# WOMEN'S PERCEPTIONS OF THE RELATIONSHIP BETWEEN NEUROMUSCLAR INTEGRATIVE ACTION (NIA) AND THEIR BODY, MIND, AND SPIRIT

#### A THESIS

# SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN THE GRADUATE SCHOOL OF THE TEXAS WOMAN'S UNIVERSITY

**COLLEGE OF HEALTH SCIENCES** 

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#### DENTON, TEXAS

November 10, 1999

To the Associate Vice President for Research and Dean of the Graduate School:

I am submitting herewith a thesis written by Jessica Hall Perez entitled: "Women's Perceptions of the Relationship between Neuromuscular Integrative Action (NIA) and their Body, Mind, and Spirit." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science with a major in Health Studies.

Major Professor

We have read this thesis and recommend its acceptance:

Sugar Ward

Department Chairperson

Accepted:

Associate Vice President for Research and Dean of the

Graduate School

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#### **DEDICATION**

To all the wonderful women who graciously and generously shared NIA with me, both in the movement and in the soul.

#### **ACKNOWLEDGMENTS**

A warm, sincere thanks goes to Dr. Eva Doyle, my advisor, mentor and advocate, who shared her knowledge, supported my decisions, and guided me through this learning process. Also, I want to thank Dr. Susan Ward for serving on my research committee and contributing her time and expertise. My appreciation, as well, goes to both Dr. Doyle and Dr. Ward for believing in me and my desire to study holistic health.

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#### **ABSTRACT**

COMPLETED RESEARCH IN HEALTH STUDIES Texas Woman's University, Denton, Texas

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<u>Neuromuscular Integrative Action (NIA) and their Body-Mind-Spirit.</u>
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Neuromuscular Integrative Action (NIA), has been a promising, yet nameless, element of the holistic fitness paradigm. Holistic fitness offers a unique approach in the understanding of women, as whole persons, through movement. This pilot study was conducted to establish an awareness of women's perceptions of NIA in relation to their body, mind, and spirit. A convenience sample of 32 women participated in this exploration by completing a survey developed for this research. Analysis of the data revealed that women have a high, positive perception of their body, mind, and spirit in relation to their participation in NIA classes. As well, the raw data, established from the qualitative question, unveiled themes of body, mind, spirit, quality of life, and sense of self, which denoted positive perceptions in relation to the participation in NIA.

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#### CHAPTER I

#### INTRODUCTION

During the past 30 years, there has been a powerful scientific movement to explore the mind's capacity to affect the body and to rediscover the ways in which it permeates and is affected by all bodily functions (National Institute of Health [NIH], 1992). Holistic fitness, an extension of this movement, unites the physical element of health and with the mind and spirit to create a whole person (Rosas & Rosas, 1997a). Through medical research (NIH, 1992) we have learned about the healing systems of ancient cultures, such as meditation, yoga, and tai chi, which can empower an individual suffering from disease to reduce the stress by quieting the mind and engaging the body in a healing process. These healing systems, along with Neuromuscular Integrative Action (NIA), are grounded in an understanding of the power of mind and body to affect one another (Rosas & Rosas, 1997b).

The basic premise of a holistic fitness program is that there is a heightened level of wellness and fitness that exists when we consider human beings more than the mere sum of the physical parts, when we consider all that the body, mind, and spirit offer (Rosas & Rosas, 1997a). All exercises, principles, and concepts in a holistic fitness environment

offer a way for a participant to safely and continually improve and change (Rosas & Rosas, 1997a). Exploring women's perceptions of NIA in relation to their mind, body, and spirit gives precedence to better understand and appreciate the value of holistic fitness.

#### Purpose of the Study

The purpose of this study was to explore female participants'
perceptions of NIA in relation to their body, mind, and spirit. The female
participants attended NIA classes at one of four Dallas-Fort Worth
Metroplex health and fitness centers.

#### Research Question

What are the female participants' perceptions of their body, mind, and spirit while participating in NIA classes?

#### **Definition of Terms**

The following terms were operationally defined for this study:

- 1. Neuromuscular Integrative Action (NIA) is a creative, barefoot movement that blends principles and concepts of Tai-chi, Tae-kwon-do, Aikido, Duncan and Modern Dance, Yoga, Feldenkrais Technique, and Alexander Technique. It is a workout for all ages looking for functional and natural movements that will provide comfort and protection to the joints and bones, while providing cardiovascular conditioning, flexibility, muscle conditioning and definition, increased overall agility, balance and strength (Nia Technique pamphlet, 1997).
- Perception is defined as the "intuitive recognition of a truth" or "aesthetic quality" (The Oxford Encyclopedia English Dictionary, 1991).

- 3. <u>Holistic fitness</u>, a new paradigm, is a part of the new era which joins dimensions of "mind" and "spirit" with "physical" fitness and health so that the needs of the whole person is fed. It is a paradigm that taps into one's inner life, blending conscious thought and action to bridge the gap between the mind, the body, and the emotional spirit (Rosas & Rosas, 1997a).
- 4. <u>Centering</u> is a psychophysiological experience that occurs when the mind, body, and spirit become fully integrated in dynamic balance (Crum, 1987).
- 5. <u>Holism</u> is the relationship between interacting parts, in which one part cannot change without affecting the whole (Rosas & Rosas, 1997a).

#### Limitations and Delimitations

The following was identified as a limitation to this study:

 A convenience sample was used. The sample was self-selected from NIA classes in which the researcher instructs.

The following were identified as delimitations for the study:

- Participants were only those women taking NIA classes at specific locations in the Dallas-Fort Worth Metroplex.
  - 2. Participants had to be English speaking.

