

THE EFFECT OF TOUCHING ON THE BEHAVIOR OF ELDERLY PERSONS

by

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DEDICATION

This thesis is dedicated to the memory of my father.

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ABSTRACT

A descriptive study was conducted to determine if there was a relationship between touching elderly persons in a long-term care facility during conversation and the occurrence of their nonverbal responses. The relationship between touching and the subject's verbal acknowledgement that the nurse was interested in them as human beings was also investigated.

The sample consisted of 19 adults, 65 years of age or older, who were residents of a long-term care facility. Data were collected during nurse/subject interviews using the Interaction Behavior Worksheet. Touch was intermittently extended to each subject's upper extremity while interview questions were asked. Two observers used the Interaction Behavior Worksheet simultaneously during these interviews to record the occurrence of each subject's nonverbal behaviors. Following this interaction one observer conducted the Post Interaction Questionnaire with each subject and recorded the responses on the form.

Positive nonverbal behaviors occurred more frequently per subject than neutral or negative behaviors. Using a six-point scale, subjects ranked the nurse's interest in them at an average of 4.9. A point biserial correlation between touch and interest was .50 which was not significant.

CHAPTER 1

INTRODUCTION

Touch is one of the first forms of communication experienced by the infant. During fetal development, touch is the first sense to become functional allowing the fetus to perceive tactile stimuli as early as eight weeks of gestation (Huss, 1977). In the infant, touch is a way of learning about objects and reality testing (Montagu, 1979). A lack of caring contact during infancy can lead to physical and emotional problems (Huss, 1977).

Rubin (1963) described the progression of maternal touch with the newborn beginning with the mother's use of fingertips only to the use of her hands and then the entire arm. This extension of touch is affected by the mother's perception of her maternal role and her perceptions of the infant's response to touch. Positive infant reactions feed back to the mother's self image and promote her use of comforting and caring touch.

Nonverbal communication through the use of touch is one effective means of expressing caring and concern for another human being. Blondis (1977) stated that in the nursing field, touch may be the most important of all nonverbal behaviors. Buscaglia (1972) reflected that in our complex American society, man probably remains emotionally dependent all of his life. He needs to be touched, but

frequently laws and etiquette set rules that discourage or forbid touching. However, the realness of another is communicated through touch; "we touch, therefore we are" (p. 183).

This investigator's awareness of the importance of touch among the elderly began when working with a group of nursing students in a long-term care facility. It was evident that even patients who were comatose, confused or sensory deprived through the loss of sight, hearing or tactile sensitivity responded in some way to the touch applied during a bed bath or back rub. There seemed to be a general relaxation of muscle tone which was noticed particularly in the face. Several of the institutionalized patients were frequently observed reaching for and grasping at health care personnel. The strength and endurance of their grip was amazing considering their age and often frail bodies. While these patients usually appeared disoriented, a hug or a kiss often seemed to relieve their anxiety and to comfort them.

The need of the institutionalized elderly to touch is often greater than their need to verbalize. Tactile contact reassures them of their existence especially in the presence of physical and mental defects. The nearness of death causes them to cling to their present existence and their touch is often extended to health care workers who may unconsciously be perceived as mother-surrogates (Burton and Heller, 1964). This clinging tendency was also observed by Harlow (1979) in his work with higher primates. He found that infant monkeys exhibited a stronger attachment to cloth surrogate mothers who provided them with contact comfort and security over the wire surrogate mothers who provided their source of food. Touch hunger, stimulus hunger, conversation

deprivation and emotional starvation are terms Burnside (1973, 1976) used to depict sensory deprivation in the elderly. The loss of human contact was so great in one patient that she needed to kiss the author.

"Hug therapy" is an unsubstantiated theory shared with this investigator by a psychiatric nurse. This therapy is proposed to contribute to varying degrees of mental health depending on the number of daily hugs received. Perhaps this is not as far-fetched as it sounds. Babies are cute, comfortable and huggable and society clearly indicates and probably even expects that we touch children (Goodykoontz, 1980). However, in our untouchable Western culture described by Montagu (1979) touch is infrequently extended to adolescents, adults and the elderly. Yet, hugs are found to be kindly, if somewhat self-consciously given and received. Touching is a type of communication that expresses more than words. "To put your arm about another or on his shoulder is a way of saying, 'I see you . . . I feel with you . . . I care'" (Buscaglia, 1972, p. 103). Unfortunately, even tears are frequently not enough to cause one human being to embrace another.

Recently, this investigator distributed some stickers at work which said, "A little hug won't hurt." Within a very short time people began to ask for stickers because they never got hugged and others began to relate how many hugs they had received. Horner (1968) described a workshop where participants were given lapel buttons indicating their willingness to be touched. She pointed out that the lack of touch during important developmental stages may cause one to consider himself untouchable. It is sad that one might need to

"advertise" for touch but it is a physical and emotional support most people hesitate to give or request from another. Buscaglia (1972) stated that one must let others know of their needs or they may never be met.

Patients may request a variety of things from nurses but they rarely ask to be touched (Goodykoontz, 1980). Yurick (1980, p. 298) stated that "old people need tactile stimulation even though they may be reluctant to express this need openly." Nonverbally the patient may indicate the desire to be touched but may refrain from asking because it may not be viewed as acceptable behavior (Seagull, 1969).

From these examples it seems that people do benefit positively from the effects of touch. The tool is readily available (Goodykoontz, 1980) and one that can be freely given and received. Nurses need to become more aware of the usefulness of touch, particularly with the elderly, and for this reason this study is undertaken.

Statement of the Problem

Is there a relationship between touching elderly persons in a long-term care facility during conversation and

- a) the occurrence of their nonverbal responses?
- b) their verbal acknowledgement of the investigator's interest in them as human beings?

Statement of Purpose

This study was designed to describe the nonverbal behavior which occurs during touching of the institutionalized elderly. It was conducted to add information to the nursing literature about the effects

of touching the elderly person. It is anticipated that it should increase nurses' awareness of the need for touch among the elderly and provide guidelines and directions for effective and appropriate use of touch.

Significance of Study

In 1900 there were slightly more than three million elderly persons, 65 years of age or older, in our country (Burnside, 1976). This population in America presently numbers 23 million people or 10 percent of the population and these numbers will increase yearly as life span increases (Insel, Roth, 1979). Projections are that by the year 2030, approximately 14 to 22 percent of the population will be over the age of 65 years (Carnevali and Patrick, 1979).

The old keep getting older. Among the elderly population, the present trend shows that the proportion of people 65 to 74 years of age is decreasing while those 75 years and older is increasing. Twenty-nine percent of the elderly population was 75 years or older in 1900. By 1970, this percentage had increased to 38, and it is projected to reach 45 percent by the year 2000 (Yurick, 1980).

Presently about five percent of the elderly population are institutionalized (Steinmann, 1981) and this number can be expected to increase yearly. The average age of people in nursing homes today is 82 years (Carnevali and Patrick, 1979). At this age one can anticipate that the institutionalized elderly will have varying degrees of both physical and mental losses.

As the world of the elderly becomes narrower and narrower through the loss of physical and mental abilities and family and friends, their feelings of uselessness, loneliness and isolation increase (Moustakas, 1961). Harlow (1979) discovered that even short-term, partial isolation of monkeys leads to compulsive maladaptive behaviors including pacing, fixed positioning of the body and posturing of arms and hands. Withdrawal from the environment becomes more extreme as the isolation increases. The elderly suffer varying degrees of isolation due to decreased sensory perception, loss of loved ones and impersonal nursing home care. Valued possessions among the elderly often include objects that can be handled or that revive memories of former human contact (Huss, 1977).

Even in our crowded society, all individuals experience some degree of loneliness at times. For the elderly, however, the fear of loneliness is perhaps greater than for younger persons as our Western culture holds little respect or esteem for the aged (Moustakas, 1961). Clark (1968) described loneliness as a lack of love or the feeling that others do not care. Pain often causes loneliness because it is a unique personal experience. The presence of the nurse and the use of touch can convey the spirit of caring, reassurance and the closeness of another.

A common phenomenon among the elderly is the lack of touching others and self. This may cause a fear of being touched and may contribute to the sense of isolation and loneliness among the elderly (Carnevali and Patrick, 1979). The use of touch with the elderly may

increase their feelings of self-worth and maintain their sense of identity while decreasing their loneliness and isolation. Ujhely (1979) discussed touch in relation to a method of contact with another and a tool for expression, especially that of caring. Touch is a means of physical perception and provides an avenue for identifying body boundaries and differentiating oneself from others.

