance training classes is costly and is more accessible to people of middle to high SES, meaning the participants in this study likely come from higher SES. It is likely that the cost of dance training classes does not allow findings of this study to generalize to people of low SES as cost limits to access to dance training classes and the ability to use it as a therapeutic resource. Finally, level of dance technique may also limit how therapeutic dance training classes are for an individual. It is possible that, in order for dance training classes to be therapeutic an individual needs to have an understanding or sense of competency of dance technique and movement. If an individual does not feel competent in a dance technique then dance would likely become stressful and not

therapeutic. For example, an individual who has never taken a dance training class may feel stressed and self-conscious when participating in a dance training class instead of a cathartic release.

Due to the fact that this study did not collect demographic data on cultural backgrounds, SES and other demographic categories, the findings of this study cannot easily be generalized to individuals outside of this sample. Future research needs to collect more demographic data to understand the relationship of dance training as a therapeutic modality with SES, gender, cultural differences, and other demographic categories,

## **Conclusion**

All participants in this study indicated that they found dance to be therapeutic and/or mentally healing experience, which demonstrates that movement provided through a diverse range of dance techniques can have a therapeutic benefit on various life adjustment issues. The findings of this study establishes the therapeutic efficacy of dance, showing that movement, through dance training classes, helps dancers literally move through mood disturbance, trauma and other life adjustments issues. This finding may generalize to other movement-based therapeutic modalities for clients seeking movement-based therapeutic treatment. Also, these findings suggest that integration of movement and dance expression in therapy may be as useful as tradition talk-therapy in working through life adjustment issues. In addition, this study demonstrates how integrating dance and movement therapies with talk-therapy into more clinical practice settings may provide a more holistic and integrative approach of the mind and body. This approach will benefit the client by providing a more holistic and integrated healing experience. It is likely that traditional talk-therapy may not be the only effective modality in communicating the pain and struggles of the human experience. Integrating more somatic and movement based practices into talk-therapy may

allow an individual in therapy to communicate and move through emotions they feel but cannot or do not know how to speak.

This study demonstrates that dance can help a wide array of life adjustment issues and, when used in conjunction with formal talk-therapy, is helpful in alleviating problems associated with life adjustment issues. The findings of this study, and of other studies discussed, demonstrate a relationship between dance and movement based interventions, improved mental health symptoms, and overall quality of life. However, more research needs to be conducted on this subject to provide more evidence that dance and dance therapies affect mental health, physical health, cognitive abilities and overall quality of life though the mind body connection. Further research needs to examine the effects of movement-based practice outside of the dance training community to demonstrate therapeutic benefits for the general population. Studies are also needed to examine effective ways to integrate talk-therapy with movement-based techniques. This research needs be done to help clinicians understand how to provide a more integrated healing experience for individuals seeking therapeutic treatment in order to heal both the mind and body. Add specifically what your work adds to the already existing body and specifically anyone taking what you found could go on and further contribute to the already existing body of research. Discuss on a broader level how your study contributes to the field of social work and mental health. What new questions does this generate for you and for your specific research question?

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## Appendix A

## Recruitment Letter

Hello,

My name is Khanhsong Nguyen and I am a student at the Smith College School for Social Work. For my thesis, I am surveying dancers who are currently engaged in individual talk-therapy to understand the therapeutic benefits of dance (i.e. changes in mood and changes in emotional health). In order to participate in this survey participants must currently participate in dance training classes (i.e. ballet, jazz, contemporary, hip hop, etcetera) and be currently engaged in individual therapeutic services. Participants must also be at least 18 years of age, have access to a computer and be willing to sign an informed consent form. Excluded from this study are individuals who are in inpatient treatment, currently in treatment for suicidal thoughts or actions and individuals with cognitive disabilities. If you fit these criteria, participation in this study will be greatly appreciated.

If you meet these criteria and are willing to participate please email <a href="mailto:knguyen@smith.edu">knguyen@smith.edu</a> for more information.

This study is entirely voluntary and confidential. The data collected from this study will be used to complete my Master's in Social Work (MSW) Thesis. The results of the study may also be used in publications and presentations. The survey should take you approximately 15-30 minutes and is entirely voluntary. You may exit the survey at any time.

In addition, I would very much appreciate your help in recruiting others for this survey. If you feel comfortable, please forward this email to those you know who may meet the criteria for my survey.

Feel free to contact me with concerns or questions.

Thank you for your time, Khanhsong Nguyen

## Appendix B

Screening Email and Explanation of Informed Consent Procedure

Dear ,

Thank you for your interest in participating in this study. It is greatly appreciated.

## In order to participate in this study you must

- Be 18 years of age or older
- Currently be in individual therapy
- Currently participate in dance training classes (i.e. ballet, jazz, hip-hop, contemporary, modern, ballroom etc.)
- Have access to a computer and be able to negotiate Survey Monkey
- Sign an informed consent form
- Not be in an inpatient unit for treatment
- Not be in individual treatment for suicide attempts or thoughts of suicide
- Not have a cognitive disability (i.e. severe deficits or difficulties with memory, problem solving, attention, reading and verbal comprehension)

If you meet the above criteria, and wish to participate, please continue reading.

Attached is the informed consent form for participation. Please look over it and if you have any questions or concerns about the study or confidentiality and wish you discuss these with the researcher, a phone conversation can be arranged with researcher at your request. In order to continue with this study please provide an address where I can send you the informed consent form that will need to be signed and returned to me. After you have received the informed consent form, please read and sign form and mail form back to me using the prestamped and pre-addressed envelope provided with form. Unfortunately electronic signatures will not be accepted. Your address will only be used to send informed consent form will not be used for any other purpose. Only the researcher will have access to this information. After receiving your signed informed consent form, I will email you a link to a questionnaire asking you answer questions about dance, mood and emotional health. This should take approximately 15-30 minutes.

