THE EFFECTS OF JIN SHIN JYUTSU

ON PERCEIVED STRESS IN NURSES

by

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ABSTRACT

Purpose of the Study:

1) To determine the effects, if any, of Jin Shin Jyutsu (a healing art similar to acupressure) on perceived stress in nurses.

2) To add to the body of nursing knowledge about alternative therapeutic modalities.

Methodology:

The study sample consisted of 34 nurses recruited from local hospitals. The study instruments consisted of a) a questionnaire rating perceived stress and somatic stress-related symptoms, b) a subjective responses questionnaire asking subjects to describe their reactions to Jin Shin Jyutsu treatment, and c) a follow-up questionnaire asking subjects about changes resulting from treatments, and use of Jin Shin Jyutsu for self-help.

The study utilized a modified cross-over design, wherein subjects were randomly placed in one of two groups. One group received a series of six Jin Shin Jyutsu treatments during the first eight weeks of the study period. The other group (control) received a series of six Jin Shin Jyutsu treatments during the second eight weeks of the study period, after completing the perceived stress/somatic stress questionnaire a second time. All subjects completed a subjective responses questionnaire after receiving the series of six treatments, and the follow-up questionnaire eight weeks after receiving the series of six treatments.

Findings:

Quantitative data obtained from the study instrument were analyzed using the Wilcoxan matched-pairs signed-rank test. No significant differences were found in the control group after a six week period with no intervention. All groups demonstrated significant decreases in perceived stress scores ($p=.0003$), and

somatic stress scores (p=.0001) after a series of six Jin Shin Jyutsu treatments.

Data analysis of subjective responses to treatments revealed that 62% of subjects reported feeling more relaxed, 53% reported feeling more centered, calmer, or integrated, 41% reported improved coping, and 38% reported decreased pain or tension.

Conclusions:

This study demonstrates measurable positive responses to Jin Shin Jyutsu treatment, indicating that it may be a valuable nursing intervention for helping clients manage stress and cope with stress-related somatic symptoms.

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DEDICATION

This thesis is dedicated with gratitude to Mary Burmeister for sharing the art of Jin Shin Jyutsu with us all.

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I would also like to thank my partner, Fred, for the time and effort he contributed to this project, which included organizing the graphics, and many hours of quality parenting of our young daughter, Genevieve.

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CHAPTER ONE

Introduction

Jin Shin Jyutsu is a healing art which uses hand contact at specific points on the body in an attempt to promote energy flow, thereby improving health and well-being. Jin Shin Jyutsu is an ancient art which was rediscovered in this century by Master Jiro Murai in Japan and has been taught in the United States by Mary Burmeister since the 1950's.

There is a growing interest among health care providers and health care consumers in the relationships between lifestyle, stress, health and disease. The burgeoning fields of behavioral medicine and psychoneuroimmunology attest to this phenomenon. The health promoting value of non-traditional modalities is being increasingly recognized.

A growing number of nurses are learning and using alternative healing modalities. Nurses are acutely aware of how illness and discomfort affect the lives of their patients, and are motivated to help relieve their suffering. Alternative therapies may help, particularly when traditional western medicine falls short. Any modality that may help a patient feel more comfortable, physically or mentally, or helps them cope with their situation, deserves evaluation. At the same time, it is important that alternative therapies be determined credible and effective before they are incorporated into nursing practice.

Jin Shin Jyutsu emphasizes self-help and "getting to know myself" (Burmeister, 1980, p. 1). Clients are taught Jin Shin Jyutsu self-help, and practitioners are encouraged to use self-help and/or receive regular Jin Shin Jyutsu treatments as needed to maintain health and balance.

Effective methods of self-help to maintain health are of value for several reasons. Preventive health care and a focus on wellness are emphasized in nursing practice. Clients are empowered by learning skills which help them take care of themselves. With the current nursing shortage and high rate of professional burnout, modalities which foster self-care for nurses are of value (Jacobsen & McGrath, 1983).

Background and Significance of the Problem

Stress and stress management are relevant issues for any health professional. Stress related disorders account for 50-80% of all diseases (Rossi & Lubbers, 1989; Lazarus, 1976), costing an estimated $150 billion per year (Pelletier & Lutz, 1989). From 1982 to 1986, stress related claims accounted for 10% of all expenditures of health benefits in California (Pelletier & Frecknel, 1989). Stress has been linked to numerous conditions and diseases, including heart attack and peripheral vascular disease, angina, migraine headaches, arrhythmias, ulcers and colitis, chronic pain, sleep disorders, tension headaches, autoimmune disorders, infection, asthma, allergies, backache, muscle tension and

arthritis (Blattner, 1981; Brown, 1984).

Nurses and nurse practitioners provide care for many patients/clients whose symptoms may be related to or complicated by stress. The California Nurses Association supports the practice of relaxation and suggestive therapies (e.g., progressive relaxation, biofeedback, autogenic training, hypnosis), and points out that the independent role of the nurse emphasizes "... preserving wellness in the whole patient" (California Nurses Association, 1982).

According to Fagin (1987), clinical research in nursing is needed to provide nursing with a scientific basis for determining who is stressed, and appropriate interventions for stressed patients. She states, "In the foreseeable future, nursing research should add to our understanding of stress and increase our knowledge of coping strategies, thus helping to close the link between health and behavior" (p. 41).

Need for the Present Study

Despite anecdotally reported positive responses of many clients to Jin Shin Jyutsu treatments and the growing number of practitioners, there is a paucity of literature about the subject. There have been only two journal articles published about Jin Shin Jyutsu (Higgins, 1988; Calvert, 1989). A doctoral study by Mines (1986) utilized Jin Shin Jyutsu as one of the several therapeutic modalities employed with a group of disabled persons in a holistic therapy

program. A doctoral study by Schubert examining the aspects of holistic nursing practice in the private setting and nurse-client interactions included four nurses (total n=12) who practiced Jin Shin Jyutsu on their clients. The only study to date focusing specifically on Jin Shin Jyutsu is a descriptive study (n=8) by Hebler (1993) exploring the subjective experiences of practitioners and clients with Jin Shin Jyutsu.

In view of this paucity of literature and documentation, any study of Jin Shin Jyutsu which would provide information about its processes, experiences, effectiveness or ineffectiveness would be useful at this time. This is true particularly because a growing number of nurses are becoming involved in the practice of Jin Shin Jyutsu, and it is important that the credibility of this modality be examined if it is to be incorporated into nursing practice.

This researcher has chosen to focus on perceived stress and how it is affected by Jin Shin Jyutsu for the following reasons:

1) Clients frequently report feeling relaxed after Jin Shin Jyutsu treatments, which implies that they are less stressed.
2) Many common somatic problems are stress related; according to Pelletier and Lutz (1989), "60 to 90% of all visits to health professionals are for stress-related disorders" (p. 28).

3) Stress management is within the domain of nursing practice. Article 2 of the California Nurse Practice Act (1985) states that the practice of nursing includes "helping people cope with difficulties in daily living which are associated with their actual or potential health problems ...." This includes the performance of disease prevention and restorative measures. Stress management and Jin Shin Jyutsu fall into these categories.

Purpose

The purpose of this study is to investigate the effects of Jin Shin Jyutsu, particularly the effects of Jin Shin Jyutsu on perceived stress in a select group of nurses.

Research Question

The primary research question this study seeks to explore is: "What is the relationship between Jin Shin Jyutsu treatment and perceived stress in a select group of nurses?"

The following three research questions will provide input to the primary question:

1) Does Jin Shin Jyutsu treatment result in a decrease in perceived stress as measured by the perceived Stress Scale (Cohen & Williamson, 1988) in a select group of nurses? Jin Shin Jyutsu treatment in this study is defined as a series of 6 fifty-five minute treatments given over a six to eight week period.

2) Does Jin Shin Jyutsu treatment result in a decrease in somatic stress symptoms in a select group of nurses? Somatic stress symptoms in this study are defined as responses to questions developed by this researcher and approved by a panel of six experts in the fields of nursing and psychology. These questions address sleep difficulties, headaches, muscle pain or tension, chest tightness or discomfort, nausea or upset stomach, and feeling low in energy.

3) What are some of the subjective responses in Jin Shin Jyutsu in a select group of nurses? Subjective responses will be obtained in this study by providing participants a questionnaire with open ended questions regarding various aspects of their experience and reactions to Jin Shin Jyutsu treatment.

Hypothesis and Objectives

The hypothesis used to guide this study is: Jin Shin Jyutsu treatments reduce stress as perceived by the subject.

The objectives of this study are:

1) To determine the effect, if any, of Jin Shin Jyutsu on perceived stress.

2) To add to the body of nursing knowledge of alternative therapeutic modalities.

3) To add to the body of knowledge and literature about Jin Shin Jyutsu.

Assumptions

The four basic assumptions of this study are:

1) There is a subtle energy flowing throughout the body, which is related to physical health and emotional balance.

2) The flow of this energy can be affected by hand contact at specific points on the body, using Jin Shin Jyutsu.

3) Participants in this study were generally healthy. This is based on the assumption that a nurse must be essentially healthy in order to work 16 hours or more per week, which was a requirement for participation in the study.

4) Increased levels of perceived stress will have detrimental effects on health and well-being.

Scope and Limitations of the Study

The scope of this study is a beginning exploration into possible effects of Jin Shin Jyutsu treatment in general, and the effects of Jin Shin Jyutsu treatment on perceived stress, in particular. The results are only applicable to a group similar to the study group.

Information provided by participants through open-ended questions about their subjective responses to Jin Shin Jyutsu treatment may be used to generate knowledge about this modality and provide topics for future study.

CHAPTER TWO

History and Practice of Jin Shin Jyutsu

This chapter will focus on the history and current practice of Jin Shin Jyutsu. Some of the basic concepts of Jin Shin Jyutsu will be introduced in this chapter and expanded upon later in this paper. The process of learning Jin Shin Jyutsu will be discussed. The basic elements of Jin Shin Jyutsu treatment will be described.

History of Jin Shin Jyutsu

The history of Jin Shin Jyutsu is told by Mary Burmeister (1980, 1981) in her introductory self-help texts. Rather than attempt to summarize this history and possibly lose some of the quality of the story permission was obtained to reprint this history in its entirety (David Burmeister, personal communication, June 12, 1991).

> According to ancient written records, which remain in the Archives of the Imperial Palace in Japan, JIN SHIN JYUTSU was widely known before the birth of Gautama Buddha (India); before the birth of Moses (recorded in the Bible) (Kojiki Record of Ancient Things, Japan, A.D. 712). For many centuries the KEYS to the treasures of Jin Shin Jyutsu were passed from generation to generation by verbal teachings. Gradually these keys began to fade until the true concept of this art was virtually lost. The rediscovery of these ancient treasures came about by Master Jiro Murai of Japan, in the early 1900's.
> Master Murai was born before the turn of the century into a family of long-lined (sic) medical professionals. He chose not to follow family tradition and began his search for the true meaning of life. During his wanderings he became terminally ill with an unknown illness. No one could be found to help him. His own family could do nothing but to watch him fade away. Master Murai never lost faith. He began to wonder about

> the great men in the past whom he had read about experiencing miracles and enlightenment through quiet meditation and the art of Jin Shin Jyutsu. He finally requested his family to carry him on a stretcher up to their mountain cabin. He wanted to be alone. He asked them to leave him in solitude for seven days and to return on the eighth day to see the outcome.
>
> In the stillness of the mountain splendor, Master Murai meditated and experienced the art of Jin Shin Jyutsu. Each day passed on to the next, becoming conscious and unconscious (sic), with his physical body experiencing loss of heat each day. Then on the seventh day he experienced a feeling of being lifted out of the deep-freeze and thrown into a furnace of fire. When this tremendous heat subsided, he felt no more discomforts. It was like after the passing of a terrible storm. The quiet, the calm, the peace encompassed his whole being. To his amazement and disbelief, he was completely healed. He immediately dropped to his knees and thanked the Creator and vowed that he would dedicate his remaining years to the study of this art of Jin Shin Jyutsu and dedicate his findings to Ise Jingu (the Imperial Shrine at Ise, chief cultural center of Amaterasu since the first century A.D.) for mankind. This he did accomplish. (Burmeister, 1980, p.1)

For nearly fifty years, Jiro Murai researched Jin Shin Jyutsu, experiencing the circulation patterns in his body, and eventually recording them (Burmeister, 1981). Mary Burmeister (1981) met Master Murai in the late 1940's when she was studying in Japan. He asked her if she would like to study with him to take a gift from Japan to America. She answered "yes," and states, "It was not until nearly thirty years later, of continued study that the impact of the meaning in Master Maurai's first greeting became a reality to me" (Burmeister, 1981, p. 2).

Burmeister studied with Master Murai in Japan for five years, and for another seven years in American through correspondence (Higgins, 1988). She began sharing Jin Shin Jyutsu with others in 1963, and at the present time, over 5,000 persons have studied Jin Shin Jyutsu with her or her four trained instructors, throughout the United States, Europe, and Brazil.

Jin Shin Jyutsu Training

The basic Jin Shin Jyutsu training consists of a five day intensive workshop which introduces the student to the concepts and philosophy of Jin Shin Jyutsu, the location and function of the Jin Shin Jyutsu points (safety energy locks), and over seventy energy flow patterns. After attending the basic workshop, most students spend a year or more assimilating the information, practicing on themselves and others. Most practitioners this researcher knows who are in private practice doing Jin Shin Jyutsu studied for at least two years before actually beginning their private practices. Most practitioners continue to take the intensive workshops periodically, to gain a deeper understanding of Jin Shin Jyutsu, and learn new information as it is shared.

Jin Shin Jyutsu Treatment

The goal of a Jin Shin Jyutsu treatment is to restore harmony and balance to the client's energy patterns. Before describing the elements of a Jin Shin Jyutsu treatment, a

few of the basic concepts of Jin Shin Jyutsu will be introduced. These are: energy and energy circulation pathways, the hands as "jumper cables," and the safety energy locks.

Burmeister (1981) states:

> Jin Shin Jyutsu reveals the knowing of our main universal revitalizing energy, which follows a circulatory pattern. This energy ascends the back (posterior) of the body and descends the front (anterior) of the body. It is our source of life. This energy revitalizes all of our "individualized" body function energy circulation patterns.

Burmeister calls this energy source for the body the battery of life, and compares the hands to jumper cables. Applying the hands helps recharge the battery, energizing the body and promoting energy flow along the energy circulation pathways which supply vital energy for all body functions. The role of the Jin Shin Jyutsu practitioner is not to fix or send energy, or heal; rather it is to simply be a jumper cable for the client, thereby helping to restore the flow and rhythm of the universal revitalizing energy along their energy circulation pathways.

There are 26 Jin Shin Jyutsu points which are called "safety energy locks," located on each side of the body (see Figure 1). They are called safety energy locks because they lock as a safety mechanism when they become overloaded by such factors as lifestyle excesses, tensions, habits, emotional anxieties, accidents, or hereditary characteristics (Burmeister, 1981). The "locking" produces

discomfort, letting us know when attention needs to be paid to the body. According to Burmeister (1980), by utilizing one or a combination of the 26 safety energy locks, or "keys, the tensions, the causes of imbalances, may be unlocked for the proper functioning of the body" (p. 6). During a Jin Shin Jyutsu treatment, hand contact (jumper cabling) is used at the safety energy locks to promote energy flow.

Several indicators guide the practitioner in assessment when giving a Jin Shin Jyutsu treatment. These include the client's appearance and complaints, their body position and texture, and their energy pulses. The pulses are assessed at the wrists in six different positions on each wrist. These pulses can tell the practitioner which side of the body, which areas, and which flow patterns need help. After assessing the needs of the client, the practitioner holds specific points on the needed flow patterns (pressure is not necessary). A feeling of warmth or relaxation at the point and a feeling of synchronous pulsation at both points being held indicate to the practitioner that the client's energy flow is being restored.

A Jin Shin Jyutsu treatment is given with the client fully clothed, lying on a comfortable cot. Treatments generally take forty-five minutes to one hour. However, Jin Shin Jyutsu can easily be adapted to most settings or time frames.

LOCATIONS OF 26 "SAFETY" ENERGY LOCKS ON UNIVERSAL HARMONIZING ENERGY CIRCULATION PATTERN

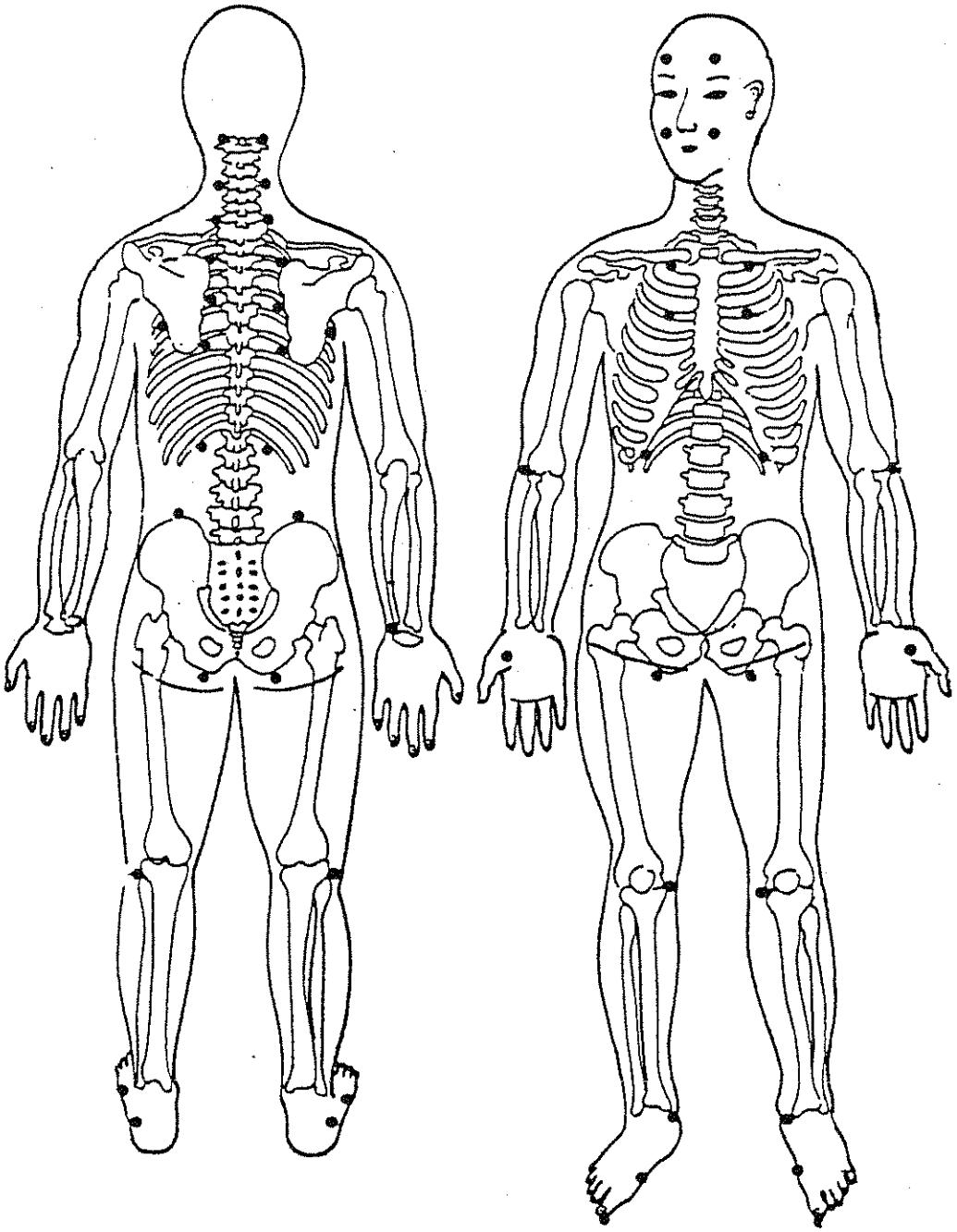

Figure 1: The 26 Jin Shin Jyutsu Safety Energy Locks (Reproduced with permission by David Burmeister from Text 1 by Mary Burmeister, 1988)

Usually, a Jin Shin Jyutsu treatment will include self-help instruction for the client. In almost any situation, there is some Jin Shin Jyutsu self-help clients can utilize on their own. Clients are encouraged to participate in their care and become independent from the practitioner by learning to maintain energy balance on their own through Jin Shin Jyutsu self-help flow patterns.

Burmeister (1980) specifies that Jin Shin Jyutsu is an art and not a technique. She emphasizes that creativity and understanding are essential to the practice of Jin Shin Jyutsu.

CHAPTER THREE

Conceptual Framework

The conceptual framework of this study is comprised of concepts drawn from Jin Shin Jyutsu and traditional Chinese medical philosophy, the nursing theories of Martha Rogers and Margaret Newman, and stress theory. The stress and coping paradigm developed by Richard Lazarus (1981) provides the core of the theoretical foundation around stress for this study. Additionally, the physiological processes which occur in states of stress and relaxation will be summarized.

Jin Shin Jyutsu, Acupuncture and Acupressure Theory

There is a fundamental difference in the philosophies underlying Western and Eastern thinking. Western philosophy is based upon Cartesian dualism, which sees the mind and body as separate and unrelated (McMahon, 1986). Eastern philosophy, on the other hand, is based on an awareness of the unity and interrelatedness of all things, viewing "the experience of all phenomena in the world as manifestations of a basic oneness" (Capra, 1977). These philosophical differences have impacted views of health and health care within the Eastern and Western spheres of influence. Western medicine is centered around the idea of causation; traditional Chinese medicine is centered around the concepts of interrelatedness and cyclical patterns in nature.

Western thinking is more linear, whereas Eastern thinking is more holistic. The philosophy of traditional Chinese medicine, upon which acupuncture and acupressure are

based, sees man as a reflection of the universe, subject to universal law--the law of the Tao (Bresler, 1984). If one does not live according to the Tao, disharmony may results, which may manifest as physical or psychological disease. Therefore, treatment of disease should be aimed at restoring balance and harmony within the person (Weaver, 1985; Bresler & Volen, 1984). These ideas are also fundamental to the practice of Jin Shin Jyutsu. Man is seen as a microcosm of the universe; a state of harmony and rhythm with the universal source energy is the basis of health (Burmeister, 1980).

