SOCIAL ISOLATION IN INTUBATED AND NONINTUBATED PATIENTS IN THE ICU

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BY

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To the Provost of the Graduate School:

I am submitting herewith a thesis written by

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entitled Social Isolation in Intubated and Nonintubated Patients in the ICU

I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nursing.

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Based on the theoretical framework of symbolic interactionism, verbal communication was identified as a necessary component of human social interaction. The problem of this study was to compare levels of nurses' verbal communication directed at intubated and nonintubated patients.

Fourteen critical care nurses were observed as they interacted with 16 patients during 10 minutes of the initial shift assessments in the MICU and CCU of a large county hospital. A total of 33 periods of interaction, 15 with intubated patients and 18 with nonintubated patients, were observed. The Nurse-Patient Interaction Tool was used to describe and record the content of interaction.

Controlling for patient acuity, the analysis of variance (ANOVA) supported the hypothesis that intubated patients receive less patient-directed verbal communication than nonintubated patients ($p < .001$). Consequently, intubated patients may be exposed to more social isolation.

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CHAPTER I

INTRODUCTION

Much has been written about the concept of nursing diagnosis and its role in the transforming of nursing into a true profession, directing research, and directing the development of nursing science (Gordon, 1982; Ziegler, Vaughan-Wrobel, & Erlen, 1986). According to Ziegler et al. (1986), the whole notion of nursing diagnosis is focused on the independent actions of the nurse and serves as an avenue toward autonomy. Concurrent with this surge for autonomy in the world of nursing are ongoing advancements in the world of medical technology. It is now possible not only to breathe for patients via ventilators, but to initiate heartbeats via pacemakers and maintain cardiac outputs via intrathoracic balloon pumps and potent pharmacologic agents as well.

Hand in hand with such advancements is the demand for nurse practitioners knowledgeable in the physiological processes augmented by such devices as well as being skilled in their use. The overall effect then is a field of nursing strongly linked to the medical profession, highly technical in nature, with seemingly little room for independence. Consequently then, critical care nurses

might find themselves being pulled in two directions, asking if indeed there are aspects of patient care in the intensive care unit (ICU) amenable to independent nursing actions. If the answer is no, then the question to follow is, "Is there a need for professional nurses in the ICU?" Perhaps a closer look at the nursing diagnoses found in Gordon's (1987) work will reveal that there are most definitely areas amenable to independent nursing actions and, thus, an undeniable need for professional nurses in ICUs. A prime example of such a diagnosis is that of social isolation.

Statement of the Problem

In an attempt to describe the level of social isolation in the ICU and to identify a variable that may be associated with potential increases in this level, the following problem was investigated: Is there a difference in the degree of social isolation intubated patients experience compared to nonintubated patients in the ICU as measured by the total patient-directed verbalization received from the nurse?

Justification of the Problem

It has been suggested and argued for years that nursing is both a science and an art (Donahue, 1985). Like

the other sciences nursing has changed, largely due to technological advances. Donahue (1985) contended that, "the head, the heart, and the hands became truly united to provide the strong foundation for modern-day nursing" (p. 11), and that, "the neglect or over-emphasis of any one of these would provide for an imbalance in care" (p. 11). An important challenge facing the nursing profession today then is to maintain such a balance.

The advances in technology and the concomitant ability to sustain life despite numerous body system failures necessitate new environments in which patient care must take place, namely intensive care units. It is perhaps in the intensive care unit then that this challenge is epitomized. The ICU is by nature a very "high tech" environment and yet the place where the very essence of life is dealt with on a daily basis. Perhaps in such an environment the nurse can best achieve that balance through independent theory based nursing actions. It has been suggested that social isolation is one diagnosis potentially amenable to such actions.

Since people are in constant interaction with their environment (Rogers, 1970), it is reasonable to conclude that manipulation of the means of interacting with that environment might directly affect the response to the

illness. Would it not then be beneficial to know the nature of the responses likely to follow such manipulation? More specifically, with empirical evidence supporting the notion that endotracheal intubation may lead to higher levels of social isolation, an at-risk group can be identified. Consequently, having established endotracheal intubation as a risk factor for social isolation, the nurse in the ICU could initiate appropriate interventions for modification of this risk and, thus, prevent unnecessary exaggerated levels of social isolation. Perhaps then, at least to some degree, the negative effects of social isolation in concurrence with acute life-threatening illness can be avoided and a better psychological outcome achieved for the patient.

Theoretical Framework

That humans are by nature social beings has been asserted for years by sociologists such as Cooley (1964) and Mead (1934). Cooley (1964) wrote, ". . . the individual and all his attributes are social, since they are all connected with the general life in one way or another and are part of a collective development" (p. 39). Kando (1977) further contended, "the human mind can only develop through interaction" (p. 155). Based on such

beliefs the sociological theory known as symbolic interactionism emerged. By definition it is,

> The type of social psychology that focuses on social interaction (rather than the individual or the social system) and on the predominantly symbolic nature of human interaction (thus clearly distinguishing it from animal behavior). (Kando, 1977, p. 104)

Within the context of symbolic interactionism, interaction is equated with communication. Although nonverbal forms of communication are acknowledged, verbal communication is considered the highest level of communication. Kando (1977), in his discussion of the history of symbolic interactionism, paid tribute to Mead's (1934) analysis of the three phases of communication and their significance. From Mead's perspective attitudes constitute the first phase of communication and represent, ". . . both inner states, or tendencies of the organism and incipient acts" (Kando, 1977, p. 109). In other words they are an internal organization of something. The gesture then becomes phase two and is according to Mead (cited in Kando, 1977), "that part of the social act which serves as a stimulus to other forms involved in the same social act" (p. 109). He further contended that such "natural signs" as he later called them are "the means of communication and interactions among nonhumans" (Kando, 1977, p. 109).

It is the capacity for this third phase of communication that separates humans from the other animals. Phase three occurs when gestures become significant symbols or conventional signs. Mead (cited in Kando, 1977) contended that,

> Gestures become significant symbols when they implicitly arouse in an individual making them the same responses which they explicitly arouse, or are supposed to arouse in other individuals, the individuals to whom they are addressed. (p. 109)

At this third level, communication is verbal, involving shared meaning, and is referred to as language. For the social interactionist, then, language is synonymous with both communication and interaction, and is, "our primary vehicle for communication" (Kando, 1977, p. 145). In other words language is a "shared symbolic system" (Kando, 1977, p. 140), which plays a key role in determining the meaning of the environment. For the symbolic interactionist then, language is necessary for the development of humanness. As Kando (1977) stated, it "plays an important role as an independent variable" (p. 145), in the development of such things as thought, culture, behavior, consciousness, the self, and social structure.

Inherent in this framework then is the proposition that verbal communication is a necessary component of human

social interaction. Based on this proposition one could predict that a decrease in the capacity for verbal communication would be followed by a decrease in social interaction. In relation to the problem statement, endotracheal intubation represents a definite decreased capacity for verbal communication. A decreased exposure to social interaction then would be the indirect indicator of an increase in the degree of social isolation.

Assumptions

Perhaps the most obvious assumption inherent in this theoretical context is that humans by nature are social beings. Without such an assumption the significance of social interaction and consequently social isolation is challenged. A second assumption vital to this particular study is that the amount and content of social interaction is a valid indicator of social isolation. In addition, it must be assumed that endotracheal intubation does indeed preclude verbal communication.

Hypothesis

Based on the theoretical framework the derived hypothesis was stated as follows: Intubated patients receiving mechanical ventilation in an intensive care unit are exposed to more social isolation as measured by the

total patient-directed verbalization score on the Nurse-Patient Interaction Tool than nonintubated patients in the intensive care unit.

By definition, according to Polit and Hungler (1987), this represents a simple directional research hypothesis. The independent variable is the intubation status of the patient, meaning simply presence or absence of an endotracheal tube. The dependent variable then is the total patient-directed verbalization score on the Nurse-Patient Interaction Tool.

Definition of Terms

The following terms have been operationally defined:

Social isolation--Carpenito (1987) has attempted to define and describe the nursing diagnoses accepted by the North American Nursing Diagnosis Association. Social isolation is one such diagnosis and thus has been conceptually defined by Carpenito (1987) as "the state in which the individual experiences a need or desire for contact with others but is unable to make that contact" (p. 563). In a more detailed discussion, Carpenito contended that:

> Social isolation is a negative state of aloneness. It is a subjective state that exists whenever a person says it does and is perceived as imposed by others. Social isolation is not the voluntary solitude that is necessary for personal renewal, nor is it the creative

> aloneness of the artist or the loneliness--and possible suffering--one may experience as a result of seeking individualism and independence (e.g., moving to a new city, going away to college). (p. 563)

In the context of this definition the highly subjective nature of the concept and consequent difficulties in measuring it are apparent. For the purposes of this study social isolation was measured indirectly through nurse-patient interaction. In terms of a more concrete operational definition then it is the score received in the category of total patient-directed verbalization on the Nurse-Patient Interaction Tool. More specifically, as the numerical value of the score increases, the level of social isolation inferred decreases. The definitions of the categories of communication on the Nurse-Patient Interaction Tool are as follows:

Intubated patients--refers to patients with an endotracheal or tracheostomy tube connected to a ventilator which mechanically induces ventilation, which was recorded with demographic data.

Nonintubated patients--refers to patients having spontaneous respirations without the presence of an endotracheal or tracheostomy tube. This information was recorded with demographic data.

Nursing staff--the registered nurse assigned to provide direct patient care to the patient for a given shift. The nurse will have a minimum of 6 months experience in the ICU and be a permanent staff member of the unit being observed.

Patient-Directed Procedural Verbalization--verbal communication directed to the patient by the nurse, involving content related to an assessment, treatment, or procedure.

Patient-Directed Personal Verbalization--verbal communication directed to the patient by the nurse, involving content of a social nature, not related to an assessment, treatment, or procedure.

Total Patient-Directed Verbalization--all verbal communication directed to the patient by the nurse which is obtained by adding the scores from the Patient-Directed Procedural Verbalization and Patient-Directed Personal Verbalization.

Other-Directed Work Related Verbalization--verbal communication directed to someone other than the patient by the nurse involving content pertaining to the work or ICU environment.

Other-Directed Personal Verbalization--verbal communication directed to someone other than the patient by

the nurse involving content of a social nature, not related to the work or ICU environment.