## Background and Significance

Women, as a group, have been an under-researched population in all health areas including physical activity. Prior to the publication of the landmark report by the U.S. Surgeon General Accounting Office in 1990,

most health research studies were conducted with male populations and then generalized to women. Despite well-documented differences in women's bodies and experiences, research findings in men were used extensively to guide the diagnosis, treatment, and prevention of disease in women (Blumenthal, 1997).

Research on women's physical activity has focused primarily on application of theoretical models and the development of quantitative instruments. This research approach has enhanced understanding of women's physical activity by sensitizing practitioners to many contributing factors. Generalized models however, do not fully represent the specific issues that are relevant to the study on women's physical activity. These models account for no more that 35% of the variance in exercise behavior (Dishman, 1988). This quantitative research approach has not led to a holistic view of issues surrounding women's physical activity. A new approach needs to focus on understanding women as a whole person, where her body, mind, and spirit are all considered a whole unit.

The philosophy of holistic fitness is based on holism where everything exists in relationships and that any one part cannot change without affecting the whole. The basic premise of holistic fitness is that a heightened level of wellness and fitness exists when human beings are considered more than sum of the physical parts. Considering all that the body, mind, and spirit offer creates a true, whole person (Rosas & Rosas, 1997a). In a holistic fitness class, such as NIA, the whole of each person is considered and honored.

As a health educator, holistic fitness can be an effective tool in the understanding and appreciation of a person as a whole being. Holistic fitness can be an essential part in the implementation of behavior change by bringing forth the whole of a person's life which has direct influence on the behavior in need of change. NIA, a hopeful constituent of holistic fitness, can encourage insight and awareness into one's health. Being aware of one's own body, mind, and spirit brings forth a clearer picture of an individual's life and provides opportunities to make promising change.

#### Characteristics of NIA

NIA is a creative, barefoot movement that blends principles and concepts of Tai-chi, Tae-kwon-do, Aikido, Duncan and Modern dance, Yoga, Feldenkrais Technique, and Alexander Technique. It is a workout for all ages looking for functional and natural movements that will provide comfort and protection to the joints and bones, while providing cardiovascular conditioning, flexibility, muscle conditioning and definition, increased overall agility, balance and strength (Nia Technique pamphlet, 1997).

Dr. Deborah Kern (1994) stated that the instruction of a NIA class begins with gentle breathing and getting attuned to one's energy and the focus of the class. Awareness through systematic movement allows for the participants to become mindful of their bodies and establish their center. Verbal visualizations are spoken to help unite the participants' entire being: their body, mind, and spirit. The music nurtures, enhances, and stimulates the participants' body, mind, and spirit. The teaching style

is supportive through positive, feeling words, and actions. Class intensity is enhanced and changed throughout the class, while individual level is continually encouraged. Both teaching style and movement bring forth the energy of one's body, mind, and spirit. The instructor uses verbal instructions that are multidimensional so that the body feels and perceives, the mind makes choices, and the spirit expresses emotions (Kern, 1994).

#### CHAPTER II

#### **REVIEW OF LITERATURE**

This literature review explores research related to women's health, physical activity, and holistic fitness. In the literature, a general overview concerning the significance of mind-body health is also noted.

#### Women's Health Research

The issues that surround women's health are captivating the attention of researchers. There is an increased recognition that health and wellness deserve to be studied and understood from the female perspective. A landmark report by the U.S. Surgeon General's Accounting Office in 1990 disclosed significant gaps in women's health research, health care services, and public and health professional education programs that have placed the lives of American women at risk (Blumenthal, 1997).

Until that turning point year, great injustices had been served upon women's health. However, according to Blumenthal, since 1990 there has been the greatest focus on women's health in the history of our country. Because of the new attention and increased investments in women's health research, new discoveries are being harvested to improve women's health (Blumenthal, 1997). Those in the field of women's health are working to translate research findings into improved care for women,

while at the same time, the women are being better educated to the role their own behavior and lifestyle play in safeguarding or damaging their current and future health (Blumenthal, 1997). Continuing this quest through the exploration of women's perceptions of NIA contributes to the growing body of knowledge in women's health.

#### Benefits of Physical Activity

Physical activity is beneficial for women of different ages, backgrounds, and cultures, and has been shown to positively influence a wide variety of physical and mental health conditions (Allen & Phillips, 1997). Regular physical activity can help to prevent and treat coronary heart disease, osteoporosis, diabetes, hypertension, and depression (Harris, Caspersen, DeFriese, & Estes, 1989). Physical activity has also been associated with important psychological and quality-of-life improvements in normal and clinical populations (Folkins & Sime, 1981; Stern & Cleary, 1981). Moreover, as stated in Kern (1994), physical activity can reduce anxiety, depression, tension and stress, and vigor and clear-mindedness (Bahrke & Morgan, 1973; Blumenthal, Williams, Needels, & Wallace, 1982; Berger, 1984; Dishman, 1985; Morgan, 1979).

Buffone and Harper (as cited in Kern, 1994) stated that the literature in the fields of counseling, psychology, health education, occupation therapy, physical therapy, and medicine indicate that aerobic exercise can positively affect one's mental health. According to Dr. Kenneth Cooper (1968), physical function can also be positively influenced through aerobic exercise. Smith and Brandt (1979) found that exercise

can improve self-esteem and body image, as well as be influential in the reduction of tension. Furthermore, emotional development is nourished when one's body is healthy, and regular physical activity can contribute to such state (Brown, 1979; Kern, 1994).

There has been notable research on aerobic exercise and various dimensions of wellness. Choi, Van Horn, Picker, and Roberts (1993) analyzed the mood changes of women after partaking in an aerobics class. They discovered a notable improvement in mood, as well as a significant decrease in fatigue. Another study (Engels, Drouin, Zhu, & Kazmierski, 1998) examined the effects of low-impact, moderate-intensity exercise training with and without wrist weights on functional capacities and mood states in older adults. Psychological vigor improved significantly through the exercise training. Marinelli and Plummer (1999) examined four community activity groups, ages 55 and above, to verify if exercise had any effect on the emotional, mental, social, spiritual, and environmental dimensions of health, as well as overall quality of life. The groups noted that four of the dimensions of health were effected: physical, social, emotional, and intellectual.