The concept of energy or Qi (Ki) is central to the practice of acupuncture, acupressure, and Jin Shin Jyutsu. For the purposes of the study, energy and Qi will be considered interchangeable terms. Energy can be thought of as the basic life force, equivalent to the Hindu concept of prana (Mann, 1972), which is described as "the breath of life" (Iyengar, 1979, p. 50), or as "the primary energy, from which all material objects evolve and to which matter returns" (Criswell, 1987, p. 82).

Kaptchuck (1983) clarifies the concept of Qi: "Chinese thought does not distinguish between matter and energy, but we can perhaps think of Qi as matter on the verge of becoming energy, or energy at the point of materializing" (p. 35). A quote from the Nie Ching, or Yellow Emperor's Classic of Internal Medicine, written between 2697-2596

B.C., gives further insight into the philosophy of Chinese medicine and the concept of Qi.

> The root of the way of life, of birth, and change is Qi (energy); the myriad things of heaven and earth all obey this law. Thus Qi in the periphery envelopes heaven and earth, Qi in the interior activates them. The source wherefrom the sun, moon, and stars derive their light, the thunder, rain, wind and cloud their being, the four seasons and the myriad things their birth, growing, gathering and storing: all this is brought about by Qi. Man's possession of life is completely dependent upon this Qi. (cited in Chang, 1976, p. 17).

These descriptions of Qi are compatible with the Jin Shin Jyutsu concept of energy (Ki), described by Burmeister (1980, 1981) as universal harmonizing energy, source energy, or revitalizing energy. Qi, or energy, is everpresent, and essential for life.

According to both acupuncture and Jin Shin Jyutsu theory, energy circulates through the body in specific, orderly patterns. Acupuncture defines these conduits through which Qi flows as meridians; in Jin Shin Jyutsu they are referred to simply as flows or flow patterns, or body function energies. Both acupuncture and Jin Shin Jyutsu describe flow patterns associated with the visceral organs; however, the pathways described in acupuncture are not identical to those described in Jin Shin Jyutsu. Jin Shin Jyutsu also outlines flow patterns which help the 26 safety energy locks; these patterns are lacking in acupuncture teachings as understood by this researcher.

Acupoints can be thought of as valves or flow-control points which are located on the seven pairs of meridians (Weaver, 1985; Kaptchuk, 1983). The acupoints are considered to be points of decreased electrical resistance (Hare, 1988). Additionally, studies have found that many acupoints correspond to concentrations of sensory receptors, pressure receptors, and stretch receptors (Weaver, 1985; Reichmanis & Becker, 1978). Stimulating these acupoints is thought to restore the balanced flow of Qi through the body. Acupuncture uses fine needles to stimulate these points; acupressure uses hand or finger pressure, or massage. Although there is some similarly in the theoretical bases of acupuncture and Jin Shin Jyutsu related to using specific loci on the body to promote energy flow, the locations of the Jin Shin Jyutsu points are not identical to the locations of acupuncture points.

A basic concept of Jin Shin Jyutsu that is not found in acupuncture is that energy flows into the body from a universal energy source, and proceeds through the body in a spiral pattern, with each complete circle around the body representing a "depth." Acupuncture, as this researcher understands it, lacks the concept of the spiral manifesting from the source, but does describe the concept of the "elements," which relates to the concept of the depths. In acupuncture, each of the meridian pairs is associated with an element (wood, fire, air, water, or metal), which

determines a meridian's characteristics and the types of symptoms and diseases associated with problems in the energy flow (Connelly, 1979; Kaptchuck, 1983). Many of the qualities of the depths in Jin Shin Jyutsu are similar to those qualities assigned to corresponding elements in acupuncture. Additionally, the concepts of the elements and the depths describe in a similar way how energies in the body react with each other.

Although there are differences in practice methods and philosophy, acupuncture, acupressure, and Jin Shin Jyutsu are all similar in principle. Their focus is on the vital life energy that supports the physical body, and their goal is to nurture and restore balance to that basic energy, so that symptoms do not occur.

In addition to being a health promoting modality, Jin Shin Jyutsu reflects a philosophy for living. Problems are seen as "projects" (Burmeister, 1981). This attitude puts problems in a positive light, as opportunities to learn, grow, and change. Burmeister (1981) states, "Self-knowledge is the key to all problems" (p. 61). Jin Shin Jyutsu is an art which provides simple self-help skills to help resolve "projects" by harmonizing one's energy flow patterns, and makes greater self-knowledge possible.

Nursing Theory

This section will present the essential principles and concepts of Roger's nursing model, and concepts from

Newman's model which pertain to this study and to the practice of Jin Shin Jyutsu as a nursing modality.

The theoretical model developed by Rogers (1970, 1986, 1990) is called the Science of Unitary Human Beings. Rogers (1990) defines nursing as "the study of unitary irreducible, indivisible human and environmental fields: people and their world" (p. 6). The science of unitary human beings requires a new world view--a view which is compatible with the central concepts of Jin Shin Jyutsu.

Rogers (1990) defines unitary human beings as "irreducible, indivisible, multidimensional energy fields, identified by pattern and manifesting characteristics that are specific to the whole and cannot be predicted from knowledge of the parts" (p. 7). Energy field is defined as "the fundamental unit of the living and non-living" (Rogers, 1990). Energy fields are dynamic in nature, infinite, and in continual motion (Rogers, 1970, 1990). The human and environmental fields are integral, and in a continuous state of interaction. Pattern is "the distinguishing characteristic of an energy field, perceived as a single wave" (Rogers, 1990. p. 7). The nature of the pattern, which gives identity to the field, is changing continuously.

The principles of homeodynamics developed by Rogers (1970, 1986, 1990), postulate the nature and direction of change. According to the principles of resonancy and helicy, change in the human and environmental fields occurs

continuously, from lower to higher frequency wave patterns, in innovative, unpredictable directions, resulting in increasing diversity. The principle of integrality refers to the continuous mutual interaction between human and environmental fields.

Rogers' ideas are supported by principles of modern physics. Einstein's Relativity Theory led to the realization that "mass is nothing but a form of energy" (Capra, 1977, p. 57), and altered the traditional concepts of space and time as absolute values. Quantum Theory altered the classical concepts of solid objects by revealing that the smallest units of matter (subatomic particles) are "very abstract entities, which have a dual aspect" (Capra, 1977, p. 57); they appear sometimes as particles, and sometimes as waves. Capra (1977) states:

> Quantum Theory thus reveals a basic oneness of the universe. It shows that we cannot decompose the world into independently existing smallest units. As we penetrate into matter, nature does not show us any "isolated building blocks," but rather appears as a complicated web of relations between the various parts of the whole. (p. 57)

It becomes clear that matter and energy are inseparable concepts. Capra (1977) defines energy field essentially the same as does Rogers: "The fundamental physical entity: a continuous medium which is present everywhere in space" (p. 5).

These concepts of the interrelatedness of matter and energy, and their continuous interaction, as described by

Quantum Theory and Rogers' nursing theory, resonate with the philosophy which underlies the practice of acupuncture and Jin Shin Jyutsu.

Incorporating these ideas into nursing practice involves a shift in perception about the nature of nursing, health and disease. Malinski (1986) describes several trends in practice which result from nursing within Rogers' framework. These are summarized and discussed below.

The first trend is empowerment for both the nurse and client. This emphasizes the autonomy and self-responsibility clients and nurses have in health care. The second trend is acceptance of diversity as the norm. This promotes true appreciation of the uniqueness of individuals and implies non-judgementalness.

The third trend is an emphasis on becoming attuned to patterns and rhythms. Nurses can assist clients to become aware of their patterns and utilize this awareness in improving their well-being. It is important for nurses to become aware of their own patterns and rhythms as well. Jin Shin Jyutsu is a modality which promotes awareness of one's patterns and self-regulation of these patterns.

The fourth trend recognizes wave modalities such as light, sound and movement as part of the patterning process, and therefore of value in health promotion. This trend opens the door to innovative treatment methods.

The fifth trend is viewing change throughout the lifespan as positive. This implies a non-value-laden view of disease, health, or death.

The sixth trend is expansion of the assessment phase of the nursing process to include assessment of the client's energy flow and rhythms as well as physical assessment. Jin Shin Jyutsu is one modality which can be used to assess a client's energy status.

The seventh trend is the acceptance of the integral connectedness of life, which fosters concern for the health of humanity as inseparable from the health of the environment. This trend promotes global awareness and responsibility. It is compatible with the Eastern view which sees harmony with nature as essential for health.

Nursing within Rogers' framework promotes creativity, self-awareness, respect for individuality, and more self-actualizing interaction with one's world. It opens the imagination to new potentials in health care practices.

Rogers views the purpose of nursing as helping and serving people (e.g., unitary beings). Nursing can help maximize the potential of persons or groups, by coordinating field interactions. The following statement of Rogers (1970) illustrates her view of the goal of nursing:

> Professional practice in nursing seeks to promote symphonic interaction between man and environment, to strengthen the coherence and integrity of the human field, and to direct and redirect patterning of the human field for realization of maximum health potential. (p. 122)

Rogers (1990) envisions that nursing in the future will focus on wellness promotion, and will consist primarily of noninvasive modalities.

Jin Shin Jyutsu is a modality which exemplifies nursing therapies in Rogers' framework. The goal of Jin Shin Jyutsu is to restore harmonious interaction within the human energy field, and between the human energy field and the source of energy (which can be likened to the environmental energy field). Jin Shin Jyutsu helps repattern the client's energy, and mobilizes the client's own healing capabilities. Additionally, Jin Shin Jyutsu is a non-invasive modality which incorporates self-care to promote maximum wellness for clients and practitioners.

Newman's view of health is pertinent. Health is a process. It is the manifestation of the individual's own unique pattern. Newman (1986) defines health as the expansion of consciousness. When we define health this way, it makes sense that disease or crisis (or stress) can actually be a healthy, or consciousness expanding, experience. How many times have we heard patients say that some trauma or illness changed their lives for the better in some way? Newman (1986) suggests that "critical incidents provide the shock that facilitates the person's jump from one pattern to another" (p. 20).

According to Newman, disease or discomfort help a person get in touch with their pattern. This concept is

similar to the idea of communication of discomfort by the Jin Shin Jyutsu safety energy locks, where discomfort is a reminder that the body needs some help to restore energy balance. Newman (1986) states, "We evolve by having our equilibrium thrown off-balance and then discovering how to attain a new state of balance..." (p. 27). In clinical practice, this researcher has found Jin Shin Jyutsu to be a modality which seems to assist people reach a "new state of balance" in their lives.

Stress Theory

Although the term "stress" had a common everyday usage prior to Selye's work, which began in 1936, Selye is generally credited with popularizing the term (Mason, 1975). The word stress was initially used by Selye to describe the nonspecific response of the body to any demand (Selye, 1956). Since Selye first described the biologic stress syndrome, also called the general adaptation syndrome (Selye, 1956), there has been increasing interest in the relationship between stress and health.

One finds confusion, controversy, and ambiguity about exactly what stress is. Some researchers define stress as a stimulus, others define it as a response, and still others define it as a form of interaction. Stress has been described as both a cognitive emotion and a physiological event (Eisdorfer, 1981). This study used ideas from the psychologically oriented stress and coping paradigm

developed by Lazarus (1981, Lazarus & Folkman, 1984), and principles from stress physiology.

This section will present: a) the concepts of stress, appraisal, and coping presented by Lazarus, and b) physiological processes which occur in states of stress and relaxation.

Cognitive Concepts: Stress, Appraisal and Coping

According to Lazarus (1985), stress is neither stimulus, response, nor intervening variable; stress is a complex rubric or system of interdependent variables. Stress refers to an area of study, "of events in which emotional demands, internal demands, or both, tax or exceed the adaptive resources of an individual, social system, or tissue system" (Monat & Lazarus, 1991, p. 3).

There are three main ways in which stress might lead to somatic illness (Monat & Lazarus, 1977). The first is through alteration of tissue functions resulting from neurohormonal influences under stress. Under stress, there are increased levels of certain hormones, for example adrenaline and corticosteroids, which produce dramatic short-term physiological changes and can lead to permanent alteration in organs and tissues when stress is prolonged. The second way stress leads to illness is related to the use of coping activities that are actually damaging to health, such as drug use, or by adopting a high-pressure lifestyle in an attempt to succeed. A third way stress may lead to

disease is through either psychological or sociological factors that support a person's denial of the significance of symptoms, so that he or she neglects to seek medical care or comply with treatment when it is necessary. For example, denial of the significance of chest pain may lead to death from myocardial infarction in some cases.

Lazarus (Lazarus & Folkman, 1984) defines psychological stress as "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing" (p. 21). Stress does not reside in the person, or in the environment, but rather arises from the interaction or transaction between the two. This definition of stress emphasizes the importance of the individual's perception of a given situation in determining whether or not that situation is stressful.

Lazarus' paradigm involves four main categories of concepts: antecedents, mediation processes, immediate effects, and long-term effects. (Figure 2 illustrates a transactional model of stress and coping.)

Antecedents include person and situation variables. Person variables include the individual's beliefs, values, commitments, genetic constitution, personality, and cognitive style. Of particular interest to appraisal and coping are beliefs about personal control, and existential beliefs. A person who has a greater belief in her ability

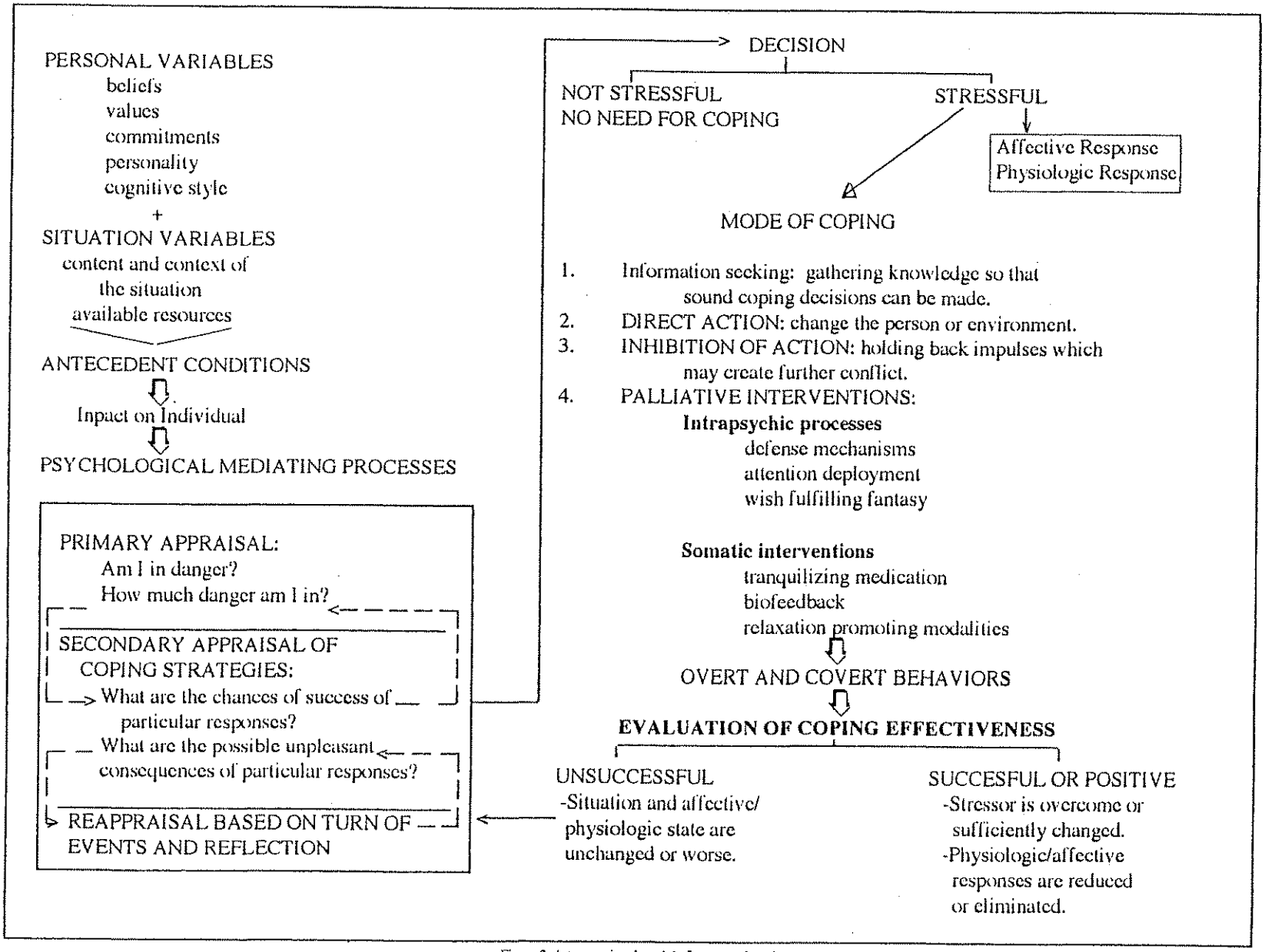

Figure 2. A transactional model of stress and coping.
(adapted from Jacobson & Mc Grath, Eds., 1983)

to control an event is less likely to feel threatened. Existential beliefs enable people to create meaning in life and maintain hope even in difficult circumstances (Lazarus & Folkman, 1984). Situation variables refer to the content and context of the situation, and available resources.

Mediating processes in Lazarus' paradigm consist of appraisal, reappraisal, and coping. Cognitive appraisal is a key concept, and is defined as "an evaluative process that determines why and to what extent a particular transaction or series of transactions between the person and the environment is stressful" (Lazarus & Folkman, 1984). Lazarus distinguishes between primary and secondary appraisal.

Primary appraisal is the process of evaluating a situation with respect to its significance for the individual's well-being. Primary appraisals can be categorized as: a) irrelevant, b) benign-positive, and c) stressful. Stress appraisals may be further categorized as: a) harm-loss, b) threat, or c) challenge. A harm-loss appraisal involves physical incapacitation or emotional damage to the individual, or loss of a valued person (such as death of a spouse). Threat appraisals occur when harm-loss is anticipated but has not yet occurred, and are characterized by negative emotions such as fear, anger, and anxiety. Challenge appraisals are characterized by pleasurable emotions such as eagerness and excitement, and

occur in situations where the individual foresees an opportunity for gain, growth, or mastery.

Challenge appraisals are more likely to occur in situations where the person feels a sense of control, whereas threat appraisals are more likely when persons feel helpless or overwhelmed. According to Lazarus and Folkman (1984), challenge, as opposed to threat, has implications for adaptation. They state:

> For example, people who are disposed or encouraged by their circumstances to feel challenged probably have advantages over easily threatened persons in morale, quality of functioning, and somatic health. Challenged persons are more likely to have better morale, because to be challenged means feeling positive about demanding encounters, as reflected in the pleasurable emotions accompanying challenge. The quality of functioning is apt to be better in challenge because the person feels more confident, less emotionally overwhelmed, and more capable of drawing on available resources than the person who is inhibited or blocked. Finally, it is possible that the physiological stress response to challenge is different from that in threat, so that diseases of adaptation are less likely to occur. (p. 34)

Secondary appraisal is the process of evaluating what can be done in a given situation. It is the process of evaluating which coping options are available, and the likelihood that a given option can produce a desired effect. Reappraisal refers to a changed appraisal, based on new information from the environment or person-environment, which includes the person's responses to initial coping efforts.

To summarize, primary appraisal asks, "Am I in danger?" If the answer is "Yes," then secondary appraisal occurs and the coping process begins.

All stressful encounters require coping. Coping is defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Coping can either be problem-focused or emotion-focused. Problem-focused coping seeks to change the situation, by changing one's own actions, or by changing the environment. Emotion-focused coping seeks to manage the somatic and subjective aspects of stress-related emotions themselves, so that they do not damage morale, health, or social functioning.

Lazarus classified coping into four modes:

1. Information seeking: gathering knowledge relating to a particular stressful encounter, to enable the individual to make sound coping decisions or reappraisals, or bolster past decisions.

2. Direct action: any action the individual takes to change either themselves or the environment "in order to alter the injury, prevent the harm, avoid the threat, or meet the challenge" (Young, 1987, p. 21).

3. Inhibition of action: holding back action impulses that will do harm and/or create additional conflict.

4. Intrapsychic modes: all of the cognitive processes which regulate emotions. These modes are mostly palliative, as they make the person feel better by reducing emotional distress. This form of coping includes denial, projection, avoidance, detachment, and intellectualization.

In addition to these cognitive processes, somatic therapies which promote relaxation serve a palliative function, by reducing the physiologic disturbances which accompany the perception of stress (Jacobson & McGarth, Eds., 1983). In some writings, Lazarus (1985) discusses "symptom-directed" modes of palliation, including tranquilizing medication, yoga, and muscle relaxation training, and states that "palliation may even facilitate coping by eliminating a source of somatic interference or by making it possible to face danger in place of behavioral and psychic avoidance" (p. 408).

Immediate effects of the coping process are the short-term adaptation outcomes experienced by the individual in a particular stressful encounter. These include physiological changes, positive or negative feelings, and the quality and intensity of the outcome of the encounter. Long-range adaptational outcomes include somatic health or illness, morale, life satisfaction, and social functioning.

Physiological responses in stress and relaxation

While Lazarus' paradigm emphasizes cognitive functions, the physiological responses which occur when a situation is perceived as stressful are acknowledged. These physiological changes are due to neurohormonal processes which result from stimulation of one or more of the three psychosomatic axes (Everly & Rosenfeld, 1981), which will be summarized below.

The first axis is direct neural innervation of end organs via the sympathetic and parasympathetic branches of the nervous system. These effects are immediate and transient, and include such responses as increased heart rate and contractility, constriction of blood vessels to the skin and dilation of blood vessels to the skeletal muscles, dilation of the bronchioles, secretion of adrenaline and noradrenaline by the adrenal medulla, sweating, decrease in urine output and in digestion, and release of glucose by the liver. The neurotransmitters norepinephrine and acetylcholine, released at the sympathetic and parasympathetic nerve endings, are responsible for the changes in end organ activity in the neural axis.