As the number of elderly in our society increase, numerous people will be involved in providing them care. Without the availability of tested studies dealing with appropriate and effective touch a nonverbal communication tool may be haphazardly or inefficiently used. Touch has been identified as an important need throughout the life span but little specific work has been done on the effects of touch with the elderly.

Conceptual Framework

The conceptual framework for this study was based on the human need for touch throughout the life cycle with a particular emphasis on its need among the elderly. Maslow (1970) addressed basic human needs and their effects on motivation. As the basic human physiological needs related to the maintenance of homeostasis are met, higher level human needs are sought. These needs relate to freedom from fear and anxiety and the need for love, affection and self-esteem. A sense of dignity is conveyed to others through recognition and appreciation and serves to increase another's self-esteem. A lack of self-esteem often results in feelings of unworthiness and helplessness.

Abdellah (1973) listed 21 nursing problems that relate to patients' physical, psychological and social needs. Included among these problems is the need for maintenance of sensory function, effective verbal and nonverbal communication and the presence of a therapeutic environment.

Several needs of the elderly were defined by Weg (1973, p. 13). They include the need to "think, make decisions, plan and imagine, maintain interpersonal relations, have a close friend touch and be touched, contribute and be aware of a changing human world." The White House Conference on Aging in 1961 and 1971 reasserted the basic rights of the elderly. Among these are: the right to basic necessities such as food and shelter, to usefulness to society, and dignity throughout life (Murray, et al., 1980).

Erikson (1963) labeled the last stage of human development as ego integrity versus despair or the stage of maturity occurring from 65 years and older. During this stage, feelings of despair may occur as one realizes the nearness of death. However, personal satisfaction from life accomplishments and a sense of self-worth will help dispel these feelings. Elderly persons' perceptions of self are affected by how they feel others see them. The nurse can promote a stronger self-image and ego integrity among the aged through positive reinforcement of their worth to others and their ability, however slight, to do for others (Lambert and Lambert, 1979).

Touch can communicate feelings that words are often inadequate to express. It is a nonverbal action that stimulates a response and

can convey closeness, mutual encouragement, reality contact, comfort and caring (Murray and Zentner, 1979). Yurick (1980) stated that the need for tactile stimulation increases especially when a sensory loss such as blindness occurs, because touch then becomes an important means of communication. Hall (1966) reported the discoveries made by Gibson when subjects were allowed to actively touch or explore abstract objects compared to passive touch or being touched. When visual perception of the objects was eliminated, the ability to reproduce objects was almost 50 percent greater for subjects that used active touch rather than passive touch. As a means of nonverbal communication, touch can also be effective where language barriers exist either due to cultural differences or disease processes (Burnside, 1969).

Touch has been found useful in dealing with a wide spectrum of patients, including the elderly, the seriously ill and the emotionally disturbed. During periods of stress such as illness or hospitalization, the patients' dependence often increases their emotional needs for security, safety and comfort. Physical contact through the use of touch is of great importance in meeting these needs (Dominian, 1971). Cousins (1979) described the intense lack of human contact through touch he experienced during a long hospitalization. Touch is frequently valued more than medical treatment, but it is extended far less than other treatment modalities.

Morris (1967) compared the comfort measures or rituals that exist among the higher primates and humans. Grooming among animals provides a socially acceptable activity to both give and receive

comfort. The human needs for comfort (both giving and receiving) must often be sublimated in some fashion to be socially accepted. This may be seen in the comfort humans derive from petting or cuddling furry animals or objects and in the comfort or grooming accepted from others in certain situations such as illness. Physical manifestations may result from the psychological need for comfort in order to be socially approved. The comfort giving may then be camouflaged among some type of medical treatment despite the fact that recovery would often occur spontaneously. Recovery, however, is often aided by the special attention and comfort supplied by the care giver.

Montagu (1953, p. 298) stated that "physical proximity insofar as it approximates tactile association tends toward social homeostasis. Separation tends to produce disequilibrium." The presence of physiological or general tension stimulates the human need for touch. Social homeostasis is reestablished through the soothing effect of cutaneous stimulation. Certain sensory organs, the eyes, ears and nose, were identified by Hall (1966) as distance receptors, whereas touch was recognized as an immediate receptor. The exclusive use of the distance senses maintains human separation and possible social disequilibrium while touch promotes social homeostasis.

Weiss (1979, p. 79) proposed a conceptual model for touch. She stated that the successful integration of tactile stimulation resulted in positive adaptation and served to "arouse cognitive and affective perceptions of the body." Conversely, tactile deprivation led to a maladaptive state in which the brain lacks adequate information about

the body. Tactile satiation can also lead to a maladaptive state and causes a blocking of tactile information to the cortex. The Weiss model is shown in Fig. I.

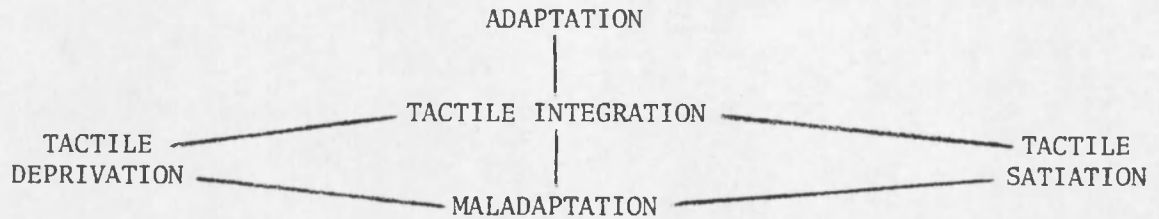


Fig. I. Conceptual Model For Touch -- From Weiss (1977, p. 79)

The use of touch among the elderly is proposed as a means of meeting physical and psychosocial needs, promoting a sense of caring and dignity and preventing or modifying inappropriate behaviors. Burnside (1973) in her work with regressed elderly patients found that touch increased positive responses, including appropriate verbal responses, increased eye contact and touching behavior extended to her or her apparel and among patients themselves. The arm was the most frequently touched body part apparently because it is readily accessible and is usually not perceived as demeaning.

Several concepts of touch relating to aspects of communication were discussed by Barnett (1972). She suggested many propositions needing further research. Among them was: the greater the patients' sense of isolation and rejection, altered body image, dependency and fear of death, the greater the need for acceptance, identify and relatedness to others through touch. The lower their self-esteem, the greater their need for touch.

Touch is important throughout the life cycle, but probably especially during certain developmental stages such as infancy, adolescence and aging. The elderly, in particular, experience dependency, isolation, rejection, negative body image changes, decreased self-esteem and fear of death. Kahn (1975) stated that the two basic fears of the institutionalized elderly are the fear of loneliness and the fear of dying alone. The individual nurse can serve as an excellent role model to colleagues and family members with such touch neglected patients and teach others appropriate touch behavior through nonverbal touch communication (Goodykoontz, 1979, Blondis, 1977).

Definition of Terms

Touching -- gentle physical contact of the investigator's hand on the client's upper extremity.

Elderly -- any person 65 years of age or older.

Positive body responses -- observable subject reactions indicating attention and emotional feelings, including eye contact, smiling, crying, touching and interest in the investigator.

Verbal acknowledgement -- a verbal statement of admission by the subject.

CHAPTER 2

SELECTED REVIEW OF THE LITERATURE

The review of the literature focused on the physiological and psychological aspects of touch and its importance during certain age periods.

Physiological Aspects of Touch

A close relationship exists between the skin and the central nervous system because both arise from the same embryonic cell layer, the ectoderm, which provides the outer covering of the body (Montagu, 1979). The skin is the first sense organ to develop in the embryo and at birth serves four functions: (1) protection of the underlying structures from injury and invasion of harmful substances, (2) sensory organ, (3) temperature regulator, and (4) metabolic regulation and storage of fats, water and salt (Montagu, 1971). Goldman (1979) identified body image as an additional function of the skin which confers distinct characteristics to the body contours and gives unique markings such as fingerprints. Bruno (1979) stated that a negatively perceived skin condition occurring at any age may cause body image change, decrease self-esteem and lead to avoidance of others.

The aged notice many changes in their skin. The fine, elastic collagen fibers of youth have become thick, stiff and less pliable, probably related to their increased calcium content (Yurick, 1980).