Total Other-Directed Verbalization--all verbal communication directed to someone other than the patient by the nurse which is obtained by adding the scores from the Other-Directed Procedural adding the scores from the Other-Directed Procedural Verbalization and Other-Directed Personal Categories.

Total Verbalization--all verbalization by the nurse regardless of content or direction. This score is the sum of all categories of verbal communication.

Silence--the absence of verbal communication by the nurse.

Limitations

According to Polit and Hungler (1987), the most effective method of controlling for extraneous variables is through random assignment of subjects to groups. Due to the nature of this study, however, and for obvious ethical reasons this was not feasible. This less-than-ideal control for extraneous variables such as physical and behavioral characteristics and patient acuity was, therefore, a limitation of the study. In addition there was no control for the number of observations done on each nurse. Because of the limited accessible population,

sample size was also a limitation. The small sample size of 33, 15 intubated and 18 nonintubated, may hinder generalizability of the results, pending future replication of the study and its findings. Also inherent in this study design was the experimenter effect. This posed a limitation in that the physical presence of the observer may have led to inadvertent changes in the behavior of the nurses observed. In addition, the same researcher made all of the observations.

Summary

Given the nature of modern medical technology, the professional nurse caring for patients in the intensive care environment is faced with the challenge of identifying the human responses of such patients to such imposed technology. Based on the theoretical framework known as symbolic interactionism and the assumption that humans are social beings, the importance of verbal communication in human social interaction becomes apparent. It follows then that an impairment in one's capacity for verbal communication, such as that imposed by endotracheal intubation, could significantly alter one's usual pattern of social interaction.

Assuming that such alterations in social interaction might prove detrimental, and that in an intensive care

setting the nurse is the most consistent contributor to social interaction for the patient, it is reasonable to suggest that intubated patients are at risk for social isolation. Having supported the notion that social isolation might be inferred from nurse initiated interaction, the hypothesis that intubated patients experience more social isolation as measured by the amount of nurse-patient interaction in comparison to nonintubated patients logically follows. Consequently, the framework for studying one potential response to medical technology was established.

CHAPTER II

REVIEW OF THE LITERATURE

The phenomenon of social isolation is indeed quite complex. A review of the related literature, for example, revealed confusion with regard to its very definition. As a result, social isolation has been studied in a variety of contexts and implicated as an etiology for a host of physiologic and behavioral responses. Consequently, an attempt will be made to provide a review of social isolation that will perhaps describe its relationship to loneliness and sensory deprivation and review its general effects. Having clarified the conceptual definition and the general effects of the altered sensory environment, the literature pertaining to communication patterns and mutual withdrawal will be reviewed to ascertain any relationships with social isolation.

A Conceptual Definition of Social Isolation

The literature pertaining to social isolation has linked it conceptually to a variety of areas, but most notably that of loneliness and sensory deprivation. According to Zack (1985), the literature in this area lacks

cohesiveness and promotes confusion especially when making the distinction between social isolation, solitude, aloneness, and loneliness. In her classic article describing the evolution of loneliness within patients, Peplau (1955) suggested that there is indeed a distinction to be made between lonesomeness, aloneness, and loneliness. For Peplau, lonesomeness implied, "being without the company of others but recognizing a wish to be with others," while loneliness implied, ". . . an unnoticed inability to do anything while alone" (p. 1476). She further contended that lonesomeness is a common experience, while loneliness is a pathologic condition so painful that the patient disguised it. Aloneness, on the other hand, implied nothing more than being without company, and, according to Peplau, could occur in the absence of either lonesomeness or loneliness.

Although Peplau's work is credited with providing a definition of lonesomeness as a distinct phenomenon, her major focus was in the direction of loneliness as the pathologic condition in need of nursing intervention. Zack (1985), however, contended that lonesomeness was no less distressing than loneliness and was equally as amenable to nursing intervention. Her terminology in relation to loneliness and its related concepts differed slightly from

that of Peplau's. Peplau's "lonesomeness" became "ordinary" or "normal" loneliness to Zack, and Peplau's "loneliness" became "pathologic loneliness." "Aloneness" was equated with social isolation and described as an objective deficiency in social contacts.

In an effort to clarify her ideas with regard to loneliness, Zack proposed a loneliness continuum. At one end of the continuum is existential loneliness or solitude, considered a voluntary aloneness for creative purposes. At the other end of the continuum lies the state of pathologic loneliness, with ordinary or normal loneliness at the midpoint. Social isolation, or a deficiency in social contacts, she contended, is a high risk factor for loneliness, capable of intervening at any point along the continuum.

In contrast, Black (1973) suggested that social isolation is a subjective rather than an objective state. She defined it as, "a condition of deprivation of satisfaction-giving interpersonal and other self-actualizing activity, combined with sensory deprivation that is a necessary concomitant" (p. 575). She further contended that social participation is significant only if assessed in relation to the client's attitudes, values, culture, and lifestyle.

Like Black, Carpenito (1987) contended that social isolation is indeed a subjective state. Her definition of social isolation as, "the state in which the individual experiences a need or desire for contact with others but is unable to make that contact," and is a "negative state of aloneness" (p. 563), seemed to be a combination of Peplau's aloneness and lonesomeness. She further suggested that as a subjective state, "it exists whenever a person says it does and is perceived as imposed by others" (p. 563).

Although the term social isolation has also been linked with that of sensory deprivation, it is important to understand the relationship between the two on a conceptual level. The interest in sensory deprivation and its effects on human behavior took a firm hold in the literature in the early 1950s according to Suedfeld (cited in Zubek, 1969). Since this new area of experimental sensory deprivation seemed to be related to a variety of other research areas, Suedfeld suggested that for the purpose of categorizing studies, one must analyze the significant features of sensory deprivation. Such features involved reduced stimulus input and variability, social isolation, and confinement. Brownfield (cited in Zubek, 1969) also acknowledged the close relationship between sensory deprivation and other related areas, and in fact identified

some 25 terms used interchangeably with sensory deprivation in the literature, one of which was social isolation.

As Jackson and Ellis (1971) pointed out, however, such terms were not useful for specific descriptive purposes. Instead they served simply to identify categories within the general field of sensory deprivation. They further contended that this field of study could be divided into two basic categories of investigation, sensory deprivation and perceptual deprivation. Sensory deprivation was equated with a reduction in the amount and intensity of sensory input, while perceptual deprivation was equated with an absence of or decrease in meaningful patterning of sensory stimuli. They added, however, that most hospitalized patients did not experience a clear-cut case of either sensory or perceptual deprivation, and thus the term sensory alteration would perhaps be more accurate. Furthermore, they suggested that regardless of the type of study being done (i.e., whether it would involve sensory or perceptual deprivation), social isolation was considered an important aspect of the deprivation situation and noted that some form of an isolation room was typically involved.

Bolin (1974) added the concept of sensory overload, a condition of intense but nonpatterned stimuli, and together with sensory and perceptual deprivation, referred to such

states as altered sensory environments. She suggested that research in this area could be grouped into these three areas, and that many of the characteristics of such altered sensory environments previously studied in laboratory settings were routinely imposed on many patients in the natural course of their hospitalization. Examples cited included the sensory deprivation imposed on patients with eye surgery requiring eye patches or simple bedrest, sensory overload imposed by equipment such as ventilators, and perceptual deprivation imposed through hospital routines and technical language having little meaning for the patient. She further suggested that a degree of social isolation was present in the hospital environment in that patients are physically removed from family and friends except for visiting hours.

It would seem then that social isolation and sensory deprivation are not synonymous. Instead, social isolation is a component of, or contributing factor of, if you will, sensory and perceptual deprivation as well as loneliness. Perceptual and sensory deprivation in turn are components of the broader category of altered sensory environment.

General Effects of Altered Sensory Environment

Through the years the effects of various types of altered sensory environments have been investigated. Kornfeld, Zimberg, and Malm (1965) reviewed the clinical course of 99 adult patients following various types of heart surgery and found the incidence of delirium to be 38%. No significant difference was found between those who did and did not experience delirium with regard to age, sex, employment, marital status, previous psychiatric history, clinical cardiac history, and operative and postoperative history. Consequently, the environment of the open heart recovery room was said to be a major factor contributing to the delirium. This notion was further supported by the finding that the onset of delirium with perceptual distortions occurred after a lucid interval of 4 to 5 days, suggesting that postoperative factors such as sleep and sensory deprivation were perhaps responsible.

DeMyer (1967) interviewed a group of 24 patients who, after having undergone cardiac surgery, had spent at least 48 hours in one or another of the intensive care units (ICUs) of four San Francisco Bay area hospitals. The interviews consisted of open-ended questions designed to elicit information as to what patients recalled about the ICU experience. She found that the pattern of responses

indicated that patients felt tied down, were disturbed constantly by noise, were talked about but not to, overheard conversations about other patients, were never left alone, and felt deprived of sleep.

Ellis (1972) also studied behavior patterns of postoperative cardiac patients for evidence of what she termed indeterminate stimulus experiences (ISEs). ISEs by definition are unusual experiences of a patient for which there is no apparent appropriate stimulus within the environment. From the interview data collected on 43 patients, she found an ISE incidence of 67% with 35% of those patients having experienced two or more ISEs. The types of ISEs reported involved visual, auditory, smell, taste, orientation, and thought process disturbances. Further analysis of the data did not support the variables of age, sex, type of surgery, or any other single factor as the cause for the ISEs. Consequently, she suggested that perhaps multiple interacting factors such as those in the ICU representing an altered sensory environment were responsible for the disturbances.

Similar ISEs were found by Downs (1974) in normal subjects after having been placed on bedrest by Downs (1974). In a study originally designed to investigate changes in time perception, motor activity, and cardiac

performance as a result of bedrest, 180 normal subjects were placed on bedrest in a room simulating a semi-private hospital room. The subjects were given sources of auditory input resembling that which a hospitalized patient on bedrest might hear, and they remained on bedrest for 2.75 hours. In addition to the expected findings regarding the primary variables of interest, Downs reported that at least 20% experienced ISEs and concluded that social isolation potentiated ISEs.

Stuart (1986) investigated the effects of naturally occurring immobility and social isolation on perceptual and behavioral changes in hospitalized orthopedic patients. Immobility in this study was defined as 7 or more consecutive days of complete bedrest from admission to the end of the experimental period while mobility was defined as 4 or fewer days of bedrest during this period. Social isolation was defined as a private room assignment for the majority of the 1-week long experiment. The group considered as non-isolated was assigned to a semi-private (2-bed) or public (3-4 bed) ward where one or more of the other beds was occupied. She found that 57% of the reported distortions occurred in the group that was both immobile and isolated, 27% in the immobile but non-isolated group, 14% in the isolated but mobile group, and no

disturbances in the non-isolated mobile group. Consequently, she concluded that an interactive relationship exists between immobilization and social isolation.