The second axis is the neuroendocrine axis, or adrenal medullary axis, and is commonly referred to as the "fight or flight" response. The main organ involved in this response is the adrenal medulla. Stimulation of the adrenal medulla results in release of adrenalin and noradrenaline into the

systemic circulation, producing effects identical to direct sympathetic innervation as observed in the first axis response pattern, except that "there is a 20-30 second delay of onset and a tenfold increase in effect duration" (Everly & Rosenfeld, 1981, p. 24). The fight or flight response is thought to be a mobilization of the body to prepare for muscular activity in response to a perceived threat, allowing the organism to either fight or escape from a threat (Cannon, 1963). The effects of adrenal medullary stimulation include: increased blood pressure and cardiac output, decreased blood flow to the kidneys, vasoconstriction to the skin, increased muscle tension (contraction of muscle fibers), increased plasma fatty acids, triglycerides, and cholesterol.

The third axis of physiological response to stress is the endocrine axis, and represents the body's response to the most intense and/or chronic stress. This axis involves the adrenal cortex, the pituitary, and the thyroid. The general adaptation syndrome (Selye, 1976) pertains to the endocrine axis, and provides a framework within which to structure the physiologic responses during chronic stress. The general adaptation syndrome (G.A.S.) consists of:

1. The alarm stage, where adrenal enlargement, gastrointestinal ulcers, and shrinkage of the thymus, lymphatic structures, and spleen are observed.

2. The resistance stage, characterized by an increase in adrenal cortical secretions, anabolism, and a return of the body towards normal weight; the organism appears to be maintaining or adapting.

3. The exhaustion stage, characterized by permanent damage to the organism, and eventually, death (Selye, 1976).

The physiological responses to stress generally involve an increase in metabolism and a breakdown of stored energy; these are catabolic functions and occur when the sympathetic nervous system functions are dominant. When the parasympathetic nervous system is dominant, the opposite, anabolism, is observed; energy is stored and metabolism is slowed (Lazarus, 1976). Benson (1975) describes this state, when brought about consciously, as the relaxation response, and refers to it as "a natural and innate protective mechanism against 'overstress,' which allows us to turn off the harmful bodily effects, to counter the fight or flight response" (p. 25). Eliciting the relaxation response on a regular basis may help prevent or ease stress-related illness (Benson, 1975; Everly & Rosenfeld, 1981; Sutterly, 1979; Jacobsen & McGrath, 1983; Borysenko, 1988).

Summary

Concepts from the diverse fields of stress theory, nursing theory, acupuncture, and Jin Shin Jyutsu philosophy have been presented in this chapter. There are three broad

underlying themes which unify these concepts, forming a coherent framework for the present study. These are:

1. Problems vs. Project/Threat vs. Challenge

Lazarus and Folkman (1984) suggest that persons who tend to feel challenged have physiological and psychological advantages over persons who tend to feel threatened. Jin Shin Jyutsu philosophy promotes a challenge outlook, viewing "problems" as "projects" that can be worked on by using the art of Jin Shin Jyutsu. Feeling challenged rather than threatened, and having projects rather than problems emphasizes a more positive focus, with a potential for growth, change, and mastery. These ideas are paralleled by the nursing theories of Rogers and Newman, wherein health and illness are nondichotomous conditions, and disease or crises are reframed as opportunities for actualization and expansion of consciousness.

2. Control/capacity of self-regulation

A person is more likely to view a situation as challenging rather than threatening if they have a sense of control over the situation (Lazarus & Folkman, 1984a). Nursing within Roger's framework emphasizes autonomy and recognizes the therapeutic value of modalities which assist clients in becoming attuned to and regulating their own patterns. Jin Shin Jyutsu teaches clients how to harmonize their own energy flow patterns. Modalities which promote self-regulation enhance a person's abilities to control

their own patterns, and hence may be of value in the stress and coping process by fostering challenge appraisals rather than threat appraisals.

3. Transaction/Integrality

Lazarus (1981) specifies that his stress and coping paradigm is transactional, emphasizing the process of the person-environment relationship. According to Lazarus (1981, p. 185), transaction implies "the fusion of the person and environment into a unit," and involves "an actual interchange between the person and the environment (or among forces within the person)," and occurs over time. In this transactional relationship, not only does the environment affect the person, but also the person affects the environment. This concept is mirrored by Rogers' (1990) principles of integrality, which describes the relationship between persons and their environments as a continual, mutual process (1990). These views are compatible with Jin Shin Jyutsu philosophy, which considers the person as being in a state of continuous energetic connection with the environment via the universal source energy.

The potentially detrimental effects of stress have been mentioned previously in this chapter. To promote physical and mental health, health care providers must be concerned with how to help reduce these detrimental effects of stress for their clients and for themselves. Stress management may be defined as "anything that is done professionally to

prevent or ameliorate debilitating stress and coping inadequacies" (Lazarus & Folkman, 1984, p. 334). Theoretically, Jin Shin Jyutsu may be a useful stress management modality by: a) directly promoting relaxation, b) encouraging an increased sense of control by teaching clients how to regulate their own energy patterns, c) fostering a tendency to view situations as challenging rather than threatening, and d) harmonizing the person-environment relationship. This study seeks to determine if, subjectively, individuals find that Jin Shin Jyutsu affects them in any potentially stress-reducing ways.

CHAPTER FOUR

Literature Review

This literature review will be presented in three sections. This first section will focus on Jin Shin Jyutsu, acupressure, and acupuncture. Acupuncture and acupressure are included in this section of the literature review because: a) there is a paucity of literature about Jin Shin Jyutsu, and b) because there are similarities in the theoretical bases and practice of Jin Shin Jyutsu, acupuncture and acupressure, it is possible that there are similarities in effects and even mechanisms of action. The second section will focus on perceived stress and coping. The third section will focus on relaxation promoting strategies used in nursing.

Section One

Jin Shin Jyutsu

The primary source of literature about Jin Shin Jyutsu is Mary Burmeister, the master teacher of this art. Burmeister has written six books on the subject. Three of Burmeister's books (1980, 1981, 1985) are directed toward self-help instruction for the general population. Introducing Jin Shin Jyutsu Is, Book I (Burmeister, 1980) provides an introduction to the history and philosophy of Jin Shin Jyutsu and gives self-help instruction for general harmonizing as well as specific projects. Introducing Jin Shin Jyutsu Is, Book II (Burmeister, 1981) discusses the

meanings and uses of the 26 safety energy locks. Fun With Fingers and Toes (Burmeister, 1985) provides a more in-depth study of the functions and meanings of the fingers and hands, toes and feet. Another text, Fun with Happy Hands (Burmeister, 1988) is a simply written, fun book, geared towards children, providing easy self-help instruction and illustrations. These texts are all available to the general public.

Two books, Text 1 and Text 2 (Burmeister, 1988) are available only to persons who have attended the intensive five day course taught by Burmeister or one of her authorized teachers. These texts provide in-depth instruction for the practitioner, on the art of Jin Shin Jyutsu.

Aside from works by Burmeister herself, there is little available in the literature about Jin Shin Jyutsu. There are two journal articles (Higgins, 1988; Calvert, 1989) in the popular literature. Two doctoral dissertations (Mines, 1986; Schubert, 1989), and one Master's thesis (Hebler, 1993) include Jin Shin Jyutsu within the scope of their study.

An article by Higgins (1988) is based upon an interview with Mary Burmeister and on Higgins' observations and experiences at a five day workshop. Higgins gives a brief history of Jin Shin Jyutsu and describes how Burmeister came to learn the art from master Murai, and how she began

practicing and then teaching Jin Shin Jyutsu years later. The philosophy and uses of Jin Shin Jyutsu are presented, often through quotes from Burmeister. Several examples of how Jin Shin Jyutsu has helped people with specific projects (e.g., arthritis, burns) are presented. Higgins describes her own responses to a Jin Shin Jyutsu treatment. She states, "In general, I felt a sense of calmness, balance, and well-being. Even the puffiness in my cheeks disappeared. I felt the tension in my back muscles melt away" (p. 25).

An article by Calvert (1989) is based upon the author's own experiences with Jin Shin Jyutsu and on an interview with Mary Burmeister. Through the interview, Burmeister tells the history of Jin Shin Jyutsu and how she was introduced to it. Burmeister describes the philosophy of Jin Shin Jyutsu and how it can restore harmony in the body. Simple re-energizing and harmonizing self-help hand holds are illustrated. Calvert briefly discusses several situations in which she found Jin Shin Jyutsu helpful for herself and her children; she has found it very helpful in calming down her children and helping them focus. In this article, David Burmeister, Mary's son and business manager, describes how one goes about learning Jin Shin Jyutsu.

Mines (1986) conducted a phenomenological, experiential study exploring the application of "Holistic Therapy" to a population of disabled persons at the Center for People with

Disabilities in Boulder, Colorado, over a one and one-half year period. The therapeutic modalities included in her program were movement, written and verbal communication, Jin Shin Jyutsu, visualization, and relaxation. Mines' research focused on giving the individual a route to self-awareness, self-control, and participation in the community. Mines (1986) states:

> Jin Shin Jyutsu, though less well known than other therapies based on the principles of energy flow along meridians, may be the application best suited for people with disabilities because of its non-intrusive simplicity. Much more than massage, Jin Shin Jyutsu can release tension from its source in the system and arouse a feeling of calm and well-being. (p. 55)

Mines found that many clients integrated Jin Shin Jyutsu into their lives, and that they would ask which points they could hold on themselves to help specific ailments such as headaches and muscle tension.

Mines found Jin Shin Jyutsu very helpful with head-injured clients, giving them relief from fatigue, and promoting calmness. Jin Shin Jyutsu seemed to help modify the outbursts common in head-injury patients in rehabilitation.

In her study, Mines used Jin Shin Jyutsu as part of a warm-up sequence in group therapy sessions, and for individual self-help. In the group setting, Jin Shin Jyutsu was used as a way to make contact with others in the group by releasing safety energy locks on each other. Mines presents several case histories of study participants and

their responses to her Holistic Therapy program. It is difficult to determine the responses specifically to Jin Shin Jyutsu, because Jin Shin Jyutsu was not the focus of this study, but rather a part of an integrated approach. One client reported Jin Shin Jyutsu being helpful for relieving migraine headaches and sinus congestion. Some clients reported feeling more relaxed, calmer, and a decrease in muscle tension as a result of Jin Shin Jyutsu.

Mines (1986) summarizes her impressions of the responses of study participants to Jin Shin Jyutsu:

> What was demonstrated and phenomenologically observed was that some of the tension, physical and emotional, which accrues as a result of the stressful conditions surrounding the lives of people with disabilities, can be relieved by applying Jin Shin Jyutsu. Furthermore, the use of Jin Shin Jyutsu in a group setting, whereby clients applied it to one another, revealed that the art offered an innocent and much needed opportunity to demonstrate caring through touch. This added to the release of tension and the overall quality of life. (p. 59)

Schubert (1989) conducted a descriptive, explorative study of 12 nurses involved in private holistic practice and 18 of their clients. Modalities practiced by the nurses included massage, Jin Shin Jyutsu, acupressure, therapeutic touch, and deep relaxation. Data were obtained through one face-to-face taped interview with the nurses, and three interviews with each client over a three month period. The purposes of Schubert's study were: a) to describe holistic nursing practice, and b) to generate theory related to

nurse-client interaction in private holistic nursing practice.

Presenting problems of client participants in Schubert's study ranged from fatigue and temporary pain due to muscle tension to severe, chronic conditions. Muscle tension of the neck, back, and shoulders was the most frequently reported complaint. One-third of the clients perceived their lives as being extremely stressful.

Of those clients receiving Jin Shin Jyutsu treatments (n=9), 2 reported no change, and 6 of the 7 clients with complaints of pain, stiffness, and/or headaches experienced a decrease in pain. Three reported increased energy. One client with endometriosis and stress as presenting problems in addition to pain, reported a decrease in symptoms. Other conditions in which the Jin Shin Jyutsu clients reported improvements in include stress, complications or discomforts in pregnancy, and fast healing from infection. Of those clients receiving acupressure treatment (n=4), 3 reported a decrease in their presenting symptoms, which included chronic yeast infection, colitis, asthma, lingering colds, and depressed immune system. One acupressure client had the presenting problem of a bone spot in a diagnostic test; further diagnostic studies were not done during the course of the study to determine if there were any changes in the condition.

Rather than focusing on specific responses to holistic

treatment modalities, Schubert's research focused on various aspects of interaction between clients and nurses in holistic practice. Based on her study, Schubert derived the Theory of Mutual Connectedness:

> In this theory, the nurse and the client hold parallel responsibilities throughout the interaction process and both experience healing as an outcome of holistic practice. Intimacy, a requirement for holistic nursing, occurs as a condition for mutual connectedness and encompasses the nature of the entire interaction. Mutual connectedness provides the context for holistic nursing therapy, and is dependent on nurse attunement and the client decision to trust. Nursing therapy includes counseling, teaching, touch therapies, and imagery all for the purpose of enhancing energy patterns within the context of mutual connectedness. Patterns are enhanced as clients experience letting go and introduced new patterns in the form of images. (Schubert, 1989, p. 170)

Rather than a physical response to any specific treatment modality, Schubert views healing as an inner process involving self-integration or self-transformation. Within her theoretical framework, an improved sense of coping in one's life would be considered healing, with or without improvement in one's physical condition.

Hebler (1993) conducted a descriptive study using personal interviews to explore providers' and recipients' experiences with Jin Shin Jyutsu. Her sample included five nurse-providers and three Jin Shin Jyutsu clients. Six major response categories were identified: symptom-relief, relaxation/stress reduction, empowerment, increased awareness, reciprocity, and balance/centeredness. Symptoms

which were improved by Jin Shin Jyutsu treatment included relief from arthritis discomfort, back pain, allergy, fatigue, insomnia, headache, bladder problems, asthma, and indigestion. Three of the participants in Hebler's study felt Jin Shin Jyutsu was related to positive outcomes in pregnancy, including management of pre-term labor, healing post-partum, and prevention of a birth by Caesarean section due to abnormal labor pattern.

Acupressure

There are numerous books available in the popular literature on the topic of acupressure (Chan, 1977; Blate, 1976; Houston, 1975; Lavier, 1977; Gach, 1990). These texts present acupressure as a modality which can be helpful for numerous conditions involving all systems of the body. Blate (1976) lists over 250 specific conditions acupressure can benefit. Gach (1990) states, "Acupressure can help relieve pain, promote balance in the body, help the body adapt to environmental changes, and resist illness. It promotes a longer, healthier, more vital life" (p. 3).

There is a consensus in the literature that acupressure can be self-applied and that it may have a preventative, or wellness maintaining value (Blate, 1976; Namikoshi, 1981; Gach, 1990). Several authors express the opinion that while acupressure is as effective as acupuncture, it takes longer to achieve results with acupressure as compared to needling (Chan, 1977; Lavier, 1977).

This researcher found a lack of cited research in the popular literature to support the claimed benefits of acupressure, or its mechanism of action. There is also a wide variation in the literature of point locations, number of points used, and method of applying pressure to the points.

There are several articles in the nursing and medical literature about acupressure, including some research studies which have been done to examine the efficacy of acupressure (Hyde, 1984; Fry, 1986; Maochang, 1984; Peng, Fenlan, Xin, Rongtaie, & Changing, 1991). This researcher located two theses examining the effects of acupressure (Weber, 1976; Tomlin, 1982).

In the nursing literature, there are several anecdotal reports regarding the usefulness of acupressure in nursing practice. Joachim (1984) reports success in using acupressure to relieve patients' headaches, and teaches patients points they can use to relieve their own headaches. Joachim finds acupressure to be a useful alternative or addition to traditional therapy.

Weaver (1985) cites the frequent occurrence of acute and chronic pain in the clientele of most nurse practitioners and suggests acupressure as a useful technique. Weaver gives an example of an acupoint which may be used to relieve neck and shoulder tension, and gives guidelines for acupressure treatment by the nurse

practitioner. According to Weaver, although acupressure is a simple, non-invasive technique, which can readily be incorporated by the nurse practitioner and the client, much research needs to be done to determine its effectiveness for the relief of pain and other symptoms.

Joni Cohen, R.N, and Certified Specialist in Psychiatric and Mental Health Nursing, incorporates acupressure into her practice (California Nurses Association, 1985). Cohen's clients most commonly suffer from neck or back ache, chronic pain, fatigue, stress, or anxiety. Cohen has found acupressure useful for many physical conditions, and finds that it complements her psychotherapy training. Cohen (1985) states, "Many people are not willing or able to talk freely or honestly at first, but as their energy system becomes more open, they open up verbally as well" (p. 15).

Blanche Madero, a nurse practitioner, introduced acupressure to the department of medicine at a large Bay Area hospital (California Nurse, 1984). Patients are generally referred for treatment of pain (such as from arthritis or migraine headaches). According to Madero, most people are helped. She reports that acupressure has consistent, positive results.

Hare (1988) uses shiatzu, a form of acupressure, in her nursing practice. She finds that acupressure is easily adaptable for pain and stress management in nursing practice

at the bedside, in clinic settings, in independent practice, with family members of the primary patient, and for one's self. Hare emphasizes that acupressure and other touch therapies can easily be incorporated into nursing routines, and taught to patients to use on their own. Hare gives several case examples of how she has used shiatsu treatment for specific patient problems, such as fatigue and asthma, as well as to promote general relaxation for patients, family members, and nursing staff.

Stumbo (1986) describes a technique he has found successful in his clinical medical practice for treating headaches, using thumbnail pressure for 15-20 seconds on eight specific acupoints. He has been using this technique since 1978, and reports it to be very helpful in treating tension and migraine headaches.

Smith (1988) discusses several alternative approaches for treating muscle contraction headaches. She notes that nurse practitioners frequently see patients with the primary complaint of headache, and that muscle contraction headaches are the most common type of headache in adults. Smith describes a simple acupressure technique for headaches, but notes that while acupressure is simple, inexpensive, and worth trying with the chronic muscle contraction headache patient, more research is needed to verify the efficacy of this treatment.

Weber (1976) based his thesis on a study he conducted exploring the effects of finger acupressure on specific points on relief of various symptoms. Weber studied 87 volunteers with some self-reported symptoms of illness. They were randomly assigned to a treatment or a control group. The experimental treatment consisted of finger acupressure applied to specific points relating to subjects' symptoms. The control group received finger pressure at non-specific, non-acupressure points. Each subject was treated for five to fifteen minutes at one to three points. Weber's study demonstrated a significant difference between subjects treated at specific points vs. non-specific points ($p < .001$). Those receiving treatments for specific symptomatology experienced significant improvement in sensory-pain, respiratory, gastrointestinal, and genitourinary symptoms ($p < .05$-$.001$), and circulatory, skeletal symptoms ($p < .05$-$.01$). There was no significant changes in nervous system symptoms (visual defects, tinnitus, memory loss, anxiety, sciatica). Weber's study also demonstrated a cumulative benefit resulting from multiple treatments. Comments made by participants in this study indicated treatment responses including a sense of relaxation, mental clarity, and increased energy.

Tomlin (1982) conducted a study on the effects of finger acupressure on chronic neck and shoulder pain and tension. The purposes of her study were to: a) demonstrate

the physiological effects of acupressure on chronic neck/shoulder tension as measured by electromyelograph, and b) demonstrate effects of acupressure on neck/shoulder pain as measured by subjective report. The study was based on a quasi-experimental design wherein the subjects (n=12) were randomly placed into either an experimental group who received treatment using specific acupressure points for neck/shoulder tension, or a placebo (control) group who received treatment on non-acupressure loci. Both groups received a series of 6 treatments lasting 45-60 minutes over a two to three week period. Data collection tools were electromyelograph recordings, the Visual Analogue Scale (VAS), finger dynometer to measure subjects' rating of intensity of sensation, and a 7 point Likert type verbal rating scale rating pain intensity (PIS). Tomlin found no significant differences in the experimental vs. control group in muscle tension (trapezius muscle), neck/shoulder pain, or duration of relief of symptoms. The generalization of her results are limited by study size and lack of a no-treatment control group. While Tomlin's hypotheses related to finding differences between treatment and control group, all of the subjects showed positive results as measured by the VAS and PIS, indicating a decrease in pain and tension. Four weeks post-treatment, four of the experimental group (n=6) and four in the control group (n=6) reported that their symptoms had not returned. Tomlin's study raised

questions about placebo effect, the importance of investigator familiarity (most subjects were known by the investigator), and the possible existence of other acupressure points than shown in the literature.

Hyde (1984) conducted a controlled clinical trial examining the efficacy of acupressure therapy for morning sickness, using a two group, random assignment, crossover design. Subjects in group 1 (n=8) used acupressure wristbands for 5 days, followed by 5 days without the bands. Subjects in group 2 had no therapy for 5 days, followed by 5 days using the wrist bands. Acupressure wristbands are elasticized bands which have a plastic button, which is placed to exert pressure on Pericardium-6 (P-6), a point which lies on the volar surface of the forearm, two inches above the wristfold between the palmaris longus and flexor carpi radialis tendons. This point has been traditionally used in acupuncture for the treatment of nausea. In Hyde's study, nausea was assessed at baseline, day 5, and day 10 using the Multiple Adjective Checklist and Sickness Impact Profile. Use of acupressure wristbands relieved morning sickness for 12 of 16 subjects, and resulted in statistically significant ($p<.05$) reductions in anxiety, depression, behavioral dysfunction, and nausea.

Several studies have been done assessing the effects of acupressure on post-operative nausea and vomiting. Fry (1986) conducted a study in which 500 patients were randomly

placed into two groups of 250; one group received acupressure treatment, and the other group had no treatment. Patients in the treatment group had acupressure applied to P-6 for 30 seconds just before the induction of general anesthesia, and for another 30 seconds before leaving the operating room. The patients were not told why their wrists were being squeezed. The nursing staff in the recovery room did not know which group the patients were in, nor the purpose of the trial. The acupressure was found to be associated with significant reduction in post-op nausea and vomiting ($p<.001$).

Barsoum, Perry, and Fraser (1990) examined the usefulness of acupressure as a treatment for post-op nausea and vomiting in 162 general surgical patients. Subjects were randomly placed in one of three groups. Subjects in one group wore acupressure wristbands with the button placed at P-6. Another group wore elasticized bands with no button. A third group wore no bands, and received antiemetic (prochlorperizine) injections with their pain medication. The severity of nausea was significantly reduced ($p<.002$) in the acupressure group on days 1 and 2 as compared to the other two groups. The incidence of post-op vomiting was also reduced, but not at a statistically significant level.