For the most part, the skin "fits" us quite well during youth and adulthood. In the elderly, the skin lacks the firm texture and resilience it once had. It is often wrinkled and dry and may become discolored due to the aging process and/or disease conditions (Montague, 1979).

Farber (1979, p. 11) described how it feels to be old to her young granddaughter.

Look in the mirror
Oh not this wrinkled
prune that I am!
Who I was back then!

The skin is the largest organ of the body and has a major area of sensory representation in the postcentral gyrus, or convolution, of the cerebral cortex. A large area of the postcentral gyrus receives sensory input from the index finger, thumb and lips. Sensory input to the brain is continuous, occurring even during sleep, and serves to provide the brain with information necessary for survival and adaptation to the environment (Montagu, 1979).

Sensitivity to touch depends on the degree of afferent sensory innervation located in various skin surfaces. Two cutaneous afferent systems exist in the skin; the protective system which warns of potential dangers by causing discomfort and the discriminative system which deals with pleasurable tactile sensations and allows for positive perceptions of body and self (Weiss, 1979).

The Pacinian corpuscle is a large touch-pressure receptor in the skin which contains a long non-myelinated nerve fiber. Several layers of cells surround the corpuscle and external pressure results in the transmission of an impulse along the nerve. A Pacinian corpuscle

reacts to stimulation in two ways; the surrounding cell layers lose fluid to decrease the pressure on the central nerve fiber or the central fiber may become depressed and unable to transmit impulses. Response is limited to initial pressure as sustained stimulation results in adaptation of the corpuscle (Guyton, 1971).

Meissner's corpuscles are other touch-pressure receptors located primarily in hairless portions of the skin. They are sensitive to light touch and provide judgment about texture (Hole, 1978). Degenerative changes in these corpuscles may occur in the elderly causing a loss of touch sensitivity especially on the palms of hands and soles of feet (Yurick, 1980).

Guyton (1971, p. 558) described the specificity of nerve fibers for transmitting only one modality of sensation which is called "the law of specific nerve energies." This law is based on the principle that each nerve tract terminates at a specific point in the central nervous system and this area determines what type of sensation will be felt. For example, if a pain or touch fiber is stimulated it will result in the perception of pain or touch regardless of the stimulus because the fibers transmit to specific pain or touch areas in the cortex.

Sensory stimulation of the nervous system may cause an immediate effect or it may be stored in the memory and cause its effect at a later time (Guyton, 1971). Central nervous system damage resulting in chronic organic brain syndrome often causes recent and remote memory loss, confusion and lack of response to verbal communication. Surprisingly,

memory loss to nonverbal communication is not affected. It is suggested that the response to touch in chronic organic brain syndrome is an automatic conditioned response probably based on early childhood learning (Preston, 1975).

The skin serves as the protective barrier between the body and the external environment. In addition it provides the sensations of warmth, cold, light touch, pressure, pain and vibration. Various explanations are offered for the decrease in skin sensitivity among the elderly. There may be degeneration of sensory nerve endings or a decrease in the encapsulated end organs in the skin. The decrease in skin elasticity may prevent stimulation of the sensory receptors without an increase in external pressure. Generally the decreased sensitivity is minimal if disease conditions are not present. The response to superficial or pricking pain such as an injection decreases with age while the response to pressure or deep pain increases with age (Colavita, 1978).

The use of touch as a treatment and healing modality is not new. As early as the 17th century Greatrakes the Stroaker used touch to rid the body of harmful humors. It is suggested that modern therapies such as massage, osteopathy and chiropractic provide similar comforts from touch and stroking (Masserman, 1963).

A special kind of touch described and practiced by Kreiger (1975) is therapeutic touch or the laying-on-of-hands. The concept involved in this touch is that the "healer" has an excess of energy in the body while the ill patient has a lack of energy. During the

touching, energy is transferred to the ill person through a kind of electron transfer resonance. The energy differences are identified by increases of temperature in the damaged or diseased areas. Therapeutic touch may actually involve contact with the body, however, often the hands are held and moved over the body surface. This is felt to be a less compacted energy field where dysrhythmias or bodily disturbances are easier to perceive (Macrae, 1979).

Kreiger (1975) conducted three studies on ill patients to determine the effect of therapeutic touch on their hemoglobin levels. A total of 108 patients received therapeutic touch compared to 71 patients who did not receive this touch. Overall, the hemoglobin values were significantly elevated for patients receiving therapeutic touch compared to those who did not. During touch, the healer focuses on the patient with the intent to heal. Physiological tests done on the healer during therapeutic touch showed a large amount of fast beta activity on electroencephalogram recordings indicating a state of deep concentration (Kreiger, et al., 1979).

Lynch (1977) described the work of Gantt begun in 1929 on the effects of human presence and petting on the heart rate of dogs in isolation. Findings showed that both presence and touch decreased heart rate from 20 to 30 beats per minute during human presence and from 40 to 50 beats per minute during petting. Blood pressure also showed marked decreases from 140 mm Hg systolic to approximately 75 mm Hg systolic during petting. Lynch expanded on this work in 1962 and conditioned dogs to a painful shock on the forelimb with a tone prior

to the shock. The usual cardiac response was an increased heart rate, however, if a human was present and petted the dog during the tone and shock the heart rate did not increase and often decreased. Some of the animals even ceased the usual flexion response to the shock during petting. The effects of human presence were persistent to day six of the experiment.

In a series of studies Lynch (1977) observed the effect of human contact on the cardiac response of 225 patients in a coronary care unit ranging in age from 25 to 89 years. Pulses were monitored for a three-minute base-line period prior to the nurse taking the pulse and for a two-minute period after pulse taking. Lynch did not find any significant change in the pulse rates in this study, however, of the 114 patients with ventricular arrhythmias a significant decrease occurred in this irregularity during the first minute following pulse palpation.

Further investigation by Lynch (1978) addressed the effect of pulse taking on patients in a shock trauma unit. For the most part these patients were younger than the cardiac patients and most had no cardiac pathology. The results were described for only three patients. Heart rate decreased for a young comatose woman during pulse taking and for a young severely injured man during hand holding. A young curarized patient exhibited a marked increase and then a marked fall in pulse during the 30-second interval following hand holding. The importance of human contact appeared to be especially intense in stressful critical areas.

Psychological Aspects of Touch

Touch is divided into two types by Watson (1975). Instrumental touch is deliberate contact to perform a nursing act while expressive touch is spontaneous, affective and not required. In a study conducted by Watson (1975) among an unspecified number of geriatric nursing personnel in a home for the elderly, 68 percent of the 187 touch interactions were instrumental in nature. The higher the rank of the nursing personnel the greater the use of expressive touch. Severely ill patients were touched least and the greatest number of touch interactions involved the lower arm and hand-wrist area.

Goodykoontz (1980) labeled the types of touch differently. Procedural touch is used when performing nursing tasks such as taking blood pressure or giving baths. Person-oriented touch is expressive touch which communicates caring. This form of touch shows recognition of the person as an individual and is a means of reducing anxiety. Patterson (1973) stated that it is becoming evident that even a single touch can communicate acceptance and caring.

Despite the various categorical divisions of touch, Mercer (1966) pointed out that there is no universal meaning attached to the act of touching. It may be seen as a comfort measure, a means to recognize the presence of another or a sign of aggression, love or sexual desire. Even "specific touch gestures do not have universal meanings" (DeAugustus, 1963, p. 298). Divergent perceptions of touch are affected by the attitudes of the recipients and repetition of touch may alter its meaning (Spotnitz, 1972).

Johnson (1965) stated that nonverbal communication is more frequently misunderstood than verbal communication. When touch is added to verbal communication, changes occur in the patient and the nurse based on their perceptions, social maturity and personal and cultural background. Reflecting an opposite view, Blondis (1977) affirmed that decreased sensory acuity among the elderly often leads them to trust nonverbal behaviors of nurses more than verbal behaviors that may be misinterpreted. As an expression of empathy, touch is often more meaningful without words. Gentle touch can convey caring even to patients with no apparent verbal ability.

Goodykoontz (1980) stated that touch provides a sense of acceptance and comfort to the elderly who experience a decreased sensory input due to aging and changed body image. It may also help the confused person maintain his orientation. During recovery from anesthesia, the post-operative patient uses touch for orientation and reality testing (DeAugustus, 1963).

