INVASION OF TERRITORIAL AND PERSONAL SPACE AS PERCEIVED
BY THE SURGICAL PATIENT

by

Donna Mae Donahue

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STATEMENT BY AUTHOR

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This thesis has been approved on the date shown below:

Ada Sue Hinshaw
 Associate Professor of Nursing

6-20-80
Date
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ABSTRACT

Altman's theoretical exploration of the concept of privacy and privacy-regulation lent impetus to and provided the underpinnings for this preliminary research effort. A theoretical path model was proposed which depicts the interrelationships of specific mechanisms as they related to one of four stages advanced in Altman's general model. A magnitude estimation procedure was used to obtain ratio scaled data. The data were subjected to path analysis. A comparison of the theoretical and empirical models was carried out to examine the tenability of the hypothesized relationships. Conclusions were discussed in terms of Altman's theory. According to the group studied, perceived loss of control demonstrated a significant effect on perceived intrusion of territorial and personal space and invasion of privacy. Perceived intrusion of territorial space was significantly related to perceived invasion of privacy. Perceived intrusion of personal space was significantly related to anxiety. Perceived invasion of privacy did not demonstrate a significant effect on perceived anxiety as hypothesized. Nor did perceived intrusion of personal space demonstrate a significant effect on perceived invasion of privacy. Based on the high degree of correlation evidenced between the variables, intrusion of territorial space and invasion of personal space, the ability of the variables to measure independent response phenomena was questioned. The possible ramifications were discussed.
CHAPTER 1

INTRODUCTION

The general purpose of this study was to expand upon the research efforts which have explored patients' perceptions of their privacy, territorial and personal space needs within the hospital environment. Altman's (1975) proposed "privacy-regulation system" based upon his analyses of the concepts of privacy, territoriality, and personal space provided the theoretical foundation for this preliminary research effort.

Significance of the Problem

Levine (1968) suggests that human interaction is closely related to the utilization of space. She suggests that individuals establish boundaries to separate as well as to enclose. Levine (1968, p. 84) writes, "the defense of territory is predicated on the defense of individual integrity." She proposes that the nurse who is respectful of another's use of space fortifies the personal integrity of the other and strengthens her own.

Stillman (1978), like Levine, reminds nurses of the significance of recognizing spatial boundaries within the hospital setting. She writes, "When hospitalized, individuals usually experience a loss of privacy and control over their bodies and the surrounding area" (Stillman, 1978, p. 1671). She suggests that the observant nurse can identify a patient's territorial and personal space boundaries and the
repertoire of behaviors he implements to maintain them. She notes that when a nurse becomes equally aware of her own spatial delineations, she can utilize appropriate intervention in meeting the privacy needs of a patient.

Do the statements of Levine and Stillman represent reporting predicated on empirical evidence obtained from research with hospitalized patients or are they statements of common belief? Will the nurse "who recognizes and respects the spatial dimensions of human interaction" (Levine, 1968, p. 84) fortify a patient's integrity as well as her own? What is "appropriate intervention" in assuring hospitalized patients their privacy? What is the relationship between an individual's desired level of privacy and his territorial and personal space adaptation? How does a nurse evaluate a patient's perceptions of these concepts?

Although privacy, territoriality, and personal space have been explored empirically by members of other disciplines, review of nursing literature evidences little mention of applied research which deals with these interpersonal processes. Yet the practice of nursing necessarily requires the performance of tasks which should, by definition, be intrusive of this right or process, privacy, and of these spatial elaborations: territorial and personal space.

Allekian (1974) attempted to test the hypothesis that, indeed, anxiety is provoked in hospitalized patients when intrusions of territorial and personal space occur during the administration of care. Although her efforts suggest that a significant level of anxiety is produced by territorial intrusion, "personal space intrusions did not appear to be anxiety-inducing factors for the hospitalized patient..."
(Allekian, '1974, p. 37). By way of explanation, Allekian suggests that an individual may alter his personal space definition in anticipation of the close physical contact in the hospital.

In his book, The Environment and Social Behavior, Altman (1975) proposes that privacy is the cardinal concept to understanding relationships between the environment and human behavior. Territorial behavior and the elaboration of personal space serve as mechanisms that function in the service of the attainment of privacy. Altman's model appears to support Allekian's suggestion that spatial definitions are flexible. The model, which is based on an extensive survey of the related literature, assigns a fluid function to the boundary control mechanisms in order that privacy needs be met at minimal cost to the individual. According to Altman's theoretical framework, it becomes possible for an individual to alter his definition of his territorial and personal space requirements according to his perceived demand for privacy within a given situation.

Statement of the Problem

Appreciating a need for further empirical examination of the beliefs spoken to by Levine and Stillman, the purpose of this study was to expand upon the limited research efforts which have explored patients' perceptions of their need for privacy. Altman's theory and model which relates the concept of privacy to those of territorial and personal space behavior, experienced anxiety, crowding, and/or social isolation lent impetus to and provided the beginning framework for this preliminary research effort.
Specifically, the study was designed to examine (1) the degree to which hospitalized surgical patients perceived specific care-related tasks and behaviors performed by hospital staff members as intrusive of their defined (a) territorial space and (b) personal space; (2) the degree to which the same tasks and behaviors were perceived as intrusive of their desired level of privacy; and (3) the degree to which these tasks and behaviors were perceived as anxiety-producing.

Theoretical Framework

Believing that privacy is the cardinal concept to understanding human interaction, Altman, in essence, discussed a "privacy-regulation system" in his book, *The Environment and Social Behavior*. He writes,

... my framework hypothesizes that persons or groups use various self/other mechanisms to produce desired levels of interaction. These mechanisms include verbal, paraverbal, nonverbal, personal-space, and territorial behaviors. When achieved outcomes match what was desired, we speak of a successful privacy system. When these mechanisms provide less contact with others than desired, social isolation exists. When a system permits more interaction than was originally desired, we speak of crowding (Altman, 1975, p. 154).