Communication and Social Isolation

In an observational study of four ICUs, Noble (1979) found that staff communication was the most disturbing stimulus for the patients. Furthermore, the findings indicated that approximately 65% of all communication was related to care and treatment, and consisted of unconnected sentences, commands, exclamations, and medical jargon which was often shouted across the unit. Of the communication relating to patient care and treatment 30-57% (depending on the unit) lasted less than 1 minute. It was also noted that of the total number of interactions observed, 16-18% involved the staff talking to each other about personal affairs, and occurred at the bedside 15-18% of the time. In addition, the author reported that the staff rarely talked to the patients as they administered care and treatment, especially when patients were receiving mechanical ventilation or displayed altered mental status.

Salyer and Stewart (1985) observed 20 ICU patients, all of whom were intubated and receiving mechanical ventilation, thus precluding verbal communication. During

the observation periods a tool was used to describe the content and frequency of interactions. Utilization of this tool involved identification of communication as being nurse action and patient reaction or patient action and nurse reaction. Such communication was then further labeled as being either positive or negative in nature. Positive communication was that involving acknowledgment, reassurance, acceptance, approval, or affirmation. Transmission and reception of messages involving rejection, refusal, denial, negation, or prohibition was categorized as negative communication.

The observation periods consisted of 5 minutes per patient for a total of 217 interactions. In general, the data analysis revealed that positive actions such as praise, nonverbal communication, or social conversation yielded positive reactions, such as clarification of previous explanations, smiles, or cooperation. Furthermore, patients initiated interactions with the nurses only 34 of 217 times. The most common interaction involved silence on the part of the nurse during administration of care.

Wilson (1987) studied 38 patients in a Surgical Intensive Care Unit (SICU) for the purpose of determining the incidence of impaired psychologic responses (IPRs) to

the SICU and self-identification of stressors. She found the incidence of IPR to be 58% and the main identified stressors to include having the physicians and nurses talk about them rather than to them. Close examination of the data revealed that those who experienced IPRs spent twice the number of days in the SICU and 4 times as long receiving mechanical ventilation.

In her discussion regarding the effect of high technology on the role of the critical care nurse, Sinclair (1988) suggested that in addition to the risk of iatrogenic injury, overdependence on technology, increased liability and stress, is the risk of depersonalized care. She claimed that technologic devices actually present mechanical impediments to touching patients. She further suggested that patients in critical care units are partially isolated from their families, surrounded by strangers and machines, and thus become very vulnerable with pronounced needs for sensitive interaction with a nurse. She concluded that,

> Technology may inhibit interaction and provide nurses under stress with a defensive outlet: they may focus on machines rather than caring. . . . If technology is used as a defense mechanism to avoid human contact and caring, it will contribute to the patient's feelings of depersonalization and of care provided in a cold impersonal environment. (p. 40)

In an attempt to ascertain patient perceptions of the mechanical ventilation experience in critical care units, Gries and Fernsler (1988) conducted an exploratory study involving nine patients in two small community hospitals. Questions on the instrument were designed to elicit subjects perceptions of the experience from the time of awareness of intubation until extubation and consisted of fixed alternative and open-ended questions. They reported 11 different negative experiences associated with mechanical ventilation which were classified as intrapersonal, interpersonal, or extrapersonal. The data indicated that problems in communication were the major source of interpersonal stress and that although coded as an intrapersonal stressor, 44% reported insufficient explanations of mechanical ventilation. When asked for nursing actions that lessened the stress of the experience, reassuring words and a caring manner were cited.

Mutual Withdrawal

In her classic study on mutual withdrawal, Tudor (1952) utilized the technique of participant observation with patients and staff of a 14-bed ward for disturbed women in a private psychoanalytic hospital. She collected and presented data on two patients chosen because of the recurrent avoidance on the part of the staff with

concomitant isolation of the patients. Based on her observations, she offered the following description of the process of mutual withdrawal between patients and nurses.

> The social context within which the patient lives is that pattern of interpersonal relations which is the network of reciprocal activities of all those on the ward. It is the social context which both determines in large part the nurse's attitudes and modes of behavior and also facilitates or deters the patient's mental health. The first step is for the nurse to realize that she is part of this social context. She is affected by it and in part determines and maintains it. Thus, the envelope of characteristic attitudes and activities which constitute the nurse's formal and informal participation is an integral part of the patient's living and will move him toward health or away from it. In turn, the patient also contributes to this context, resulting in a reciprocal influence between patients and personnel; both are affected by and maintain the social context, which in our study is the ward--which is itself imbedded in a wider social context called the hospital. (p. 193)

Having identified and documented the presence of mutual withdrawal in two cases, the researcher, as a participant observer worked with the staff to initiate nursing interventions aimed at reversing the withdrawal process. In both instances the researcher was able to document evidence of increased patient participation in response to increased interpersonal contacts by the nursing staff. Consequently, Tudor (1952) concluded that the process of mutual withdrawal could not only be systematically observed and evaluated, but interrupted as well.

It has also been suggested that this process of mutual withdrawal can be found in the acute care setting. Black (1973) contended that initiation of withdrawal from the normal interaction pattern may begin with either the patient or the family in response to some disabling condition or unpleasant symptomatology. Consequently, Black suggested that, "as a not unusual outcome, patient, family, and/or health personnel may become locked into a system of mutual isolation or withdrawal which then becomes a focal nursing problem" (p. 577).

The process of mutual withdrawal has also been linked with loneliness. Zack (1985) implied that in some situations it may be unclear as to which preceded the other, social isolation or loneliness. In other words, social isolation may be either the result of or the cause of loneliness, a relationship referred to by Zack as causal circularity.

Summary

Having reviewed the literature pertaining to social isolation, it becomes apparent that further research is indeed needed. Although a universal definition of social isolation remains to be agreed upon, some authors have attempted to distinguish it from loneliness (Peplau, 1955; Zack, 1985). A clear distinction between the concepts of

social isolation and sensory deprivation was not supported by the literature, however, as evidenced by the work of Brownfield (cited in Zubek, 1969) in which the terms were used interchangeably, and by the work of Suedfeld (cited in Zubek, 1969) and Jackson and Ellis (1979) in which social isolation was merely described as a feature or component of the general field of sensory deprivation or altered sensory environment. This becomes significant in that although support can be found for the existence of such negative consequences of altered sensory environments as perceptual and behavioral disturbances (DeMyer, 1967; Downs, 1974; Ellis, 1972; Kornfeld et al., 1965; Stuart, 1986), no conclusions can be drawn in reference to the relationship, if any, of social isolation to these disturbances.

As for the literature pertaining to communication in the ICU environment, most involved descriptive studies supporting the existence of a communication pattern experienced in such environments. This general pattern involved a high degree of medical jargon, unconnected sentences, talking over patients, communication centered on care and treatment, and silence during delivery of care (Noble, 1979; Sinclair, 1988; Wilson, 1987). Such studies offered little information as to the overall quantity of communication experienced in this environment as opposed to

other environments or between different groups within this environment. Furthermore, while patients receiving mechanical ventilation were included in such studies, no definite conclusions were drawn as to any existing relationship between receiving mechanical ventilation and existing communication patterns. Stuart and Salyer's (1985) study, for instance, did lend a description as to the communication pattern experienced by intubated patients. However, their emphasis was on the nature of the content for the purpose of making purely qualitative inferences rather than quantitative conclusions and thus making difficult any inferences regarding social isolation. While they did report that the most common interaction involved silence on the part of the nurse while providing care, no explanation was offered and no comparison made with any other group.

Finally, the literature supported the idea that withdrawal of interaction by one party can result in withdrawal of communication by those exposed to that person. However, no information was found to identify the role of verbal communication alone in initiating this process of mutual withdrawal, nor were any studies found to support the existence of this process in the ICU environment.

Based on these findings then, the need for the study described in the following chapter was supported. More specifically, the findings of this study will contribute to the body of knowledge of social isolation in the following areas. First, it offers information regarding social isolation apart from the other features of the altered sensory environment. Secondly, this study has been designed in such a way as to provide quantitative information as to the communication experienced by ICU patients, as well as providing a comparison between different groups (intubated and nonintubated) within the ICU environment. Lastly, perhaps this study can provide information regarding the existence of the mutual withdrawal process in the ICU as well as the role of verbal communication in this process.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

According to Nieswiadomy (1987), "The research design is the plan for how the study will be conducted. It is concerned with the type of data that will be collected and the means used to obtain these data" (p. 29). In general, this study involved a nonexperimental, comparative ex post facto investigation. In the pages that follow the specifics of this design including setting, population and sample, protection of human rights, and instrument design will be discussed, as well as procedures for collection and treatment of data. Inclusive in this discussion will be the rationale behind the design chosen and the criteria each of the components met to be consistent with the design.

This particular design was necessary due to the ethical considerations involved in exerting experimental control on the variables. In other words, the ethics of randomly intubating patients for the purpose of a study was highly questionable. Likewise, consciously manipulating the degree of communication received by critically ill patients was of questionable ethical practice. Without the

elements of random assignment to groups and manipulation of the independent variable, one cannot have a true experimental or quasi experimental design (Polit & Hungler, 1987). Instead two groups from naturally occurring circumstances were observed.

Setting

The observations were made in two intensive care units in a large teaching hospital in the southwestern United States. The units, Medical Respiratory ICU and CCU, consisted of an all RN staff working 12-hour shifts. At the time of the study, the respective capacities of the units were seven and nine patients. All rooms were private and visible from the nurses' station. The nurse to patient ratio for both units was generally 2:1 with occasional 1:1, dependent upon acuity and staff availability. The day shift began at 6:45 a.m. and ended at 7:15 p.m. The night shift began at 6:45 p.m. and ended at 7:15 a.m. Initial nursing assessments were generally completed, respectively, by 8:30 a.m. or p.m.

Population and Sample

The population of interest in this investigation was that of registered nurses interacting with English-speaking adult patients in intensive care units in the United

States. The accessible population, however, was registered nurses interacting with English-speaking patients in a large county supported teaching hospital in the southwestern United States.