#### **Holistic Fitness**

According to a report to the NIH (1992), mind and body are so integrally related that, in practice, it makes little sense to refer to therapies as "mental" or "physical." For example, activities that appear overwhelmingly "physical," such as aerobic exercise, yoga, and dance, can have healthful effects not only on the body but also on such "mental"

challenges as depression and anxiety. On the same level, "mental" approaches such as imagery and meditation, can diminish physical problems such as hypertension and hypercholesterolemia, as well as have salutary psychological effects.

The nature of the mind-body connection facilitated through NIA has been studied to an extent. In Dr. Deborah Kern's (1994) dissertation, she assessed NIA as an internally directed teaching approach that effects selected health variables. The outcome of this research provides insight into the assumption that aerobic activity improves psychological well-being by showing that the positive psychological effects may differ depending on the teaching approach that is used in the aerobic activity (Kern, 1994). These findings are significant and establish a foundation for the nature of NIA to be continually explored and expanded.

#### Evidence of Mind-Body-Spirit Health

In Spontaneous Remission: An Annotated Bibliography, written by O'Regan and Hirshberg (as cited in NIH, 1992), the largest, medical database on spontaneous remission in the world, researchers found that restoring hope in a person with a terminal illness may help instill a "fighting spirit". Those with a fighting spirit were the most likely to still be alive and free of disease.

Matthews, Larson, and Barry (as cited in NIH, 1992), made a major contribution in bringing together the research in the area of spirituality, religion, and health. Through their research, they found that religious and spiritual meanings are correlated with increased physical and mental

health and a lower incidence of a variety of diseases. Therefore, Larson and Larson stated that medical doctors should honor the salutary effects of spiritual meanings in their patients' lives, and inquire about the spiritual and religious issues as assiduously as any physical factor (as cited in NIH, 1992).

Evidence of a mind-body-spirit connection provided in these studies, especially in regard to women's health, provides impetus for further research into programs that enhance a healthy balance between these three human components.

#### CHAPTER III

#### **METHODOLOGY**

The purpose of this study was to explore female participants' perceptions of NIA in relation to body, mind, and spirit. This chapter presents the methodology of this experimental study in relation to its population, procedures used to sample the population, human subjects review, sampling procedures, instrumentation, procedures, and data treatment.

#### Population and Sample Selection

The population used for this study was female participants, age 21-65, which participated in NIA classes at one of four Dallas-Fort Worth Metroplex health and fitness centers. From this population, a convenience sample of 32 subjects in a standard treatment control group was selected.

To be randomly selected for the study, a female participant had to be present in one of the following classes taught by the researcher:

Monday, September 20, 8:30 - 9:45 a.m. at "Class One" and 11:30 a.m. - 12:30 p.m. at "Class Two"; Tuesday, September 22, 4:30 - 5:30 p.m. at "Class Three"; Thursday, September 24, 12:00 -1:00 p.m. at "Class Four"; and Saturday, September 26, 8:00 - 9:00 a.m. at "Class Five" and 10:30 - 11:30 a.m. at "Class Six".

Subjects from all six classes had notable similarities. The majority, if not all, of the participants in the classes were female. Class structure was also similar in regards to format, duration, and purpose. During the initial overview of the survey, there was an insignificant difference in responses amongst the classes, as well. These facts signify a basis that together, all classes had the capacity to be recognized as a homogeneous group.

#### Protection of Human Subjects

Permission was requested and received from Texas Woman's
University Human Subjects Review Committee to conduct this study
(Appendix A). All subjects received both a written and verbal explanation
of the purpose of the study and assurance of anonymity. The participants
were notified that the completion of the survey was considered their
acknowledgment to voluntary participate in the study. They were advised
that non-participation would in no way affect one's relationship with the
researcher. The researcher offered to report the findings of the study to
the participants.

#### Instrumentation

The instrument (Appendix C), along with the demographic data sheet, was developed by the researcher with the assistance from three experts in the field of holistic fitness, NIA and traditional health, Dr. Deborah Kern, Dr. Eva Doyle, and Sandy Minor. They provided feedback and useful suggestions on the instrument design and phraseology. A draft of the instrument was then distributed to two experts in the field of

mind-body health who are also experienced in developing and teaching NIA classes. These experts assessed the instrument for construct and context validity, along with readability. Revisions to the instrument were made in relation to the suggestions. Following the revisions, the survey was given to persons similar to the actual participants to assess the instrument clarity.

The instrument, entitled Women's Perceptions of NIA, is a 15-item Likert scale that measures participants' physical, mental, and spiritual perceptions of NIA (Appendix C). The items were scored using a fivepoint response system from "always," which indicated high agreement, to "never," which indicated low agreement. Because a response of "never" to items 2, 4, 7, 9, 12, and 14 would indicate a high level of agreement these items were reversed in the data coding procedures. Items were placed in an individual section according to their meaning and ability to support to defined section. Participants were asked to answer an openended, qualitative question: "What are your reasons for participating in NIA classes?" This question allowed the participants to fully express their perceptions, thoughts, and feelings about NIA, and what it contributes to their lives. The demographic information (age of respondent, education level, occupation, current physical activities, frequency of participation in NIA classes, and duration of participation in NIA classes) was collected for appropriate information about the sample.