Figure 1 depicts Altman's preliminary overview of his proposed privacy-regulation system. The overview illustrates the relationships among the concepts of privacy, personal space, territoriality, crowding, and social isolation.

The theory underlying Altman's model draws heavily on the work of Westin, a noted political scientist who has attempted a systematic analysis of the concept of privacy. Westin (1967, p. 7) defines privacy as:
Figure 1. Altman's "Overview of relationships among privacy, personal space, territory, and crowding" — From Altman (1975, p. 7).
... the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about themselves is communicated to others. Viewed in terms of the relation of the individual to social participation, privacy is the voluntary and temporary withdrawal of a person from the general society through physical or psychological means, either in a state of solitude or small-group intimacy or, when among larger groups, in a condition of anonymity or reserve.

Westin (1967, p. 31) speaks to four basic states of individual privacy: solitude, intimacy, anonymity, and reserve. In solitude an individual is isolated from others and thus free from observation. In the intimate state, an individual becomes one of a small unit that seeks and, in fact, achieves separateness. In the third state of privacy, anonymity, the individual desires and achieves freedom from identification and surveillance. Westin (1967, p. 32) suggests that "reserve, the fourth and most subtle state of privacy, is the creation of a psychological barrier against unwanted intrusion. . . ."

Westin's (1967, p. 32) proposed functions of privacy include: personal autonomy, emotional release, self-evaluation, and limited and protected communication. He believes that personal autonomy is grounded in an individual's perception of himself as separate and unique. According to Westin this perception spurs the individual on in his manipulation of space as he seeks to remain free from the manipulation by and the domination of others. Ittelson et al. (1974, p. 157) write: "This view of privacy is related to the autonomy that comes with territorial control; we use space (our private office, the park bench that we 'claim' every morning) to reinforce the sense of self that comes from being in command of a particular place."
The three remaining functions of privacy as described by Westin are self-explanatory. The function of emotional release suggests that privacy provides a necessary time-out from public scrutiny: a "safety-valve" for the individual (Westin, 1967, p. 35). Westin's identified self-evaluative function refers to privacy's capacity for providing an individual with time to integrate his life experiences into a meaningful and unique whole.

Lastly, Westin suggests that privacy permits limited and protected communication. He states that, "reserved communication is the means of psychic self-preservation for men in the metropolis" (Westin, 1967, p. 38). Privacy attained by means of limited communication serves to establish boundaries of mental distance in interpersonal situations.

Altman considers several characteristics of privacy. This thinking is reflected in his overview. Altman (1975, p. 10) notes that privacy has two important aspects: "desired privacy" and "achieved privacy." Desired privacy represents an individual's subjectively derived ideal level of interaction for a given moment. Achieve privacy is the level of interaction that actually occurs at that time. Altman suggests that privacy is an interpersonal process; that it entails the regulation of interaction between individuals and/or groups of individuals. He recognizes that privacy is an "optimizing" process. He suggests that the achieved level of interaction for any given time affords an individual the closest possible approximation of his desired level of interpersonal contact. Altman explores the behavioral mechanisms by means of which individuals gain privacy: verbal and paraverbal behaviors, personal space elaboration, territoriality, and cultural
mechanisms. He discusses three functions of privacy: "(a) control and management of interpersonal interaction; (b) plans, roles, and strategies for dealing with others; and (c) features of self-identity" (Altman, 1975, p. 12).

Altman's model of his proposed privacy regulation system diagrams a chain of events that are "associated with the management and breakdown of interpersonal boundaries" (Altman, 1975, p. 154). Figure 2 illustrates a portion (four segments) of this model. The section included depicts events which progress from (1) an individual's or group's "situational definition" to (2) the implementation of "boundary control mechanisms" to (3) an "assessment" of the effectiveness of these coping mechanisms in ensuring the desired level of privacy. The chain terminates with (4) the individual's or group's perception of a residual "level of stress," the result of inconsistencies between the definition held and the level of control effected.

![Figure 2. Four Stage Portion of Altman's Model of Crowding -- Altman (1975, p. 155).](image-url)
Altman's first stage speaks to his belief that individuals and/or groups of individuals formulate a "situational definition" of the desired level of privacy for a given moment. Altman suggests that this definition is derived from a combination of personal, interpersonal, and situational factors. Personality, past history, and immediate psychological and physiological states are among the specific personal factors he lists. "Liking" and "group cohesion" are the interpersonal factors mentioned. "Physical features of the setting such as richness and articulation of the environment, furniture and decor, layout, and the task to be worked on" are the situational factors discussed (Altman, 1975, p. 156).

In the second stage, Altman describes the phenomenon of "boundary control." He hypothesized that "boundary control" or "coping mechanisms" are available to the individual or group to aid in boundary regulation. Verbal, paraverbal, nonverbal, and personal-space and territorial behaviors are among the repertoire of mechanisms that can be activated in an attempt to achieve the desired, situationally-defined level of privacy to which the individual or group subscribes.

Altman's third stage, "assessment of control mechanisms," speaks to his hypothesis that once these mechanisms have been activated, the individual or group will assess their effectiveness in terms of their ability or inability to achieve the desired level of interaction.

Lastly, Altman's fourth stage, "level of stress," speaks to his hypothesis that a "subjective, motivational state of stress accompanies over- or undershooting of the mark, along the lines postulated by
Stokols (1972) and Esser (1972). The stress state motivates the person or group to readjust boundary control behaviors. . ." (Altman, 1975, p. 156).

Figure 3 illustrates the model proposed in this study. This model was based on the hypotheses that a patient's perceptions of (1) the appropriateness of the level of the caregiver (ALC), (2) the centrality of the task or behavior to his cure (CTC), and (3) the loss of control (LC) that he would experience as a result of the performance of a specific task or behavior would be linked to the patient's perceptions of that task or behavior as intrusive of his (a) territorial space (TS) and (b) personal space (PS). The model further linked a patient's perception of a task or behavior as intrusive of his territorial and personal space to his perception of the invasion of privacy (IP) he would experience with their performance. Lastly, it suggested that perceived invasion of privacy would prove to be anxiety-producing (A) for that patient.