A study by Dundee and Yang (1990) showed that acupressure wristbands with the button placed at P-6, and

applying pressure to the button for five minutes every two hours, prolonged the antiemetic effect of P-6 acupuncture for approximately 24 hours. This was more effective (100%) for a group of 20 inpatients than for a group of 20 outpatients (75%), presumably because the inpatients received encouragement to press the button regularly. According to the authors, the psychological effect of involving patients in their own treatment cannot be dismissed, and may play a role in the benefits of acupressure in this study.

A prospective, double-blind study by Lewis, Pryn, Panit, and Wilton (1991) found no significant effect of acupressure on the incidence of post-op vomiting in 66 pediatric patients, ages 3 to 12, undergoing out-patient surgery for the correction of strabismus. Acupressure wristbands with the button at P-6 were applied to the acupressure group one hour pre-operatively, and were worn continuously until discharge (average time was 237 minutes). The authors point out that strabismus surgery in children is associated with a high incidence of post-op vomiting, perhaps related to surgical manipulation of the eye, and use of opioid analgesics.

Peng, Fenlan, Xin, Rongtai, and Changing (1991) examined the effects of auriculo-acupressure (ear acupressure) in a group of 291 hypertensives in comparison to a similar group of 51 hypertensives receiving medication

only. The therapeutic effects in the two groups were similar, with the rate of marked efficacy being higher in the acupressure group. Additionally, the acupressure group experienced significant ($p<.01$) reduction in blood lipids, and improvements in cardiac arrhythmias, including sinus tachycardia, sinus bradycardia, S-T segment changes, and premature ventricular beats.

Maochang (1984) reported an effective rate of 80.5% in treatment of juvenile myopia in 112 subjects with ages ranging from 7 to 22 and duration of illness ranging from 6 months to 7 years. Of these, 43 eyes from 22 cases were essentially cured, 56 eyes from 28 cases were markedly improved, and 80 eyes from 49 cases were somewhat improved. The treatment was ineffective in 42 eyes from 22 cases. Treatment consisted of pressure over 5 specific ear points for 2 minutes each, on three separate occasions. Patients were instructed to press the points themselves 3 times per day.

Acupuncture

The literature available on acupuncture is extensive. There are numerous books on the subject, and a MEDLINE search yielded over 1,300 citations regarding acupuncture and related topics. Interest in, and research about acupuncture surged after President Nixon's visit to China in 1972.

Several books in the popular literature (Mann, 1962; Manaka & Urquhart, 1972; Tan, Tan & Veith, 1976; Krippner & Rubin, 1975) claim that acupuncture is helpful in numerous disorders of all body systems, including: sciatica, headaches, trigeminal neuralgia, dizziness, nerve paralysis, hysteria, insomnia, nightmares, gastroenteritis, vomiting, colitis, hemorrhoids, constipation, all forms of arthritis, rheumatism, allergies, asthma, bronchitis, tonsillitis, angina, hypertension, varicose veins, dysmenorrhea, and many other disorders.

Scientific studies on acupuncture have focused primarily on determining which physical conditions are affected by acupuncture, and possible physiological mechanisms of action. This literature review will focus on several areas of study where acupuncture has been found to produce effects, including pain control, drug detoxification, cardiac conditions, nausea, and immune system functioning. The acupuncture-endorphin hypothesis will be presented.

Many studies have been done on the effects of acupuncture on acute and chronic pain. In 1973, the Ad Hoc Committee on Acupuncture, of the National Institute of Health (NIH) concluded that acupuncture had demonstrated promising results in the treatment of some painful conditions (Jenerick, 1973). This conclusion was based on several studies, including one by Chen which demonstrated

that acupuncture provided pain relief in at least 70% of a group of 62 persons with at least a one year history of severe, unremitting pain (Jenerick, 1973). Similarly, a study by Lee found acupuncture treatment helpful in 77% of a group of 57 patients with painful conditions (Jenerick, 1973).

Lee, Anderson, Modell, and Saga (1975) performed a study of the effects of acupuncture on 261 patients with chronic pain. Each patient received 4 treatments; 2 treatments used needling at acupuncture points, and 2 treatments used needling at non-acupuncture (control) points. Reports of pain relief increased with number of treatments, with at least 50% of patients reporting relief of pain after the fourth treatment. The authors concluded that: a) it doesn't make any difference in degree of pain relief where the needles are placed, and b) there is an increase in pain relief with subsequent treatments. Within four weeks post-treatment, pain relief had regressed significantly, with only 18% reporting continued relief.

In a review of the studies evaluating pain and the clinical effects of acupuncture, Lewith and Machin (1983) concluded that: a) placebo is effective in 30-35% of patients with chronic pain, b) sham acupuncture (using non-acupuncture points) is a form of acupuncture therapy and is effective in approximately 50% of people with chronic pain, and c) real acupuncture is effective in 60-75% of patients

with chronic pain. Based on a review of 26 studies, Pomeranz and Stux (1989) agree that placebo helps approximately 30% of patients with pain, while morphine helps 70%, and acupuncture helps 50-85% of patients with pain.

Bresler and Volen (1984) found that slightly more than one-half of a group of 400 patients with a wide variety of pain problems experienced significant pain relief with acupuncture treatment. These patients experienced decreased medication requirements, improved sleep patterns, and improved function in daily life. Acupuncture was effective in relieving many types of musculoskeletal pains, such as arthritis (particularly osteoarthritis), bursitis, synovitis, and vertebrogenic pain. Pain which had a large component of muscle spasm was responsive to acupuncture treatment. Neurological conditions such as peripheral neuropathies, trigeminal neuralgia, phantom limb pain, and TMJ (temporal mandibular joint dysfunction) were particularly helped by acupuncture treatment.

In a study by Batra (1986) to evaluate the effectiveness of acupuncture in treating migraine headaches, 22 patients subject to frequent migraine attacks received a course of 10 to 20 acupuncture treatments. Three months after the last treatment, 90% of patients reported improvement, with 30% rated as excellent, 35% as effective, and 25% as slight improvement.

According to Pomeranz and Stux (1989), the breakthrough towards overcoming skepticism toward acupuncture occurred in 1976, shortly after the discovery of endorphins. Endorphins are endogenous, morphine-like compounds, which are concentrated in the pituitary and midbrain. In animal experiments with acupuncture, Pomeranz (1977) was puzzled by the delayed onset and prolonged duration of acupuncture analgesia. He found that the analgesic effect was abolished by removing the pituitary from the animals. Since it had been discovered that endorphins produced analgesia, and that they are concentrated in the pituitary, Pomeranz postulated that acupuncture releases endorphins from the pituitary or midbrain to reduce pain in a manner similar to a dose of morphine. To test this hypothesis, the acupuncture-treated mice were injected with a dose of Naloxone, a morphine blocking drug which also blocks endorphins. Within minutes, the analgesic effects of acupuncture were eliminated, thereby providing support for Pomeranz's hypothesis.

A study of Sjolund, Terenius, and Erikkson (1977) demonstrated that endorphin levels in lumbar cerebrospinal fluid was increased in low-back pain in patients after electro-acupuncture.

These and other studies (Lu, 1983; Foster & Sweeney, 1987; Pomeranz & Stux, 1989) provide support for the acupuncture-endorphin hypothesis, which explains acupuncture

analgesia in terms of neurological mechanisms. After reviewing over 200 studies on acupuncture, Pomeranz presents the following summary in support of this hypothesis.

> We conclude that acupuncture activates small myelinated nerve fibers in the muscle, which sends impulses to the spinal cord, and then activates three centers (spinal cord, mid-brain, and pituitary-hypothalamus) to cause analgesia. The spinal cord center uses enkephalin and dynorphin to block incoming painful information. The midbrain uses enkephalin to activate the raphe descending system which inhibits spinal cord transmission using the monoamines (serotonin and norepinephrine). The third center is the hypothalamus-pituitary, which releases beta endorphin into the blood and cerebrospinal fluid to cause analgesia at a distance. Thus, all three endorphins (enkephalin, beta endorphin, and dynorphin) have a role in acupuncture analgesia, and two monoamines (seratonin and norepinephrine) are also involved. (Pomeranz & Stux, 1989, p. 1)

Another area which has been a focus of study is the use of acupuncture for drug detoxification. Acupuncture was first used to treat drug addiction by Wen and Cheung (1973), who discovered serendipitously that acupuncture reduced the symptoms of withdrawal to opium in their addicted surgical patients. Wen and Cheung subsequently conducted a study using 40 addicts (30 opium, 10 heroin) and found that all had a positive response to treatment. Patients experienced a relief in withdrawal symptoms including lacrimation, runny nose, aching bones, irritability, and stomach cramps, and reported a general sense of well-being, increased alertness, better appetite, and improved bowel function.

Severson, Merkoff, and Chun (1977) replicated the study by Wen and Cheung, using acupuncture treatment on demand for

a sample of 8 heroin addicts in an inpatient setting. The withdrawal symptoms which were successfully treated were: lacrimation, runny nose, drug craving, anxiety, bone and joint pain, and intestinal cramping.

Newmeyer, Johnson, and Klot (1984) conducted an 18 month long study investigating the uses of acupuncture detoxification in 297 heroin abusers, at the Haight Ashbury Free Medical Clinic. Clients were offered three treatment modalities: a) acupuncture, b) acupuncture and medication, and c) medication only. Clients who had more acupuncture were more likely to be drug free on measures of urinalysis and self-reported heroin use than the medication treatment group. It is of note that those participants who chose acupuncture treatments were most likely to be soft-core addicts while those with the most serious problems opted for the medication only treatment.

Section Two

This section of the literature will focus on the relationships between stress, coping, and health.

Stress and Health

There is a large body of literature supporting the notion that stress of a psychosocial nature has an impact on physical and emotional health (Lazarus, 1976; Selye, 1980; Ader, 1981; Elliot & Eisdorfer, 1982; Rice, 1984; Locke & Colligan, 1986; Borysenko, 1988).

Areas of the body which are particularly vulnerable to stress when coping fails are: the hypothalamic-pituitary-endocrine axis, the adrenal medualla, the immune system, involuntary and striated muscle systems, and cognitive-affective integrating centers of the brain (Zegans, 1982).

Specific disease conditions which are thought to be caused by or aggravated by stress include: tension and migraine headache, rheumatoid arthritis, irritable bowel syndrome, peptic ulcer, hypertension, angina, arrhythmias, atherosclerosis, asthma, various forms of dermatitis, herpes infection, and susceptibility to infections in general (Selye, 1980; Jacobson & McGrath, 1983; Rice, 1984). Other conditions which may be caused by or aggravated by stress are anxiety, insomnia, sexual dysfunction, drug and alcohol abuse, phobias, learning problems, general malaise, and muscle tension (Selye, 1980). An interesting study of physiological responses to occupational stressors in a sample of 220 professionals showed the musculoskeletal problems were the most prevalent category, accounting for 60.4% of physiological responses identified by respondents (Rossi & Lubbers, 1989).

The recently emerging science of psychoneuroimmunology has focused attention on the immune system as the link between psychological states and health or disease (Ader, 1981). Ornstein and Sobel (1987) state, "It is now understood that the immune system is, if not directly

related to mental states, at least intimately linked to brain processes" (p. 148). These authors point out that there are numerous connections between the nervous system and the immune system, including extensive networks of nerve endings in the thymus gland, spleen, bone marrow, and lymph nodes, which are all integral parts of the immune system.

Numerous studies have documented the deleterious effect of various stressful states (including life-change stress, academic stress, space flight, bereavement) on health status (Ader, 1981; Locke, 1982). There is consensus in the literature that it is the individual's perception of a situation, and his or her ability or inability to cope with it, that determines the impact of a situation on the individual and his or her health (Pearlin & Schooler, 1978; Lazarus & Folkman, 1984; Schindler, 1985; Locke, 1982).

Studies have been done which suggest that stress influences susceptibility to certain viral illnesses, including the common cold (Jacobs, Spilken & Norman, 1969; Voors, Stewart, Gutenkunst, Muldow & Jenkins, 1968). Acute and chronic stress within the family has been found to be associated with increased susceptibility to streptococcal infections (Meyer & Haggerty, 1962). In a study of subjects with recurrent herpes labialis, subjects reported experiencing: a) increased daily hassles, b) increased stressful life events, and c) higher state anxiety in the

week prior to recurrence of infection (Schmidt, Zyzanski, Ellner, Kumar, & Arno, 1985).

In a study by Jenkins (1971), anxiety and perception of being chronically stressed were found to be more prevalent in persons with coronary disease. In a large study of 8,528 men age 40 or older, anxiety was found to be significantly associated with the development of angina pectoris over a five year period (Medalie, Snyder, Groen, Neufeld, Goldbourt, & Riss, 1973).

Studies have shown that spousal bereavement, one of the most stressful life events, has been associated with increased morbidity and mortality (Jacobs & Ostfeld, 1977). Bereavement has also been found to be associated with decreased immune function. A study by Bartrop, Lazarus, Lockhurst, Kiloh, and Perry (1977) demonstrated that T-cell function was significantly depressed during bereavement. In a study of 15 spouses of women with advanced breast cancer, lymphocyte stimulation was found to be significantly depressed during the first two months following the death of a spouse as compared with pre-bereavement levels (Schliefer, Keller, Camerina, Thornton, & Stein, 1983).

Stress caused by examinations has been associated with transiently impaired lymphocyte function (Dorian, Garfinkel, & Brown, 1982). A study of 75 medical students experiencing the stress of final examinations demonstrated a significant decrease in natural killer (NK) cell activity during exams

(Kiecolt-Glaser, Garner, Speicher, Holliday, & Glaser, 1984). Additionally, subjects who scored above the median on a loneliness measure had significantly lower levels of NK activity than those below the median. Natural killer cells have an important role in the control of infectious diseases, and in the prevention or spread of tumors.

In studies of undergraduates, Locke (1982) demonstrated that individuals who tolerate stress poorly have significantly diminished NK cell activity as compared to those rated as better copers. In a group of 114 healthy undergraduate students, self-reported psychiatric symptoms were found to inversely correlate with NK cell activity (Locke, Kraus, Leseerman, Hurst, Heisel, & Williams, 1984). According to the authors of this study, the findings suggest that symptoms such as anxiety and depression may adversely affect immunity.

In a study by McClelland, Floor, Davidson, & Saron (1980), individuals with high power needs, high inhibition, and high power stress were found to report more frequent and more severe illnesses than other individuals. Additionally, they had above average epinephrine secretion and lower salivary IgA. Salivary IgA is a type of antibody that has a role in defending against viral upper respiratory infections. The authors concluded that a strong need for power, if it is inhibited and stressed, leads to chronic sympathetic overactivity, which has an immunosuppressive

effect, making these individuals more susceptible to illness.

An increasing number of interesting studies are examining the links between positive mental/emotional states, health, and immune system functioning. These studies have implications for health care providers who are interested in promoting health and preventing illness.

Langer and Rodin (1976) conducted a study examining the effects of choice and increased personal responsibility in a group of nursing home residents. The experimental group was given more freedom to make choices about daily activities, and the responsibility of taking care of a plant. The experimental group showed significantly higher ratings than the non-experimental group in measures of alertness, active participation, and a general sense of well-being.

Keicolt-Glaser, et al. (1985) conducted a study assessing the enhancement of immune competence by relaxation training and social contract in 45 geriatric residents of independent living facilities. Subjects were randomly assigned to three groups: a) relaxation training, b) social contact, and c) no intervention. Those participants who received relaxation training showed a significant increase in NK cell activity, a significant decrease in antibody titers to herpes simplex virus (indicating improved control of the herpes virus by the immune system), and a significant decrease in self-rated distress as compared to participants

receiving social contact or no intervention. According to the authors, these data suggest that relaxation may significantly impact immunocompetence and health.

Dillon, Minchoff, and Baker (1985) demonstrated enhancement of the immune system through humor. Ten students viewed a humorous tape and a non-humorous (control) tape. Salivary IgA was found to be higher after viewing the humorous tape. Additionally, students who reported using humor as a way of coping with life stresses had consistently higher salivary IgA prior to viewing either film. Norman Cousins (1979), diagnosed with ankylosing spondylitis, a painful degenerative condition, found that laughter had a marked pain-relieving effect. His sedimentation rate (an index of inflammation in the body) was found to consistently decrease after laughter episodes. Cousins credits laughter, among other factors, with helping him recover from a condition believed to be incurable.

McClelland reported that salivary IgA levels were increased in a group of college students after viewing a videotape of Mother Theresa tending to the sick in Calcutta (Borysenko, 1985). It was of note that the increase in salivary IgA was not related to the students' stated reaction to the film; even students who had negative stated reactions showed increases in salivary IgA. McClelland interpreted this finding as demonstrating that the students'

immune function increase was a response on an unconscious level to the inspiration of Mother Theresa.

A state of optimism has been linked to health. In a longitudinal study of a group of undergraduate students by Schier and Carver (1985), subjects who were rated as highly optimistic were less likely to report being bothered by symptoms than were subjects rated as less optimistic. Schier, et al. (1989) examined the effect of dispositional optimism on recovery from coronary bypass surgery in 51 middle-aged men. They found that optimism, as assessed prior to surgery, correlated positively with manifestations of problem-focused coping post-operatively, and was associated with a faster rate of physical recovery during hospitalization and a faster rate of return to normal life activities after discharge. This study also demonstrated a strong positive association between optimism and quality of life six months after surgery.

The studies described above suggest that interventions which help clients learn to cope with stress and anxiety, learn relaxation skills, feel more in control of their lives, and even develop a more optimistic outlook, may improve health and well-being. This will be discussed further in the following section.

Coping

Pearlin & Schooler (1978) defined coping as "the concepts used to refer to any response to external life-

strains that serves to prevent, avoid, or control emotional distress" (p. 3). According to Zegans (1982), coping refers to "the behaviors, physiological reactions, cognitions, perceptions, and motor acts that control either the demand placed upon the organism directly, or the interpretation placed on its anticipated consequences" (p. 141). Lazarus (1985) views coping as the constantly changing cognitive and behavioral efforts to manage external or internal demands which are appraised as taxing or exceeding the resources of the person.

According to Lazarus & Folkman (1984), coping serves two functions: a) managing or altering the problem causing distress (problem-focused coping), and b) regulating the emotional response to the problem (emotion-focused coping). Similarly, Pearlin & Schooler (1978) categorized coping into three functional categories: a) responses that change the situation, b) responses that control the meaning of the stressful experience, and c) responses that function to control the stress after it has emerged.

Coping is a process and not an outcome. Coping processes that serve to help the individual tolerate, minimize, accept, or ignore situations that cannot be changed are just as important to adaptation as problem solving strategies. The criterion for judging coping efficacy is the extent to which a coping response reduces the emotional stress persons feel as a result of life

strains (Pearlin & Schooler, 1978). Coping processes affect adaptational outcomes, which include morale, somatic health, and social functioning (Lazarus & Folkman, 1984).

Several factors influence coping processes. These include: a) coping resources, b) individual differences, c) social support, and d) perceived control, which is related to self-efficacy and hardiness.

Coping resources are resources a person draws upon in order to cope with life's demands. These include: health and energy, positive beliefs about one's self and the universe, problem-solving skills, social skills, material resources, and social support (Lazarus & Folkman, 1984). Social support will be discussed further in the following section.

Individual differences refer to the fact that people differ greatly in their interpretation of stressful situations (Singer & Davidson, 1991). This interpretation determines whether individuals feel stressed or challenged, and whether or not they feel they have the resources or ability to master the situation.

Studies have indicated that a supportive social network functions as a buffer between stress and health (McFarlane, Norman, & Streiner, 1983; McKay, et al., 1985; Singer & Davidson, 1991). Gore (1978) states, "There is no single explanation of how support short-circuits the illness response to stress, but it is widely understood that support

increases the coping ability, which is the etiological gate to health and well-being" (p. 157). According to Singer & Davidson (1991), the individual's perception of social support when needed, as opposed to the numbers of support groups, is the most important factor, in terms of amelioration of stress.

In a review of several studies, Cassel (1976) found social support, family cohesiveness, and cultural tradition to be factors which were associated with lower rates of illness. More perceived social supports (including relationships with husband, extended family, and community) were found to be associated with lower rates of complications in pregnancy.

In a study of pregnant women, high levels of life change stress when coupled with low social support was associated with a high rate of complications at delivery (Nuckolls, Cassel, & Kaplan, 1974).

Research in occupational health has demonstrated that workers who report high levels of social support have fewer complaints than comparably stressed workers with low social support (House & Wells, 1978; Thoits, 1982).

In a longitudinal study of 100 recently unemployed men, Gore (1978) found that the men who were not immediately re-employed, and who felt unsupported (by wives, friends, relatives) had higher levels of serum cholesterol and more illness symptoms than the men who felt supported. In this

same study, lack of support was found to be associated with more depression, regardless of employment status.

A study of Andrews, Tennant, Heuson, and Schonnel (1978) found that low expectations of help from friends, neighbors, and relatives (low perceived support) was associated with physical and psychological illness, and with psychological impairment in a crisis.

A study of caregivers of elderly family members done by Baillie, Norbeck, and Barnes (1988) indicated that caregivers who had been providing care for a mentally impaired elder for an extended period of time, and who had low social support, were at high risk for psychological distress and/or depression.

Although not all studies on social support have confirmed its stress buffering role, in an extensive review of stress research, Elliot and Eisdorfer (1982) conclude, "Despite measurement problems, available studies indicate that social networks can markedly influence the occurrence and effects of stressful life events" (p. 68).

Perceived control has been found to moderate the stress response (Singer & Glass, 1972). In a review of numerous studies on perceived control and stress, Singer and Glass (1972) state, "Research demonstrates that if an organism controls the onset and/or offset of stressful stimuli, or if he simply expects to have such control, behavioral and

autonomic indices of stress are reduced" (p. 63). Folkman (1984), citing several studies, points out that the relationships between personal control and stress, coping, and adaptation are very complex; believing an event is controllable doesn't always lead to a decrease in stress. Folkman does conclude that challenge appraisals seem more likely when situations hold some potential for control, either of one's emotions or of the environment.