A sample population similar to the actual population was located at the Arlington Yoga Center. The instrument was distributed to the female NIA participants' after completion of the Agolo routine, which was lead by Marinda Hollar, a NIA White Belt Instructor and owner of Arlington Yoga Center. Participants' were assured anonymity and asked for feedback on the readability and clarity, as well as understanding the phraseology of the instrument. One participant suggested the word "playful" or "childlike" be included. That suggestion was implemented in place of the word "connected" under the section of spirit. Another participant suggested the word "fun" be added; however, that was not implemented due to its incompatibility with statement wordings.

#### **Procedures**

Following are the study procedures in sequential order: obtaining agency approvals, NIA class intervention, and administration of the survey.

#### Step One: Obtaining Agency Approval

A letter of explanation and permission to administer the survey was submitted to the selected facility owners or managers (Appendix B).

Permission was granted from the owner of Inursha Fitness Facility, the manager of Women's Fit for Life, the aerobics coordinator at The Ranch Health Club, and the Director of Marketing at Shady Oaks Country Club.

# Step Two: NIA Class Intervention

Upon arrival to a NIA class, the participants were informed of the study and asked to voluntarily participate in the survey at the end of class. Agolo was the chosen routine for the classes. The class focus, based upon the Agolo routine, was the extensions of the body through

movement and breath. The researcher consulted with an expert and Black Belt Instructor of NIA, Dr. Deborah Kern, to assist in deciding which routine to utilize. The one-hour NIA class then took place. The same routine was taught in all classes to reduce potential bias and create congruency. In this study, the researcher and the instructor of the NIA classes was one in the same.

#### Step Three: Administration of the Survey

After the participants completed the class, the procedures for collecting data were addressed. They were advised that participation was entirely voluntary and that non-participation would in no way affect one's relationship with the researcher. Those who choose not to participate were allowed to leave at this point. The survey (Appendix C) was then distributed. All subjects received both a written and verbal explanation of the purpose of the study and assurance of anonymity. The participants were notified that the completion of the survey was considered voluntary participation in the study.

Participants were given as much time as necessary to complete the survey. In all five classes, participants averaged five minutes to complete the survey. In class one, two, four, and five, all 14 participants completed the survey. In class three and six, five out of seven (71%) and 13 out of 20 (65%), respectively, completed the survey. Upon completion, the participants returned the survey to the researcher.

#### Treatment of Data

Data from the demographic segment of the survey were tallied and noted. This information was used to describe the population of study in regard to current physical activities, frequency of participation in NIA classes, duration of participation in NIA classes, age of respondent, education level, and occupation.

The PC version of SPSS was used to record and analyze Likertitems. The inter-item reliability coefficient was calculated to verify reliability. According to Benson & Clark (1982), the instrument inter-item reliability level should be at a minimum of .80. The calculated score was Alpha = .76; therefore, the reliability coefficient fell slightly below the  $r \ge .80$  expectation. Because the alpha coefficient was so close to the minimum .80 expectation, total scale scores were also calculated and reported with interpretive caution. Mean scores of all respondents for each Likert item were then calculated and reported.

A random selection of 20 completed surveys was used to examine the responses to the qualitative question. The data was scanned for recognizable concepts, then coded. The coding process allowed emerging themes to be discovered. Themes were classified into separate categories. Variations and nuances within the themes were noted. Saturation, at this point, became evident.

#### **CHAPTER IV**

#### **FINDINGS**

In this study, a descriptive approach was utilized to explore females' perceptions of NIA in relation to their body, mind, and spirit. A demographic section was developed and reported in order to describe the population of the study. Both quantitative and qualitative data collection approaches were implemented. The quantitative data were compiled by means of a Likert scale utilizing items that represented elements of body, mind, and spirit. Data were reported in Table 1. The open-ended, qualitative question focused on the participants' reasons for participating in NIA. The raw data were recorded in Appendix D.

#### Demographics

All but one of the 32 participants, 31 completed the demographic segment of the survey. Because this participant complied with participation agreement protocols, her survey responses were still included in the study.

The first demographics question (Appendix C) asked the participants about their current involvement in other physical activities besides NIA. All 31 participants answered "yes" to participating in other activities. From the responses, it was noted that 18 (58%) partook in weight training, 15 (48%) walked on a regular basis, 11 (35%) participated in other aerobic classes, and 8 (26%) participated in yoga

classes. Outdoor activities (i.e., rollerblading, yardwork, and tennis), utilizing aerobic exercise equipment, and water aerobics were also mentioned by ten (32%) participants.

The second demographics question (Appendix C) inquired about the frequency of participation in NIA classes. The responses were as follows: 2 (6%) women answered "couple of times a month"; 14 (45%) women responded to "once a week"; 10 (32%) replied "twice a week"; and 5 (16%) answered "three or more times a week". The third question explored the duration of participation in NIA classes. The participants responded as follows: 14 (45%) noted "1-3 months"; 7 (23%) recorded "4-6 months"; 8 (26%) answered "6 months - 1 year"; and 2 (6%) replied "over 1 year".

The final portion of the demographic section contained information about the participants' age, level of education, and occupation (Appendix C). The age range of the participants was 21-65. Age groups were tallied as follows: 3 (9%) were between 20 - 29 years of age, 11 (35%) were between 30 - 39 years of age, 9 (29%) were between 40 - 49 years of age, 4 (13%) were between 50 - 59 years of age, and 3 (9%) were 60 - 69 years of age.

Level of completed education spanned from Masters' degree to high school. Of the participants in the study, 6 (19%) completed a Masters' degree and 15 (48%) completed a college degree. Three (10%) participants finished either junior college, business school, or high school. There were 5 (16%) women who recorded finishing two years of college.

In regard to occupation, 8 (26%) were homemakers, 7 (23%) were in management, and 5 (16%) were self-employed/consultants. Two (6%) women were either teachers or interior designers. Of the other participants, occupations included: speech pathologist, certified public accountant, massage therapist, mental health therapist, waitress, flight attendant, and artist.