Figure 4 illustrates a third model which depicts the proposed relationship between Altman's theoretical model on crowding and the model advanced in this study. It was hypothesized that they were related in the following manner.

Altman (1975) suggests that a "situational definition" is derived from a combination of personal, interpersonal, and situational factors. In the first stage of the proposed model, the three variables (1) appropriateness of the caregiver, (2) centrality of task to cure, and (3) loss of control were proposed to have been three factors which would contribute to the formulation of an individual's
ALC = Appropriateness of Level of Caregiver  
CTC = Centrality of Task to Cure  
LC = Loss of Control  
ITS = Intrusion of Territorial Space  
IPS = Intrusion of Personal Space  
IP = Invasion of Privacy  
A = Anxiety

Figure 3. Proposed Model for Study
"Situational Definition"  
Desired level of privacy  

"Boundary Control Mechanisms/Coping Behaviors"  

"Assessment of Effectiveness of Boundary Control Processes"  

"Level of Stress"

ALC = Appropriateness of Level of Caregiver  
CTC = Centrality of Task to Cure  
LC = Loss of Control  
ITS = Intrusion of Territorial Space  
IPS = Intrusion of Personal Space  
IP = Invasion of Privacy  
A = Anxiety

Figure 4. Model of a Portion of Altman's Model on Crowding as it Relates to the Proposed Model for Study
"situational definition" when hospitalized. The appropriateness of the level of the caregiver was identified as an interpersonal factor, the centrality of the task to cure was recognized to have been a situational factor, and the loss of control, a personal factor.

In the second stage, measurement of the variables (1) intrusion of territorial space and (2) intrusion of personal space were hypothesized to have provided measurement of the degree to which territorial and personal space behaviors were effectively implemented. Territoriality and personal space elaboration are two of the "boundary control mechanisms" identified by Altman in stage II of his model.

Altman's third stage, "assessment of control mechanisms," involves an individual's assessment of his achieved level of privacy. Assessment of the variable, invasion of privacy, then, was hypothesized to have provided a specific measurement of the degree to which a desired level of privacy was successfully achieved.

In the fourth and last stage of the proposed model, the variable anxiety was hypothesized to have provided a specific measurement of an individual's "level of stress," Altman's fourth stage.

Definition of Terms

To reiterate, this study was conducted to explore hospitalized patients' perceptions of invasions of their privacy. Altman's theoretical exploration of the concept of privacy and privacy-regulation provided the underpinnings. A theoretical model was proposed to provide a framework within which the research might operate. This model attempted to isolate specific elements or mechanisms which were
related to one of four stages advanced in Altman's general model. To facilitate an understanding of the research design implemented and discussion of the results obtained, it now becomes necessary to present the terminology as defined in elaborating that proposed theoretical model.

1. ** Appropriateness of Level of Caregiver:** Appropriateness of level of caregiver referred to the degree to which the performance of a task or behavior by a specific hospital staff member conformed to an expected and/or acceptable mode of behavior for that caregiver.

Throughout this study, the level of caregiver referred to two levels of hospital personnel: (1) the professional level—physicians and nurses—and (2) the non-professional level—aides, orderlies, and maintenance personnel. The notion of "appropriateness" of role behavior was drawn indirectly from Goffman's (1959) thinking. Altman (1975, p. 154) credits Goffman with the suggestion that a "desired level of privacy (situationally defined) includes expectations about what is good, acceptable, and appropriate." The link here was "expectation." It was believed that the hospitalized individual would have certain expectations regarding the appropriateness of hospital staff behavior based upon personal and vicarious experiences with hospitalization and hospital staff members. It was believed that the hospitalized individual would affirm the performance of certain tasks and/or behaviors as appropriate to a specific level of caregiver.
2. **Centrality of Task to Cure:** Centrality of task to cure referred to the belief that the hospitalized individual ascribes a hierarchical importance to a caring behavior based upon his perception of the behavior as having restorative or "curing" value.

Allekian (1974) reports that patients did not identify behaviors that were seemingly blatantly intrusive as "annoying" or "embarrassing" (two measures that this author used to indicate intrusion into territorial and personal space). She suggests that they may have anticipated such violations in the hospital. On the contrary, Allekian (1974, p. 37) states that "patients seemed to have feelings associated with the presence of anxiety when they perceived behavior by hospital personnel to be inconsistent with their best interests, comfort, and well-being."

3. **Loss of Control:** Loss of control referred to the degree to which an individual's sense of self failed to be reinforced upon the performance of specific tasks and/or behaviors by a caregiver. Loss of control referred to perceived loss of command.

According to Allekian (1974, p. 29), Beland suggests that a hospitalized patient's "control over events related to his welfare and his relationships with others are threatened and may alter the individuals' self-concept." This suggestion fits well with Westin's and Altman's proposed functions of privacy. Recall that Westin (1967) identifies personal autonomy, emotional release, self-evaluation, and limited and protected communication as outgrowths of attained privacy. Altman (1975, p. 12) similarly lists "(a) control and management of
interpersonal interaction; (b) plans, roles, and strategies for dealing with others; and (c) features of self-identity" as possible functions of attained privacy. Ittelson et al. summarize the interrelationship between the concepts of "control," "privacy," and "autonomy" as elaborated by Westin. They write, "This view of privacy is related to the autonomy that comes with territorial control; we use space . . . to reinforce the sense of self that comes from being in command of a particular place" (Ittelson et al., 1974, p. 157).

4. Intrusion of Territorial Space: Throughout this study, intrusion of territorial space referred to perceived unauthorized entrance into that physical area toward which an individual demonstrated territorial behavior ("laid claim") in an attempt to regulate interaction.