Perceived control corresponds directly with the concept of self-efficacy as developed by Bandura (1985). "Self-efficacy is defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1985, p. 391). Self-efficacy refers to people's sense of their ability to exercise control over events that affect their lives. According to Bandura, fear arousal results from perceived coping inefficacy; the less efficacious persons judge themselves to be, the more fear they experience.

Physiologic studies have revealed that catecholamine secretion is lower in states of high perceived self-efficacy, while states of moderate perceived self-efficacy were associated with substantial increases in epinephrine and norepinephrine secretion (Bandura, Taylor, Williams, Mefford, & Barchas, 1985). Catecholamine secretion is an important feature of the stress response.

Results from the Stanford arthritis clinic self-help program indicated that improved self-efficacy correlated with a decrease in arthritis pain, joint swelling, and depression (Gravelle, 1985). Although the program was not initially designed to examine self-efficacy, this concept emerged as a relevant variable. Participants whose symptoms decreased had a more positive outlook and felt a sense of control regarding their arthritis, while those who experienced no change were depressed and did not feel in control of their arthritis.

Building upon Bandura's concept of self-efficacy, Kobasa (1979) described three main characteristics of "hardy" individuals who were seemingly resistant to stress. These are: a) the belief that they can control or influence events, b) a feeling of commitment to their life activities, and c) viewing change as a challenge. Hardiness functions as a resource in buffering the effects of stressful events (Kobasa, 1979; Kobasa, Maddi & Kahn, 1982; Borysenko, 1988). According to Pollock (1989), a current review of hardiness research reported 49 studies that supported the direct and indirect effects of hardiness on stress.

Borysenko (1988) discusses how hardiness may relate to coping:

> Committed people who believe they are in control and expect situations to be challenging are likely to react to stressful events by increasing their interaction with them--exploring, controlling, and learning from them.

> This attitude transforms the event into something less stressful by placing it in a broader frame of reference that revolves around continued personal growth and understanding. (p. 24)

Pelletier (1984) has found that successful stress management programs include training or education to help participants develop attitudes found in the hardy personality: commitment, acceptance of challenge, and a sense that the sources of stress can be controlled.

Recent research (see Pollack, 1989) has focused on the relationship between hardiness and burnout in nurses. Burnout is a syndrome of emotional exhaustion and cynicism that occurs frequently among chronically stressed human service workers (Maslach, 1982). Burnout occurs when nurses perceive their work situations as demanding, frustrating, unrewarding, and stressful (Beuchler, 1985), and is a significant cause of job turnover and attrition in the nursing profession (McConnell, 1982).

Burnout has been found to be significantly associated with higher levels of perceived job stress and lower levels of personality hardiness (McCranie, Lambert, & Lambert, 1987). Conversely, greater hardiness has been found to be associated with a lower incidence of burnout (Topf, 1989). Pollock (1989) sees hardiness as a valuable concept for nursing, particularly in guiding interventions with clients. Pollock has developed a scale to assess hardiness, and

believes that education to promote hardiness may be beneficial to patients and nurses.

It is clear that the ability or inability to cope with stress in positive ways is related to health status. In reviewing studies on the relationship of behavioral-physiological factors in the development of cancer, Borysenko (1982) found that coping characteristics affected prognosis. Short survivors were more likely to be characterized as despairing and helpless, unable to relieve anxiety or depression through outward discharge. On the other hand, long survivors were described as individuals who did not become anxious or depressed; they tended to have inner confidence and a determination to fight the disease and live. Can coping skills be learned? Borysenko points out that behavioral interventions such as relaxation training decrease sympathetic arousal, and may potentially affect prognosis. She (Borysenko, 1982) states "Practice of such interventions reduces anxiety and provides a substrate for coping that enhances the patient's sense of control" (p. 69).

Relaxation promoting therapies are often considered to be the cornerstone of stress management programs (Cotton, 1990). Commonly used relaxation promoting therapies include meditative practices, Benson's relaxation response method (Benson, 1975), progressive muscle relaxation, autogenic training, biofeedback, guided imagery, controlled breathing,

and hypnosis (Cotton, 1990). Many of these techniques are easily learned, take relatively little time to teach or to practice, and could therefore be incorporated into patient care or self-care. Research indicates that promoting relaxation may help reduce anxiety and facilitate coping, thus holding the potential to positively impact the health of both clients and health care providers.

Section Three

This section of the literature review will focus on relaxation promoting strategies used in nursing. The techniques which will be discussed include breathing, progressive relaxation, massage, visualization, and therapeutic touch.

Breathing

Deep breathing is probably the simplest relaxation promoting technique nurses can use with patients. According to Pelletier (1977), "Slow, rhythmic breathing can turn an anxious mental state into one of relative tranquility and release the body from many of the other adverse effects of anxiety" (p. 187). Consciously deep breathing in a slow pattern can help trigger the relaxation response (Borysenko, 1988). Controlled breathing can be used as a tool for pain management (Witt, 1984). Deep breathing is a key element in prepared childbirth, and can be used by nurses in almost any

setting to promote relaxation and comfort, and reduce anxiety (Hill & Smith, 1985).

Progressive Relaxation

Developed by Jacobson in 1938, progressive relaxation consists of a routine for systematically tensing and relaxing major muscle groups in the body and paying attention to how it feels (Jacobson, 1962). This relaxation technique is based on the relationship between muscle tension and psychological tension or anxiety. Increasing muscle tension is often the first indication of stress (Sutterly, 1979). Jacobson (1962) had excellent results using progressive relaxation with patients with diverse conditions, including colitis, insomnia, depression, phobias, neurasthenia, and fatigue. Jacobson concluded that deep muscle relaxation can lead to significant improvement in autonomic nervous system function and control of many psychosomatic conditions.

Studies have shown progressive relaxation to be helpful in controlling chronic back pain, headaches, and other conditions (Turner & Chapman, 1982; Linton & Gotestam, 1984; Shaw & Erlich, 1986; Melzack & Wall, 1989).

Massage

Massage may be defined as a systematic form of touch which uses certain manipulations of the soft tissue to promote comfort and healing (Carruthers, 1992). Massage is one of the most basic healing arts, and has long been an

accepted part of nursing practice. Nurses have traditionally used massage to promote relaxation, reduce pain and tension, facilitate communication, and convey caring (Feltham, 1991). According to Sutterly (1979), "massage, when properly given, can become a modality for unifying, coordinating, and integrating the body, which means integrating the mind as well" (p. 14).

In recent years, there has been an increased interest among nurses in the benefits of massage. A newly recognized professional organization, the National Association of Nurse Massage Therapists, is currently developing certification standards for nurses who wish to specialize in massage (Wann, 1993). Numerous research studies have been conducted to explore and document the therapeutic applications of massage. Several of these studies will be briefly reviewed below.

In a study examining the effects of slow-stroke back massage, Longworth (1982) demonstrated that a six minute back massage produced physiological changes consistent with lower autonomic arousal. Prolonged effects of a six minute massage were indicative of decreased psycho-emotional and somatic arousal. Longworth concluded that slow stroke massage is a useful therapeutic intervention in bedside nursing care. A study by Fakouri and Jones (1987) demonstrated changes in physiologic parameters compatible with a relaxation response after a three minute slow stroke

back massage. They propose that slow stroke massage is an effective, non-invasive measure for promoting rest and relaxation.

McKenchnie, Wilson, Watson, & Scott (1983) conducted a study of the effects of connective tissue massage (a form of deep massage) in a group of patients with symptoms of anxiety and tension. Heart rate, frontalis and forearm extensor electromyelogram, and skin resistance were measured before and after a series of ten 30-45 minute sessions. All participants exhibited significant changes in one or more parameter compatible with relaxation. The authors concluded that connective tissue massage may help unlock a patient's unique physiological stress response pattern.

Back massage has been considered potentially risky in acute myocardial infarction (M.I.) patients. Bauer and Dracup (1987) found no detrimental changes in physiologic parameters (blood pressure, heart rate, skin resistance) in a group of 25 acute M.I. patients following a six minute slow stroke back massage. All but one subject reported feelings of relaxation. The authors found that back massage had no adverse hemodynamic effects, and proposed that it is an appropriate intervention in the coronary care unit.

In a descriptive study exploring patient initiated pain control measures in a group of 58 cancer patients, massage was reported to be an effective nonanalgesic method used for pain management (Barbour, McGuire, & Kirchoff, 1986). A

study by Weinrich and Weinrich (1990) evaluated the effectiveness of a ten minute back massage in reducing pain in a group of 28 cancer patients randomly assigned to a massage or control group. There was a significant decrease in pain following massage in the group of patients with the highest pain levels.

Farrow (1990) described a study done by two nurses on a surgical ward to assess the benefits of massage on post-operative patients. Responses reported by patients included relaxation, pain reduction, decreased anxiety, and a decreased sense of isolation.

Several studies have demonstrated positive effects in premature infants given various massage treatment interventions (Solkoff, Yaffe, Weintraub, & Blase, 1969; Rice, 1977; Field, 1980; White-Traut & Pate, 1987; Wann, 1993). Positive responses include weight gain, greater maturational development, less crying, decreased respiratory problems, improved feeding, and improved family interaction.

A study exploring the effects of massage in a group of 52 hospitalized children and adolescents with depression and adjustment disorder demonstrated decreases in depression and anxiety, and improved sleep after a series of five daily 30 minute back massages (Field, Morrow, Valdeon, Larson, Kuhn, & Schanberg, 1992). Additionally, nurses rated the subjects as being less anxious and more cooperative on the last day of the study.

Massage can be readily incorporated into nursing care in many settings, and may also be taught to family members to promote interaction between patient and family. In addition to promoting relaxation and comfort for patients, using massage in their nursing practice may also provide relaxation and increased satisfaction for the nurses themselves (Passant, 1991).

Visualization

Visualization or imagery is a technique that uses the power of imagination to promote healing. Visualization is not a new technique. Samuels and Samuels (1975) state, "Most religions have used visualization as one of their basic techniques for helping people realize their spiritual goals" (p. 28). According to Acterberg (1985), imagery was used for diagnosis and treatment by Aristotle, Hippocrates, Galen, and Asclepius, considered to be the fathers of modern medicine. Healing rituals of some Native American tribes involve the patient visualizing himself as healthy while the shaman visualizes the patient as regaining a harmonious place in the natural schema (Samuels & Samules, 1975). Visualization is a central component of Yogic practices, wherein focusing on a sacred image or idea in the mind produces changes in the practitioner.

In recent years, imagery was re-introduced into mainstream medicine by the works of the Simontons (Simonton, Matthews-Simonton, & Creighton, 1978), who devised a

systematic approach to the treatment of cancer patients using counseling, relaxation, and visualization. The Simonton method is based on the belief that the mind, body, and emotions are inseparable, and that mental processes can stimulate the immune system and promote health.

Studies conducted by the Simontons utilizing their method showed promising results in increasing the life expectancy and quality of life in cancer patients (Simonton, Matthews-Simonton, & Creighton, 1978). According to Klish (1990), nurses around the U.S. are learning to incorporate the Simonton's ideas into their work with oncology patients. Klish points out that the Simonton method has the advantages of being easy to learn, not requiring special equipment, and being adaptable to any setting. Klisch has found that using the Simonton method improves communication within the family, promotes a sense of wholeness and integration in the patient, and increases the patient's sense of control.

Visualization has been used for a variety of conditions. Clark (1980) found visualization useful in the hospice setting. Clients reported decreased pain, greater mobility, and feeling more relaxed.

Crowther (1983) found relaxation imagery alone equally effective as stress management combined with relaxation imagery in reducing blood pressure in a group of 34 patients with essential hypertension. A control group received blood pressure checks with no other intervention. After eight

weeks of intervention, subjects in the experimental groups demonstrated significant decreases in mean diastolic and systolic blood pressure, with 75% attaining normal blood pressures.

Krystal and Zweben (1989) found visualization techniques useful in helping clients recovering from addictions to deal with psychological and interpersonal issues. Visualization helped their clients acknowledge and explore emotions, work through feelings, and release negative patterns.

A study by Phillips (1991) demonstrated a significant reduction in pain among persons with arthritis after a six week intervention using a taped guided imagery exercise.

Guided imagery can be used effectively with children through story telling and fantasy. This technique has been used to help children cope with invasive procedures and chemotherapy (Clark, 1980; Hockenberry, 1989). Hockenberry sees the use of behavioral interventions such as visualization becoming a standard part of nursing practice.

Vissing and Burke (1984) conducted a study among health care workers to determine if exposure to a visualization technique could positively affect problem solving. After a week of visualizing a positive outcome to a problem, all participants reported that visualization was an aid to problem solving, and that it promoted relaxation. The authors concluded that exposure to visualization among

health care workers could facilitate its use in health care settings with co-workers and patients.

Wann (1993) describes the current use of visualization as part of nursing care at Marin General Hospital in Greenbrae, California and at University of California Hospital in San Francisco, California. In these settings, visualization is used for such problems as pain control, nausea, anxiety, coping with procedures, and fostering self-healing.

Therapeutic Touch

Therapeutic touch is a healing modality developed by Krieger and Kunz akin to the ancient practice of laying on of the hands (Krieger, 1979). Krieger (1979) describes therapeutic touch as a dynamic field interaction, wherein "the person playing the role of healer becomes a human support system, supplementing the energies of the healee until the healee's own regenerative abilities can be mobilized in his or her own behalf" (p. 71).

Essential elements of the therapeutic touch (T.T.) process for the practitioner include an intent to help the healee and the ability to become centered. During T.T. the practitioner uses his or her hands to assess the healee's energy field and to modulate energy in ways that promote healing. Since its introduction into nursing in 1975, T.T. has been taught, practiced, and studied in numerous settings (Krieger, 1987).

In an initial study by Krieger (1975) with a group of 68 hospitalized patients, subjects treated with therapeutic touch (n=34) exhibited a significant increase in mean hemoglobin levels post-treatment as compared to subjects receiving routine nursing care (n=34). In a later study by Krieger, Peper, and Ancoli (1979), subjects treated with T.T. were found to exhibit physiological changes compatible with a state of relaxation.

Several subsequent studies have demonstrated reduction of anxiety and increased relaxation in response to T.T. In a study involving a group of 90 hospitalized cardiovascular patients, Heidt (1981) demonstrated that T.T. intervention produced a significant decrease in state anxiety as compared to casual touch or no touch. Using Heidt's study as a model, Quinn (1984) studied the effects of T.T. versus a mimic or sham T.T. on state anxiety in a group of hospitalized cardiovascular patients. Decrease in state anxiety after treatments was significantly greater in the T.T. group (n=30) as compared to the sham T.T. group (n=30). Randolph (1984) found no significant differences in physiological indicators of stress in a group of healthy college students subjected to a stressful stimulus while being treated with T.T. versus casual touch. Possible explanations for the lack of significant findings include: a) the population was healthy, b) the assessment phase of the T.T. process was not done in this study, and c) the

stress response was appropriate in the study situation, and T.T. would not be expected to alter a healthy response (Quinn, 1988).

Fedoruk (1984) found non-contact therapeutic touch to be an effective method for reducing behavioral stress in premature infants. She describes this process as a transfer of the relaxation response from the practitioner to the infant.

There are numerous reports of the pain-relieving value of T.T. in the literature (Krieger, 1979; Heidt, 1990). Some authors postulate that because pain and anxiety are often closely related, the relaxation promoting aspect of T.T. may lead to a reduction in pain (Wright, 1987; Boguslowski, 1979). A study by Keller (1986) explored the effect of T.T. versus mimic T.T. on headache pain in a group of 60 patients randomly assigned to either treatment group. Subjects treated with T.T. demonstrated a significantly greater decrease in pain scores as compared to the mimic T.T. group. Subjects in this study also reported feeling relaxed after T.T. treatments.

In her clinical practice, Newshan (1989) found T.T. helpful in controlling respiratory symptoms, gastrointestinal symptoms, fever, pain, and anxiety in persons with AIDS. She sees T.T. as a manifestation of compassion, and states "Therapeutic touch is a skill that is invaluable in the care of the person with AIDS on many

levels, whether it is to ease the transition in dying or to ease the discomforts in living" (p. 51).

In a qualitative study of seven nurse-patient dyads, using a grounded theory approach, Quinn (1990) concluded that "The primary experience of Therapeutic Touch is opening to the flow of universal life energy" (p. 180). Patients in this study described reactions to T.T. treatment which included deep relaxation, pain relief, a sense of being energized, increased awareness, and an improved ability to cope with their condition.

CHAPTER FIVE

Methodology

Research Design

This study utilized a modified crossover design. A crossover study is one type of repeated measures design (within-subjects design). In repeated-measures designs, treatment effects are represented by changes within the specific groups of subjects participating in the experiment (Keppel, 1982).

In a crossover study, all participants receive the same treatment at different times during the experiment, and serve as their own controls. The crossover design has been used to test the effectiveness of investigational drugs, psychological therapies, and physical therapies. Gillings and Douglas (1985) state:

> This design has the advantage of providing more precise comparisons of treatments by using each patient as his/her own control; this feature reduces between patient variability and generally results in a need for fewer patients to be studied than would be required in a parallel group trial. The fact that each patient receives both treatments (experimental intervention and no intervention) is often viewed as a benefit for ethical reasons as well, since no patient is denied the new therapy or treatment. (p. 265)

In the present study, subjects were randomly placed into one of two groups which can be represented by the schematics:

O_1 X O_2 O_3

O_1 O_2 X O_3

0 represents observation, and X represents Jin Shin Jyutsu intervention. While all subjects were compared to themselves, those receiving their treatment intervention after the second observation time functioned as an additional control group in order to enhance the strength of conclusions in the present study.

Because the participants in the present study were actively recruited rather than randomly selected from the general population, this study must be considered quasi-experimental.

In addition to measuring responses to a series of Jin Shin Jyutsu treatments, this study also explores the subjective responses participants experienced and hence has a qualitative aspect. Qualitative research methods are advantageous when little is known about a particular phenomenon. Polit and Hungler (1987) point out that "Qualitative research is often based on the premise that knowledge about humans is not possible without describing human experience as it is defined by the actors themselves" (p. 349). It is this researcher's hope that this portion of the present study will yield insights into how Jin Shin Jyutsu affects the study participants on various levels.

The Study Sample

The study sample consisted of registered nurses recruited from four local hospitals in the following manner. Information letters (see Appendix A) and informed consent

forms (see Appendix B) with self-addressed envelopes were posted at four local hospitals after approval of the project by the directors of nursing services at three of the hospitals and the nursing research committee at the fourth hospital. Participants were accepted on a first-come, first-serve basis; there was an abundance of respondents. No participants dropped out of the study; all participants completed all of the required treatments and most of the questionnaires.

Criteria for participation in the study were that prospective participants: a) be employed as a registered nurse 16 or more hours per week, b) did not personally know either the researcher or Rose Murray, both of whom performed the Jin Shin Jyutsu treatments in the study, c) had never received Jin Shin Jyutsu treatments before, and d) were not currently receiving any other form of acupressure treatments. The researcher's purpose in requiring that participants be employed 16 or more hours was to ensure that participants were generally healthy (at least not disabled), and that participants have the commonality of currently working as nurses. The purposes of the other criteria for participation were to eliminate the variables of previous or current experience with the treatment intervention or a similar form of treatment, and to minimize the effect of familiarity with the researcher.

Nurses were selected for the study population because: a) they are generally considered a "stressed" profession, and b) they are a group accessible to this researcher. Undoubtedly self-selection was a factor in participation in this study. Self-selection occurs when members of the group being studied are in the group in part because they possess traits or characteristics that may influence or are related to the variables of the research problem (Polit & Hungler, 1987). For example, persons with an interest in alternative therapies or with specific problems they believe might be helped by Jin Shin Jyutsu treatments may have been more likely to participate in the study.

Power Analysis

A power analysis was done to determine the adequacy of sample size in the present study. Since no studies have been done prior to measuring the effects of Jin Shin Jyutsu, an estimate of the effect size was made. Clinical experience of the researcher, and anecdotal reports of other Jin Shin Jyutsu practitioners, indicate that the majority of clients receiving Jin Shin Jyutsu treatments experience some sort of positive response. Therefore, a fairly large effect size (.70) was used for the power analysis. At the .05 significance level, with an effect size of .70, a sample size of 34 (matched pairs) results in a power of .81 (Cohen, 1977). This indicates that in the present study, there is an 81% chance of accurately detecting significant effects.

The Treatment Intervention

The treatment intervention consisted of six Jin Shin Jyutsu treatments, 50-55 minutes in duration, given over a six to eight week period, at approximately one week intervals. (Please refer to Chapter 2 of this thesis for general information regarding Jin Shin Jyutsu practice.) Treatments were given on a comfortable cot with the participant fully clothed and usually covered with a light blanket. Control of the room temperature and use of blankets was left up to the discretion of the research participant. Treatments were given with the door shut to ensure privacy and quiet.

Immediately prior to the first treatment, participants were given a simple verbal explanation of the purpose of the study of Jin Shin Jyutsu (see Appendix C: Guidelines for Practitioners). After an initial pulse assessment and discussion of any current problems (projects), Jin Shin Jyutsu treatment was initiated, with the practitioner holding the safety energy locks on specific flow patterns based on each individual participant's needs. Participants were encouraged to ask any questions or make any comments they wished regarding the treatment.

As described in Chapter 2 of this thesis, self-help is an integral part of Jin Shin Jyutsu practice. Therefore, during the first or second session, four simple, general harmonizing self-help flow patterns (the same four for all

participants), were demonstrated and explained, with simple written diagrams provided for participants to take with them. Throughout the treatment intervention period, individualized self-help flow patterns were demonstrated to participants if they were experiencing a specific need. Use of self-help was left entirely up to the discretion of participants and was not required in any way.

Treatments were given at the offices of Jin Shin Jyutsu Therapeutic Services, at 170 E. Cotati Avenue, Cotati, California. Initial questionnaires for those study participants receiving their treatments in the first phases of treatment intervention, and post-treatment questionnaires for all participants, were completed at the study setting in a quiet and private room (either the treatment room or the waiting room if empty). Admission histories and follow-up questionnaires were administered and returned by mail, as were the initial questionnaires for participants receiving their treatments during the second phases of treatment intervention.