Touch is a technique used during physical or psychosocial assessment and can reveal much about the patient's condition. In addition, it may compensate for language barriers either due to cultural differences or disease process. Touch can be comforting, reassuring and soothing. A hand on the head often relieves a headache and a wet compress may be seen as a substitute for a hand. Touch can decrease the anxiety of patients, particularly those in strange, foreign environments such as critical care units. Touch is never too simple to be omitted and useful touch gestures should be recorded on the nursing care plan (Goodykoontz, 1980).

The effects of touch on 45 hospitalized patients from 18 months to 82 years of age with a variety of diagnoses were investigated by Ellis, et al. (1979). Ninety-two to 96 percent of the experimental or touched group exhibited positive body responses in facial expression, body movement, eye contact and general impression. Only 67 to 71 percent of the control or nontouched group responded positively to the same categories. In the second part of the study, 100 associate degree nursing students were surveyed about the use of touch. Among the second year students, 93 percent indicated they were comfortable in being touched and in using touch. Eighty-five percent of the first year students were comfortable being touched and 91 percent were comfortable using touch. Interestingly, students in their second year showed a small percentage increase in their fear that touch would be misinterpreted by their patients. Both groups of students were most comfortable touching pediatric patients and least comfortable touching psychiatric patients. The dying and acutely ill patients ranked in the middle of this four-point scale. This study pointed out the importance of touch as a means of nonverbal communication to patients and the importance of stressing and teaching the use of touch as a communication tool to student nurses.

The use of touch is a way to establish rapport quickly. McCoy (1977) conducted a study involving 40 emergency room patients who received intermittent touch to the wrist or forearm from the nurse during the initial assessment interviews. The 20 patients in the experimental group who were touched exhibited more positive responses

in terms of facial expression, eye contact, body movement and verbal exchange. This group also indicated the nurse was concerned about them while the 20 control patients who received no touch felt the nurse was interested only in getting the job done.

McCorkle (1974) investigated the effects of touch on 60 seriously ill patients hospitalized in intensive care, coronary care or post-operative units. The patients ranged in age from 20 to 64 years. An Interaction Behavior Worksheet was used to rate the positive, negative or neutral responses of patients in four areas; facial expressions, body movement, eye contact and general response. Following the nurse-patient communication during which the experimental group was touched and the control was not touched, a Post Interaction Questionnaire was administered to the patient to determine his perception of the nurse's interest in him and the comfort extended to him. A greater percentage of positive facial responses occurred in the 30 patients in the experimental group. Less body movement occurred in this group suggesting touch may have a calming effect on patients. Both groups indicated that the nurse was interested in them. Only 6.7 percent of the experimental group identified that the nurse touched them.

Bechtel (1978) adapted McCorkle's tool to study the effects of touch on 51 residents in nursing homes. She found that the 27 patients in the experimental group exhibited more positive responses than the control group but not at a statistically significant level. In contrast to McCorkle's study, her experimental group had more negative behaviors during the nursing intervention involving touch than the control group.

Both groups indicated that the nurse was interested in them. As in McCorkle's work, few patients in this study were aware that the nurse touched them. Sensitivity and perception are affected by whether the touch is to bare skin or to some type of clothing which covers the skin. Bechtel (1978) suggested that the elderly patients in her study may not have perceived her touch to the knee area because of their clothing and the presence of lap covers.

A comparison of the effects of the traditional bed bath versus the towel bath on 15 male and female adult patients was investigated by Heilman (1974). A slight lowering of pulse was observed after the traditional bath and this style was preferred more often which probably relates to the assumption that the skin-to-skin contact was more comforting.

DeWever (1977) studied the perceptions of 99 elderly nursing home residents to the affective touch of young and older male and female nurses using the Comfort When Touched Inventory. This tool required subjects to view four separate photographs of nurses. The nurses included one young male and female as well as one each with more maturity. The subjects were instructed to state comfort reactions based on their thoughts of each nurse touching various body areas. Subjects perceived discomfort most frequently when either male or female nurses put their arm around the patient's shoulder. Discomfort was also perceived if a male nurse touched or held the resident's hand. Touching the patient's arm or face was perceived as comfortable by the greatest number of subjects.

Barnett (1972) studied the use of touch by health team personnel with hospitalized patients. In this study, 180 30-minute observational sessions were held on medical, surgical, pediatric, obstetric, psychiatric, intensive care and surgical recovery units in a 500-bed proprietary hospital and a 1000-bed nonproprietary hospital. Over a four-week time span, 540 patients and 900 health team personnel were observed for 452 non-necessary or affective touches. Among her findings were that more touches occurred at the nonproprietary hospital and that R.N.s, L.P.N.s, and junior nursing students touched patients significantly more than other health care personnel. The hand was the most frequently touch area followed by the forehead and shoulder. Older personnel, especially those over 65 years of age did the least touching and patients between the ages of six to 17 received no touches in either hospital.

There exists some suggestion between Barnett's (1972) study and Ellis's (1979) study that nursing students in their last year of school in either a two- or four-year program do less touching of patients. Perhaps their roles are different and they are involved in less direct patient care or they have had negative experiences using touch with patients and hesitate to risk that behavior as often.

Gaylin (1976) discussed touching and feeling not from the physiological sense but rather from an emotional perspective. People are often "touched" by others when they care enough to do something unexpected for them and conversely often "feel hurt" when expected things are not done. Being "touched" by others frequently involves

those whom we are not particularly close to such as acquaintances or strangers. People most often "feel hurt" from the actions or omissions of those close to them, especially family members. Patients may more likely be "touched" by our actions of caring which are exhibited through the acts of touching. They are less likely to "feel hurt" if they are not touched physically. While there are risks involved in touching, one of them may not be that of causing the patient to feel hurt.

Touch was examined in its relationship to power between individuals by Henly (1977). Status, either real or perceived, is often related to a greater use of touch than lack of status. Males, superiors and high status persons touched females, subordinates and low status persons more often than the reverse. This is also evident in the medical treatment setting. Physicians touch nurses and patients more than they are touched by these groups. Patients, being considered the low status persons, were reluctant to touch either doctors or nurses.

Touch has been recognized as an important nonverbal communication providing physical and psychological comfort from birth to death. While it is important to persons of all ages, touch is perhaps needed more by the elderly to ameliorate their many losses, contribute to their sense of dignity and to maximize their feelings of self-esteem. Through the use of touch nurses can demonstrate a caring relationship toward their patients and promote the occurrence of appropriate and positive interpersonal responses.

The literature deals with many aspects and effects of touch with various age groups. However, there is a noticeable lack of research dealing specifically with the effects of touch on elderly persons. Additional studies related to this aspect of touch should add to the nursing literature and hopefully maximize the positive effect of this nonverbal communication tool.

CHAPTER 3

METHODOLOGY

Included in this chapter is a description of the design used in this study, the setting for the study and the sample population. The tools which were used during data collection and the method of data analysis are also discussed.

Design

A descriptive design was used to describe the effects of touching on elderly residents in a long-term care facility. Specifically, the occurrence of nonverbal responses and the acknowledgement by the subjects that the investigator was interested in them were described.

The Setting

The study was conducted in a 120-bed, nonprofit, long-term care facility in the southwestern United States. Twenty-four-hour skilled nursing care is provided for the elderly residents. A multi-disciplinary approach is used to meet the physical, psychosocial and spiritual needs of residents at various levels of complexity of care. According to the director of nursing, most of the residents are women and the average resident age is 84 years. The more common diagnoses among the residents are arteriosclerotic heart disease, chronic organic brain syndrome, hypertension, diabetes and Parkinson's disease.

The Sample

A convenience sample included 19 persons 65 years of age or older who were residents of the long-term care facility. In addition to the age requirement, subjects had to be oriented to time, day and place and have no significant hearing, visual or sensory losses that would interfere with the accurate collection of data. Subjects needed to be free of speech impairments that would inhibit verbal responses. They also had to be able to sit up in a chair during data collection, which was done either in the morning or early evening. Assistance was obtained from the director of nursing in the selection of subjects for this study.

Protection of Human Subjects

The proposal for this study was submitted to and approved by the University of Arizona Human Subjects Committee (Appendix A). Upon receipt of the Committee's approval, a disclaimer (Appendix B) explaining the purpose of this study and assuring confidentiality of information was presented and explained to subjects prior to their inclusion in this study.

Data Collection Tools

In preparation for this study, the literature was reviewed for appropriate tested tools used in similar studies dealing with touch. Two tools were selected for use in recording the data in this study: the Interaction Behavior Worksheet (Appendix C) and the Post Interaction

Questionnaire (Appendix D). Written permission to use both tools was obtained from Bechtel.