Intrusiveness or intrusion was used throughout the study as defined by Goffman (1971). His definition encompasses the concepts of "violation" and "invasion." He describes the use or claiming of a place belonging to another individual or group. Allekian (1974, p. 31) defines intrusion as "unsolicited entrance and activity or contact." In this study, intrusion was conceived of as being more closely related to withheld permission rather than to solicited or unsolicited behavior. It was felt that the hospitalized individual might grant general permission; that in being hospitalized, the individual sanctioned "appropriate" and caring behavior whether solicited or not.
According to Altman (1975, p. 106), Pastalan defines a territory as a "delimited space that a person or group uses and defends as an exclusive preserve. It involves psychological identification with a place, symbolized by attitudes of possessiveness and arrangements of objects in the area." Similarly, Sommer (1969), Sommer and Becker (1969), Becker (1973), and Becker and Mayo (1971) defined territories as "geographical areas that are personalized or marked in some way and that are defended from encroachment" (Altman, 1975, p. 106). Altman (1975, p. 107) speaks to territorial behavior as follows:

Territorial behavior is a self/other boundary-regulation mechanism that involves personalization of or marking of a place or object and communication that it is "owned" by a person or group. Personalization and ownership are designed to regulate social interaction and to help satisfy various social and physical motives. Defense responses may sometimes occur when territorial boundaries are violated.

5. Intrusion of Personal Space: Intrusion of personal space referred to the unauthorized entrance into that area immediately surrounding a hospitalized patient which, when violated, would cause that individual to feel "encroached upon."

Goffman (1971, p. 30) describes personal space as "the space surrounding an individual where within which an entering other causes the individual to feel encroached upon, leading him to show displeasure and sometimes to withdraw." Sommer and DeWar (1963) state that personal space can be differentiated from territorial space in that the latter is a "fixed" region whereas the former travels with the individual. Hall (1966) describes distancing zones in his discussion of proxemics. Among these are the "intimate" zone, 0-18 inches; the "personal" zone,
1-1/2-4 feet; and the "social" zone, 12-25 feet. The concept of personal space referred to throughout this study was closely allied to Hall's description of intimate and personal zones as well as to Sommer's description of the space as an "emotional bubble."

6. Invasion of Privacy: Invasion of privacy referred to the failure of a caretaker to recognize and respect a hospitalized individual's perceived right to implement behavior in an attempt to regulate interaction at a desired level.

Altman (1975, p. 18) defines privacy as "selective control of access to the self or to one's group." In accord with Rapoport (1972), Altman (1975, p. 17) provides a more comprehensive definition in stating that privacy is "the ability to control interaction, to have options, devices, and mechanisms to prevent unwanted interaction, and to achieve desired interaction."

7. Anxiety: The term "anxiety" was used to characterize that "experience which can be described effectively, such as uneasiness, embarrassment, or annoyance" (Allekian, 1974, p. 31).

Hypotheses

Based upon the preceding, it was hypothesized that:

1. The more a patient perceived a given task as appropriate to a specific level of caregiver, the less he would perceive the performance of that task or behavior as intrusive of his defined territorial and personal space. An inverse relationship was predicted between the variables (a) "appropriateness of the level of caregiver" (ALC) and "intrusion of territorial space"
(ITS) and (b) "appropriateness of the level of caregiver" and "intrusion of personal space" (IPS).

2. The more a patient perceived a given task as essential or "central" to his cure, the less he would perceive that task or behavior as intrusive of his defined territorial and personal space. An inverse relationship was thus predicted between the variables (a) "centrality of task to cure" (CTC) and "intrusion of territorial space" (ITS) and (b) "centrality of task to cure" and "intrusion of personal space" (IPS).

3. The degree to which a patient experienced a loss of control upon the performance of a specific task or behavior would be directly related to the degree to which that patient would perceive that action as intrusive of his defined territorial and personal space. A direct relationship was predicted between the variables (a) "loss of control" (LC) and "intrusion of territorial space" (ITS) and (b) "loss of control" and "intrusion of personal space" (IPS).

4. The more a patient perceived the performance of a specific task or behavior as intrusive of his defined territorial space, the more he would perceive its performance as invasive of his privacy. The variables "intrusion of territorial space" (ITS) and "invasion of privacy" (IP) were predicted to demonstrate a direct relationship.

5. The more a patient perceived the performance of a specific task or behavior as intrusive of his defined personal space, the more he would perceive its performance as invasive of his
privacy. The variables "intrusion of personal space" (IPS) and "invasion of privacy" (IP) were predicted to relate directly.

6. The more a patient perceived the performance of a task or behavior as invasive of his privacy, the more he would perceive it as anxiety-producing. It was predicted that the variables "invasion of privacy" (IP) and "anxiety" (A) would demonstrate a direct relationship.

Figure 5 presents the proposed empirical model. The predicted nature of each relationship is illustrated.

**Nature of the Theoretical Relationships**

It was assumed that the relationships studied could be defined in accordance with the work of Stevens (1962) and Hamblin (1971). Stevens (1962) describes the Psychophysical Power Law which relates the magnitude of the sensory response to the magnitude of the related stimulus (Hamblin, 1971, p. 426). This power law can be expressed in an equation, \( \psi = c\phi^n \), in which \( \psi \) is the magnitude of the sensory response; \( \phi \), the magnitude of the related physical stimulus; \( c \), the constant; and \( n \), the exponent (Hamblin, 1971, p. 426).

Hamblin's work with the stimulus-sensation relationship dealing with "status" tested the above described power function as it applies to psychosocial relationships. Hamblin and Smith (1966, p. 185) suggest that \( R = cS^n \) represents a "general form of the relationship between the magnitude of all non-voluntary responses 'R' and the magnitude of the stimuli 'S' which produce them." The "R" represents a constant and
$\text{ALC} = \text{Appropriateness of Level of Caregiver}$

$\text{CTC} = \text{Centrality of Task to Cure}$

$\text{LC} = \text{Loss of Control}$

$\text{ITS} = \text{Intrusion of Territorial Space}$

$\text{IPS} = \text{Intrusion of Personal Space}$

$\text{IP} = \text{Invasion of Privacy}$

$\text{A} = \text{Anxiety}$

Figure 5. Proposed Empirical Model for Study
the "n" an exponent. These parameters can be estimated empirically (Hinshaw and Field, 1974, p. 294).