Jin Shin Jyutsu Practitioners

The Jin Shin Jyutsu practitioners administering the treatments in the present study were the researcher, Donna Lamke, R.N., B.S.N., and Rose Murray, R.N., M.S. The researcher has been a registered nurse for 10 years, working in various hospital settings and as a Jin Shin Jyutsu practitioner in a private practice setting for 5 years. The

researcher administered the treatments to 22 of the study participants. Rose Murray has been a registered nurse for 36 years, a Jin Shin Jyutsu practitioner in a private practice for 10 years, and is currently an associate professor at Sonoma State University. Ms. Murray gave the Jin Shin Jyutsu treatments to 12 of the study participants.

Both practitioners in the present study were instructed and agreed to follow a specific set of guidelines (see Appendix C). In addition to providing simple explanations regarding Jin Shin Jyutsu and the purpose of the study, and demonstrating self-help as described earlier in this thesis, practitioners were instructed to: a) avoid initiating conversation unrelated to the treatments, b) refrain from promising specific treatments results, and c) refer participants for medical treatment or counseling if needed (this was not necessary during the study).

Human Subjects Review

The format and procedures for data collection in the present study were approved by the Committee on the Rights of Human Subjects at Sonoma State University.

In order to ensure privacy and confidentiality, several measures were taken. Treatments were given with the door closed. Research participant were not referred to by name outside of the study setting. Code numbers were assigned to each participant and were used instead of names to identify all forms and questionnaires used in this study. The only

record matching participants' names to their data code number for the study was a list kept in a locked file at the researcher's home; this list was destroyed after data collection was complete.

The only potential risks to the participants in this study, known to this researcher, include: a) transient fatigue after a treatment, and b) minor discomfort at points on the body if firm pressure is applied. Participants were apprised of these potential untoward effects (see Appendix B). To cope with transient fatigue if it occurred, participants were encouraged to rest after a treatment in the treatment room on in the waiting room at the treatment setting. In order to minimize discomfort, participants were encouraged to ask the practitioner to use lighter pressure or release contact at any uncomfortable area. No risks were anticipated due to completing written questionnaires in this study.

Prospective participants were apprised of the time commitment involved in this study before signing their informed consent.

Participation in this study was voluntary. Participants were able to withdraw from the study at any time. Participants were instructed to contact the researcher by telephone if they experienced any emotional discomfort related to this study, in order that care and support could be provided.

Instruments

The instruments used for data collection in the present study include: a) an admission history and health check list, b) the Perceived Stress Scale questionnaire, c) a post-treatment intervention subjective responses questionnaire, and d) the follow-up questionnaire. Each instrument will be discussed below.

Admission History and Health Check List

The admission history (Appendix D) is a 24 item form consisting of category check-off items and brief answer questions. Information obtained from the admission history include demographic data, health habits, perceived stressors, and coping methods used. The health check list (Appendix E) consists of a list of 56 conditions for respondents to check off if they have or have ever had these conditions. A space is provided at the bottom of the page for explanations of any items checked. The purposes of the admission history and health check list were to : a) collect demographic data, b) screen for any potentially serious or disabling conditions (which would have disqualified participants from the study), and c) to gain insights into perceived stressors and coping activities in the study sample.

The admission history and health check list were adapted from forms used in the Health Maintenance Center

at Sonoma State University, and were approved by the researcher's thesis committee.

Perceived Stress Scale Questionnaire

The primary instrument for quantitative data collection in the present study, referred to as the Perceived Stress Scale Questionnaire, consists of the 10 item Perceived Stress Scale (Cohen & Williamson, 1988), seven questions designed by the researcher addressing somatic stress symptoms, and three general questions designed by the researcher addressing social support and perceived stressfulness of the work setting (see Appendix F). All participants completed this questionnaire at the beginning of the study. A brief version of the questionnaire was also used in this study, consisting of five questions from the Perceived Stress Scale, three somatic questions, and three general questions (see pages 1 and 3 of Appendix F). Spearman correlation coefficients at three different testings comparing the five item and 10 item Perceived Stress Scales were .93 (n=34, p=.000), .97, and .95 (n=18, p=.000). Correlations between the three item somatic questionnaire and the seven item somatic questionnaire at three different testings were .87 (n=34, p=.000), .75, and .85 (n=18, p=.000). These correlations validate the brief versions of the Perceived Stress Scale and the somatic questionnaire used in this study.

All questions are worded so the respondent rated how often they felt a certain way or had a particular experience during the last month, according to a 5 point ordinal scale ranging from "never" to "very often." The Perceived Stress Scale (PSS) consists of questions number 1, 2, 4, 5, 7, 9, 11, 12, 14, and 16 on the study instrument. Permission to use the PSS was obtained from Dr. Sheldon Cohen (1989). The questions relating to somatic stress symptoms are numbers 3, 6, 8, 10, 13, 15, and 17; questions 18 through 20 are the general question (see Appendix F). The questionnaire generally takes less than five minutes to complete, and is easy to score. The scores are obtained by reversing the positively stated PSS items (e.g., 0=4, 1=3, 2=2. 3=1, 4=0), and then summing all items. For the purposes of this study, the scores of the PSS, somatic, and general questions were analyzed separately.

The Perceived Stress Scale

The Perceived Stress Scale was originally a 14-item scale designed to "tap the degree to which the respondents found their lives unpredictable, uncontrollable, and overloading" (Cohen, Kamarck, & Mermelstein, 1983, p. 387). These three issues are considered to be central components of experienced stress. The PSS was designed for use with community samples with at least a junior high school education and consists of questions which are general in nature and considered to be free of content specific to any

sub-population group (Cohen, Kamarck, & Mermelstein, 1983).

In early studies done by Cohen, Kamarck, & Mermelstein (1983) on two groups of college students (n=332 with mean age=19.01, and n=114 with mean=age 20.1), and one smoking cessation group (n=64, mean age=38.4), coefficient alpha reliability for the PSS was .84, .85, and .86, respectively. These values indicate a high degree of internal consistency, which is one estimate of reliability. In a later study (Cohen & Williamson, 1988), on a large, randomly selected sample (n=2,387) completing a telephone interview using the 14-item PSS, a life events scale, and a number of questions regarding work-related stress, the coefficient alpha reliability score was .75 for the PSS. Using factor analysis on this data, the authors deleted 4 items from the PSS, formulating a 10-item PSS, with a higher degree of internal reliability (alpha coefficient =.78).

Test-retest correlation for the PSS was .85 for a sample of 82 college students tested on two intervals separated by two days. Test-retest correlation for the smoking cessation group noted earlier (n=64), with 6 weeks between testing intervals, was only .55. The authors concluded that the predictive validity of the PSS is expected to fall off rapidly after 6 to 8 weeks (Cohen, Kamarack, & Mermelstein, 1983).

The pilot test of the primary instrument used in the present study was conducted on nine nursing students in a

nursing education class at Sonoma State University, with a one week interval between testings. Test-retest correlation was .90 for the 10-item PSS portion of the questionnaire, indicating a high degree of stability.

Several studies support the construct and predictive validity of the PSS. In their initial studies with the two groups of college students (n=322, n=114) and the smoking cessation group (n=64), Cohen, Kamarck, & Mermelstein (1983) examined the relationships between responses to 5 different scales measuring: a) life events, b) social anxiety, c) depressive symptomatology, d) physical symptomatology, and e) perceived stress (using the 14-item PSS). The PSS was found to correlate moderately with number of life events ($r=.17$, $.20$, and $.39$, $p<.01$). This correlation increased when impact of life events was considered ($r=.24$, $.35$, and $.49$ $p<.01$). The PSS was found to be a better predictor of utilization of health services, depressive symptomatology, and physical symptomatology than life events. In the college student samples, increase in social anxiety was associated with increases in perceived stress (.37 and .48, $p<.001$).

The later study by Cohen & Williamson (1988) using telephone interview (n=2,387) similarly supports the validity of the PSS. PSS scores were found to be moderately related to other measures of appraised stress and potential stress. The more health problems respondents reported, the

higher the PSS scores (r=.23, p<.0001). Scores on the Health Service Utilization Scale were also positively correlated with PSS scores (r=.21, p<.0001). Symptoms of potentially serious illness were positively correlated with perceived stress (r=.27, p<.0001), as were symptoms of nonserious illness and flu symptoms (r=.31, .32, p<.0001). PSS scores were inversely correlated with satisfaction (r=.47, p<.0001).

The PSS has been found to be a useful predictive tool in cigarette smoking programs. Cohen, Kamarck, & Mermelstein (1983) found PSS scores to be predictive of number of cigarettes smoked at one month and three months following treatment. In all cases (n=64), the higher the PSS scores, the greater the number of cigarettes smoked. In a study examining the strategies used and variables associated with success in quitting smoking (n=134), perceived stress, as measured by a 4-item PSS, was found to be the only variable consistently predictive of success (Glasgow, Klesges, & Pechacek, 1985).

In a study examining the role of self-complexity as a cognitive buffer against stress-related illness and depression, Linville (1987) found that depression, physical symptoms, and perceived stress, as measured by the PSS, were significantly correlated with each other. Cohen (1986) concludes that studies demonstrate that "even after controlling for the possible overlap of the PSS and

psychopathology, the PSS prospectively predicts psychologic symptoms, physiologic symptoms, and health behaviors" (p. 716).

Somatic Stress Scale

The somatic stress-related symptoms portion of the test instrument used in the present study was designed by the researcher after a review of the stress literature (Selye, 1956; Lazarus, 1976; Zegans, 1982, Elliot & Eisdorfer, 1982; Bieliauskas, 1982), and the literature regarding stress measurement tools (Taylor, 1953; Hamilton, 1959; Zung, 1971; Derogatis & Melisaratos, 1983; McCorkle, 1987; Stokes & Gordon, 1988).

The researcher formulated seven questions focusing on common stress-related symptoms: a) difficulty falling asleep or staying asleep, b) increased sleep, c) headaches, d) muscle tension or pain, e) nausea or upset stomach, f) chest tightness or discomfort, and g) a feeling of not having enough energy. Although there are numerous stress-related somatic symptoms, for ease of testing the researcher focused on the of symptoms most frequently cited in the literature. These are: headaches, sleep disturbances, muscular symptoms, gastrointestinal symptoms, cardiorespiratory symptoms, and fatigue.

The somatic questions devised by the researcher were reviewed and approved by a panel of six experts in the

fields of nursing and psychology to establish content validity.

Test-retest correlations in the pilot test done by the researcher were quite variable on the somatic questions. Test-retest correlation was low on the questions regarding headaches (r=.158) and muscle tension/pain (r=-.111). Correlation was moderate to good on the questions regarding difficulty sleeping (r=.426), increased sleep (r=.616), and feeling low energy (r=.680). Correlation was high on questions regarding nausea/upset stomach (r=.834) and chest tightness (r=1.0).

Total somatic scores in the pilot tests were arrived at by summing the scores of the seven somatic questions. Initial scores ranged from 3 to 13, with a mean of 6.78 and standard deviation of 3.38. Range of the second test scores was from 3 to 8, with a mean of 5.44 and standard deviation of 1.94.

Test-retest correlation for total somatic scores was quite low (r=.28). However, it is of note that two of the pilot test participants had pre-test to post-test score changes of 8 and 9 points, much greater than the other seven participants who had total score changes ranging from 0 to 3 points. A recalculation of the test-retest correlation deleting the data from the two participants with the large score changes resulted in a much higher correlation (r=.66), approaching the value of .70, which is considered an

acceptable test-retest correlation for determining reliability of an instrument (Polit & Hungler, 1987).

Despite the variability in the test-retest correlations of individual questions and total scores, the researcher chose to incorporate these somatic symptom questions in order to: a) determine if any somatic symptom(s) are consistently affected by Jin Shin Jyutsu, and b) to determine if PSS scores in this study were related in some way to somatic symptoms.

General Questions

The general questions portion of the study instrument consists of three questions devised by the researcher to assess general stability or instability of specific factors which could be related to stress levels in the participants' lives (see questions 18-20, Appendix F). Question #18 asks the respondent to rate, in general, if they have someone with whom they can talk about problems. This is one indicator of social support. Question #19 asks if the respondent is worried about a family member or close friend, and #20 asks if they find their current work setting stressful. These two questions were included to indicate changes in family or work stress during the course of the study. The three general questions were approved by the researcher's thesis committee, and included in the pilot test. Test-retest correlation coefficients were .90 for

question #18, .795 for question #19, and .90 for question #20, indicating stability of these questions.

Subjective Responses Questionnaire

The Subjective Responses Questionnaire (see Appendix G) is a one-page form consisting primarily of open-ended questions which ask the participant to describe his or her experienced physical and mental/emotional responses to the Jin Shin Jyutsu treatment intervention. The questionnaire was designed by the researcher and approved by the thesis committee. The questionnaire was completed by participants immediately after their sixth (last) Jin Shin Jyutsu treatment, at the study setting. In addition to collecting subjective data regarding reaction to treatments, this questionnaire also asks participants: a) if they used Jin Shin Jyutsu self-help, and if so, how often, and b) if they had experienced any major life changes since the pre-treatment questionnaire; this data was considered when analyzing data from the PSS questionnaire.

The data obtained from the subjective responses questionnaire, qualitative in nature, was analyzed by looking for recurring responses and themes in responses.

Follow-up Questionnaire

The follow-up questionnaire (see Appendix H) is a one-page form consisting of: a) four simple yes/no questions with request for additional information if the response was "yes," b) a question regarding perceived usefulness of Jin

Shin Jyutsu in reducing stress, and c) a space for any additional comments respondents care to make. These questionnaires were completed via mail, six to eight weeks after Jin Shin Jyutsu treatments had been completed. The purposes of this questionnaire were to: a) assess persisting changes due to treatment intervention, b) collect data regarding Jin Shin Jyutsu self-help usage, and c) evaluate perceived stress reduction value of Jin Shin Jyutsu. The follow-up questionnaire was designed by the researcher and approved by the thesis committee.

Data Collection

This study was conducted over a one year period, with treatment intervention and data collection occurring over six month periods for two separate groups of participants (n=16 and n=18). Each group was further divided randomly into two groups: A and B, C and D. Groups A and C received their Jin Shin Jyutsu treatments during the first eight weeks of their study periods, and groups B and D received their treatments during the second eight weeks of their study periods, after completing a second questionnaire.

Groups B and D (total n=17) functioned as a control group, by comparing data obtained from their first and second questionnaires, completed prior to Jin Shin Jyutsu intervention. All four groups (total n=34) functioned as experimental groups by comparing their questionnaire scores

before and after treatment intervention. A schematic diagram of groups A, B, C, and D is shown in Figure 2 below.

Table 1

Phase 1

Group A (n=8):	O_1	x	O_2		O_3
Group B (n=8):	O_1		O_2	x	O_3

Phase 2

Group C (n=9):	O_1	x	O_2		O_3
Group D (n=9):	O_1		O_2	x	O_3

CHAPTER 6

Data Analysis and Results

Characteristics of the Study Sample

The study sample consists of 34 registered nurses (30 female, 4 male), with ages ranging from 28 to 52 (mean = 39.4, standard deviation = 6.3, median = 41.5). The nurses in the study were currently working 20 or more hours per week; 24% worked 20-29 hours per week, 44% worked 30-39 hours per week, and 32% worked 40 or more hours per week. Most of the nurses were working in hospitals, with 82% being staff nurses, and 15% being nurse managers or supervisors. One study participant worked in an office setting, and 2 participants worked in home care in addition to acute care. The study participants worked in all areas of the hospital, including emergency (15%), medical/surgical (26%), obstetrics (26%), adult or neonatal intensive care (20%), oncology (6%), and central supply (3%).

The educational levels of participants included two year R.N. degrees (29%), three year degrees (15%), B.A. or B.S.N. degrees (38%), and M.A. or M.S.N. degrees (18%).

Years worked as an R.N. ranged from less than 5 to more than twenty, with 12% having worked less than 5 years, 20% working 5-9 years, 33% working from 10-14 years, 15% working 15-19 years, and 20% working 20 or more years.

Study participants considered themselves generally healthy, with 20% rating their health excellent, 65% rating their health as good, and 15% rating their health as fair.

No participants rated their health as poor. Twelve participants (35%) used medication on a regular or as needed basis, and 24 (65%) used no medication.

The health habits of the study sample were generally good. Only 3 (9%) of the study sample were smokers. Thirteen (38%) were ex-smokers, and 18 (53%) had never smoked. Caffeine intake was generally moderate, with 10 participants (29%) drinking less than one cup of coffee, tea or cola per day, 15 (44%) drinking 1 or 2 cups, 5 (15%) drinking 3 or 4 cups, and 2 (6%) drinking 5 or more cups per day (two participants left this question blank). Alcohol intake was moderate, with 17 participants (50%) having one or less drinks per week, 7 (20%) having 1 or 2 drinks per week, 4 (12%) having 3 or 4 drinks per week, and 4 (12%) having 5 or more drinks per week (two participants left this question blank). Twenty-four (70%) of participants reported exercising regularly each week, 9 (26%) did not exercise regularly, and one participants did not respond to this question.

The stressors frequently listed by participants included: a) work (85%), b) family (47%), c) relationships (29%), and d) finances (20%). Work hazards described by participants included: a) exposure to disease (41%), b) heavy lifting (23%), c) exposure to drugs or radiation (23%), d) being too busy (15%) and e) exposure to violent people (3%).

Coping strategies most frequently used by participants included: a) exercise (59%), b) diversion (32%), c) meditation, relaxation or deep breathing (29%), d) social activities (26%), e) eating (24%), f) resting (15%), and g) ventilating (12%).

Several health complaints were listed more frequently than others on the health check list in the admission history. Eleven participants (32%) reported having had palpitations at some time in their lives; none reported that these were problematic for them. Ten participants (29%) reported having depression or emotional problems either in the past or currently. Eleven participants (32%) reported having severe headaches. Thirteen participants (38%) had a history of hayfever. Fourteen participants (41%) reported having weight problems.

An unexpected finding in the study sample was a relatively high incidence of painful or potentially painful conditions. Eighteen participants (53%) reported such conditions on the health check list and/or the admission history. Unfortunately, a scale rating current pain was not included in the admission history or check list.

Fifteen participants (44%) reported injuries other than childhood injuries. Six (18%) reported having work-related injuries. Seven participants (21%) reported more than one injury. These included: a) neck and knee injuries (one), b) leg and back injures (two), c) back and neck injuries

(one), d) leg and face injuries (one), e) neck, back and shoulder injuries (one), f) neck and shoulder injuries (one). Of those participants reporting only one injury, two reported neck injuries, one reported facial injuries, one reported a shoulder injury, three reported arm injuries, and one reported a knee injury.

Fourteen (41%) participants reported bone or joint pain and/or arthritis. Six of these also reported accidents or injuries.

Quantitative Data Analysis

Data obtained from the Perceived Stress Questionnaire was analyzed using the Wilcoxan Matched-Pairs Signed-Rank test, which is appropriate for comparing ordinal data obtained from matched pairs at two different points in time.

Perceived Stress Scale

No significant changes were observed in perceived stress scores in the control group (groups B and D, n=17) after a six-week interval without Jin Shin Jyutsu treatment intervention (p=.21).

Significant decreases in perceived stress scores were observed in all groups immediately following Jin Shin Jyutsu treatment intervention (see Figures 4 and 5). Analysis of scores from the 10 item Perceived Stress Scale revealed a decrease in median scores from 17.0 before treatments to 13.5 after the sixth and final treatment (n=18, p=.0012).

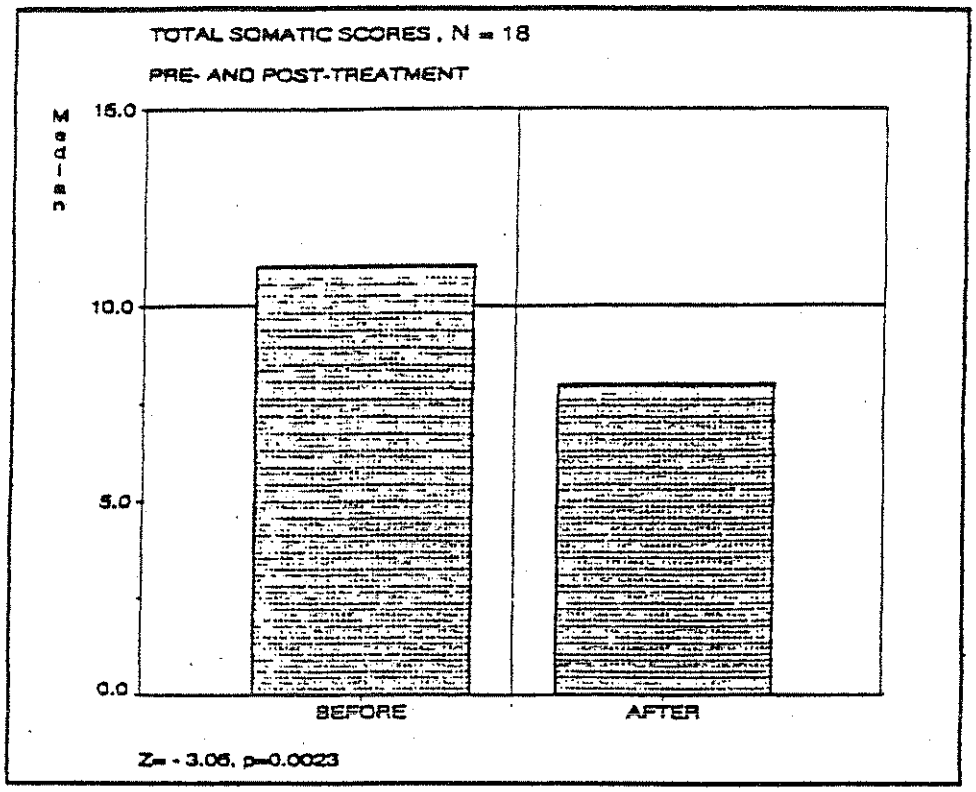

Figure 5: Scores from 7-item Somatic Stress Scale before and after Jin Shin Jyutsu treatments, N=18.