The sample for this investigation was a nonprobability sample of convenience in accordance with Nieswiadomy (1987). Fourteen nurses, from either unit meeting the criteria and agreeing to participate in the study, were observed as they interacted with patients fulfilling the criteria as they became available. The sample consisted of a total of 15 periods of interaction involving intubated patients and 18 periods involving nonintubated patients. The same nurses were observed interacting with patients from both categories, intubated and nonintubated, and in some instances different nurses were observed interacting with the same patients. Consequently, a total of 18 patients were involved in the study. Demographic information was also recorded. The 14 nurses were arbitrarily identified as Nurse A, B, C, D, and E, etc. upon completion of their demographic data form. They were made aware of their code names and identified themselves by their codes during interactions with the researcher. A key identifying the nurses by name and code was kept by the researcher in a locked file.

Because nonexperimental research is a less effective method for testing causal relationships than experimental or quasi experimental (Polit & Hungler, 1987), methods for controlling threats to validity became important. For the purpose of controlling some extraneous variables, appropriate nurse-patient combinations were selected based on the following predetermined criteria. In respect to the nurses, they were registered nurses (RNs) having not less than 6 months experience in intensive care nursing and were permanent staff members of the unit being observed. Inexperienced and float pool nurses were, therefore, excluded. Patients meeting the criteria were able both to speak and understand English. They were not comatose as evidenced by an orientation to at least person upon neurologic exam. Furthermore, patients had not received sedative medications within 2 hours prior to observation. Fifteen of the observations involved intubated patients and 18 involved nonintubated patients.

Protection of Human Rights

In congruence with the categories of study established by the Human Subjects Review Committee of Texas Woman's University, this then represented a Category II study involving an expedited review of the above committee (Appendix A). The investigator simply observed and

recorded interactions. No physical contact and no active manipulation of any aspect of patient care occurred. Approval from the graduate school of Texas Woman's University (Appendix B) and hospital administration (Appendix C) was obtained prior to data collection.

To assure patient anonymity, patients were identified by numbers. Demographic data were recorded by the nurses for the purpose of sample description. In this way the patients remained anonymous to the researcher and in no way could patients be linked to the data. As for the nurses involved in the study, they were solicited at the convenience of the researcher and their rights protected as outlined in Appendix D. Furthermore, although participation of the nurses was voluntary, anonymity could not be assured and thus informed consent was obtained (Appendix E).

Instruments

Two instruments were used to collect the data for this study. These instruments were the Nurse-Patient Interaction Tool (Appendix F) and the Demographic Data instrument (Appendix G).

Nurse-Patient Interaction Tool

Based on the conceptual definition of social isolation previously presented, a direct measurement of social isolation necessitates a personal interview with the patients in question. Due to the nature of the independent variable and the potential lack of accurate recall, post extubation personal interviews were believed inappropriate for this particular study. Consequently, an indirect measurement of social isolation was developed for this study.

Because by definition social isolation is perceived as being imposed by others and because nurses represent the patients' primary caregivers in the critical care environment, it seemed logical that nurse-patient interaction could be used as an indicator of social isolation. Based on this conclusion the Nurse-Patient Interaction Tool was developed.

Utilization of this instrument involved making observations regarding nurse patient interaction at set 10-second intervals over a period of 10 minutes for a total of 60 observed interactions. Each interaction was first identified as either involving verbal communication by the nurse or silence by the nurse. If verbal communication was involved, the interaction was further categorized as being

directed at the patient or directed at someone other than the patient. If directed at the patient, the content of the interaction was classified as being either personal in nature or related to a procedure and a slash mark was placed in the appropriate category. If directed at someone other than the patient such as a visitor or other staff member, the content of the interaction was classified as being either work-related or personal in nature and a slash mark placed in the appropriate category. Once the content of any verbal interaction was identified, any concurrent nonverbal activity such as touching, smiling, frowning, or eye contact was recorded by placing a slash mark in the appropriate category. When the interaction involved silence from the nurse, a slash mark was placed in the appropriate category along with a slash mark in the appropriate category to describe any nonverbal activity that may have accompanied the silence. At the end of the 10 minute observation period, the number of slash marks for each category was totaled.

The definitions of the categories of verbalization and directions for obtaining scores are as follows:

Patient-Directed Procedural Verbalization--
verbalization directed to the patient by the nurse, involving content related to an assessment, treatment, or

procedure. The score is obtained by adding the slash marks from this category at the end of the observation period.

Patient-Directed Personal Verbalization--verbal communication directed to the patient by the nurse involving content of a social nature, not related to an assessment, treatment, or procedure. The score is obtained by adding the slash marks from this category at the end of the observation period.

Total Patient-Directed Verbalization--all verbal communication directed to the patient by the nurse. This score is obtained by adding the scores from the categories of Patient-Directed Procedural and Patient-Directed Personal Verbalization.

Other-Directed Work Related Verbalization--verbal communication directed to someone other than the patient by the nurse involving content pertaining to the work or ICU environment. The score is obtained by adding the slash marks from this category at the end of the observation period.

Other-Directed Personal Verbalization--verbal communication directed to someone other than the patient by the nurse involving content of a social nature, not related to the work or ICU environment. The score is obtained by

adding the slash marks from this category at the end of the observation period.

Total Other-Directed Verbalization--all verbal communication directed to someone other than the patient by the nurse which is obtained by adding the scores from the Other-Directed Procedural and Other-Directed Personal categories.

Total Verbalization--all verbalization by the nurse regardless of content or direction. This score is the sum of all categories of verbal communication.

Silence--the absence of verbal communication by the nurse. This score is obtained by adding the slash marks from this category at the end of the observation period.

Touching with Verbalization--nonverbal communication occurring when any part of the nurse's body comes into physical contact with any part of the patient's body in the presence of verbalization by the nurse. The score is obtained by adding the slash marks for this category at the end of the observation period.

Touching with Silence--nonverbal communication occurring when any part of the nurse's body comes into physical contact with any part of the patient's body in the absence of verbalization by the nurse. The score is

obtained by adding the slash marks from this category at the end of the observation period.

Smiling with Verbalization--nonverbal communication occurring when the expression on the nurse's face changes to include an upward curving of the mouth to indicate pleasure or amusement in the presence of verbalization of the nurse. The score is obtained by adding the slash marks from this category at the end of the observation period.

Smiling with Silence--nonverbal communication occurring when the expression on the nurse's face changes to include an upward curving of the mouth to indicate pleasure or amusement in the absence of verbalization by the nurse. The score is obtained by adding the slash marks from this category at the end of the observation period.

Frowning with Verbalization--nonverbal communication occurring when the expression on the nurse's face changes to include a contracting of the brow to indicate displeasure or disapproval in the presence of verbalization by the nurse. This score is obtained by adding the slash marks from this category at the end of the observation period.

Frowning with Silence--nonverbal communication occurring when the expression on the nurse's face changes to include a contracting of the brow to indicate

displeasure or disapproval in the absence of verbalization by the nurse. This score is obtained by adding the slash marks from this category at the end of the observation period.

Eye Contact with Verbalization--nonverbal communication occurring when the nurse looks into the eyes of the patient in the presence of verbalization by the nurse. The score is obtained by adding the slash marks from this category at the end of the observation period.

Eye Contact with Silence--nonverbal communication occurring when the nurse looks into the eyes of the patient in the absence of verbalization by the nurse. The score is obtained by adding the slash marks from this category at the end of the observation period.

Demographic Data Information Form

The Demographic Data Information Form was used. This form was divided into two sections of data, one pertaining to the nurse being observed and one pertaining to the patient with whom the nurse was interacting. All of the items in this form are self-explanatory with perhaps one exception, PCUs. This is the abbreviation for Patient Care Units which is the method used by the institution involved in the study to classify patient acuity (Appendix H).

Generally speaking, the higher the numerical value of the PCUs, the higher the acuity.

The information on the Demographic Data Information Form was for descriptive purposes only. In regard to the patients, this form asked for general information such as age, sex, medical diagnosis, acuity, intubation status, and ethnicity. As for the nurses, it asked for information regarding age, ethnicity, ICU experience, educational background, and unit and shift assignment.

Validity

For the purpose of establishing the face and content validity of the Nurse-Patient Interaction Tool, it was distributed to two experts for evaluation. Both experts, one of which was a Ph.D. and the other an MSN, were licensed RNs with current clinical experience in intensive care nursing. They were asked to rate the potential for making inferences with regard to social isolation based on the data collected from the tool (Appendix I).

There was consensus between the experts that there was a high potential for making inferences with regard to social isolation based on the data having to do with the direction and content of verbalization by the nurse. Both experts also agreed, however, that the data regarding nonverbal activities would yield a medium potential for

making inferences to social isolation. As for the data regarding the proportion of interaction involving verbalization without regard as to direction or content, there was slight disagreement between the experts. One expert indicated that this data would yield a high potential for making inferences to social isolation and the other indicated that it would yield a medium potential. Based on such evaluations it would seem that the scores from the category of patient-directed verbalization on the Nurse-Patient Interaction Tool could be valid indicators of social isolation in the ICU setting. The scores from the categories of total verbalization or nonverbal activities, however, would be less reliable indicators of social isolation.

Reliability

Interrater reliability for this new instrument was established by having two observers classify interactions they observed simultaneously on the instrument. The observers included the researcher and an expert in critical care nursing. They observed four different nurse-patient combinations during routine assessments in the MICU and CCU and completed the tool for each interaction.

As a result of the simultaneous observations, it was found that the scores from the categories involving the

presence, content, and direction of verbalization were highly congruent. The scores from the nonverbal activity categories, however, were not consistently congruent. The differences were most pronounced in the eye contact categories. Discussion of these findings between the observers suggested that the differences could, to a large extent, be attributed to the seating arrangements of the observers during the observation periods. While one observer might notice various subtle forms of nonverbal activity, such activities might have been out of the line of vision of the other observer. Consequently, the scores from the Nurse-Patient Interaction Tool having to do with the presence, content, and direction of verbalization by the nurse were accepted as being reliable and accurate. The scores having to do with nonverbal activities, however, were considered less reliable and thus less useful in describing nurse-patient interaction in this setting.

Data Collection

After having received permission from the graduate school and hospital administration to collect data the process of soliciting subjects began. The researcher scheduled staff meetings with both nursing units to make the staff aware of the study. Interested parties were given copies of the written consent form and instructed on

how to contact the researcher for more information. As the consent forms were signed, each subject was issued a code number. The researcher was given access to the staff working schedules and was able to schedule observation periods during those shifts when subjects were scheduled to work.