Interaction Behavior Worksheet

The Interaction Behavior Worksheet for this study was used by Bechtel (1978) in her study with elderly subjects. The Worksheet was adapted from McCorkle's tool (1974) used to study the effects of touch on seriously ill patients. In this study, Bechtel's tool was used after making several changes based on recommendations following her study and information derived from the pilot testing in the present study.

Bechtel (1978) stated that nervous body movements were probably random occurrences in the elderly and related more to the subject's age than to actual nervousness. For this reason, nervous movements were labeled in this study as a neutral rather than a negative nonverbal response. Secondly, Bechtel (1978) found that the negative facial expressions of yawns, sighs or frowns were seldom observed and suggested that these facial behaviors may not be common to the elderly. Based on Bechtel's suggestion, grimaces were substituted for yawns or sighs, and frowns were retained as negative facial response. In Bechtel's (1978) study, a facial expression termed "intent" which she described as being attentive, or keen and eager was added. For clarity, this study substituted the term attentive for intent.

In this study, the Interaction Behavior Worksheet was used to record the nonverbal responses of subjects while the investigator talked with each subject and intermittently touched him. The conversation between the investigator and the subjects involved three questions

which were used for each subject to standardize the interview. The questions asked of each subject were:

1. How are you feeling today?
2. What do you like about living at this place?
3. What is the most meaningful experience you have had in your life?

Working independently, two observers recorded the subjects' nonverbal behaviors while these questions were asked by the investigator who intermittently touched each subject. There are four categories of nonverbal response in the Interaction Behavior Worksheet: facial expression, body movement, eye contact and general overall response. Each category lists specific behaviors which are rated as positive, neutral or negative responses. The four categories with the specific behaviors as used in this study are as follows:

Facial Responses

Positive -- smiles, laughs, cries, nods of head up and down, attentive.

Neutral -- blank looks, raises eyebrows, contemplates.

Negative -- grimaces, frowns.

Body Movements

Positive -- turns toward investigator and remains at least one half of the time, touches investigator.

Neutral -- no body movements toward or away from investigator.

Negative -- turns away from investigator at least one half of the time.

Eye Contact

Positive -- looks at investigator at least one half of the time.

Neutral -- closes eyes at least one half of the time.

Negative -- looks away from the investigator at least one half of the time.

General Response of the Subject

Positive -- participates in interaction.

Neutral -- indifferent to interaction.

Negative -- does not participate in interaction.

In Bechtel's (1978) use of the Interaction Behavior Worksheet, most nonverbal behavior items in the facial expression category were scored as often as they were observed. Likewise, in the body movement category, multiple scoring was allowed for incidents of the subject touching the investigator. Following the pilot testing in this study, one addition was made in the tool and the scoring was revised.

Post Interaction Questionnaire

The second instrument, the Post Interaction Questionnaire, modified from Bechtel's (1978) work for this study, was administered to each subject by one observer immediately after the conversation. The same observer was used for consistency in administering the questionnaire to all subjects. The purpose of the questionnaire was to obtain the subject's verbal responses about the previous interaction and its meaning to him. The following questions were asked in this

study and the responses were recorded on the Post Interaction Questionnaire:

1. Do you think the nurse was interested in you?
2. In what ways did she show interest?
3. Did the nurse touch you?
4. Where did the nurse touch you?
5. How did you feel when the nurse touched you?
6. On a scale of 1 to 6, with 1 being very little interest and 6 a great deal of interest, how would you rate the nurse's interest in you?

In these questions, nurse refers to the investigator.

Responses from the Questionnaire were tabulated and categorized and the average occurrence and average percent were computed in this study.

Practice

In preparation for the pilot study, a practice session was conducted with the observers, investigator and two elderly females residing in their own apartments. With the investigator's chair positioned at a right angle to the subject and with the observers standing together, a few feet in front of the subject, observations were easily made and touch easily extended to the subject.

Differences between observers in scoring the nonverbal behaviors on the Interaction Behavior Worksheet occurred in the category of facial expression, specifically smiles, laughs, nods head or frowns. It was particularly difficult for the observers to determine the incidence of

smiles especially if the subject smiled a great deal. Definitions of these facial expressions were reviewed with the observers. Based on the observers' recommendation, the addition of "contemplates" as a facial expression was made. This suggestion arose because of the facial expression observed when the third question regarding meaningful life experience was asked by the investigator. The observed facial expression seemed reflective of a thinking process rather than a frown even though there was a hint of wrinkling of the forehead.

The Post Interaction Questionnaire was administered without difficulty. The questions seemed to be clearly understood and easily answered. Data for the practice session were not analyzed.

Pilot Study

A pilot study was conducted to determine the usefulness of the data collection tools. Five subjects over the age of 65 years, who were residents of the long-term facility, participated in this study. The investigator obtained subject consent several hours prior to the collection of data. At the time of data collection, the investigator introduced the two observers to each subject and indicated that they would be present while the investigator and subject talked and that one observer would ask six questions after the investigator was finished.

The observers and investigator used the positioning technique previously described so the subjects could be easily seen by the observers and so that eye contact could be easily maintained and touch could easily occur between the investigator and the subject. Data were

collected in the resident's room for greater privacy and less distraction and to avoid observation of the interaction by other subjects. All subjects were sitting when data were collected.

During the conversation between the investigator and the subject, touching was applied to the subject's upper extremity by the investigator for the entire time each question was asked with an attempt made to exert direct skin-to-skin contact. The two observers stood side-by-side directly in front of the subject at a reasonable viewing distance and recorded the nonverbal behaviors of the subject on the Interaction Behavior Worksheet during the conversation between the subject and the investigator. After this observation, the investigator and one observer left the subject's room. The other observer approached the subject and proceeded with the Post Interaction Questionnaire. Question number four on the Post Interaction Questionnaire as originally used by Bechtel (1978) was felt to be leading as stated after the pilot study, so it was reworded to read: Where did the nurse touch you?

The degree of observer agreement on the occurrence of nonverbal facial expressions remained a problem during the pilot study and affected the percent of interrater reliability. To be scored as an agreement, each item on the Interaction Behavior Worksheet needed absolute observer agreement as to occurrence and to frequency of occurrences to qualify as an agreement. Table 1 shows the total number of agreements between observers recorded on the Interaction Behavior Worksheet and the percent of agreement between observers or the interrater reliability. The percent of agreement was determined by dividing the number of actual agreements by the total possible number of agreements.

TABLE 1. OBSERVER AGREEMENT ON INTERACTION BEHAVIOR WORKSHEET DURING PILOT STUDY

Categories	Subject Number					Number of Agreements Per Category	Percent of Agreement Per Category
	1	2	3	4	5		
Facial Expressions Possible Score = 10	9	6	7	8	6	36	72%
Body Movements Possible Score = 5	5	5	5	5	5	25	100%
Eye Contact Possible Score = 3	3	3	3	3	3	15	100%
General Response Possible Score = 3	3	3	3	3	3	15	100%
Total Possible Score = 21	20	17	18	19	17	91*	86%
Interrater Percent of Agreement/Subject	95%	81%	86%	90%	81%		

* Total possible score for five subjects = 105

TABLE 2. OBSERVER AGREEMENTS ON INTERACTION BEHAVIOR WORKSHEET
DURING PILOT STUDY BASED ON YES/NO DECISIONS

Categories	Subject Number					N = 5	Number of Agreements Per Category	Percent of Agreement Per Category
	1	2	3	4	5			
Facial Expressions Possible Score = 10	9	8	10	9	8		44	88%
Body Movements Possible Score = 5	5	5	5	5	5		25	100%
Eye Contact Possible Score = 3	3	3	3	3	3		15	100%
General Response Possible Score = 3	3	3	3	3	3		15	100%
Total Possible Score = 21	20	19	21	20	19		99*	94%
Interrater Percent of Agreement	95%	90%	100%	95%	90%			

* Total possible score for 5 subjects = 105

Originally, several items on the Interaction Behavior Worksheet, particularly those in the facial expression category, were scored as often as they occurred. Because of the difficulty in observer agreement on the frequency of occurrence for some nonverbal behaviors, it was decided that all items should be dichotomized into a yes/no decision and scored only once. Table 2 shows the total number of agreements between observers using this new scoring format and the percent of agreement between observers based on this scoring format.