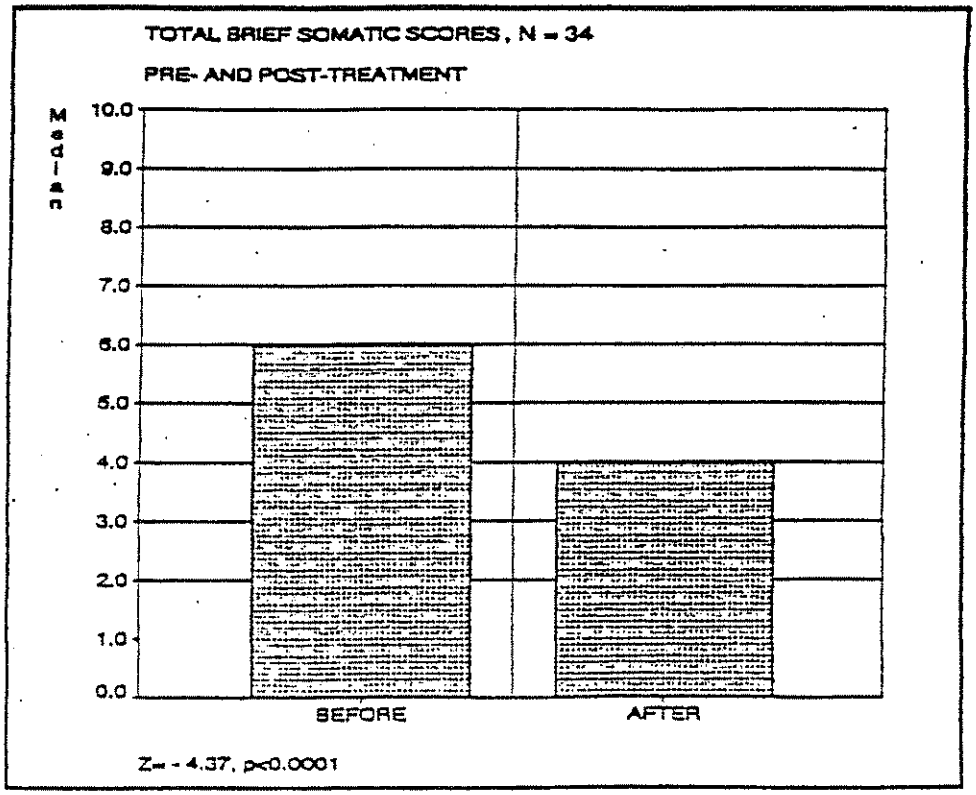

Figure 6: Scores from 3-item Somatic Stress Scale before and after Jin Shin Jyutsu treatments, N=34.

Analysis of scores from the five items Perceived Stress Scale (brief PSS) showed a decrease in median scores from 9.0 before treatments to 7.0 immediately following the sixth treatment (n=34, p=.0003).

These results indicate Jin Shin Jyutsu treatment intervention was effective in reducing perceived stress in the study sample, during the treatment intervention period. No significant differences were observed in perceived stress scores in groups A and C (n=17) between the questionnaires completed immediately following treatments and the questionnaires complete 6-8 weeks later. This indicates some persistence of Jin Shin Jyutsu treatment effects.

Somatic Stress Scale

No significant changes were observed in scores from the seven item stress symptom portion of the study questionnaire in the control group (groups B and D, n=17) after a six week period without treatment intervention (p=.73).

Significant decreases in somatic stress scores were observed immediately following Jin Shin Jyutsu treatment intervention (see Figures 6 and 7). Analysis of scores from the seven item Somatic Stress Scale revealed a decrease in median scores from 11.0 before treatments to 8.0 after the final treatment (n=18, p=.0023). Analysis of scores from the brief (three item) Somatic Stress Scale showed a decrease in median scores from 6.0 before treatments to 4.0 after the final treatment (n=34, p<.0001). These results

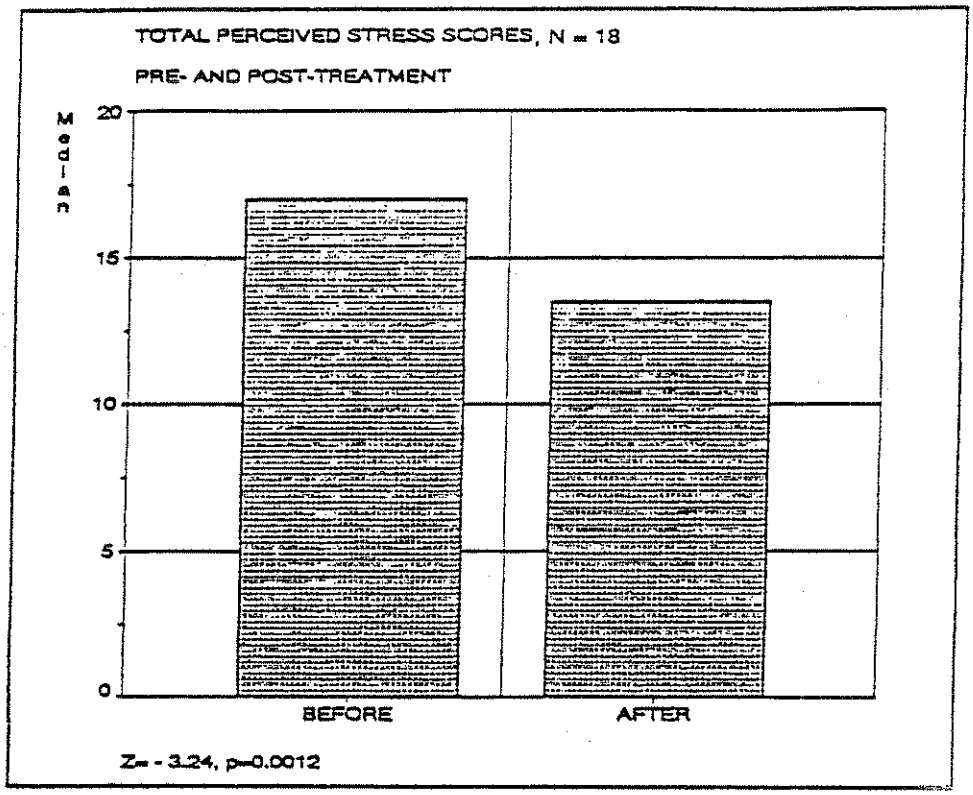

Figure 3: Scores from 10-item Perceived Stress Scale before and after Jin Shin Jyutsu treatments, N=18.

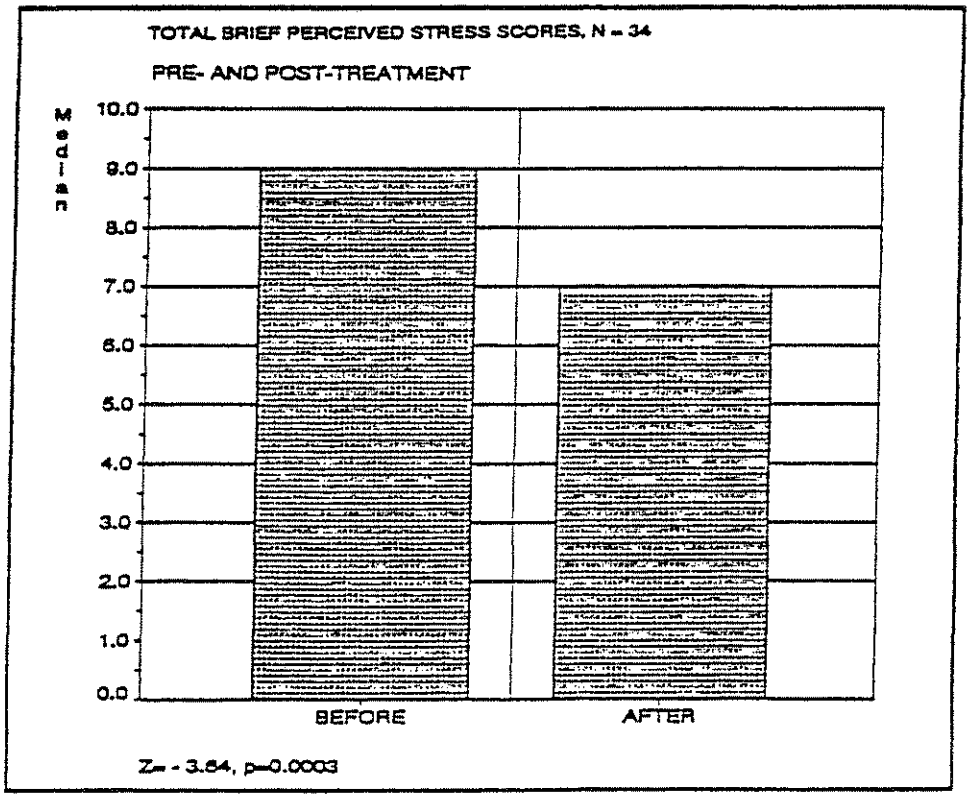

Figure 4: Scores from 5-item Perceived Stress Scale before and after Jin Shin Jyutsu treatments, N=34.

indicate that Jin Shin Jyutsu treatment intervention was effective in reducing somatic stress symptoms in the study sample during the treatment period.

No significant decreases were observed in somatic stress scores in groups A and C (n=17) between the questionnaires completed immediately following treatments and the questionnaires completed six to eight weeks later. This supports the persistence of treatment effects.

Responses to the questions rating somatic stress symptoms were analyzed individually using the Wilcoxan Matched-Pairs Signed Rank test. Significant changes from pre-treatment to post-treatment scores occurred in the questions asking participants to rate: a) difficulty in falling asleep or staying asleep (p=.036), b) frequency of headaches (p=.021), and c) how often they felt they didn't have enough energy (p=.0001). These statistics indicate that Jin Shin Jyutsu treatment intervention was clearly beneficial to the study sample in improving sleep and energy level, and reducing headaches. These three questions were included on the brief and full versions of the questionnaire, with the total n=34.

No significant changes were observed from pre-treatment to post-treatment scores in any of the questions included only on the long version of the questionnaire, with the total n=18. These questions asked participants to rate: a) feeling sleepy or sleeping more than usual (p=.824), b)

muscle tension or pain (p=.176), c) upset stomach or nausea (p=.735), and d) chest tightness or discomfort (p=.294). Since the significant effects in individual questions were observed only with the larger sample size (n=34 as opposed to n=18), it is possible that the lack of significant changes in the other somatic symptoms was due to inadequate sample size.

General Questions

Scores from the general questions were analyzed individually, using the Wilcoxan Matched-Pairs Signed-Rank test.

There was no significant change in pre-treatment to post-treatment scores in the question regarding having someone to talk to about concerns (p=.6496). There was also no significant change in pre-treatment to post-treatment scores in the question asking participants how often they felt their current work setting was stressful (p=.3487).

There was a significant change in pre-treatment to post-treatment scores in the question asking participants if they were concerned or worried about a family member or close friend, with a drop in median scores from 3 to 2 (p=.0187). The researcher has no clear explanation for this change. Perhaps participants felt a generally lower level of worry secondary to relaxation or decreased stress perception, as demonstrated by the decreases in perceived stress scores. Further questions regarding changes in

conditions of family members or friends would have provided useful information regarding evaluation of a decrease in worry among study participants.

Use of Jin Shin Jyutsu Self-Help

Jin Shin Jyutsu self-help instruction was given to all study participants as described in the previous chapter. Use of self-help was left entirely to the discretion of the participants. It was of interest to this researcher to explore if the Jin Shin Jyutsu self-help would be used, and if there were any differences in outcomes of those participants who did use the self-helps.

At the end of the treatment period (questionnaires completed following the sixth treatment), most of the participants were using Jin Shin Jyutsu self-help. Thirteen participants (38%) were using the self-help more than three times per week. Ten (29%) were using self-help two to three times per week. Seven (20%) were using self-help once a week or less. Two (6%) were not using any Jin Shin Jyutsu self-help. Two participants did not respond to this question.

At the time of the follow-up questionnaire, six to eight weeks after completion of treatments, fewer participants were using Jin Shin Jyutsu self-help. Seven participants (20%) were using self-help three or more times per week. Five (15%) were using self-help once or twice per week. Five (15%) were using self-help less than once per

week. Thirteen participants (38%) were not using any Jin Shin Jyutsu self-help. Three participants did not return the follow-up questionnaire, and one participant left this question blank.

Using the Mann-Whitney U test, no significant relationship was found between having a pain-related condition and use of self-help in either the post-treatment questionnaires ($p=.93$) or the follow-up questionnaires six to eight weeks after treatments ($p=.31$). Similar results were obtained using the Kolmogrov-Smirnov 2-Sample test. This was surprising to the researcher because the most frequently cited reasons for using Jin Shin Jyutsu self-help were related to coping with pain (neck, back, knee, hip, headache).

Participants were asked in the follow-up questionnaire if they had noticed any persisting changes (physical, emotions, or other). Sixteen participants (47%) had, 13 (38%) had not, two did not respond to this question, and three participants did not return the follow-up questionnaire. Persisting changes included decreased pain, decreased premenstrual tension symptoms, less frequent insomnia, decreased stress, and increased awareness or feeling balanced. These will be discussed further in the following section.

Using the Mann-Whitney U test, a significant relationship was found between use of Jin Shin Jyutsu self-

help six to eight weeks after completion of treatments and persisiting changes (p=.047). This suggests that participants who continued to use Jin Shin Jyutsu were more likely to have prolonged positive effects.

The follow-up questionnaire asked participants if they had found Jin Shin Jyutsu helpful in reducing or managing stress in their lives. Nineteen (56%) answered yes, three (6%) answered no, and six (18%) specified that they had found Jin Shin Jyutsu helpful in reducing stress during the study period only. The Kruskal-Wallis 1-Way ANOVA showed a relationship approaching significance between use of self-help and the perception of Jin Shin Jyutsu being helpful in reducing or managing stress (p=.0661). While this suggests that participants who used Jin Shin Jyutsu self-help were more likely to experience it as stress reducing, further research would be needed to establish a clear link between Jin Shin Jyutsu self-help and decreased stress.

Subjective Data Analysis

Post-treatment Subjective Responses Questionnaire

Data obtained from the subjective responses questionnaire consisted of responses to open-ended questions. This questionnaire was completed immediately following the sixth (final) Jin Shin Jyutsu treatment. Data were analyzed by categorizing responses and looking for

recurrent themes. Response categories and frequencies are shown in Table #2.

Table #2

Response	Number	Percent
1. Relaxation	21	62%
2. Improved coping/decreased stress perception	15	44%
3. Calm/at peace/integrated	13	38%
4. Decreased pain or tension	12	35%
5. Decreased headaches	6	18%
6. Sense of wellbeing	5	15%
7. Mental clarity	4	12%
8. Improved sleep	4	12%
9. Emotional release	3	9%
10. Feel more in control	3	9%
11. Mental relaxation	3	9%

The most frequently reported response to treatments was relaxation, with 21 participants (62%) reporting this response. It was described in such terms as "relaxation," "deeply relaxing," and "complete relaxation." One participant stated, "I went to another consciousness state. Very relaxing."

The second most frequent category of responses was improved coping/decreased stress perception with 15 participants (44%) reporting these reactions. Following are several examples of responses from this category:

"I felt I had more control in my life because I felt less stressed."

"Seems to make everything take its place in relation to priorities, difficulties, and meaningfulness."

"I found myself less emotional about situations out of my control."

"After a treatment, I was better able to handle stressful personnel problems at work--they didn't bother me as intensely."

"Able to leave behind a stressful day at work."

"I feel more in control of problems--stress does not feel as overwhelming."

"I felt I could handle almost anything. I found the little things in life didn't bother me any more. I put more energy into enjoying my friends, family, etc."

"It makes you take time to relax and listen to yourself. After a treatment, little annoyances at home aren't as bothersome. You feel more peaceful and able to cope."

"It helped me realize when I was stressed, and I was better able to help myself then to release tension."

The third most frequent types of responses were categorized as calm/at peace/integrated. Thirteen (38%) of the participants listed these types of responses. Following are some examples of responses of this category:

"An increased sense of wholeness and being more in tune with myself."

"Generally calm."

"Predominantly a calming effect. A feeling of centering."

"Better emotional/physical and spiritual integration."

"Meditative. Grounding, emotionally."

"It allowed me to land back in my body (even if it was for a short visit). This I feel is a wonderful tool for connecting with your body and releasing the crap stuck in your body."

"Emotionally grounding--allows time to gain perspective and rejuvenate."

"I feel Jin Shin Jyutsu was subtle, but I have felt that it has helped me feel more in touch with my body."

The fourth most frequently reported response was a decrease in pain or tension, with 12 participants (35%) reporting these types of responses. Some examples of responses from this category are:

"Release of tension throughout my entire body, especially neck and shoulders."

"Decreased knee pain, shoulder pain, aching."

"Decreased neck and back tension."

"Improvement in muscles and joints (arthritis). Low back hurts less."

"Decrease in (chronic) back pain, and acute pain relief --headaches, knee pain."

"Neck and shoulder pain has decreased."

"I experienced a balancing of energy, which has also involved a pain release from my right shoulder and low back."

Other responses reported with less frequency (refer to Table #1) include decreased headaches, a sense of wellbeing, increased mental clarity, improved sleep, improved energy level, emotional release, a feeling of control and mental relaxation. Two participants reported decreased medication use. One participant reported a decrease in stomach problems. Another participant reported that her toes had "straightened out" to the point that she needed to buy larger shoes.

Four participants experienced temporary unpleasant effects. One participant experienced feeling "woozy" for a few minutes after the first two treatments. This resolved with rest. Another participant experienced muscle soreness after the first two treatments, which resolved with use of a heating pad; this participant noted that these were areas where she was "usually stuck," and later in the study noted a release of tension. Another participant also noted

soreness after the first treatment, but later experienced relaxation (this is the same respondent whose toes straightened out). One participant noted that she was not her "usual self" during the study period because she developed a severe flu during this time: "It was a more overwhelming illness than I usually get and I felt very symptomatic for a couple of weeks." This participant experienced extreme fatigue and a headache after the first two treatments, but noticed an improved sense of energy after the last two treatments.

Follow-up Questionnaire

As noted earlier, 47% of participants noticed persisting changes six to eight weeks after treatment intervention had been completed.

Several participants noticed persisting decreases in aches or pains, including neck and/or back pain, knee pain, headaches, and carpal tunnel syndrome. Participants indicated feeling a sense of empowerment in dealing with their pain and tension. For example, one participant who used self-help for neck/shoulder pain and tension stated, "I am in control of the tension now. I feel more relaxed within." Another stated, "I feel better able to deal with my pain when I can do something about it." Another participant stated:

> I have noticed since first starting treatments that my neck pain is very rare (only in times of severe stress). I felt much better physically and emotionally from treatments once a week with daily

> practice. More energetic and more positive. It gives a feeling of wellbeing.

Several participants noticed feeling less stressed, or feeling more able to control stress. For example, one participant stated, "I've noticed more relaxation, or at least the ability to halt a stress reaction and begin a calming process." Another stated, "I feel less stressed -- able to handle every day occurrences without the headaches, anger I use to have." Another stated, "I seem to not get as upset about things."

Four participants noticed an increased awareness of body energy. One participant stated, "I feel I'm more attuned to my body and spirit, and a sense of balance of energy in the body, spirit, and emotions, than before the study." One participant specified an improved sense of balance of energy between right and left sides. One participant stated, "I feel more in touch with myself--more centered."

Three participants noticed a decrease in premenstrual tension symptoms. For example, one stated, "I don't have my usual premenstrual tensions and emotional changes."

Two participants experienced a persisting decreased need for medications. One of these had decreased use of non-prescription medication for sleep and sinus congestion. The other experienced a decreased use of medication to decrease stomach acid production. This participant stated, "My stomach is much less upset and painful since completing

the treatments. I am taking only one-fourth of the medication I was taking ... I feel more in control of my life and less stressed."

The responses described above indicate that Jin Shin Jyutsu treatments can have various positive effects, lasting beyond the actual time of treatment. Frequently reported persisting changes in the study sample included decreased pain, decreased stress, and perhaps most importantly, a sense of an increased ability (empowerment) to control or manage pain, tension, and stress in their lives.

CHAPTER 7

Discussion and Conclusions

Support for Hypothesis

The results of this study provide support for the hypothesis that Jin Shin Jyutsu treatment intervention reduced stress as perceived by the study sample. Analysis of quantitative data obtained from the Perceived Stress Scale and Somatic Stress questions indicated lower levels of perceived stress and somatic stress symptoms in participants after Jin Shin Jyutsu treatment intervention. Subjective responses of participants also indicated that Jin Shin Jyutsu can help reduce stress, pain, and tension, promote relaxation and a sense of well-being, and facilitate coping in some way.

Many of the participants in this study reported relaxation resulting from Jin Shin Jyutsu treatment. Some of the participants in this study reported feeling less bothered by usual stressors or more able to cope with stress. Those participants who used Jin Shin Jyutsu self-help after the treatment period were more likely to experience prolonged positive effects and to find Jin Shin Jyutsu helpful in reducing or managing stress in their lives. Some of the participants in this study reported feeling an increased sense of control in dealing with their stress and/or pain. Studies have shown that both relaxation (Keicolt-Glaser, et al., 1985; Borysekno, 1988) and an

increased sense of control over one's life situations (Langer & Rodin, 1976; Gravelle, 1985; Pollock, 1989) can lead to a more positive health and coping status. Therefore, this researcher concludes that Jin Shin Jyutsu treatment, especially when combined with Jin Shin Jyutsu self-help, may promote a more positive health and coping status.

Implications for Nursing

Prevention of illness, wellness promotion, and self-care education are primary roles for nurse practitioners, and relevant for all health care providers. Stress related disorders account for 50-80% of all diseases (Lazarus, 1976; Rossi & Lubbers, 1989). Any modality which helps clients reduce or manage stress has value in terms of decreasing human suffering and disability. Stress reducing modalities also have value as cost reducing measures, important in these times; control of health care costs has become a national priority. This study indicates that Jin Shin Jyutsu may be a useful modality for reducing stress and promoting relaxation. It would seem to be particularly valuable as a cost reducing measure due to its self-care component, at least for that segment of the population which would use self-help.