#### **Quantitative Survey Responses**

Cronbach's alpha was calculated to determine the inter-item reliability of the total score. The resulting standardized item alpha of .76 was slightly lower than the pre-set reliability minimum of  $r \geq .80$ , as stated by Benson and Clark. For this reason, score means for each individual scale item were reported in the following section. Because the alpha coefficient was so close to the .80 minimum, total scale scores were also reported in a subsequent section.

#### **Individual Item Means**

The group mean score and standard deviation were determined for each individual Likert scale item. Table 1 contains the group mean score for each individual item. Noted are three items with a mean score below 4.0. Those were "Forced" (3.66), "Beautiful" (3.78), and "Fatigued" (3.81). All other items had a mean score above 4.0. Likewise, the standard deviations for the same three items were higher than the other scored items: "Forced" (1.15), "Beautiful" (1.07), and "Fatigued" (0.97).

Table 1

Individual Item Group Mean Score Table (n=32)

Item	Mean	Standard Deviation
1 Invigorated	4.74	0.44
<ol> <li>Invigorated</li> <li>Forced</li> </ol>	3.66	1.15
3. Beautiful	3.78	1.07
4. Fatigued	3.81	0.96
<ol><li>Energized</li></ol>	4.75	0.44
6. Alert	4.66	0.55
<ol><li>Confused</li></ol>	4.22	0.79
8. Calm	4.59	0.56
<ol><li>Frustrated</li></ol>	4.53	0.72
10. Attentive	4.59	0.56
11. Alive	4.91	0.30
12. Isolated	4.44	0.80
13. Playful	4.38	0.61
14. Apathetic	4.69	0.69
15. Purpose	4.53	0.57

#### Total Scale Mean Scores

The total possible score for the Likert scale ranged from 15 to 75. Perception scores were interpreted as low (15-34), moderate (35-55), or high (56-75). The actual survey scores ranged from 57-75, placing all 32 participants into the high score range (high/positive perceptions of NIA). The total scale group mean score was 66.44.

#### Qualitative Survey Responses

The raw data from 20 instruments were placed into Appendix D to begin the understanding and verification of the proceedings. The coding process was implemented through the use of colored pencils. Each color signified either a theme or a variation within the theme. Once the coding process was completed, the data was placed on butcher paper to verify significance among the themes.

Data were collected from an open-ended question which asked,
"The reasons I participate in NIA classes are....". A random selection of 20
questionnaires provided the raw data presented in Appendix D. The
process of coding brought forth five emerging themes: "body", "mind",
"spirit", "quality of life", and "sense of self." Within each theme,
variations and nuances were identified. Comparisons across categories
were subsequently applied to explore connections between themes.

The first theme identified was "body," comprised of responses that contained that word. The term body was used in a variety of ways. One women wrote, "I love the way my body releases (hips, shoulders, back)," while a different participant recorded, "It's a great combination of full range of movement and body awareness." Variations within the "body" theme (Appendix E) were identified as exercise, movement, workout, physical, awareness, energized, body parts, and dance.

"Mind," an emergent theme, was comprised of reasons why women participated in NIA. The words mental and think (Appendix E) were also used as variations to the "mind" theme. Two women shared the following

statements, indicating that NIA was used to "gain connection with my mind." and "be attentive to my own mental needs." Two others stated that "It helps me think more clearly." and "It awakens my mind."

The theme of "spirit" represented numerous assertions regarding the spiritual outcomes of participating in NIA. Natural force, spiritual oneness, peace, serenity, and soul (Appendix E) were words used to express the women's reasons for participating in NIA classes. Notable quotes included: "I feel spiritual and at peace.", "I feel as though me spirit is lifted.", and "Connection with the natural force that endows us with.... and spiritual oneness."

The emerging theme of "quality of life," a multi-dimensional health concept, provides another avenue for understanding women's reasons for participating in NIA. Within the context of "quality of life," (Appendix E) diverse insights were recorded in the form of stress reduction, personal enjoyment, accomplishment, and companionship. The following are examples of supportive statements written by the participants: "Because I love the way it makes me feel - .... stress from the week before is gone.", "Become more positive and to get in a good mood.", and "It is fun!" They also noted "a feeling of accomplishment at class end" and "an opportunity to enjoy companionship of co-exercisers."

"Sense of self" emerged as an encouraging theme. Thematic words

(Appendix E) that validate this theme were "To get a well rounded me.

This class makes me the best me. Reminds you that you are beautiful and worth the best of everything. Great for my outlook on self and body." and "It truly... gives me a sense of well-being."

Comparisons across categories revealed impressive connections between themes. The following statements provide a connection between the themes of "body" and "spirit": "I feel spiritual and at peace, at the some time feeling energized.", "It makes me feel wonderful inside and out", and "Balance of body and soul; strength and rhythm, again in body and soul. Connection with the natural force that endows us with physical ability and spiritual oneness." Written words such as, "A way to exercise and at the same time become more positive and to get in a good mood," provide a glimpse into the connection between "body" and "quality of life". "Body" and "mind" become united in statements such as, "To gain connection with my mind and body. It is one hour in any week that I know my body is beautiful." This convincing example contributes insights into the correlation between "body", "spirit", and "quality of life", "Because I love the way it makes me feel - beautiful movements that make me feel like I've gotten a workout yet I feel as though my spirit is lifted and stress from the week before is gone." These illustrations give understanding to the connection between themes.

#### **CHAPTER V**

#### SUMMARY AND DISCUSSION

The purpose of this study was to explore female participants' perceptions of NIA in relation to their body, mind, and spirit. This exploration examined this relationship by utilizing an instrument containing demographic information, a 15-item Likert scale, and an openended question.