Hinshaw and Field (1974, p. 294) note that the general bivariate form of the psychophysical power law can be "logically extended to the following multivariate form:"

$$R = cS_1^{n_1} \cdot S_2^{n_2} \cdots S_k^{n_k}$$

Hamblin and Smith (1966) and Hamblin (1971) substantiate the existence of such a multivariate power function (Hinshaw and Field, 1974, p. 294).

It was assumed that the relationships between the proposed variables could be described by the stimulus-response power function. Territorial and personal space behavior are elaborations of the concept of interpersonal distance. Duke and Nowicki (1972) proposed a social-learning model for interpersonal distancing behavior. Based upon their belief that social behavior is learned and follows clearly delineable rules they hypothesized that behavioral potential is a function of expectancy and reinforcement value. The authors state that their empirical findings demonstrate that interpersonal distance "is the result of an interaction between an individual's prior history of reinforcement 'vis-a-vis' others as well as the context in which the behavior occurs" (Duke and Nowicki, 1972, p. 127). That is, the expectancies to which an individual subscribes in a given situation will be determined by that individual's past experiences within that situation. Duke and Nowicki (1972, p. 127) state that "specific expectancy for a particular situation generalizes to similar situations so that both specific and general expectancies act in combination with reinforcement value to determine behavior."
Thus, in this study, (1) "intrusion of territorial space (ITS)
and (2) "intrusion of personal space" (IPS) are assumed to be non-
voluntary responses to the stimuli, "appropriateness of the level of
the caregiver" (ALC), "centrality of task to cure" (CTC), and "loss of
control" (LC). Perceived (3) "invasion of privacy" (IP) is assumed to
be a non-voluntary response to the stimuli, "intrusion of territorial
space" (ITS) and "intrusion of personal space" (IPS). Likewise,
experienced (4) "anxiety" (A) is assumed to be a non-voluntary response
to the stimulus, "invasion of privacy" (IP).

It was therefore assumed that the relationships among the
variables (1) "appropriateness of the level of the caregiver" (ALC),
"centrality of task to cure" (CTC), and "loss of control" (LC) to the
"intrusion of territorial space" (ITS); and (2) to the "intrusion of
personal space" (IPS) could be described in the following stimulus-
response power function equations:

1. \( ITS = c_{ALC}^{\alpha_{ALC}} \cdot CTC^{\alpha_{CTC}} \cdot LC^{\alpha_{LC}} \)
2. \( IPS = c_{ALC}^{\alpha_{ALC}} \cdot CTC^{\alpha_{CTC}} \cdot LC^{\alpha_{LC}} \)

Likewise, the relationships among the variables (3) the "intrusion of
territorial space" and the "intrusion of personal space" to the
"invasion of privacy" (IP); and (4) the "invasion of privacy" (IP) to
the level of "anxiety" (A) could be similarly described:

3. \( IP = c_{ITS}^{\beta_{ITS}} \cdot IPS^{\beta_{IPS}} \)
4. \( A = c_{IP}^{\beta_{IP}} \)
CHAPTER 2

THE DESIGN

This study was conducted to explore hospitalized patients' perceptions of invasions of their privacy. Specifically this preliminary research effort was designed to examine (1) the degree to which hospitalized surgical patients perceived specific care related tasks and behaviors performed by hospital staff members as intrusive of their defined (a) territorial and (b) personal space; (2) the degree to which the same tasks and behaviors were perceived as intrusive of their desired level of privacy; and (3) the degree to which these tasks and behaviors were perceived as anxiety-producing. The theoretical framework within which the researcher operated has been discussed and the proposed theoretical model generated has been presented. As a means of demonstrating this model's tenability, the research design implemented was a mathematical correlational design like that of Hamblin and Smith (1966) and Hinshaw and Field (1974). Hinshaw and Field (1974, p. 295) state that this design incorporates: (1) control by constancy, (2) multiple and simultaneous ratio measurements of all variables across the entire effective continua of the independent variables, (3) averaging out random measurement error, and (4) describing the relationships which obtain in the measurement by fitting the appropriate algebraic equations.
The Setting

This study was conducted in a southwestern university hospital. Subjects were drawn from two surgical units. Permission to conduct the research study was granted by the Human Subjects Committee. All interviews were conducted in the hospital, usually in the subject's room.

Subjects

Thirty subjects, ten male and twenty female, were randomly selected from the two assigned general surgical units over a two-month period. The names of the participants for a given session were drawn from an envelope containing the names of all eligible subjects. All were able to read and speak English. All had been hospitalized for a period of at least forty-eight hours prior to participating in order to ensure their exposure to hospital routine and hospital staff behavior. Interviews were not conducted during a subject's immediate postoperative period. Participants had not been heavily or immediately sedated. While the researcher avoided meal times, interviews were conducted morning, afternoon, and evening throughout the week whenever several individuals could be identified from which to select a subject. Written permission was obtained from all participants. All subjects were required to demonstrate an understanding of the method of data collection during individually offered practice sessions.

Tables in Appendix C present the demographic data. Subjects ranged in age from nineteen to eighty-three with an average age of forty-one years. Three subjects were being hospitalized for the first time, twenty-one for the second to fifth time, and six for the sixth or
more. Twenty-four reported having had major surgery; six reported minor surgery. In general, participants had undergone gynecological, gastrointestinal, reconstructive, and/or orthopedic surgery. The specific procedures performed included mastectomies, hysterectomies, cholecystectomies, bowel resections, hernia repair, surgical repair of fractures, and skin grafting.

Magnitude Estimation Procedures

A magnitude estimation procedure was selected to provide a direct method of obtaining ratio scaled data. A general review of this method of data collection is presented by Stevens (1957). In magnitude estimation subjects are asked to respond to a series of stimuli which are presented in random order. Responses are made proportionally; that is, in relation to a given standard stimulus. For example, the value of 10 units might be given to a standard. If the magnitude of a subject's estimated response to a particular stimulus in a series of stimuli is twice at great as that of the standard stimulus, the subject would respond by assigning the value of 20 units to the stimulus in question.