The results of this study indicate that Jin Shin Jyutsu has potential value in "helping people cope with difficulties in daily living, which are associated with

their actual or potential health problems" (California Nurse Practice Act, 1985, p. 35). Therefore, it is an appropriate nursing measure. Jin Shin Jyutsu is also compatible with Rogers' view of appropriate nursing modalities; it is a non-invasive art which harmonizes energy patterns, and it incorporates self-care to promote wellness for nurses and clients.

Burnout is a common problem in nursing, and is most likely to occur when nurses feel frustrated, powerless, and stressed beyond their coping capacity. Jin Shin Jyutsu, particularly through its self-care component, may be a valuable modality for nurses to learn and practice as a means for reducing burnout, by decreasing perceived stress and facilitating coping.

Significance of Study

Because the study sample was a sample of convenience, and relatively small, the results of this study are generalizable only to groups similar to the study sample.

This study adds to the information available about the effects of Jin Shin Jyutsu. It provides statistical support for the usefulness of Jin Shin Jyutsu for reducing perceived stress, promoting relaxation, facilitating coping, reducing pain, and promoting other positive responses. This study provides some support for the usefulness of Jin Shin Jyutsu self-help as a self-care modality. This study also provides

insight into a variety of responses recipients may have to Jin Shin Jyutsu treatment.

Areas of Further Study

A study similar to the present study, with a larger and randomly selected sample population would be useful to determine if findings of the present study would be replicated. Results from such a study would be more generalizable than those of the present study.

Some of the positive responses reported by participants in the present study included decreased pain, decreased sleep problems, decreased headaches, decreased premenstrual symptoms, and improved energy levels. The sample population was considered generally healthy and functional (working 20 or more hours per week). It would be interesting to study groups with specific problems (namely--pain, sleep problems, headaches, P.M.S., fatigue), and determine whether or not Jin Shin Jyutsu treatments and/or self-help is useful in reducing specific symptoms. A longer study period would probably be appropriate in a sample population with chronic problems.

Several participants in the present study reported an improved sense of control, or an improved ability to manage their stress, tension, and/or pain. It would be interesting to incorporate some tool to measure self-efficacy before and after Jin Shin Jyutsu treatment intervention, and determine if: a) self-efficacy is enhanced by Jin Shin Jyutsu

treatments and/or self-help, b) if there is or is not a significant association between positive effects after treatments and degree of self-efficacy before and after treatment intervention, or c) whether self-efficacy is related to the liklihood of using self-help. It would be interesting to compare how self-efficacy is affected by Jin Shin Jyutsu treatments as opposed to Jin Shin Jyutsu self-help.

It would be interesting to conduct studies to explore the effects of Jin Shin Jyutsu self-help, and factors which are associated with the use of Jin Shin Jyutsu self-help. Some relevant questions are: Does Jin Shin Jyutsu self-help produce the same effects as Jin Shin Jyutsu treatments? How much self-help is effective? What motivates people to use Jin Shin Jyutsu self-help? Are there similarities and/or differences between persons who are likely to use self-help and those who are not likely to? Do certain problems (projects) respond better to Jin Shin Jyutsu self-help than others?

Considering that studies have shown beneficial effects using acupressure with specific symptoms, it would be interesting to conduct similar studies to determine if Jin Shin Jyutsu treatment would produce similar results. Studies could be done exploring the usefulness of Jin Shin Jyutsu in treating drug addiction, in reducing nausea and vomiting associated with post-operative status,

chemotherapy, and pregnancy, and in reducing acute or chronic pain.

Studies have shown that stress is linked to immune function (Ader, 1981; Locke & Colligan, 1986). Considering that the present study demonstrates that Jin Shin Jyutsu may be beneficial in reducing perceived stress, it would be interesting to study the effects of Jin Shin Jyutsu on immune functions. For example, salivary IgA, natural killer cell activity, and other immune system components could be measured before and after Jin Shin Jyutsu treatments.

It would be relevant to conduct studies to determine the usefulness of Jin Shin Jyutsu treatments and/or self-help in reducing burnout in nurses and other human service professionals. Such studies should be conducted over a longer period of time than the present study to determine any long-term effects.

Some participants in the present study reported feeling calmer, more at peace, grounded, and/or integrated. In view of these responses, it would be interesting to conduct studies exploring the effects of Jin Shin Jyutsu in populations with psychological symptoms such as anxiety, depression, mania, schizophrenia, and others.

The list of potential areas for study using Jin Shin Jyutsu is endless. Jin Shin Jyutsu is an adaptable art. Theoretically, because Jin Shin Jyutsu harmonizes the body energies which support the whole person, it has the

potential to help all conditions resulting from energy disorder. There are numerous anecdotal reports of positive responses to Jin Shin Jyutsu treatment. This study has been an initial attempt to systematically investigate and document the effects of Jin Shin Jyutsu.

A P P E N D I C E S

APPENDIX A

Nursing Research Project - Information Letter to Prospective Participant

You are invited to participate in a research study on the effects (if any) of Jin Shin Jyutsu on perceived stress in nurses.

Jin Shin Jyutsu is an ancient healing art similar to acupressure. During a Jin Shin Jyutsu treatment, the practitioner holds various points on the body with mild to moderate finger pressure. A treatment lasts approximately 55 minutes. Treatments are done on a comfortable cot. You will be fully clothed, and pillows and blankets are provided to assure your comfort. The treatment rooms are quiet and private.

People often report feeling better in different ways after a Jin Shin Jyutsu treatment. Sometimes, people feel a little tired after the first few treatments and are encouraged to rest. If this happens to you, you will be able to rest at the treatment setting before leaving.

The researcher, Donna Lamke, has been an R.N. for 10 years, practicing in various acute care settings. She has been a Jin Shin Jyutsu practitioner in the private practice setting for 5 years. The researcher is currently a master's student in the Department of Nursing at Sonoma State University. The researcher will be assisted in giving Jin Shin Jyutsu treatments by Rose Murray. Ms. Murray has been an R.N. for 36 years, a Jin Shin Jyutsu practitioner in private practice for 10 years, and is currently an associate professor at Sonoma State University.

You will be given 6 Jin Shin Jyutsu treatments over a 2 month period free of charge. You will be asked to complete a health history at the beginning of the study, and a brief questionnaire 3 times over a 4 month period. The questionnaire should take about 5-10 minutes to complete. The study will be conducted at the offices of Jin Shin Jyutsu Therapeutic Services at 170 E. Cotati Ave., Suite A, Cotati, CA. The phone number there is (707) 795-1063 should you have any questions.

Your participation is voluntary. You may withdraw from the study at any time. Any information you share on the health history, questionnaires, or during treatments, is strictly confidential.

Your name will not be on the questionnaires or health history; they will be coded with a number. The list matching your name to your number will be kept in a locked cabinet, accessible only to the researcher, and will be destroyed at the completion of this study.

A summary of the final results of this study will be made available to all participants upon request.

If at any time you find that the treatments or the questionnaires cause you emotional discomfort, you may call the researcher, Donna Lamke, at (707) 795-7937 to provide care and support.

Attached is the informed consent. If you decide to participate in the study, please read it, sign it, and mail it to:

Donna Lamke
8342 Windmill Farms Dr.
Cotati, CA 94931

After receiving your informed consent, I will contact you to scedule your 6 appointments.

Thank you.

Donna Lamke
Master's student
Sonoma State University

APPENDIX B

Research Study: The Effects of Jin Shin Jyutsu on Perceived Stress

Informed Consent to Participate in Research Study

Purpose and Background:

Donna Lamke, a master's student in the Department of Nursing at Sonoma State University, is conducting a study on the effects of Jin Shin Jyutsu on perceived stress in nurses. I am being asked to participate in that study.

Procedures:

If I agree to be in the study, the following will occur:

1) I will be asked to fill out a brief health history form.
2) I will be asked to complete a questionnaire developed to rate my perceived stress at three different times over the study period of 4 months.
3) I will receive 6 Jin Shin Jyutsu treatments over a 2 month period at the office of Jin Shin Jyutsu Therapeutic Services at 170 E. Cotati Ave., Cotati, CA.

Risks/Discomforts:

Sometimes, mild tenderness or discomfort may be experienced when a Jin Shin Jyutsu point is palpated. If I experience any discomfort during a treatment, I can request that the researcher relieve this discomfort by applying less pressure or by moving away from the tender area. Occasionally transient fatigue is experienced after a Jin Shin Jyutsu treatment. If this occurs, I will be able to rest at the Jin Shin Jyutsu office after the treatment. If I find that the treatments or questionnaires cause me any emotional discomfort, I may contact the researcher, Donna Lamke, at (707) 795-7937 to provide care and support.

Benefits:

I will receive 6 Jin Shin Jyutsu treatments free of charge during the study period. The treatments will be given either by the researcher, Donna Lamke, or by Rose Murray.

Alternatives:

I understand that I am free to choose not to participate in this study.

Cost/Reimbursement:

There will be no costs to me as a result of participating in this study. There will be no reimbursement of money for my participation in this study.

Confidentiality:

All information obtained from me during the course of this study will be kept confidential. My name will not be in any permanent file or on the questionnaires or health history used in this study. My questionnaires and health history will be coded with a number. The master list matching my name to a code number will be kept in a locked cabinet accessible only to the researcher. This list will be destroyed at the completion of this study

Requirements:

I understand that in order to participate in this study, the following criteria are met:

1) I am employed as a nurse 16 or more hours per week.
2) I do not personally know the researcher, Donna Lamke, or Rose Murray.
3) I have never received Jin Shin Jyutsu treatments before.
4) I am not currently receiving any other form of acupressure treatments.

Questions:

If I have any questions about this study, I may contact the researcher Donna Lamke, at (707) 795-7937. If I wish to contact the Committee on the Rights of Human Subjects at Sonoma State University regarding this study, I may write to: Executive Secretary, CRHS, c/o Office of Sponsored Programs, s-2010, Sonoma State University, 1801 E. Cotati Ave., Rohnert Park, CA, 94928.

Consent

Participation is voluntary. I am free to decline to participate in this study, or to withdraw from it at any point. My relationship to Sonoma State University will in no way be effected by my participation or non-participation in this study.

I understand that the researcher is collecting this data for a master's degree project, and that it may be submitted for publication at some future date.

I have read the attached information letter about this study, and this consent form, and have decided to participate.

Date

Signature

phone number or address

PLEASE SIGN ABOVE, DETACH THIS PAGE AND MAIL IT TO :Donna Lamke
8342 Windmill Farms Dr.
Cotati, CA 94931

COMMITTEE ON THE RIGHTS OF HUMAN SUBJECTS

SONOMA STATE UNIVERSITY

Protocol Summary Sheet

(Including Request for Exemption from Review or Expedited Review)

Complete this sheet and respond to the questions listed on the reverse side. Re-type the questions and use as many sheets as necessary to respond fully. Submit to: Executive Secretary, CRHS, c/o Office of Sponsored Programs, S-2010. PROPOSALS MUST BE SUBMITTED TWO WEEKS BEFORE RESEARCH IS SCHEDULED TO BEGIN.

PLEASE TYPE OR USE BLACK INK

Principal Investigator	Home Phone	Work Phone	Title or Academic Status
Donna Lamke.	795-7937	795-1063	R.N., master's student

Home Address (including city and zip): 8342 Windmill Farms Dr., Cotati, CA 94931

Department: Nursing

Co-investigator(s) If student, include faculty advisor: M.L. McAthie

Title or Academic Status of Each: Professor

New Project ☒ Modification ☐ Substudy ☐ Previous Study ☐ Date_____

Start Date: 2/1990 End Date: 12/1990

Funding Source (if any):

Title of Project: Research project investigating the effects of Jin Shin Jyutsu (acupressure) on perceived stress

Indicate Exemption or Expedited Review Category Requested (see Appendix A)_____

Briefly describe project purpose:
To examine the relationship between Jin Shin Jyutsu and stress as perceived by subject

FILL IN AS APPLICABLE

Subject Population: general public

Subject Source: advertising

Number of Subjects 35 How Contacted phone or mail

Types of instruments (e.g., tests, questionnaires, interview guides, etc.) (ATTACH A COPY. IF NOT DEVELOPED, PROVIDE DRAFTS/SAMPLES, OUTLINES.)
questionnaire

How administered: ☐ Phone ☐ Mail ☑ Face-to-face:
Setting: office

Length and Frequency of Procedure: twice, 10-15 min.

PLEASE NOTE:
You must obtain CRHS approval before initiating any activity with the subjects. Literature search and other work not involving human subjects may be conducted prior to CRHS review.

Student investigators must obtain clearance from their department's human subjects committee. The faculty advisor can sign if the department does not have a committee.

Marilyn McAthie R.N. Ed 7/6/90
DEPARTMENT CLEARANCE DATE

Place an "X" in the appropriate space.
Will data be recorded by
☐ written notes? ☐ videotape? ☐ film?
☐ audiotape? ☐ photography ☒ other? pre-and post- intervention measurement

Will data include
☒ information which can identify the subject (for example: names, social security numbers, or other unique information)?
If yes, specify name matched to number code only
☒ codes linked to subjects' names by separate code key?
☐ codes not linked to subjects' names?

OF ITEMS CHECKED ABOVE, CIRCLE THOSE WHICH WILL BE REPORTED

Place an "X" in the appropriate space.
Will data reporting be
☐ aggregated? ☐ anecdotal?

Will data be used for
☐ publication? ☐ needs assessment?
☐ evaluation? no plans for publication at this time. Is a thesis project.

Will informed consent be
☒ written? (attach copy of consent form)
☐ oral? attach text of statement and see Appendix C ("Waiver of Written Informed Consent")

THIS SPACE FOR CRHS USE ONLY:

This project:
☐ is exempt under category _____
☐ is eligible for expedited review under category_____
☑ requires CRHS review

Linda D. Brayton 3/20/90
EXECUTIVE SECRETARY, CRHS DATE

CHAIR, CRHS 20 March 90
DATE

Comments: Approved at CRHS meeting held 3/20/90. Also see Committee's comments + suggestions in attached notes.

APPENDIX C

Jin Shin Jyutsu Research Project

Guidelines for Practitioners

1) Treatments are to be 50-55 minutes in length. This includes any self-help instruction. The door is to be closed to insure privacy.

2) A simple explanation of the study is to be given:
ex. The purpose of the study is to determine the effects, if any, of Jin Shin Jyutsu treatments on stress in nurses.

3) A simple explanation of Jin Shin Jyutsu is to be given:
ex.: Disease/discomfort results from blocked energy or improper movement of energy in the body. Jin Shin Jyutsu is an ancient healing art which utilizes hand contact at specific points on the body to promote energy flow, and thereby promote health and energy balance.

4) Self-helps will be taught to all participants on the first or second meeting. The main-central, the fingers, and the 25 & 11, 25 & 15 will be given to all participants. Other appropriate self-helps will be taught to participants according to individual need.

5) The participants will be encouraged to rest during the treatments. The practitioners are encouraged not to initiate conversations unrelated to the treatments.

6) If needed, the practitioner is to refer the participants for medical treatment or for counseling.

7) The practitioners are to refrain from promising specific treatment responses or results.

APPENDIX D: Admission History

I.D. No._____

Date:_____

Jin Shin Jyutsu Research Study - Admission History

Please write your response in the spaces provided, or mark an X or checkmark in the appropriate space.

1) Age _____

2) Sex _____

3) Level of education:

____ 2 year (ADN)
____ 3 year
____ BSN
____ BA
____ MSN
____ MA
____ PhD

4) Years employed as an RN:

____ less than 5
____ 5-9
____ 10-14
____ 15-19
____ 20 or greater

5) Current work position:

____ staff nurse, hospital. Area/ward_____. Hours/week_____
____ nurse manager, hospital. Area/ward_____. Hours/week_____
____ home care .Types of patients_____. Hours/week_____
____ office or clinic. Specialty_____. Hours/week_____
____ other. Please describe_____. Hours/week_____

6) How do you describe your health?

____ excellent
____ good
____ fair
____ poor

7) How do you define health? _____

_____

8) Allergies (drug, food, pollens, etc.) _____

_____

Past Medical History (include dates, treatment, problem)

9) Accidents/Injuries: _____

_____

_____

10) Hospitalizations/Surgery: _____

_____

_____

_____

11) Current medications: _____

_____

Personal Habits/Lifestyle

12) Smoking history: Do you smoke? _____ Cigarettes? _____ Pipe/cigar? _____

How much? _____ How long? _____

If an ex-smoker, when did you quit? _____

13) Caffeine intake per day: Coffee _____ Tea _____ Cola _____

cocoa/chocolate _____

14) Alcohol per week _____

15) Regular exercise per week _____

16) Please list current stress factors _____

_____

17) How do you usually deal with stress? _____

_____

_____

18) Please list any occupational health and safety hazards: _____

_____

19) Do you live in a high crime area?

_____ yes

_____ no

20) Is there a weapon in your home?

_____ yes

_____ no

21) Do you wear seatbelts?

_____yes. Percentage of time worn_____.

_____no

22) Are you currently in a relationship with a partner?

_____yes

_____no

23) Do you feel supported/nurtured in this relationship?

_____yes

_____no

_____this question does not apply to me.

24) Is you social support network satisfactory to you?

_____yes

_____no

APPENDIX E: Health Check List

Do you have now, or have you ever had: (check those pertinent)

____Heart attack
____Heart disease
____High blood pressure
____Heart murmur
____Rheumatic/scarlet fever
____Palpitations
____Chest pain
____Shortness of breath
____Dizziness/fainting
____Severe headaches
____Anemia
____Bleeding problems
____Swollen ankles
____Kidney problems/stones
____Bladder problems
____Venereal disease
____Ulcer
____Hemorrhoids
____Rectal bleeding
____Hernia
____Jaundice
____Weight gain/loss
____Hepatitis
____Alcoholism
____Gallbladder disease
____Tuberculosis
____Emphysema
____Pneumonia
____Asthma
____Hayfever
____Cancer
____Glasses/contacts
____Hearing problems
____Glaucoma
____Bone/joint pain
____Arthritis
____Gout
____Thyroid disease
____Muscle injury
____Skin problems
____Emotional problems
____Depression
____Epilepsy
____Head injury
____Tremors/shakes
____Seizures
____Blackouts
____Diabetes

MALES ONLY
____Prostate problems
____Erection problems
____Fertility problems

FEMALES ONLY
____Number of pregnancies
____Number of live births
____Menopause
____Hysterectomy
____Breast lumps/cancer
____P.M.S.
____Menstrual problems
____Fertility problems

PLEASE USE THE SPACE BELOW TO EXPLAIN ANY OF THOSE ITEMS YOU CHECKED IF NEEDED

Section 1

The following questions ask you about how you have felt during the last month. In each case, you will be asked to indicate how often you have felt or thought a certain way or experienced a particular condition. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you have felt a particular way; rather indicate the alternative that seems like a reasonable estimate. Place a checkmark in the appropriate column.

	never 0	almost never 1	sometimes 2	fairly often 3	very often 4
1) In the last month, how often have you been upset because of something that happened unexpectedly?					
2) In the last month, how often have you felt that you were unable to control the important things in your life?					
3) In the last month, how often have you experienced difficulty falling asleep or staying asleep through the night?					
4) In the last month, how often have you felt nervous and "stressed" ?					
5) In the last month, how often have you felt confident about your ability to handle your personal problems?					
6) In the last month, how often have you experienced headaches?					

	0 never	1 almost never	2 sometimes	3 fairly often	4 very often
7) In the last month, how often have you felt that things were going your way?					
8) In the last month, how often have you felt sleepy or slept more than usual?					
9) In the last month, how often have you found that you could not cope with all the things that you had to do?					
10) In the last month, how often have you experienced muscle tension or pain?					
11) In the last month, how often have you been able to control irritations in your life?					
12) In the last month, how often have you felt that you were on top of things?					
13) In the last month, How often have you experienced nausea or upset stomach?					
14) In the last month, how often have you been angered becsuse of things that happened that were outside of your control?					
15) In the last month, how often have you experienced chest tightness or discomfort?					

	never 0	almost never 1	sometimes 2	fairly often 3	very often 4
16) In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					
17) In the last month, how often have you felt that you didn't have enough energy?					
Section 2 The following questions apply to your life in general, and not just to the last month. Please place a checkmark in the appropriate column.:					
18) In general, do you have someone you can talk to about your concerns or problems?					
19) In general, are you concerned or worried about a family member or close friend?					
20) In general, how often do you find your current work situation stressful?					

APPENDIX G: Post-treatment Subjective Responses Questionnaire

The following questions focus on your reactions to Jin Shin Jyutsu treatment. If additional space is required, please use the back of this page.

1) What physical effects does (or did) Jin Shin Jyutsu have on you, if any?

2) What mental/emotional effects does (or did) Jin Shin Jyutsu have on you, if any?

3) Are you using Jin Shin Jyutsu self-help excercises? If so, how much time per day or per week?

4) Have you experienced any major life changes or stressors since you you last completed this questionnaire? If so, please describe briefly.

5) Please make any additional comments you may have. (If more space is needed use the back of this page)

APPENDIX H: Follow-up Questionnaire 6-8 weeks post-treatments

1) Have you received any Jin Shin Jyutsu treatments since last completing this questionnaire? If so, how many?

2) Are you using Jin Shin Jyutsu self-help? If so, please describe how much time per week, and for what purposes.

3) Have you noticed any persisting changes (physical, emotional, or other) resulting from your Jin Shin Jyutsu treatments or self-help? If so, please describe.

4) Did you experience any changes resulting from your Jin Shin Jyutsu treatments or self-help which have not persisted? If so, please describe.

5) Have you found Jin Shin Jyutsu helpful in reducing or managing stress in your life?

6) Please make any additional comments you may have. (use the back of this page if more space is needed)

Thank you.

APPENDIX I

Carnegie-Mellon University

Department of Psychology
Carnegie Mellon University
Pittsburgh, Pennsylvania 15213-3890
(412) 268-2781

December 13, 1989

Donna Lamke
8342 Windmill Farms Drive
Cotati, California 94931

Dear Ms. Lamke:

You have my permission to use the Perceived Stress Scale in your research. I've enclosed a chapter that includes the scale and the psychometrics, norms, etc. I'd appreciate your letting me know how your work turns out. Good luck.

Sincerely,

Sheldon Cohen
Professor

Enclosure

SC/jh

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