#### **Demographics**

The involvement of participants in other physical activities, besides NIA, was unanimous. Of the activities, weight training, walking, aerobic classes, and yoga, respectively, were the most noted. Cardiovascular equipment, outdoor activities (i.e., rollerblading, yardwork, and tennis), and water aerobics followed. Participation in other physical activities could be due to the women's understanding and need to participate in a variety of activities to maintain, as well as increase overall health.

Participation frequency and duration were two areas of consideration. The majority of the participants participated in NIA classes either "once a week" or "twice a week." Considering that the health and fitness clubs in which the data were collected offer NIA classes only one to four times per week could be a significant influence on this response.

Another influential circumstance could have been that the NIA classes are not offered during prime time slots. Duration of participation was noted

by the majority reporting "one to three months", while the responses of "four to six months" and "six months to one year" were equally reported. Of the five data collection sites, only two have offered NIA for more than one year, therefore, potentially contributing to the low score in the over one year category.

The areas of age, education, and occupation were worth noting. The age range of the participants ranged from 21 - 65 years. However, more women in their 30's and 40's were participants in this study. A Masters' degree was the highest completed level of education, and a four year college degree was the most frequently reported. As a single profession, homemaker was tallied most frequently. Yet, as a group, most women were either in management, self-employed/consultant, or specialized professional. In summary, it appears that women of all ages, education levels, and occupations participate in NIA classes; however, well-educated, professional women in their 30's and 40's tend to be drawn to NIA classes more frequently. Nonetheless, because of the small sample size, more research would be needed to generalize findings.

# Quantitative Responses

There were three items, "Forced", "Beautiful", and "Fatigued", below a group mean score of 4.0. A possible reason for this position could be the participants' interpretation of the meaning of the words. Further research would be necessary to validate the usage of these particular words, as well as the interpretation and meaning. Addressing the inter-item reliability by increasing the number of participants in the study could also be a promising factor to consider. If improvements were

completed on the scale, its usage could possibly be implemented in further research on this subject matter.

The total possible score for each participant ranked as having a high perception of NIA. Contributing factors could be a high overall understanding of the concepts surrounding NIA and participants' ability to delineate the value of NIA in their personal life. Another possibility could be that simple enjoyment, without full understanding, could produce the same result.

### Qualitative Responses

The emerging themes, "body," "mind," and "spirit," were simpler to identify than "quality of life" and "sense of self." A potential explanation for this scenario could be the utilization of the words body, mind, and spirit in the Likert scale items, which preceded the asking of the qualitative question. Those particular words could have been prevalent in the women's thought process during the writing of open-ended question. The "quality of life" and "sense of self" emerged more slowly after examining the responses more closely. In each individual category, a prevailing theme was present which allowed the themes to be identified.

The phraseology expressed by the participants provides extraordinary insight into the reasons why women participate in NIA classes and the connection among the themes. Participant #16, a woman who was 36 years of age and a Speech Pathologist, expressed her reasons for participating in NIA classes were, "increased body awareness, stress reduction, and peace of mind." Participant #6, a woman 43 years of age and a manager of oil and gas production and operation, proclaimed

her reasons for attending NIA classes were, "to exercise the body, calm the soul, and be attentive to my own physical, spiritual and mental needs." Assessing these insightful words provided a foundation that women who participate in NIA perceived a positive relationship between their body, mind, and spirit as a result of that participation.

### Recommendations

Based on the data and the findings in this study, the following recommendations were suggested:

- Replicate this study utilizing a larger number of participants to enhance the strength and relevance of the research.
- More in-depth instrument testing for higher reliability, validity and consistency.
- 3. Expand on the qualitative portion of the research by conducting interviews and implementing focus groups.
- 4. Distribute instrument to non-NIA participants.
- Compare body, mind, and spirit perceptions of NIA participants to those who participate in different types of physical activities.
- Measure body, mind, and spirit perceptions in relation to other NIA routines.

### Conclusion

In conclusion, this study was a promising exploration of women's perceptions of NIA in relation to their body, mind, and spirit.

 Total possible scores of all participants ranked in the high range for positive perceptions of NIA.

- The inter-item reliability coefficient was scored at Alpha = .76; therefore, the alpha is evidence of a relatively high level of interitem reliability. However, a need to improve the reliability still exists.
- 3. The open-ended question requesting the reasons women participated in NIA allowed emerging themes to evolve that validated positive perceptions of their participation in NIA in relation to their body, mind, and spirit.

This study provided insight into the assumption that NIA could have an effect on women's physical, mental, and spiritual being. The findings in this study are encouraging and may have notable use for health educators. Becoming more educated about the effectiveness and benefits of NIA and holistic fitness, in general, could be beneficial for both the health educator and their clientele. Health educators could act as resource in the arena of holistic fitness, enabling women to seek physical activities which benefit the whole person. This networking could then provide an influential path for women seeking a higher level of health and well-being.

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# **APPENDICES**

### APPENDIX A

Approval from TWU Human Subjects Review Committee

# TEXAS WOMAN'S UNIVERSITY

DENTON / DALLAS / HOUSTON

HUMAN SUBJECTS REVIEW COMMITTEE P.O. Box 425619 Denton, TX 76204-5619 Phone: 940/898-3377 Fax: 940/898-3416

September 8, 1999

Ms. Jessica Hall Perez 2237 6th Avenue Ft. Worth, TX 76110

Social Security # 442-80-1054

Dear Ms. Perez:

Re: Women's Perceptions of the Relationship Between Neuromuscular Integrative Action (NIA) and Body, Mind and Spirit

The above referenced study has been reviewed by a committee of the Human Subjects Review Committee and appears to meet our requirements in regard to protection of individuals' rights.