If you would prefer to receive informed consent form in person, during a dance class we share, please let me know during which class you will be picking up the consent form.

Thank you for help! Khanhsong Nguyen (Phone Number) knguyen@smith.edu

## Appendix C

## Informed Consent Form

You are being invited to participate in a research study about the therapeutic benefits of dance. This research project is being conducted by Khanhsong Nguyen of Smith College School for Social Work. The aim of this study is to understand the therapeutic benefits of dance training (i.e. ballet, jazz, contemporary, hip hop, etcetera) as reported by dancers who are currently engaged in therapy. Therapeutic benefits will be defined as improvements in mood and emotional health.

In order to participate in this survey participants met the following criteria. Participants must currently participate in dance training classes (i.e. ballet, jazz, contemporary, hip hop, etcetera) and currently be engaged in therapeutic services (i.e. individual, group and/or family therapy). Participants must also be at least 18 years of age, have access to a computer and be willing to sign consent to participate in this study. Participants must not currently be receiving treatment in an inpatient facility, must not currently be in treatment for suicide attempts or thoughts of suicide and must not have a cognitive disability, such as severe deficits or difficulties with memory, problem solving, attention, reading and verbal comprehension that would make it difficult to provide informed consent.

If you agree to be in this study, you will be asked to sign this Informed consent and complete a survey. This survey will ask about dance, mood and emotional health. The survey should take approximately 15-30 minutes. The information you provide will help the researcher understand the relationship between dance training participation and mental health. The information collected may not benefit you directly, but what the researcher learns from this study should provide general benefits to therapeutic practice for practicing clinicians and for individuals who are experiencing symptoms of mental health issues.

This survey is confidential. To assure confidentiality, participants are told not to write name on survey questionnaire so no personal information will be linked to responses. Informed consent forms will not be linked to survey data. All email communication will be done on a private password protected computer. Survey data and personal information will also be stored on a password protected computer. Consent forms will be stored separately in a secure location in researcher home for three years and destroyed after that time. Only researcher will have access to personal information and consent forms. Addresses and phone numbers will only be used to send

survey materials and discuss study, not to collect data. Only researcher will have access to this information. Identifying information will not be link to survey responses. All research materials including analyses and consent/assent documents will be stored in a secure location for three years according to federal regulations. In the event that materials are needed beyond this period, they will be kept secured until no longer needed, and then destroyed.

Your participation in this study is completely voluntary and you can exit the survey at any time without consequence. Your decision to refuse will not result in any loss of benefits to which you are otherwise entitled. You have the right not to answer any single question, as well as to withdraw completely for the survey. If you choose to withdraw, the researcher will not use any of your information collected for this study.

The study has the following risks. You may experience some discomfort or distress when answering question related to mood, emotional health and/or dance. If you feel upset after completing the survey, or find that some questions or aspects of the survey triggered distress, talking to your therapist is advised. In the case of an emergency please call 911.

You have the right to ask questions about this research study and to have those questions answered by the researcher. If you have any questions or concerns about informed consent, completing the questionnaire or about being in this study, you may contact Khanhsong Nguyen at (720) 934-5099 or <a href="mailto:knguyen@smith.edu">knguyen@smith.edu</a>.. If you have any other concerns about your rights as a research participant, or if you have any problems as a result of your participation, you may contact the Chair of the Smith College School for Social Work Human Subjects Committee at (413) 585-7974.

Please sign your name below if you agree to participate in this study and return to researcher. By signing below you are indicating that you meet the participation criteria stated above and have read and understood this consent form and agree to participate in this research study.

<b>Participant Signature:</b>	DATE:
i ai ucipani bignature.	

## Appendix D

## **Interview Survey Questions**

Please answer the following questions. You may take as much space as needed. DO NOT WRITE YOUR NAME ON THE SURVEY

- 1) What is/are the issue/s (i.e sadness, anxiety, life transitions etc.) you are seeking therapeutic treatment for? Please explain in detail how you these issues impact your mood (your day to day emotional state) and overall emotional health (ability to handle life's challenges, build strong relationships, adapt and overall self-esteem).
- 2) Describe in detail how dance impacts the issues you discussed above, including how dance impacts your mood (your day to day emotional state) and emotional health (ability to handle life's challenges, build strong relationships, adapt and overall self-esteem).
- 3) Do you find dance to be a therapeutic (i.e. mentally healing) experience? Please explain.

## Appendix E



School for Social Work Smith College Northampton, Massachusetts 01063 T (413) 585-7950 F (413) 585-7994

February 20, 2014

Khanhsong Nguyen

Dear Khanhsong,

You did a very nice job on your revisions. Your project is now approved by the Human Subjects Review Committee.

*Please note the following requirements:* 

**Consent Forms**: All subjects should be given a copy of the consent form.

**Maintaining Data**: You must retain all data and other documents for at least three (3) years past completion of the research activity.

In addition, these requirements may also be applicable:

**Amendments**: If you wish to change any aspect of the study (such as design, procedures, consent forms or subject population), please submit these changes to the Committee.

**Renewal**: You are required to apply for renewal of approval every year for as long as the study is active.

**Completion**: You are required to notify the Chair of the Human Subjects Review Committee when your study is completed (data collection finished). This requirement is met by completion of the thesis project during the Third Summer.

Congratulations and our best wishes on your interesting study.

Sincerely,

Elaine Kersten, Ed.D.

Co-Chair, Human Subjects Review Committee

CC: Alexandra Starr, Research Advisor