According to Hinshaw and Field (1974, p. 295), the presentation of a standard may occur in two ways:

(1) the investigator may present a stimulus which is designated as the standard and request that responses to all other stimuli be ranked proportionally to it, or (2) the investigator may request that the subject select a stimulus which he considers to be average in terms of the variable and then judge responses to all other stimuli in proportional terms to the selected one.
The second approach was implemented in this study. Subjects were asked to estimate the amount of sensation produced from a stimulus. Each was asked to "draw a line" in relation to a given standard thereby providing a projective measure of the intensity of their individual response to the performance of specific tasks and behaviors by hospital staff personnel. Each subject rated all sixteen items on all variables.

In an interview of approximately one and one-half to two hours in length, each subject was given a brief explanation of the purpose and principles of the study. Each was assured of the confidentiality of their responses. Instructions were given and, as suggested by Hinshaw and Field (1974), a "training session" was instituted to insure adequate familiarity with the reporting method used. The format for the "training session" was as follows:

Before we begin, let's work with the method we will be using to obtain your responses during this interview. I would like you to think in terms of ratios and proportions. Suppose I were to give you a number—let's say the number ten and were to ask you to give me a number that was twice as large, you would answer . . .? Now given the number ten, give me a number one-half as large, three-fourths as large, ten times as large.

I'm going to vary this procedure slightly. I would like you to continue to think in terms of ratios and proportions. This time, though, I'm going to show you a 3 x 5 card that has a line on it. (Present a card with a 7 cm line on it.) This line represents an average. I'd like you to draw a line for me that you would estimate to be twice as long; one that is one-half as long; one that is one-quarter as long; four times as long. (The interviewer should evaluate each response for accuracy.)

Note please what you have done. You've given me a number or drawn a line that is in a specific proportion to the number or line that I gave you as an average. Have you
any questions about this? I would like you to respond in a similar fashion to lists of hospital personnel behaviors that I will present to you.

Operationalization of Variables

Broad definitions for all variables were assigned. The seven operationalized definitions were typed onto 5 x 8 cards and were presented to all subjects for their reference during each rating session. The definitions were as follows:

1. Appropriateness of level of caregiver. You have probably noticed that you have certain expectations about the level of caregiver that will provide certain aspects of your care for you. Thus, you may consider it appropriate for a doctor or a nurse (professionals) to discuss your surgery with you but not the appropriate task for the aide or orderly (non-professionals). Please draw a line for each task item which estimates the degree of appropriateness for (a) the professional caregiver and (b) the non-professional caregiver.

2. Centrality of task to cure. Although many tasks are performed in an effort to help you recover, you may feel that some are more important than others in terms of attaining this goal. The more important you would consider a task to be in terms of assisting you in recovering, the more "central" it would be to you. Please draw a line for each task item which estimates its "centrality" for you.

3. Loss of control. In your home, you are in "control"—that is, you retain the right to specify what will happen, when. In the
hospital, you may or may not feel that you retain this right. The degree to which you feel this right is denied represents the degree to which you experience "loss of control." Please draw a line for each task item which estimates the "loss of control" you would experience with the performance of that task.

4. **Intrusion of territorial space.** You may have noticed that you are apt to consider this room, this bed, this chair as "your" room, "your" bed, and "your" chair during your stay in the hospital. This physical space around you which you have designated as your own is your "territorial space." All who enter this bounded area without your permission "intrude upon your territorial space." Please draw a line for each task item which estimates the degree of intrusion of your territorial space you would experience with its performance.

5. **Intrusion of personal space.** The physical space that immediately surrounds you—that is, within four feet of you—is your "emotional bubble" or your "personal space." You may have noticed that when others come that close to you, you may or may not feel uneasy. Should they do so without your permission, they would be "intruding upon your personal space." Please draw a line for each task item which estimates the degree of intrusion of your personal space you would experience with its performance.

6. **Invasion of privacy.** If you want to have privacy, you probably want to be alone or, at least, to retain the right to decide who you want to be near you or to share your thoughts or
feelings with. If you are not allowed to make these decisions and others remain around you or ask too many questions, you may feel intruded upon—that your "privacy has been invaded."

Please draw a line for each task item which indicates the degree of "invasion" that you would experience with its performance.

7. **Anxiety.** As you have probably noticed, particular individuals, certain tasks that they perform, certain experiences that you have in the hospital may create an "uneasy" or an "embarrassed" feeling within you. This uneasiness may be accounted for as a feeling of "anxiety." Please draw a line for each task item which estimates the amount of "anxiety" you would experience with its performance.

**Measurement Technique**

A grouping of seven tasks and/or behaviors which reflected potential "territorial space intrusions" and nine tasks or behaviors which reflected possible "personal space intrusions" were presented to each subject for rating on each variable. The items were adapted for use in this study from those designed by Allekian (1974).

Prior to the implementation of this design, several graduate students were asked to Q-sort twenty task items into two categories: those representing potential territorial space intrusions and those representing potential personal space intrusions. They were requested to refer to the operational definitions for intrusion of territorial and personal space while making their choices. The students were then
asked to rate the same twenty items for their perceived "intrusiveness" potential. The scale on which they were to rate the items ranged from 0-3 with 0 = "not intrusive," 1 = "slightly intrusive," 2 = "moderately intrusive," and 3 = "highly intrusive." The purpose of this rating was to ascertain that the items of both groupings reflected the concepts of "territorial space" and "personal space" as operationalized and varied in terms of the perceived degree of "intrusion" each represented.

Four items which appeared to be ambiguous or in duplication of others were eliminated. The remaining sixteen task items were typewritten onto 3 x 5 cards. All cards were presented to each subject in random order for rating on all variables. The procedure was repeated twice on the variable "appropriateness of level of caregiver" for rating against the "professional" and "non-professional" categories.

The items which represent intrusion of territorial space and intrusions of personal space appear below.

I. Items Representing Territorial Space Intrusion

1A. Your door is closed and a hospital staff member enters without knocking in order to make the bed.