Procedure for Data Collection

Data were collected on 19 elderly persons who met the criteria for inclusion as subjects. Verbal consent for participation was generally obtained several hours prior to the actual data collection by the investigator. When this was not possible, consent was obtained immediately before the data were collected.

The investigator asked each subject three questions during the initial interview. Touching was applied to each subject's upper extremity, generally at the hand and/or wrist area, during the entire time each question was asked with an attempt to exert direct skin-to-skin contact. While the investigator and subject were engaged in conversation, two observers recorded the subject's nonverbal behaviors independently on the Interaction Behavior Worksheet. Following the investigator/subject conversation, one observer asked each subject the six questions written on the Post Interaction Questionnaire and recorded their responses. Demographic data of age and sex were recorded on the Post Interaction Questionnaire.

Data Analysis

The data from the Interaction Behavior Worksheet were analyzed using the mean as the measure of central tendency and the standard deviation as the measure of dispersion of scores around the mean (Notter, 1974). A point biserial correlation measurement was used to determine the relationship on the Post Interaction Questionnaire between acknowledgement that the nurse touched the subject and the rating by the subject of the nurse's interest in him. Touch is the dichotomized independent variable (Lindeman, et al., 1980). In this study, acknowledgement of the nurse's interest was the continuous dependent variable.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

Included in this chapter are the characteristics of the sample, the results from the Interaction Behavior Worksheet and the results of the Post Interaction Questionnaire. The statistical analyses of the data collected in this study are also presented.

Characteristics of the Sample

Twenty persons 65 years of age or older who met the criteria for subjects participated in this study. One subject was deleted from the sample because of incomplete responses. The ages of the 19 subjects ranged from 66 to 95 years with a mean age of 82.73 years. Sixteen of the subjects were female and three were male.

Findings of Interaction Behavior Worksheet

The occurrence of each subject's nonverbal behaviors during the time the nurse interviewed them and extended intermittent touch to them is shown in Table 3. The percent of interrater agreement on each subject's total score ranged from 85 to 100. Since each nonverbal behavior was scored only once, the percent of agreement between observers for all subjects was computed by dividing the number of actual agreements by the total possible number of agreements. These data are presented in Table 4. The interrater reliability for each individual category

TABLE 3. OBSERVER AGREEMENT ON INTERACTION BEHAVIOR WORKSHEET DURING STUDY

Categories	Subject Number																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Facial Expressions Possible Score = 10	8	10	7	7	9	8	8	9	9	10	8	10	8	8	8	7	10	6	9
Body Movements Possible Score = 5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Eye Contact Possible Score = 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
General Response Possible Score = 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total Possible Score = 21	19	21	18	18	20	19	19	20	20	21	19	21	19	19	19	18	21	17	20
Interrater Percent of Agreement on Total Score (per subject)	90	100	85	85	95	90	90	95	95	100	90	100	90	90	90	85	100	80	95

TABLE 4. NUMBER AND PERCENT OF OBSERVER AGREEMENTS ON INTERACTION BEHAVIOR WORKSHEET
DURING STUDY -- MEAN NUMBER OF AGREEMENTS AND STANDARD DEVIATION PER CATEGORY

N = 19

Categories	Number of Agreements	Percent of Agreement	Mean Number of Agreements	Standard Deviation
Facial Expressions Possible Score = 10	159	84%	8.4	1.16
Body Movements Possible Score = 5	95	100%	5.0	0
Eye Contact Possible Score = 3	57	100%	3.0	0
General Response Possible Score = 3	57	100%	3.0	0
Total Possible Score = 399	368	92%	19.4	1.16

on the Interaction Behavior Worksheet ranged from 84 to 100 percent, with a 92 percent reliability on the entire worksheet. Again it is noted that differences in observer agreements occurred only in the facial expression category on the recording of behaviors. Also presented in Table 4 are the mean number of agreements and the standard deviation for each category of behavior on the Interaction Behavior Worksheet. The mean number of agreements for the facial expression category containing ten items was 8.4 with a standard deviation of 1.16. Since there was complete observer agreement on the last three categories on the worksheet, the mean number of agreements was equal to the number of items in each of those categories, with no deviation from the mean.

The Interaction Behavior Worksheet contained nine positive non-verbal behaviors, seven neutral behaviors and five negative nonverbal behaviors. The total positive, neutral and negative nonverbal behaviors for each subject as agreed upon by the two observers are displayed in Table 5. The average occurrence and the average percent for each group of behaviors is also presented in Table 5. The average occurrence and the average percent of the positive behaviors far exceeded the number of either neutral or negative behaviors. The average occurrence of the positive behaviors was 6 with an average percent of 67. The average occurrence of the neutral behaviors was 1.1 with an average percent of 15.7. The average negative behaviors occurred .16 times for an average percent of 3.2.

TABLE 5. POSITIVE, NEUTRAL AND NEGATIVE NONVERBAL BEHAVIOR AGREEMENTS
PER SUBJECT ON INTERACTION BEHAVIOR WORKSHEET

Average Occurrence and Average Percent of Behaviors			
<u>Subjects</u>	<u>Behavior Agreements</u>		
	<u>Positive</u>	<u>Neutral</u>	<u>Negative</u>
1	7	1	0
2	7	1	0
3	5	0	1
4	5	1	0
5	8	1	1
6	7	1	0
7	7	1	1
8	6	2	1
9	6	2	0
10	7	2	0
11	6	2	0
12	7	1	0
13	6	1	0
14	6	0	0
15	6	1	0
16	4	1	0
17	6	1	0
18	3	1	0
19	5	1	0
Average Occurrence of Behaviors	6	1.1	.16
Average Percent of Behaviors	67	15.7	3.2

The length of the nurse/subject interaction during which behaviors were recorded ranged from 1 minute, 22 seconds to 12 minutes, 5 seconds with a mean time of 4 minutes, 11 seconds. Generally, the subjects directed all attention exclusively to the investigator and for the most part seemed unaware of the observers. The observers attempted to respond to any comments or questions directed to them by nodding only. If a verbal response became necessary due to the directness of a question, that response was often a simple "yes" or "no."

Findings of Post Interaction Questionnaire

The Post Interaction Questionnaire was administered to all subjects following their conversation with the investigator. The purpose of the Questionnaire was to obtain the subjects' verbal responses about the interaction with the investigator and its meaning to him. The responses to the questions are discussed below.

Question #1: Was the nurse interested in you?

Eleven subjects indicated that the nurse was interested in them, three subjects responded "no" to Question #1 regarding the nurse's interest in them and five subjects were undecided. Two of the subjects who responded negatively stated the reason for their answer. One subject indicated that interest does not exist if persons do not know each other. The second subject felt a lack of interest because the investigator did not verbally encourage elaboration of interview responses.

Question #2: In what ways did she show interest?

The 11 subjects who felt the nurse was interested in them indicated ways in which the nurse showed interest. Essentially, their

responses can be grouped into three categories: behavior of the nurse, verbal responses of the nurse and non-specific replies. Six subjects said the nurse's behavior showed interest in such ways as her facial expression, attentiveness and in bringing others back with her to see the subject. Four subjects indicated that the nurse showed interest verbally by the questions she asked and in her statement that she hoped the subject was well. Two subjects felt the nurse showed interest in them but they were unable to specify how this occurred. One subject listed responses in both the verbal and behavioral categories.

Question #3: Did the nurse touch you?

Although all subjects were touched an equal amount of time, only four responded "yes" to the question of whether the nurse touched them. Eleven subjects indicated that the nurse did not touch them and four were undecided.

Question #4: Where did the nurse touch you?

Two of the subjects indicated that they were touched on the hand and/or wrist. One subject could not remember where the touch occurred and the fourth subject indicated the hand and knee. This last observation was correct because during the interview with this subject, she moved both hands out of the investigator's reach and touch was extended to the knee when the last question was asked by the investigator.

Question #5: How did you feel when the nurse touched you?

Two of the subjects who acknowledged the occurrence of touch reported that they had a good feeling when touched. The remaining two subjects were indifferent to the touch. Of the four subjects who

indicated that they were touched by the nurse, only three ranked the nurse's interest in them on the scale of one to six. All three subjects selected the highest score of six on the scale. A point biserial correlation between touch and interest was .50 and was not significant indicating no measure of association between touch and interest. This correlation statistic is equivalent to a Pearson correlation coefficient with one continuous variable and one dichotomous variable (Roscoe, 1978). Touch was the dichotomized independent variable and interest was the continuous dependent variable. These correlation figures are based on the responses of only three subjects.