Be reminded that both the University and the Department of Health and Human Services (HHS) regulations typically require that agency approval letters and signatures indicating informed consent be obtained from all human subjects in your study. As applicable to your study, these consent forms and agency approval letters are to be filed with the Human Subjects Review Committee at the completion of the study. However, because you do not utilize a signed consent form for your study, the filing of signatures of subjects with the HSRC is not required.

Your study was determined to be exempt from further TWU HSRC review. However, another review by the Committee is required if your project changes. If you have any questions, please feel free to call the Human Subjects Review Committee at the phone number listed above.

Sincerely,

Dr. Linda Rubin, Chair

Li Ca Puli

Human Subjects Review Committee - Denton

cc. Dr. Susan Ward, Department of Health Studies
 Dr. Eva Doyle, Department of Health Studies
 Graduate School

### APPENDIX B

Agency Permission Letters for Conducting Study



August 30,1999

Jessica Hall Perez 2237 6<sup>th</sup> Avenue Ft. Worth, TX 76110 817-923-2237

Marinda Hollar

(817) 274-2021

To: Marinda Hollar

Owner and Manager Arlington Yoga Center

This letter is to ask permission to conduct my thesis study at your facility. I will be distributing a survey to the participants in the Neuromuscular Integrative Action (NIA) classes. It will be distributed upon completion of a NIA class.

The survey will contain items that measure women's perceptions of NIA; therefore, only women will be participating in this study. Survey distribution will take place over a three-week period in September. It will take approximately 10 minutes to complete the survey. The results of the questionnaire will be kept confidential, as there is no name identification.

Participation is this study is voluntary. Refusal to participate will involve no adversity or loss of benefits which are otherwise entitled. Participants may also respectfully withdraw at any time without penalty.

If you have any question about this study and the participants' rights, you may contact Jessica Hall Perez at 817-923-2237.

Please sign below to state your approval:

Marinda Hollar





August 30, 1999

Jessica Hall Perez 2237 6<sup>th</sup> Avenue Fort Worth, Texas 76110 817-923-2237

UNLEASH

To: Megan Davis

Owner and Manager Inursha Fitness Facility

YOUR

This letter is to ask permission to conduct my thesis study at your facility. I will be distributing a survey to the participants in the Neuromuscular Integrative Action (NIA) classes. It will be distributed upon completion of a NIA class.

KINETIC

The survey will contain items that measure women's perceptions of NIA; therefore, only women will be participating in this study. Survey distribution will take place over a three-week period in September. It will take approximately 10 minutes to complete the survey. The results of the questionnaire will be kept confidential, as there is no name identification.

POTENTIAL

Participation in this study is voluntary. Refusal to participate will involve no adversity or loss of benefits which are otherwise entitled. Participants may also respectfully withdraw at any time without penalty.

525 BAILEY AVE.

If you have any questions about this study and the participants' rights, you may contact Jessica Hall Perez at 817-923-2237

FORT WORTH, TX

Please sign below to state your approval:

FORT WORTH, IX

Megan Davis

76107

Agree so she above as long as paid class time is not distribed.

v. 817.332.7554

f. 817.737.8402



# Fit For Life Centers



August 30,1999

Jessica Hall Perez 2237 6<sup>th</sup> Avenue Ft. Worth, TX 76110 817-923-2237

To: Pamela Andrews

Manager

Women's Fit for Life

This letter is to ask permission to conduct my thesis study at your facility. I will be distributing a survey to the participants in the Neuromuscular Integrative Action (NIA) classes. It will be distributed upon completion of a NIA class.

The survey will contain items that measure women's perceptions of NIA; therefore, only women will be participating in this study. Survey distribution will take place over a three-week period in September. It will take approximately 10 minutes to complete the survey. The results of the questionnaire will be kept confidential, as there is no name identification.

Participation is this study is voluntary. Refusal to participate will involve no adversity or loss of benefits which are otherwise entitled. Participants may also respectfully withdraw at any time without penalty.

If you have any question about this study and the participants' rights, you may contact Jessica Hall Perez at 817-923-2237.

Please sign below to state your approval:

Pamela Andrews

Corporate Offices: P.O. Box 170787 Arlington, Texas 76003 Phone: (817) 561-6609 Fax: (817) 561-6128 E-Mail: fit4lifecenter@hotmail.com



August 30, 1999

Jessica Hall Perez 2237 6<sup>th</sup> Avenue Ft. Worth, TX 76110 817-923-2237

To: Ross Walker

Marketing Director

Shady Oaks Country Club

This letter is to ask permission to conduct my thesis study at your facility. I will be distributing a survey to the participants in the Neuromuscular Integrative Action (NIA) classes. It will be distributed upon completion of a NIA class.

The survey will contain items that measure women's perceptions of NIA; therefore, only women will be participating in this study. Survey distribution will take place over a three-week period in September. It will take approximately 10 minutes to complete the survey. The results of the questionnaire will be kept confidential, as there is no name identification.

Participation in this study is voluntary. Refusal to participate will involve no adversity or loss of benefits which are otherwise entitled. Participants may also respectfully withdraw at any time without penalty.

If you have any question about this study and the participants' rights, you may contact Jessica Hall Perez at 817-923-2237.

Please sign below to state your approval:

Ross Walker



August 28,1999

Jessica Hall Perez 2237 6<sup>th</sup> Avenue Ft. Worth, TX 76110 817-923-2237

To: Annie Charron
Aerobics Coordinator
The Ranch Health and Fitness Center

This letter is to ask permission to conduct my thesis study at your facility. I will be distributing a survey to the participants in the Neuromuscular Integrative Action (NIA) classes. It will be distributed upon completion of a NIA class.

The survey will contain items that measure women's perceptions of NIA; therefore, only women will be participating in this study. Survey distribution will take place over a three-week period in September. It will take approximately 10 minutes to complete the survey. The results of the questionnaire will be kept confidential, as there is no name identification.