2A. A hospital staff member removes a chair from your room without asking whether you will be using it.

3A. While you are lying in bed, a hospital staff member bumps the bed as he walks by it to check the TV.

4A. The window shades in your room are raised or lowered without asking your preference.

5A. Without asking your permission, a hospital staff member looks through your personal belongings for a comb.

6A. A hospital staff member rearranges your personal belongings on the bedside stand without asking you.
7A. A hospital staff member enters your room and begins to move your bed while you are in it in the process of serving your dinner tray.

II. Items Representing Personal Space Intrusion

1B. While you are lying in bed, a hospital staff member leans over you to reach the oxygen equipment on the wall behind you. You can feel her breath against your face as she talks.

2B. While you are sitting in a chair, a hospital staff member comes close to you and puts his hand on your shoulder while he talks with you.

3B. A hospital staff member holds your hand for a few minutes after putting a thermometer in your mouth.

4B. After asking you some questions, a hospital staff member begins to examine you by palpating and listening to different parts of your body.

5B. A hospital staff member administers a treatment to a more personal area of your body.

6B. While you are bathing, a hospital staff member peers into the curtained area around the bed without indicating that he was about to do that.

7B. While you are lying in bed, a hospital staff members leans over you in the process of making your bed.

8B. A hospital staff member takes your hand while you are telling him about a problem.

9B. A hospital staff member approaches you in your room and puts her arms around you while bringing you some mail that has just arrived for you (Allekian, 1974, pp. 32-33).

All interviews proceeded in the same manner. A subject's written permission was obtained (see Appendix A). A training session was implemented. The cards containing the operationalized definitions of the seven variables were presented to the subject, one at a time, in random order. The subject was asked to select an "average" or a "standard" task item from the sixteen behavioral items listed above for
each variable. A card with a 7 cm line drawn on it was shown to the subject. Each was told that the line represented a projective measure of the "average" or "standard" task item they had selected.

Next, instructions were given to the subject according to the following format:

I am now going to ask that you rate each task item on each of the variables that I have just presented to you. For each variable I will ask that you think of the item you have selected as an average. Let it be represented by this line. Then, for each item draw a line which represents their "level of appropriateness" or "perceived invasion," etc. For example, if item #7B seems moderately appropriate or acceptable for a professional hospital staff member to carry out, then you would draw a line that is equal to the standard. If item #2B seems less appropriate for a doctor or a nurse to display, say only one-half as appropriate, then you would draw a line which is one-half as long as the standard. If you feel that the behavior is totally inappropriate for a professional to display, then that item would have a zero value. In this case, you would not draw any line at all.

It is very important that you indicate your first impression so I'll proceed fairly quickly.

Have you any questions before we begin?

Each subject was given eight blank packets of paper. Each packet contained sixteen pages. Each page was eighteen inches in width to insure that the subject could respond freely; that is, that the magnitude of a subject's response not be limited by the unavailability of space. Each subject was asked to respond to all items on all variables limiting one response to a page and the responses on one variable to a packet.

An interview was terminated when the subject had responded (had drawn a line) in relation to the standard for each behavioral item on each variable. Following the interview, the researcher measured each
response to the nearest millimeter. The measurements were recorded on individual Data Summary Sheets (see Appendix B).

**Reliability and Validity**

Hilgard, Atkinson, and Atkinson (1975, p. 401) state that test instruments and measurement tools are reliable "when they are dependable, reproducible, and consistent." The reliability of the measurement procedure utilized in this study was evaluated in two ways: (1) in the application of the "test-retest" practice to determine intrasubject reliability; and (2) in the generation of correlational matrices to compare (a) behavioral items and (b) variables to determine intrarater reliability.

Intrarater reliability refers to the degree to which subjects yield similar ratings on all variables over time. To assist with this evaluation, eight subjects were randomly selected to be reinterviewed within twenty-four to seventy-two hours of their initial session. It was felt that the time lapse between the first and second sessions would be sufficient to eliminate memory as a possible source of bias. All subjects were reinterviewed under conditions comparable to the initial session. Each was asked to respond to each behavioral item in relation to a selected standard on three variables. A schedule with random assignment of all variables was drawn up to insure that each would be reevaluated three times. The schedule allowed for the repeated measurement of the variable, appropriateness of the level of the caregiver, under the two conditions, professional and non-professional.
Correlational coefficients were generated to determine the level of intrasubject reliability.

A second series of tests was run to estimate interrater reliability: that is, the degree to which subjects yield similar ratings on all variables. Eight correlational matrices were generated to evaluate the degree of covariance between each behavioral item and every other item on all variables. A ninth matrix was generated to evaluate the degree or covariance between each variable and every other variable thereby testing the method assumption of like answers based on socialization. It was assumed that, since the use of space is a learned phenomenon, all subjects would respond in a similar manner.

The validity of an instrument is its ability to measure what it is intended to measure (Hilgard et al., 1975, p. 402). Construct validity relates that which an instrument measures to an underlying theoretical concept (Lathrop, 1969, p. 25). It was therefore assumed that by developing a theoretical proposition based on a review of the literature and substantiating the predicted relationships derived from that theoretical framework that construct validity could be estimated by virtue of the assumption that because the data supported the theoretical predictions, the operational definitions indeed measured that which they were intended to measure. Further validation can only come through replication of the study.

**Data Analysis**

As indicated by Hinshaw and Field (1974), the first step in the data analysis was to average out the random measurement error. This
was done by standardizing the data and by determining the median response of all subjects on all variables. Stevens (1957) writes that the median is considered to be the appropriate measure of central tendency when zero values are anticipated.

The pooled data were then transferred to logarithms. According to Hamblin (1966), the log-log plot of such data describes a straight line thereby permitting analysis by standard correlation-regression procedures.