Data collection simply involved the technique of observation. A combination of event and time sampling was used. The event observed was the initial nursing assessment of the shift. Since this assessment occurs at the beginning of each shift for each patient, it was possible to include nurses from both shifts. The units participating in this study were staffed in 12-hour shifts and thus the initial assessments were done between 7:00 and 8:30 a.m. and p.m. During these time periods no visitors were allowed in the units and thus there was no one else competing for patient interaction. No observations were made during the night when excessive verbal communication might have been inappropriate.

Because the length of time required for assessment of each patient varies significantly, the length of each observation was set at a constant time of 10 minutes. The researcher made observations every 10 seconds during that 10-minute period of time. A stopwatch was used by the

observer to insure consistency of observations. Upon identification of the appropriate nurse-patient combinations, the observer positioned herself immediately outside the patient's room, standing in such a way as to have full view of both nurse and patient and within hearing distance.

After each observation period, the nurse observed completed the demographic data form. While this involved a patient chart review, it was done by the patient's primary nurse and, thus, all patients remained anonymous to the researcher. The researcher then attached this form to the nurse-patient interaction data. The same researcher made the observations on all 33 nurse-patient combinations over a 3-week period of time.

Treatment of Data

In order to facilitate organization and summarization of the data, frequency distributions and percentages were constructed. Because the data from both the demographic tool as well as the Nurse-Patient Interaction Tool represented mutually exclusive and exhaustive classes of observation, this was possible to do for all the data collected (Polit & Hungler, 1987). Once the frequency distributions were constructed, measures of central

tendency and variability were calculated where appropriate to further describe the data.

The inferential procedure employed to test the difference between group means was ANOVA using intubation status and patient acuity as the independent variables. This was done for the scores within each category on the Nurse-Patient Interaction Tool, however, the category most relevant in terms of establishing support for the hypothesis was total patient directed verbalization.

CHAPTER IV

ANALYSIS OF DATA

This chapter presents the findings of the study. The sample will be described using the descriptive statistics applied to the demographic data. This will be followed by the results of the two-way analysis of variance applied to the data from the Nurse-Patient Interaction Tool using intubation status and patient acuity as the independent variables. Since the category of total patient-directed verbalization was directly related to the hypothesis, the ANOVA findings from this category will be emphasized. This will be followed by the additional findings from the remaining categories and a summary of all of the findings.

Description of Sample

A total of 33 nurse-patient combinations was observed interacting during the initial shift assessment in two ICUs at a large county supported teaching hospital in the southwestern United States. The data indicated that 15 (45.5%) of the observation periods involved intubated patients and 18 (54.5%) involved nonintubated patients. A total of 14 nurses was observed. The number of times each nurse was observed ranged from 1 to 5 with a mean of 2.5 observations for each nurse (see Table 1).

Table 1

Frequency of Nurse Subject Observations

Nurse	Frequency	Percent
1	1	3.0
2	5	15.2
3	1	3.0
4	3	9.1
5	2	6.1
6	4	12.1
7	2	6.1
8	3	9.1
9	4	12.1
10	2	6.1
11	1	3.0
12	2	6.1
13	1	3.0
14	2	6.1

The ages of the nurses involved ranged from 23 to 43 years. Over 40% of the observation units involved nurses under the age of 30 and over 50% of the observation units involved nurses under the age of 35 (Table 2).

A total of 16 patients was observed whose ages ranged from 20 to 78 years. The number of times each patient was observed ranged from 1 to 7 with a mean of 2 observations per patient (Table 3).

Table 2

Nurse Subject Ages

Nurse age	Frequency	Percent	Cumulative percent
23	2	6.1	6.1
24	2	6.1	12.1
25	1	3.0	15.2
26	8	24.2	39.4
28	1	3.0	42.4
31	7	21.2	63.6
33	2	6.1	69.7
37	1	3.0	72.7
39	6	18.2	90.9
43	3	9.1	100.0

Table 3

Patient Age and Frequency of Observation

Patient age	Frequency	Percent	Cumulative percent
20	1	3.0	3.0
31	1	3.0	6.1
35	1	3.0	9.1
37	1	3.0	12.1
39	1	3.0	15.2
41	1	3.0	18.2
50	2	6.1	24.2
53	7	21.2	45.5
60	1	3.0	48.5
62	1	3.0	51.5
63	2	6.1	57.6
67	6	18.2	75.8

(table continues)

Nurse age	Frequency	Percent	Cumulative percent
68	2	6.1	81.8
69	2	6.1	87.9
74	1	3.0	90.9
78	3	9.1	100.0

Consequently, 75% of the observations involved patients greater than 50 years of age, and 50% involved patients greater than 60 years of age. Thirteen of the observation units involved male patients, while 20 involved female patients. All of the nurses involved were female.

There was some variation in the medical diagnosis of the patients involved. A total of 12 diagnoses was represented in the 33 observation units (Table 4).

The data revealed some variation in the ethnic background of the nurses involved. The ethnic background represented included Caucasian, Black, Hispanic, Filipino, and Indian. The majority of observation units, however, involved Caucasian nurses (Table 5).

Table 4

Patient Diagnosis

Diagnosis	Frequency	Percent
Pneumonia	7	21.2
Gullian Barre	5	15.2
Aortic Stenosis/ Insufficiency	3	9.1
Emphysema	2	6.1
Mitral Stenosis	2	6.1
ARDS	1	3.0
Myasthenia Gravis	1	3.0
Malignant Hypertension	3	9.1
Myocardial Infarction	4	12.1
Cardiomyopathy	2	6.1
Tricyclic Antidepressant Overdose	1	3.0
Unstable Angina	2	6.1

Although several ethnic backgrounds were represented among the patients involved, over 90% of the observation units involved either Caucasian or Black patients (Table 6).

Table 5

Ethnic Background of Nurse Subjects

Ethnic background	Frequency	Percent
Caucasian	18	54.5
Black	5	15.2
Hispanic	1	3.0
Other	9	27.3

Table 6

Ethnic Background of Patients

Ethnic background	Frequency	Percent
Caucasian	17	51.5
Black	14	42.4
Hispanic	1	3.0
Other	1	3.0

The data indicated representation of three different educational levels among the nurses observed. The highest level of education completed by the nurses involved was a BSN. The majority of the nurses (67%) had a baccalaureate degree (Table 7).

Table 7

Highest Degree Held by Nurse Subjects

Degree	Frequency	Percent
Bachelor of Science in Nursing	22	66.7
Associate Degree	7	21.2
Diploma	4	12.1
Total	33	100.0

All of the nurses had worked in an ICU for over 6 months. While one of the nurses involved had 15 years of experience as an ICU nurse, the majority (54.5%) of observation units involved nurses having less than 3 years experience in ICU (Table 8).

Table 8

ICU Experience Among Nurse Subjects

Years	Frequency	Percent	Cumulative percent
1	13	39.4	39.4
2	5	15.2	54.5
3	3	9.1	63.6
4	1	3.0	66.7
5	1	3.0	69.7
6	6	18.2	87.9
15	4	12.1	100.0
Total	33	100.0	

Observations were made during the initial shift assessment on both the day shift (0700-1900) and the night shift (1900-0700). The majority (81.8%) of observations, however, were made on the night shift, with only 18.2% made during the day shift.

Patient acuity was recorded as a numerical value obtained from the patient classification system utilized by the institution involved. Patient acuity increases as the numerical value increases.

Because there was a concern that patient acuity might also affect the dependent variable, a correlation coefficient was computed for the variables total patient-directed verbalization and patient acuity. A correlation coefficient of -.687 was found at the $p = .001$ level. At this time the procedure for determination of the patient acuity scores was reviewed. It was discovered that in determination of patient acuity, intubated patients automatically received 20 points. All else being equal then, intubated patients would automatically have a higher patient acuity score. In an attempt to control for the contribution of intubation to the overall acuity score, the patient acuity scores for the intubated patients were adjusted by subtracting 20 points from their score. The patients who were part of more than one dyad may have had

different acuity scores for different observation periods if the interactions were observed on different days, as patient acuity in this environment changes suddenly and frequently. The adjusted patient acuity scores ranged from 160 to 241 (Table 9).

Table 9

Adjusted Patient Acuity Level Frequencies

Score	Frequency	Percent	Cumulative percent
160	1	3.0	3.0
164	1	3.0	6.1
167	1	3.0	9.1
168	3	9.1	18.2
175	2	6.1	24.2
180	1	3.0	27.3
183	3	9.1	36.4
185	1	3.0	39.4
195	1	3.0	42.4
197	2	6.1	48.5
203	2	6.1	54.5
212	1	3.0	57.6
214	1	3.0	60.7
221	2	6.1	66.7
229	1	3.0	69.7
233	4	12.1	81.8
239	1	3.0	84.8
241	1	3.0	87.9
248	1	3.0	90.9
258	2	6.1	97.0
259	1	3.0	100.0

A new correlation coefficient was computed for the adjusted patient acuity scores and total patient-directed

verbalization scores which were found to be -.5831 (p = .001). Based on these findings which suggest that patient acuity might also be predictive of verbalization with patients, the decision was made to apply a two-way ANOVA to the data using patient acuity and intubation status as the independent variables. Consequently, the adjusted patient acuity scores were collapsed to form two categories. The low acuity category included the scores ranging from 160 to 197 which accounted for 16 (48.5%) of the observations. The higher acuity category included the scores ranging from 203 to 241 which accounted for 17 (51.5%) of the observations. There were 4 intubated and 12 nonintubated patients in the low acuity category and 11 intubated and 6 nonintubated patients in the high acuity category.

Presentation of the Findings

A two-way ANOVA was applied to the data from each category of the Nurse-Patient Interaction Tool to test (a) whether verbalization differed between the two acuity levels, (b) whether verbalization differed between intubated and nonintubated patients, and (c) whether verbalization between intubated and nonintubated patients differed across acuity levels. The results are as follows:

Test of the Hypothesis

The hypothesis in question for this study was stated as follows: Intubated patients receiving mechanical ventilation in an intensive care unit are exposed to more social isolation as measured by the amount of patient-directed verbal interaction received from the nursing staff than nonintubated patients in the intensive care unit.

Although the nature of the observed interaction was broken down into several different categories for descriptive purposes, the scores for total patient-directed verbalization was most relevant in terms of evaluating support for the hypothesis. The results of the ANOVA for this category revealed that no interaction was found between the variables patient acuity and intubation status in relation to the total patient directed verbalization scores. As for the main effects of the variables in this category, the F value was significant (F (1,32) = 28.872, p = .001) for intubation status (Table 10).