Question #6: On a scale of one to six, with one being very little interest and six a great deal of interest, how would you rate the nurse's interest in you?

Eleven subjects ranked the nurse's interest on the six-point scale. Eight subjects were undecided or unable to rank interest on the scale. Two subjects selected a range on the scale and their responses were averaged resulting in one 2.5 score and one 3.5 score. The average interest point for all 11 subjects was 4.9. This particular question seemed difficult for many subjects to understand and often had to be repeated or rephrased in an attempt to obtain a response. The results of the Post Interaction Questionnaire are shown in Tables 6 and 7.

The results of the Questionnaire indicated that the subjects felt the nurse was interested in them. The interest appeared to be a result of the investigator's behavior and verbal responses rather than her touching of subjects. Few subjects were aware of being touched, however, the nurse was rated above average on an interest scale.

TABLE 6. POST INTERACTION QUESTIONNAIRE RESULTS
FOR QUESTIONS 1 THROUGH 5

N = 19

Questions	N	Responses
1. Do you think the nurse was interested in you?	19	Yes -- 11 No -- 3 Undecided -- 5
2. In what ways did she show interest?	11	* Behavior -- 6 Verbal Response -- 4 Not Sure -- 2
3. Did the nurse touch you?	19	Yes -- 4 No -- 11 Undecided -- 4
4. Where did the nurse touch you?	4	Hand, wrist -- 2 Hand, knee -- 1 Undecided -- 1
5. How did you feel when the nurse touched you?	4	Good Feeling -- 2 Indifferent -- 2

* One subject indicated two responses.

TABLE 7. POST INTERACTION QUESTIONNAIRE RESULTS
FOR QUESTION 6

N = 11

Question						
6. On a scale of one to six, with one being very little interest and six being a great deal of interest, how would you rate the nurse's interest in you?						
Scale	1	2	3	4	5	6
Subjects * Rating		1 (1)	(1)	1		7
Average Interest Score = 4.9						

* Eight subjects did not respond.

CHAPTER 5

SIGNIFICANCE OF THE FINDINGS

The findings of this study are presented in this chapter along with their relationship to the conceptual framework. The findings are also examined in relation to McCorkle's (1974) and Bechtel's (1978) work.

Conceptual Framework and Findings

Touch has been identified as an important physical and psychosocial need during all stages of the life cycle. This nonverbal form of communication becomes increasingly important as a tool for expression when verbal avenues of communication do not exist either because of language barriers, developmental immaturity or sensory deprivation due to disease states and/or aging.

The need for touch is accentuated among the elderly because of the many losses they experience in addition to sensory loss. The basic human need for love and affection is often unmet for the elderly person who no longer has close family, friends or loved ones who provided companionship, comfort and caring touch.

The loss of health in the elderly often results in the loss of independence. Both losses produce tension and anxiety which increase the need for touch. Illness states heighten the emotional need for

security, safety and comfort which can be met in part by touch. Impacting on these losses is the conscious or unconscious realization for the elderly that they are at the end of their life and death is near.

The elderly also experience many body image changes which are generally perceived negatively by our youth-oriented society. These changes may result in rejection of the elderly by either physical or psychological distancing of other human beings. The results for the elderly person are often loneliness, a changed self-image, loss of self-esteem and decreased feelings of self-worth and dignity. Touch provides a mechanism to lessen these losses, promote a sense of dignity and increase feelings of self-worth among the elderly.

As physical and psychological homeostatic abilities deteriorate through aging and its accompanying losses, a state of disequilibrium results. One means of reestablishing social and psychological equilibrium is through touch. For touch to be most effective, however, it must be used appropriately. Touch deprivation or satiation can lead to maladaptive responses and perceptions of self, whereas integrated affective or caring touch can produce an adaptive state with positive thoughts and perceptions of self.

Presumably, the elderly, and particularly the institutionalized elderly, experience some degree of touch deprivation which contributes to inappropriate or undesirable verbal and nonverbal behaviors. Physical contact with another person can often alleviate such inappropriate behaviors and reduce mental confusion while promoting greater physical and psychological orientation.

Striking among the findings in this study was the incidence of positive nonverbal behaviors which occurred among the subjects much more frequently than the neutral or negatively defined nonverbal behaviors on the Interaction Behavior Worksheet. This suggests that the use of touch tends to stimulate a more desired behavioral response. Despite the fact that positive nonverbal behaviors occurred more frequently among the subjects, it is surprising that only four of the 19 subjects in this study were aware that they were touched by the investigator. One wonders why this happened because in most instances touching between the investigator and the subjects involved direct skin contact for several seconds on three occasions with the investigator's entire hand. Possibly, the touch extended was too light in pressure, but it could have been the subject's anxiety caused a decrease in their perceptions of external stimuli. This is suggested because of a statement made by many subjects when their consent for participation in the study was sought. They usually agreed to participate but often expressed concern about their ability to answer the questions. Although they were assured that the questions had no right or wrong answers, and that they could say whatever they wished in response to them, an uncomfortable anxious state may have been present for some subjects. The possibility of becoming desensitized to the stimulus of touch over time is unlikely because the touching was intermittent and of brief duration each time it was extended by the investigator. Even though the investigator's touching of the subjects was not generally perceived to the point that it was verbally occurring, it may have conveyed some degree of comfort and encouragement

to the subject along with positively impacting on their self-image and self-esteem. This effect may have contributed to the occurrence of positive nonverbal behaviors.

In this study, the investigator was touched only twice by subjects, whereas the observer was touched several times by subjects during the Post Interaction Questionnaire. The observer was particularly careful not to extend any touching to the subjects during the Post Interaction Questionnaire process. It is conceivable that subjects were more comfortable and less anxious with the interview process at the time of the Post Interaction Questionnaire. The observer may have been viewed as more of an equal to the subject in difference to the superior-subordinate relationship they may have perceived between themselves and the investigator. These assumptions may have allowed them to more actively seek out tactile stimulation. As Maslow (1970) stated, one of the higher level human needs relates to freedom from anxiety and the need for love and affection. Perhaps as situational anxiety is reduced, an expression of affection caring is more easily extended.

Alternatively, one must consider that the subject's anxiety levels remained constant during the entire process or increased during the Post Interaction Questionnaire. It was noted that many subjects seemed to have difficulty answering the questions on the Post Interaction Questionnaire due to lack of understanding or inability to be expressive in their answers. Their initial concern about the ability to answer the interview questions may have increased if they had difficulty responding to the Post Interaction Questionnaire and this may have

increased their touching behavior. Montagu (1953) stated that physiological or general tension stimulates a need to touch which helps to reestablish social homeostasis.

Lastly, 11 subjects indicated the nurse was interested in them, however, none of the subjects stated the interest stemmed from the nurse's touch. Seven of these 11 subjects ranked the nurse's interest at the highest level on a six-point scale. The average score on the scale for all 11 subjects was 4.9. Only three subjects felt the nurse was not interested in them; the remainder were undecided or unable to respond.

Findings Related to McCorkle's and Bechtel's Work

Both McCorkle (1974) and Bechtel (1978) conducted studies examining the effects of touch. McCorkle's (1974) work was with seriously ill patients, while Bechtel's (1978) study dealt with elderly persons. Both studies used two groups of subjects, one group that was touched and one that was not touched.

The findings of these studies in regard to the subjects' awareness of touch was not much different from the present study, although a different method to touching was used. McCorkle (1974) and Bechtel (1978) applied continuous touching during their interactions with subjects. In addition, McCorkle (1974) increased the pressure of the touch when she asked her subjects questions. Only two subjects in her experimental or touched group reported being touched. McCorkle (1974) suggested that even though the patients may not be consciously aware of being touched, they may be more aware of the nurse's interest and

concern. The majority of Bechtel's (1978) experimental or touched group of subjects indicated they were not touched. Only seven subjects or approximately 26 percent of this group responded positively that they had been touched. Interestingly, a few of the non-touched subjects in her study said they were touched when they had not been touched.

McCorkle (1974) was not touched by any of the subjects in her study, however, her observer conducting the Post Interaction Questionnaire was touched by many of the patients who had received touch from the investigator. Bechtel's (1978) observers agreed that Bechtel was touched equally by the subjects in the experimental and control groups for a total of 12 times. Information about touch extended to the observer during the Post Interaction Questionnaire was not presented. Again, it is suggested by this writer that patients may have been more comfortable extending touch to an observer who was perhaps viewed as less of a superior than the investigator.