Participation is this study is voluntary. Refusal to participate will involve no adversity or loss of benefits which are otherwise entitled. Participants may also respectfully withdraw at any time without penalty.

If you have any question about this study and the participants' rights, you may contact Jessica Hall Perez at 817-923-2237.

Please sign below to state your approval:

Annie Charron

# APPENDIX C

Women's Perceptions of NIA Survey

Women's Perceptions of NIA
"I understand that the return of my completed questionnaire constitutes my informed consent to act as a subject in this research."

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1=Alv		equently	3=Sometii			Rarely		leve
When	I participate Invigorated	in NIA my b	ody feels:	1	2	3	4	5
	Forced			1	2	3	4	5
	Beautiful			1	2	3	4	5
	Fatigued			1	2	3	4	5
	Energized			1	2	3	4	5
When	I participate Alert	in NIA my n	nind feels:	1	2	3	4	5
	Confused			1	2	3	4	5
	Calm			1	2	3	4	5
	Frustrated			1	2	3	4	5
	Attentive			1	2	3	4	5
When	I participate Alive	in NIA my s	pirit feels:	1	2	3	4	5
	Isolated			1	2	3	4	5
	Playful			1	2	3	4	5
	Apathetic			1	2	3	4	5
	Purposeful			1	2	3	4	5
Please The re	e fill-in your p easons I parti	perceptions of the contract of	of this staten A classes are	nent.				
						over	please	 e ->
						2007		

Are you currently	involved in other	physical activiti	es, besides NIA?
Yes No If Yes	s, please describe	e:	
How often do you	participate in NIA	A classes?	
Couple of times a	month Or	nce a week	Twice a week
Three or more tim	es a week		
For how long have	you participated	l in NIA classes?	•
1-3 months	4-6 months	6 months -	1 year Over 1 year
Age:	Education	n Level Complete	ed:
Occupation:			

### APPENDIX D

Qualitative Survey Responses as Raw Data

# Qualitative Question: The reasons I participate in NIA are:

Participant	Answer
1	A way to exercise and at the same time become more positive and to get in a good mood.
2	The freedom of using my body with an individual input and an opportunity to enjoy companionship of co-exercisers.
3	To gain connection with my mind and body. It is the one hour in any week that I know my body is beautiful.
4	The calming music, smooth movement, feeling of accomplishment at class end.
<b>5</b>	It makes me feel good. I feel spiritual and at peace, at the same time feeling energized.
6	To exercise the body, calm the soul and be attentive to my own physical, spiritual and mental needs.
7	It's a great combination of full range of movement and body awareness, and a mental freedom.
8	Exercise; feel beautiful while I dance; not like normal exercise - makes it easier.
9	They are an excellent workout, safe for joints, playful and childlike, fun and healthy. Makes for a happier day.
10	NIA is an incredible experience - it awakens my mind and spirit. I LOVE NIA & JESSICA.
11	It makes me feel wonderful inside and out. It challenges my ability to stay flexible. It truly energizes me and helps me to think more clearly and gives me a sense of well-being.

12	Balance of body and soul; strength and rhythm, again in body and soul. Connection with the natural force that endows us with physical ability and spiritual oneness.
13	I release stress and gain serenity. I love the way my body releases (hips, shoulders, back). It is the most relaxing way to exercise for me. I end the class with a feeling of love flowing throughout my body. I really enjoy your classes.
14	To get a well rounded me. This class makes me the best me. Reminds you that you are beautiful and worth the best of everything. Great for my outlook on self and body. Energizes me to workout.
15	Because I love the way it makes me feel - beautiful movements that make me feel like I've gotten a workout yet I feel as though my spirit is lifted and stress from the week before is gone.
16	Increased body awareness, stress reduction, and peace of mind.
17	Fun! Energizing exercise and full body experience.
18	Makes me feel good.
19	To stretch mind, body and spirit.
20	It is fun and I love the fluid movements.

## APPENDIX E

Raw Data Categorized by Theme

## THEME ONE - BODY

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tten a workout.
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## THEME TWO - MIND

Participant	Answer	
3	To gain connection with my mind.	
6	Be attentive to my own mental needs.	
7	A mental freedom.	
10	It awakens my mind.	
11	Helps me to think more clearly.	
16	Peace of mind.	
19	To stretch mind.	

# THEME THREE - SPIRIT

Participant	Answer
5	I feel spiritual and at peace.
6	Calm the soul and be attentive to my own spiritual needs.
10	It awakens my spirit.
12	Balance of soul; strength and rhythm, again in soul. Connection with the natural force that endows us withspiritual oneness.
13	Gain serenity.
15	I feel as though my spirit is lifted.

# THEME FOUR - QUALITY OF LIFE

Wasser State of the State of th			
Participant	Answer		
1	Become more positive and to get in a good mood.		
2	Opportunity to enjoy companionship of co-exercisers.		
4	The calming music and feeling of accomplishment at class end.		
5	It makes me feel good at the same time feeling energized.		
9	They are an excellent workout, safe for joints, playful and childlike, fun and healthy. Makes for a happier day.		
10	NIA is an incredible experience - it awakens my mind and spirit. I LOVE NIA & JESSICA.		
11	It challenges my ability to stay flexible. It truly energizes me.		
13	Release stress.		
15	Because I love the way it makes me feel - stress from the week before is gone.		
16	Stress reduction.		
17	Fun!		
18	Makes me feel good.		
20	It is fun.		

## THEME FIVE - SENSE OF SELF

Participant	Answer
11	It makes me feel wonderful inside and out. Gives me a sense of well-being.
14	To get a well rounded me. This class makes me the best me. Reminds you that you are beautiful and worth the best of everything. Great for my outlook on self.