The mean score for the intubated patients was 14.80 while the mean score for the nonintubated group was 29.94. These findings strongly supported the hypothesis, suggesting that intubated patients requiring mechanical ventilation receive less verbal communication than do nonintubated patients. Therefore, intubated patients may

Table 10

ANOVA: Summary Table for Total Patient Directed Verbalization by Intubation Status and Adjusted Patient Acuity Level

Source	df	SS	MS	F	p
Intubation status	1	1201.667	1201.667	28.872	.000
Adjusted patient acuity	1	161.541	161.541	3.881	.058
Within groups	1	18.803	18.803	.452	.507
Total	32	3263.879			

be exposed to more social isolation than nonintubated patients.

Although failing to reach significance at the $p = .05$ level (F (1,32) = 3.881, $p = .058$), the findings regarding the effects of adjusted patient acuity in this category warrant discussion. The means of 28.25 and 18.18 for the low and high acuity levels, respectively, suggest that for this sample patients with a low acuity received more patient-directed verbal communication from nurses than did patients with a high acuity. Given the risk of Type II error with this level of significance, this would warrant further investigation.

Additional Findings

Although not directly related to the hypothesis, the scores from the remaining categories were also analyzed using the ANOVA with the variables intubation status and adjusted patient acuity. No interaction was found between the two variables in any of the other categories from the tool. Significant differences were found, however, in the main effects of the variables in several of the categories which are presented below.

Total Verbalization

In the category of total verbalization, significance was found for both intubation status (F (1,32) = 28.986, p = .001) and patient acuity (F (1,32) = 4.897, p = .035) (Table 11).

Table 11

ANOVA: Summary Table for Total Verbalization by Intubation Status and Adjusted Patient Acuity

Source	df	SS	MS	F	p
Intubation status	1	1010.209	1010.209	28.896	.000
Adjusted patient acuity	1	170.677	170.677	4.897	.035
Within groups	1	8.741	8.741	.251	.620
Total	32	2816.727			

The mean scores were 17.40 for intubated and 31.50 for nonintubated patients, and 30.13 and 20.35 for the low and high acuity groups, respectively. This would suggest that intubated patients are exposed to less verbal communication regardless of content or direction than nonintubated patients. Although at a lower level of significance, it would also suggest that patients with a low acuity level are exposed to more verbal communication than those with a high acuity level.

Patient-Directed Procedural Verbalization

In the category of Patient-Directed Procedural Verbalization, both intubation status (F (1,32) = 22.189, p = .000) and adjusted patient acuity (F (1,32) = 6.248, p = .018) were significant (Table 12). The means for the groups were 11.20 for intubated patients, 22.83 for nonintubated, 22.13 for low acuity patients, and 13.24 for high acuity patients. It would seem then that intubated patients and patients with a high acuity receive less patient-directed procedural verbalization than the nonintubated and low acuity patients.

Table 12

ANOVA: Summary Table for Patient-Directed Procedural Verbalization by Intubation Status and Adjusted Patient Acuity

Source	df	SS	MS	F	p
Intubation status	1	634.617	634.617	22.189	.000
Adjusted patient acuity	1	178.708	178.708	6.248	.018
Within groups	1	40.783	40.783	1.426	.242
Total	32	2156.182			

Silence

In congruence with these findings, intubation status was also found to be a significant variable in the Silence category (F (1,32) = 31.850, $p < .001$). Patient acuity, however, was not found to be significant (F (1,32) = 2.736, $p = .109$) (Table 13).

The means for this category were 42.60 for the intubated patients and 28.20 for the nonintubated patients. As expected, based on the previous findings which supported the hypothesis, this suggests that intubated patients are exposed to more silence than nonintubated patients.

Table 13

ANOVA: Summary Table for Silence by Intubation Status and Adjusted Patient Acuity

Source	df	SS	MS	F	p
Intubation status	1	1140.668	1140.668	31.850	.000
Adjusted patient acuity	1	98.001	98.001	2.736	.109
Within groups	1	32.111	32.111	.897	.352
Total	32	2860.061			

Patient-Directed Personal Verbalization

In the category of Patient-Directed Personal Verbalization, only intubation status was found to be a significant variable (F (1,32) = 5.097, p = .032) (Table 14). The mean score for the intubated group was 3.27, while the mean score for the nonintubated group was 6.83. In the area of patient-directed personal verbalization then, it would appear that the intubated group received less communication than the nonintubated group.

Other-Directed Verbalization

As for the remaining categories of verbal communication, total other-directed verbalization, other-directed work-related verbalization, and

Table 14

ANOVA: Summary Table for Patient-Directed Personal Verbalization by Intubation Status and Adjusted Patient Acuity

Source	df	SS	MS	F	p
Intubation status	1	93.503	93.503	5.097	.032
Adjusted patient acuity	1	.616	.616	.034	.856
Within groups	1	.840	.840	.046	.832
Total	32	637.515			

other-directed personal verbalization, no significance was found with the ANOVA. This would suggest that there is no difference in the amount of verbal communication directed at others, whether it be personally or procedurally related, that is associated with intubation status or acuity level.

Nonverbal Communication with Verbalization

The ANOVA was also used to analyze the scores from the categories involving nonverbal communication. Verbalization with smiling was the only category in which intubation status was significant (F (1,32) = 5.135, p = .031) (Table 15). The means were .80 and 3.06 for the

intubated and nonintubated groups, respectively. This would suggest that nurses smile more when talking to nonintubated patients than when talking to intubated patients regardless of their acuity.

Table 15

ANOVA: Summary Table for Verbalization with Smiling by Intubation Status and Adjusted Patient Acuity

Source	df	SS	MS	F	p
Intubation status	1	31.297	31.297	5.135	.031
Adjusted patient acuity	1	.656	.656	.108	.745
Within groups	1	9.946	9.946	1.632	.212
Total	32	228.920			

Nonverbal Communication without Verbalization

Silence with eye contact was the only nonverbal category in which patient acuity was identified as a significant variable (F (1,32) = 4.913, p = .035) (Table 16). The mean score for the low acuity group was 30.19 while the mean score for the high acuity group was 39.06. This would suggest that nurses make eye contact more frequently during periods of silence with high acuity

patients than with low acuity patients. Neither intubation status nor patient acuity were found to be significantly related to the scores in the remaining nonverbal communication categories.

Table 16

ANOVA: Summary Table for Silence with Eye Contact by Intubation Status and Adjusted Patient Acuity

Source	df	SS	MS	F	p
Intubation status	1	10.498	10.498	2.850	.102
Adjusted patient acuity	1	18.092	18.092	4.913	.035
Within groups	1	10.449	10.449	2.837	.103
Total	32	138.182			

Summary of Findings

Analysis of the demographic data revealed that 14 critical care nurses participated in the study. The age range of the nurses was 23 to 43 and the highest educational degree attained was a BSN. The number of times each nurse was observed ranged from 1 to 5 with a mean of 2.5 observations. A total of 16 patients was involved in the study, with patient ages ranging from 20 to 78 years. The number of times each patient was observed ranged from

1 to 7 with a mean of 2 observations. Thirty-three observations were made, 15 of which involved intubated patients and 18 of which involved nonintubated patients. Twelve different medical diagnoses were represented in the 33 observations. Several ethnic backgrounds were represented in both the nurse and patient samples, but over 50% of the observations involved white nurses and white patients.

A high correlation was found to exist between patient acuity and total patient-directed verbalization and intubated patients were found to have higher acuity scores. No significant interaction was found, however, between patient acuity and intubation status in any of the categories of communication from the Nurse-Patient Interaction Tool. In support of the hypothesis, intubated patients were found to receive less patient-directed verbal communication than nonintubated patients from nurses. In the category of total verbalization, intubated and high acuity patients were found to receive less verbalization than nonintubated and low acuity patients.

In the category of patient-directed procedural verbalization, intubated and high acuity patients received less verbalization than nonintubated and high acuity patients. In the silence category, intubated patients were

found to be exposed to more silence by nurses than nonintubated patients. Intubated patients were also found to receive less verbalization in the patient-directed personal verbalization category. As for nonverbal communication, it was found that nurses smiled more when talking to nonintubated patients and that nurses made eye contact during periods of silence more frequently with high acuity patients.

CHAPTER V

SUMMARY OF THE STUDY

This chapter contains a summary of the study. A discussion of the findings in terms of their meaning and significance is presented. Conclusions and implications based on the findings are also discussed as are recommendations for further study.

Summary

Assuming that humans are social beings by nature, and based on the theoretical framework of symbolic interactionism, verbal communication was identified as a necessary component of human social interaction. Without the capacity for this necessary component a decrease in social interaction and, thus, an increase in social isolation was expected to ensue. Assuming that endotracheal intubation precludes the capacity for verbal communication and that the amount and content of social interaction is a valid indicator of social isolation, the problem of this study was to compare levels of social isolation between intubated and nonintubated patients.

The Nurse-Patient Interaction Tool was used to describe and record the amount and content of interaction

at 10-second intervals during 10-minute observation periods. Fourteen critical care nurses were observed by the researcher as they interacted with 16 patients during 10 minutes of the initial shift assessments in the MICU and CCU of a large county supported teaching hospital in the southwestern United States. A total of 33 periods of interaction, 15 with intubated patients and 18 with nonintubated patients, was observed with various combinations of the nurses and patients as they became available.

Analysis of the data with ANOVA using intubation status and adjusted patient acuity as the independent variables and total patient-directed verbal communication as the dependent variable supported the hypothesis that intubated patients receive less total patient-directed verbal communication from nurses than nonintubated patients ($p < .001$). No significant interaction was found between patient acuity and intubation status.

In addition it was found that intubated patients received less total verbalization, patient-directed procedural verbalization, and patient-directed personal verbalization than nonintubated patients, but less silence. There was no difference in the amount of verbal communication directed at others, whether it be personally

or procedurally related, that is associated with intubation status or acuity levels. As for the categories of nonverbal activity, it was found that nurses smile more when talking to nonintubated patients than intubated patients regardless of their acuity and that nurses make eye contact more frequently during periods of silence with high acuity patients than with low acuity patients.

Discussion of Findings

In the category of total patient-directed verbalization, it was found that nurses talked to nonintubated patients more than they did intubated patients. This finding was also supported by the analysis of the silence category which revealed that intubated patients are exposed to silence from nurses more often than are nonintubated patients. To the extent that the amount and content of verbal communication is a valid indicator of social isolation then, it can be concluded that intubated patients are at risk for higher levels of social isolation.