Both McCorkle (1974) and Bechtel (1978) found that positive behaviors were exhibited more frequently by the experimental group of subjects. McCorkle's (1974) findings in this respect were statistically significant whereas Bechtel's (1978) were not. McCorkle's (1974) experimental group had more neutral body movements than the control group suggesting a calming effect of touch. The control group exhibited more negative body movements than the experimental group. In contrast, Bechtel's (1978) experimental group had more negative behaviors than the control group.

Neither McCorkle (1974) nor Bechtel (1978) found any difference in their groups' expression that the nurse was interested in them. Their percentage of positive responses to this question was higher than found in the present study; however, a greater number of subjects in this study were undecided on this question.

A comparison of these studies is impossible because of the differences in design and populations. Nevertheless, similarities are evident among all three studies. Positive behaviors occurred more often than neutral or negative behaviors. Subjects in each study identified the nurse as being interested in them and touch was perceived as occurring infrequently. Touch was rarely extended to the investigator by the subject in both the present study and McCorkle's (1974) work.

CHAPTER 6

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A summary of this study is presented in this chapter, along with conclusions based on the data collected. Recommendations for future studies investigating the effects of touch with the elderly are also discussed.

Summary

This study examined the relationship between touching elderly persons in a long-term care facility during a planned conversation period and the occurrence of nonverbal body responses. In addition, the relationship between touching and the subject's verbal acknowledgement of the nurse's interest in them was investigated. Nineteen elderly persons residing in a long-term care facility, with an average age of 82.73 years, participated in this study.

The incidence of positive nonverbal behaviors occurred an average of six times per subject, while neutral and negative behaviors occurred 1.1 and .16 times, respectively. The average percent of positive behaviors was 67, with neutral behaviors showing an average percent of 15.7 and negative behaviors ranking at 3.2 percent.

Eleven of the 19 subjects indicated that they felt the nurse was interested in them. Of the 11 subjects who verbally acknowledged the nurse's interest, seven ranked that interest at the highest score on the

six-point rating scale. Three subjects did not feel the nurse was interested in them and five subjects were undecided on this question. The average value on the interest scale for all 11 subjects was 4.9 out of a possible score of six. Subjects indicated the nurse showed interest principally in two ways: through her behavior or her verbal comments to them. Interest through behavior was demonstrated by coming to see them, bringing other persons with her, i.e. the observers, and by courteous behavior. Interest through verbal comments was related to questions about them as individuals and expressions of concern about their well-being. Two subjects were not able to give specific reasons why they indicated the nurse was interested in them.

Only four subjects positively stated that they were touched by the nurse. Of the subjects who were aware of being touched by the nurse only three ranked her interest on the scale. A point biserial correlation between touch and interest was .50 which was not significant. Touch was the artificially dichotomized independent variable and acknowledgement of the nurse's interest was the continuous dependent variable.

Conclusions

This study demonstrated that the verbal and nonverbal actions of the nurse are meaningful to the elderly person and contribute to their positive nonverbal behaviors. It is impossible to determine whether the greater occurrence of positive nonverbal behaviors was due to the presence of the nurse, her conversation with the subjects or her touching of

the subjects. It is likely that a combination of these factors impacted on subjects' responses.

Few subjects consciously realized or remembered that the nurse had touched them. Perhaps the touching was of too short a duration and too light in pressure to be perceived. Subjects often seemed so intent on the questions being asked by the investigator at the time touching occurred that certain external sensory stimuli may have been selectively blocked from awareness.

The importance of the use of affective touch with the elderly is recognized and encouraged at the long-term care facility where data were collected. It is likely that these subjects were accustomed to being touched by health care workers and being touched by a stranger was not particularly noticed or perceived as meaningful.

No subject indicated that the nurse's interest in him was related to her touching behavior. Interest on the part of the nurse was attributed to her verbal and selected nonverbal behaviors.

Recommendations

1. Additional studies should be conducted using a larger sample population with two comparison groups, one of which received touch and one that did not.

2. Additional studies should be conducted in which touch is used intermittently throughout the interview process but not limited to the time questions were asked.

3. Studies should be conducted on the effects of touching on elderly persons living alone in their own residences.

4. Conduct studies using video taping of subject/investigator interactions for accuracy in recording nonverbal behaviors and to increase interrater reliability.

5. Simplify the interest rating scale on the Post Interaction Questionnaire tool by placing the rating scale on a card to be completed by the subject.

APPENDIX A

HUMAN SUBJECTS COMMITTEE APPROVAL

THE UNIVERSITY OF ARIZONA COLLEGE OF NURSING
- MEMORANDUM

TO: Barbara Kiley

8361 E. Lee Street, 85715

FROM: Ada Sue Hinshaw, R.N., Ph.D.
Director of Research

Margarita Kay, R.N., Ph.D.
Chairperson, Research Committee

DATE: June 30, 1981

RE: Human Subjects Review: "The Effect of Touching on the Behavior of
Elderly Persons"

Your project has been reviewed and approved as exempt from University review by the College of Nursing Ethical Review Sub-committee of the Research Committee, and the Director of Research. A consent form with subject signature is not required for projects exempt from full University review. Please use only a disclaimer format for subjects to read before giving their oral consent to the research. The Human Subjects Project Approval Form is filed in the office of the Director of Research, if you need access to it.

We wish you a valuable and stimulating experience with your research.

ASH:ss
4/81

APPENDIX B

DISCLAIMER FORM

"THE EFFECT OF TOUCHING ON THE BEHAVIOR OF ELDERLY PERSONS"

The purpose of this study is to examine the effect of touching on behavior. You are asked to answer two sets of questions. The first set are general questions asked by the nurse and the second set are questions related to your conversation with the nurse. This will require approximately 10 minutes of your time.

There will be no cost to you nor any potential risks. You are free to ask questions and to withdraw from the study at any time without any ill effects to you or to your care.

Your voluntary participation in this study by answering the questions is requested. By responding to the questions, you will be giving your consent to participate in the study. Your name is not on any forms and you may choose not to answer some or all of the questions, if you so desire. Whatever you decide, your care will not be affected in any way.

SIGNED:

Barbara Ann Kiley, R.N.

Barbara Ann Kiley, R. N.

APPENDIX C

INTERACTION BEHAVIOR WORKSHEET

Subject Number _____

Length of Verbalization _____

Observer _____

Minutes _____ Seconds _____

INTERACTION BEHAVIOR WORKSHEET

Categories	Number of Times	Total
Facial Expressions		
Smiles		
Laughs		
Nods head up and down		
Cries		
Attentive		
Blank looks		
Contemplates		
Raises eyebrows		
Grimaces		
Frowns		
Body Movements		
Touches investigator		
Turns toward investigator $\frac{1}{2}$ time		
No body movements toward or away from investigator		
Nervous body movements		
Turns away from investigator and remains $\frac{1}{2}$ time		
Eye Contact		
Looks at investigator $\frac{1}{2}$ time		
Closes eyes $\frac{1}{2}$ time		
Looks away from investigator at least $\frac{1}{2}$ time		
General Response		
Participates in interaction		
Indifferent to interaction		
Does not participate in interaction		

APPENDIX D

POST INTERACTION QUESTIONNAIRE

Subject Number _____

Sex _____

Observer _____

Age _____

Date _____

POST INTERACTION QUESTIONNAIRE

Hello, I am _____ and I would like to ask you a few questions about what happened between you and the nurse who was just here.

Do you think the nurse was interested in you? _____

In what ways did she show interest? _____

Did the nurse touch you? _____

Where did the nurse touch you? _____

How did you feel when the nurse touched you? _____

On a scale of 1 to 6, with one being very little interest and six a great deal of interest, how would you rate the nurse's interest in you?

1 2 3 4 5 6

APPENDIX E

PERMISSION FROM BEVERLY BECHTEL

April 16, 1981

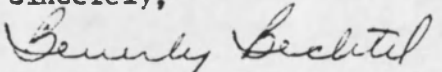
Barbara Kiley, R.N.
8361 E. Lee
Tucson, Arizona 85715

Dear Barbara,

This letter is in response to your request to use the Interaction Behavior Worksheet and the Post Interaction Questionnaire as data collection tools for your masters thesis. I would be happy for you to use the worksheet and the questionnaire.

Good luck with your thesis!

Sincerely,


Beverly Bechtel, R.N., M.N.

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