The use of the amount and content of verbal communication to infer social isolation was supported by the literature as well as by the experts who reviewed the Nurse-Patient Interaction Tool. As was noted previously, both experts indicated that the amount and direction of

verbalization would carry a high potential for making inferences with regard to social isolation. Although interrater reliability for the verbalization categories appeared high, it must be remembered that a very small sample (four) was used to evaluate this.

The finding that no significant interaction existed between patient acuity and intubation status would seem to strengthen the support for the hypothesis, however, the significant correlation between acuity and total patient-directed verbalization must be considered. Although patient acuity did not reach significance in the category of total patient directed verbalization, it failed to do so by a margin ($p = .058$). Given the sample size of 33 observations, the influence of patient acuity on patient-directed verbalization cannot be ruled out altogether. This is especially true in that patient acuity did reach significance in the categories of total verbalization, and patient-directed procedural verbalization.

Such findings suggest that human interaction is a highly complex phenomenon influenced by several variables. This potential for multiple interacting variables becomes significant in terms of interpretation of the findings of this and similar studies. For example, in addition to the decreased capacity for verbal communication of intubated

patients, other variables may be present that would influence the theoretical explanation for the findings. This would also suggest then that intubation with mechanical ventilation is one of many risk factors for social isolation in the ICU environment.

Previous research has already indicated that staff rarely talked to ICU patients in general during administration of care and when they did it was usually related to treatment, and that the most common interaction between nurses and intubated patients was silence. Although such findings have been beneficial in identifying interaction deficits of ICU patients in general or of one isolated subset, the lack of comparison between groups within the ICU has made identification of a potential etiology of such deficits difficult. The findings of this particular study, however, would seem to implicate endotracheal intubation and possibly high patient acuity as potential etiologies.

Regardless of the theoretical explanation for these findings, they remain significant in the context of mutual withdrawal. Despite a less than ideal control for other variables, these findings support the existence of withdrawal of interaction in the group of intubated patients. Even if variables other than the decreased

capacity for verbal communication contributed to the withdrawal, the outcome, i.e., further withdrawal by both nurses and patients, would be the same. In light of Tudor's (1952) finding that once identified this process of mutual withdrawal can be interrupted via deliberate and independent nursing actions, this is especially significant.

Since social isolation has been identified as a component of the altered sensory environment, the findings of this study must be viewed in this context. To the extent that personally related patient-directed verbalization represents more a meaningful stimulus than patient-directed procedural verbalization, the findings of this study would suggest that intubated patients may be exposed to some degree of perceptual deprivation. Further investigation would be called for before coming to this conclusion, however, since this study was not designed to test for this. In addition it would be interesting to know if, indeed, intubated patients have a higher incidence of experiencing the negative effects of perceptual deprivation as discussed previously.

The findings of this study become especially important in the context of nursing education. The educational preparation for nurses caring for intubated patients should

include information regarding both the behavioral responses of sensory and perceptual deprivation as well as risk factors for social isolation with emphasis on the importance of communication. In addition such nurses should be familiar with and have access to instruments designed to facilitate communication by the intubated patient such as letter boards or picture boards. And finally, perhaps extended visiting hours for ICUs should be considered for the purpose of providing more interaction from persons other than the staff.

Although the data from some of the nonverbal activity categories reached significance at the $p = .05$ level, it must be interpreted with great caution. Both of the experts who evaluated the Nurse-Patient Interaction Tool indicated that the nonverbal activity would be less likely to offer information relative to social isolation than the amount and content of verbalization. Perhaps even more significant was the finding that the nonverbal activities were associated with a very low level of interrater reliability. Consequently, although statistically significant the findings that nurses smile more when talking to nonintubated patients and that nurses make eye contact more frequently with patients during periods of

silence with higher acuity are not considered reliable at this time.

Conclusions and Implications

A conclusion that can be reached as a result of these findings is that due to their decreased capacity for verbalization, intubated patients may be at higher risk for social isolation than nonintubated patients. Also, in light of the risk of a Type II error with this level of significance and a sample size of 33, it would seem that patient acuity might also be a valid predictor of patient-directed verbalization. In other words, patients with high acuity may be at greater risk for social isolation than patients with low acuity. The implications based on such conclusions lie in the area of therapeutic interaction. Although the importance of therapeutic communication with patients has long been included in the educational preparation of nurses, some degree of deficit persists in practice. Consequently, perhaps more emphasis should be placed on nurse patient interaction during the educational preparation of nurses, including more stringent evaluation of the interpersonal skills of nursing students. In addition, the continuing education programs for nurses specializing in the care of patients having been identified as being at risk for interaction deficits, such as those in

the ICU, should include information as to the special interaction needs of such patients.

Recommendations for Further Study

While this study provided new and significant information in the area of social isolation in the acute care environment, it left many questions unanswered and even raised some new ones. Consequently, this area remains in need of further study. Specific areas for study that would seem important based on these findings would include the following:

1. More extensive reliability testing of the Nurse-Patient Interaction Tool.

2. Replication of this study with more stringent control for other variables, especially patient acuity.

3. Further descriptive research to identify other variables associated with social isolation and communication in the ICU.

4. Further descriptive research to identify components of human social interaction.

5. Comparison of patient perception of social isolation with scores on the Nurse-Patient Interaction Tool.

6. Evaluation of the incidence of the negative effects of altered sensory environments in intubated and nonintubated patients.

7. Evaluation of the nurses' rationale for not talking as frequently to nonintubated patients.

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APPENDIX A

Human Subjects Review Committee Approval

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

PROSPECTUS FOR THESIS/DISSERTATION/PROFESSIONAL PAPER

This prospectus proposed by: Terry L. Jones

_____ and entitled:

Social Isolation in Intubated and Nonintubated Patients in the ICU

Has been read and approved by the member of (his/hers) Research Committee.

This research is (check one):

___ Is exempt from Human Subjects Review Committee review because _____

_____

_____

xx Requires Human Subjects Review Committee review because data will be obtained through direct observation of subject.

Research Committee:

Chairperson, Shirley M. Ziegler

Member, Rose M. Kosiwiradomy

Member, Lois Hough

Date: July 27, 1988

Dallas Campus xx Denton Campus ___ Houston Campus ___

TEXAS WOMAN'S UNIVERSITY
Box 23717, TWU Station
Denton, Texas 76204

1810 Inwood Road
Dallas Parkland Campus

HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Terry L. Jones, R.N., B.S.N. Center: Dallas

Address: 11490 Audelia Road, Apt. 317 Date: _____

Dallas Tx 75243

Dear Ms. Jones:

Your study entitled Social Isolation in Intubated and Nonintubated Patients in the ICU has been reviewed by a committee of the Human Subjects Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education, and Welfare regulations typically require that signatures indicating informed consent be obtained from all human subjects in your studies. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to DHEW regulations, another review by the Committee is required if your project changes.

Any special provisions pertaining to your study are noted below:

_____ Add to informed consent form: No medical service or compensation is provided to subjects by the University as a result of injury from participation in research.

_____ Add to informed consent form: I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

_____ The filing of signatures of subjects with the Human Subjects Review Committee is not required.

_____Other:

__XX__ No special provisions apply.

Sincerely,

Lois Hough

Chairman, Human Subjects Review Committee
Lois Hough, Ph.D., R.N.
At Texas Woman's University
Dallas Center

PK/smu
3/7/80

APPENDIX B

Graduate School Approval to Conduct Study

TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON
THE GRADUATE SCHOOL
P.O. Box 22479, Denton, Texas 76204 817/898-3400, 800-338-5255

July 17, 1988

Ms. Terry Lynn Jones
11490 Audelia Rd., #317
Dallas, TX 75243

Dear Ms. Jones:

Thank you for providing the materials necessary for the final approval of your prospectus in the Graduate Office. I am please to approve the prospectus, and I look forward to seeing the results of your study.

If I can be of further assistance, please let me know.

Sincerely yours,

Leslie M Thompson

Leslie M. Thompson
Dean for Graduate Studies
and Research

dl

cc Dr. Shirley Ziegler
Dr. Helen Bush

APPENDIX C

Agency Permission to Conduct Study

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE _____

GRANTS TO Terry L. Jones, R.N., B.S.N., CCRN
a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

Social Isolation in Intubated and Nonintubated Patients in the ICU

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

Feb 22, 1989
Date

Signature of Agency Personnel

Terry L. Jones
Signature of Student

Shirley M. Ziegler
Signature of Faculty Advisor

*Fill out & sign 3 copies to be distributed: Original-student; 1st copy-Agency; 2nd copy-TWU School of Nursing

APPENDIX D

Explanation for Soliciting Subjects

Written Information Used for Soliciting Subjects

A research study is being conducted as part of the requirements for the Master of Science Degree in the Graduate School of the Texas Woman's University by Terry L. Jones, RN, BSN, CCRN. The institution by which you are employed has been selected as the general location for this study and the intensive care unit to which you are currently assigned as one of the two specific study sites within the institution. As a registered nurse providing direct patient care to the patients of interest and having fulfilled the predetermined eligibility criteria, you are being asked to participate in this study. The criteria area:

1. You are a registered nurse.
2. You are a permanent staff member in your unit (i.e., not in the float pool).
3. You have at least 6 months experience in intensive care nursing.

The purpose of this study is to identify existing patterns of interaction between nurses and both intubated and nonintubated patients in the ICU environment. The study will take place on your unit during your regularly assigned shift, consequently it will require no additional time from you. Your participation requires only that you

grant permission for the researcher to observe you as you interact with your patients for 10 minutes during a routine initial assessment on at least two patients. The researcher will not ask questions or interfere in any way with patient care. She will only be observing from the doorway of the patients' rooms and taking notes on interaction patterns.

The identified risks include the risk of embarrassment and the risk of loss of confidentiality. Efforts will be taken, however, to reduce those risks. You will be identified by a code number and any information linking you to the data will be accessible only to the researcher and will be destroyed upon completion of the study. Furthermore, your participation is voluntary and you retain the right to refuse to participate or to withdraw from the study at any time without repercussion. It is believed that the information gained from your participation will contribute to the education of future nurses in the ICU and help them communicate more effectively with their patients. There will, however, be no monetary compensation for your participation. Any questions concerning this study are welcomed by the researcher and can be directed to Terry L. Jones, RN, BSN, CCRN. A copy of the results will be in the TWU library after May 1990.

APPENDIX E

Example of Consent Form

CONSENT FORM

Texas Woman's University
College of Nursing

Consent to Act as a Subject for Research and Investigation:

1. I hereby authorize Terry L. Jones to perform the following investigation:

   A research study is being conducted as part of the requirements for the Master of Science degree in the graduate school of the Texas Woman's University by Terry L. Jones, R.N., B.S.N., CCRN. The institution by which you are employed has been selected as the general location for this study and the intensive care unit to which you are currently assigned as one of the two specific study sites within the institution. As a registered nurse providing direct patient care to the patients of interest and having fulfilled the predetermined eligibility criteria, you are being asked to participate in this study. The criteria are:

   (1) You are a registered nurse.
   (2) You are a permanent staff member in your unit (i.e., not in the float pool).
   (3) You have at least 6 months experience in intensive care nursing.

   The purpose of this study is to identify existing patterns of interaction between nurses and both intubated and nonintubated patients in the ICU environment. The study will take place on your unit during your regularly assigned shift, consequently it will require no additional time from you. Your participation requires that you grant permission for the researcher to observe you as you interact with your patients for 15 minutes during a routine initial assessment on at least two patients. The researcher will not ask questions or interfere in any way with patient care. She will only be observing from the doorway of the patients' rooms and taking notes on interaction patterns. You will also be asked to complete a demographic data form pertaining to yourself and the patient with whom you are interacting.

2. The investigation listed in Paragraph 1 has been explained to me by Terry L. Jones.

3. (a) I understand that the investigation described in Paragraph 1 involves the following possible risks or discomforts:

The identified risks include the risk of embarrassment and the risk of loss of confidentiality. Efforts will be taken, however, to reduce those risks. You will be identified by a code number and any information linking you to the data will be accessible only to the researcher and will be destroyed upon completion of the study. Furthermore, your participation is voluntary and you retain the right to refuse to participate or to withdraw from the study at any time without repercussion.

(b) I understand that the investigation described in Paragraph 1 has the following potential benefits to others:

It is believed that the information gained from your participation will contribute to the education of future nurses in the ICU and help them communicate more effectively with their patients.

(c) I understand that -- No medical service or compensation is provided to subjects by the university as a result of injury from participation in research.

4. An offer to answer all of my questions regarding the study has been made. I understand that I may terminate my participation in the study at any time.

_____ _____

Subject's Signature Date

APPENDIX F

Nurse-Patient Interaction Tool

Instructions:

At the sound of the tone, observe for the presence of verbalization by the nurse. If present place a tally mark in Column I under the appropriate descriptive category. If verbalization was directed at the patient and involved procedural related content, place the mark under A1. If personal content was involved place the mark under A2. If the verbalization was directed at anyone other than the patient and contained work related content place the mark under B1, and if such verbalization contained personal content place the mark under B2. If no verbalization was observed, place a mark under column II.

Next, decide whether or not nonverbal activities were present. If the nonverbal activities of touching, frowning, smiling, and/or eye contact were observed in conjunction with verbalization, place a tally mark in the corresponding row in Column IIIA. If such nonverbal activities were observed in the absence of verbalization by the nurse, place a mark in the appropriate row under Column IIIB. The tone will sound at 10 second intervals for a period of 10 minutes.

CATEGORIES OF NURSE-PATIENT INTERACTION

I. Nurse Verbalizing	II. Not Verbalizing
A. Directed at Patient	A. Silence
1. Procedural _____	
2. Personal _____	
B. Directed at Others	
1. Work Related _____	
2. Personal _____	

III. Concurrent Nonverbal Activity	
A. With Verbalization	B. Without Verbalization
1. Touching _____	1. Touching _____
2. Smiling _____	2. Smiling _____
3. Frowning _____	3. Frowning _____
4. Eye Contact _____	4. Eye Contact _____

APPENDIX G

Demographic Data Instrument

DEMOGRAPHIC DATA

Patient #

- Age
- Sex
- Diagnosis
- Ethnicity
- Intubation Status
- PCUs

Nurse Code # _____

- Age
- Ethnicity
- Educational Background
- Years ICU Experience
- Shift
- Unit

APPENDIX H

Patient Acuity Classification

PATIENT CLASSIFICATION SYSTEM INTENSIVE CARE UNITS SICU NICU CVTICU CCU MRICU DATE_____ Total_____ Census_____												
PCUs												
ROOM												
PATIENT CARE ACTIVITIES												
ADL - Semi-dependent level	76	76	76	76	76	76	76	76	76	76	76	76
ADL Semi Dependent level	83	83	83	83	83	83	83	83	83	83	83	83
Isolation	7	7	7	7	7	7	7	7	7	7	7	7
Isolation (Strict)	12	12	12	12	12	12	12	12	12	12	12	12
MEDICATIONS/IV THERAPY												
PO/NG med, drops etc.- up to 8x per day	3	3	3	3	3	3	3	3	3	3	3	3
up to 16x per day	5	5	5	5	5	5	5	5	5	5	5	5
up to 24x per day	8	8	8	8	8	8	8	8	8	8	8	8
Injections/IV push mds up to 8x per day	5	5	5	5	5	5	5	5	5	5	5	5
up to 16x per day	10	10	10	10	10	10	10	10	10	10	10	10
Continuous IVs - up to 2 solutions	5	5	5	5	5	5	5	5	5	5	5	5
up to 4 solutions	10	10	10	10	10	10	10	10	10	10	10	10
Special Drips - up to 2 solutions	8	8	8	8	8	8	8	8	8	8	8	8
up to 4 solutions	16	16	16	16	16	16	16	16	16	16	16	16
more than 4	24	24	24	24	24	24	24	24	24	24	24	24
Hyperalimentation	5	5	5	5	5	5	5	5	5	5	5	
Intermitted IVs up to 12x per day	13	13	13	13	13	13	13	13	13	13	13	13
up to 20x per day	21	21	21	21	21	21	21	21	21	21	21	21
Blood tranfusions - up to 3	3	3	3	3	3	3	3	3	3	3	3	3
up to 6	5	5	5	5	5	5	5	5	5	5	5	5
more than 6	8	8	8	8	8	8	8	8	8	8	8	8
MONITORING												
PA/PCWP/CVC/Cardiac Outputs- Q7-4 hours	18	18	18	18	18	18	18	18	18	18	18	18
Q1-2 hours	44	44	44	44	44	44	44	44	44	44	44	44
Q6-8 hours	16	16	16	16	16	16	16	16	16	16	16	16
CVP by transducer or monometer	4	4	4	4	4	4	4	4	4	4	4	4
Neoro Sings Q1-2 hours	14	14	14	14	14	14	14	14	14	14	14	14
ICP line	10	10	10	10	10	10	10	10	10	10	10	10
Peritoneal Dialysis/Ultra Filtration	90	90	90	90	90	90	90	90	90	90	90	90
RESPIRATORY												
Continous Ventilator Support	14	14	14	14	14	14	14	14	14	14	14	14
Oxigen therapy	8	8	8	8	8	8	8	8	8	8	8	8
NT/Trach suction (not on vent)	8	8	8	8	8	8	8	8	8	8	8	8
Trach/ET tube care	6	6	6	6	6	6	6	6	6	6	6	6
WOUND CARE												
STERILE DRESSING - GROUP A - up to 2 sites	3	3	3	3	3	3	3	3	3	3	3	3
TPN/SG/CVP/Chest tube/ up to 4 sites	5	5	5	5	5	5	5	5	5	5	5	5
Pacemaker, etc. up to 6 sites	8	8	8	8	8	8	8	8	8	8	8	8
STERILE DRESSING - GROUP B - 1 site	10	10	10	10	10	10	10	10	10	10	10	10
Open Wounds 2 sites	19	19	19	19	19	19	19	19	19	19	19	19
3 sites	29	29	29	29	29	29	29	29	29	29	29	29
Massive sterile dressing change - 1 time	11	11	11	11	11	11	11	11	11	11	11	11
with or without irrigations 2 times	22	22	22	22	22	22	22	22	22	22	22	22
MISCELLANEOUS												
Special skin/decubitus care	4	4	4	4	4	4	4	4	4	4	4	4
Incontinent	11	11	11	11	11	11	11	11	11	11	11	11
ICU Procedures 1 time	10	10	10	10	10	10	10	10	10	10	10	10
2 times	20	20	20	20	20	20	20	20	20	20	20	20
3 times	30	30	30	30	30	30	30	30	30	30	30	30
Procedures Under Fluoroscopy	30	30	30	30	30	30	30	30	30	30	30	30
Traveling	16	16	16	16	16	16	16	16	16	16	16	16
Ballon Pumps												
TEACHING TIME AND INDIRECT CARE	65	65	65	65	65	65	65	65	65	65	65	65
TOTAL												

APPENDIX I

Panel of Experts Worksheet for Rating Social Isolation Potential

Please evaluate the potential for making inferences with regard to social isolation based on the data collected from this tool:

	High potential	Medium potential	Low potential
1. Proportion of nurse patient interaction in which the nurse is verbalizing.			
2. Direction of verbalization to patient or others.			
3. Content of verbalization being personal or procedural/work related.			
4. Presence of nonverbal activities with or without verbalization.			

CATEGORIES OF NURSE-INITIATED NURSE-PATIENT INTERACTION

I. Patient directed verbal interaction:

Total Score

_____ _____

II. Description of observed interaction:

A. Verbal
   1. Directed at patient
      a. Procedural _____
      b. Personal _____
   2. Directed at others
      a. Work related _____
      b. Personal _____

B. Nonverbal
   1. Touching ____
   2. Smiling ____
   3. Eye contact ____
   4. Frowning ____
   5. Silence without 1-4 ____

INSTRUCTIONS:

If patient directed verbal interaction is occurring, place a check in the space provided in Section I. Patient directed verbal interaction involves spoken words directed to the patient as opposed to such communication directed to someone other than the patient regardless of whether or not it is "about" the patient. At the end of the interaction period the sum of checks in this section will be determined and placed in the box marked total Score. This number is the score for this instrument.

Next, for descriptive purposes only, determine the nature of the content of the observed interaction. Place a check in the appropriate slot in Column A, Section II. Then determine if any form of nonverbal interaction directed at the patient is occurring. Place a check in the appropriate slot(s) in Column B of Section II. These forms of interaction in Section II are not mutually exclusive. A single interaction may involve both verbal and nonverbal components.