Path analysis, originally developed by Sewall Wright (Kerlinger, 1973, p. 305), was employed to examine the hypothesized relationships between variables by stage. Kerlinger (1973, p. 305) writes that path analysis is "a method for studying the direct and indirect effects of variables taken as causes of variables taken as effects." Wright (1934, p. 193) notes that this method of statistical analysis is not intended to accomplish the impossible task of deducing causal relations from the values of the correlation coefficients. It is intended to combine the quantitative information given by the correlations with such qualitative information as may be at hand on causal relations to give a quantitative interpretation.

The purpose of this study was, in part, to examine the tenability of the proposed theoretical model (Figure 3). Path analysis, a tool which is designed to test theory, was therefore selected as the appropriate statistical method for data analysis.

The following relationships were among those examined:

1. Appropriateness of Level of Caregiver (ALC)
2. Intrusion of Caregiver (ALC)
3. Centrality of Task to Cure (CTC)
4. Territorial Space (ITS)
5. Loss of Control (LC)
2. Appropriateness of Level of Caregiver (ALC)
   Centrality of Task to Cure CTC)
   Loss of Control (LC)  \rightarrow  Intrusion of Personal Space (IPS)

3. Intrusion of Territorial Space (ITS)
   Intrusion of Personal Space (IPS)  \rightarrow  Invasion of Privacy (IP)

4. Invasion of Privacy (IP)  \rightarrow  Anxiety (A)

A second path model was constructed from the empirical data generated by the sampled population. A multiple regression analysis was performed to determine the relative significance of the independent variables on the dependent variables by stage. The empirical model was accepted at a p < .05 level. Those variables which demonstrated standardized regression coefficients at a p < .05 level of significance for 2/24 degrees of freedom were included in the empirical model.
CHAPTER 3

PRESENTATION OF DATA ANALYSIS

Significance Tests for Reliability and Validity

The reliability of the data collection procedure was evaluated in two ways: (1) in the application of the "test-retest" practice to determine intrasubject reliability; and (2) in the generation of a correlation matrix to determine interrater reliability testing the basic socialization assumption.

Table 1 lists the correlation coefficients generated from the results obtained through the implementation of the "test-retest" practice. The mean responses on all variables obtained during the initial reaction session were determined and compared with those obtained in a second session held 24-72 hours later. The highest correlations between the first and second mean responses were on the variables (1) centrality of task to cure \((r = 0.999)\), (2) intrusion of personal space \((r = 0.994)\), (3) anxiety \((r = 0.987)\), and (4) intrusion of territorial space \((r = .980)\). The two sets of responses correlated moderately on the variables loss of control \((r = 0.700)\) and appropriateness of level of caregiver--professional \((r = 0.595)\). The comparison of responses on the variable invasion of privacy \((r = 0.265)\) demonstrated a low correlation. There was a slight negative correlation on the variable appropriateness of level of caregiver--non-professional \((r = 0.083)\). An element of concern stems from the low correlation demonstrated between the two sets of responses on the
Table 1. Correlation Coefficients Generated from the Implementation of the "Test-Retest" Practice

<table>
<thead>
<tr>
<th>Test</th>
<th>alca</th>
<th>alcb</th>
<th>ctc</th>
<th>lc</th>
<th>its</th>
<th>ips</th>
<th>ip</th>
<th>a</th>
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<td></td>
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<td>0.999</td>
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<td></td>
<td></td>
<td>0.700</td>
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<td></td>
<td></td>
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</table>

Appropriateness of Level of Caregiver = Professional (ALCP-alcp), Non-professional (ALCB-alcb); Centrality of Task to Cure (CTC-ctc); Loss of Control (LC-lc); Intrusion of Territorial Space (ITS-its); Intrusion of Personal Space (IPS-ips); Invasion of Privacy (IP-ip); Anxiety (A-a).
variable invasion of privacy ($r = 0.265$). One must seriously question the reliability of this variable.

Interrater reliability refers to the degree to which subjects yield similar results on all variables. Table 2 presents the correlation matrix for the comparison of the median responses on each variable with the median responses on every other variable. The Pearson correlation coefficients that were significant at the .01 level were between the variables (1) appropriateness of level of caregiver—professional—and appropriateness of level of caregiver—nonprofessional ($r = 0.755$), (2) loss of control and intrusion of territorial space ($r = 0.811$), (3) loss of control and intrusion of personal space ($r = 0.901$), (4) loss of control and invasion of privacy ($r = 0.865$), (5) loss of control and anxiety ($r = 0.913$), (6) intrusion of territorial space and intrusion of personal space ($r = 0.883$), (7) intrusion of territorial space and invasion of privacy ($r = 0.948$), (8) intrusion of territorial space and anxiety ($r = 0.853$), (9) intrusion of personal space and invasion of privacy ($r = 0.859$), (10) intrusion of personal space and anxiety ($r = 0.943$), and (11) invasion of privacy and anxiety ($r = 0.882$).

An element of concern stems from the high degree of correlation, particularly between the variables intrusion of territorial space and intrusion of personal space ($r = 0.888$). It would appear that the data generated by measurement of these variables demonstrate multicollinearity and the resultant problems. Gordon (1968, p. 592) warns researchers of the "partialling fallacy," the uncritical use of partials which "becomes more likely the higher the order of the
Table 2. Correlation Matrix for the Comparison of Each Variable with Every Other Variable

<table>
<thead>
<tr>
<th></th>
<th>ALCA</th>
<th>ALCB</th>
<th>CTC</th>
<th>LC</th>
<th>ITS</th>
<th>IPS</th>
<th>IP</th>
<th>A</th>
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<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>A</td>
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</table>

*Significant at the .01 level.

Appropriateness of Level of Caregiver—Professional (ALCA-alca), Non-professional (ALCB-alcb); Centrality of Task to Cure (CTC-ctc); Loss of Control (LC-lc); Intrusion of Territorial Space (ITS-its); Intrusion of Personal Space (IPS-ips); Invasion of Privacy (IP-ip); Anxiety (a-a).
partial." Multiple regression is designed to demonstrate highest-order partials "automatically and invariably" and thus is "extremely susceptible to the partialling fallacy" (Gordon, 1968, p. 595). Gordon notes that the purpose of a research effort is not merely to substantiate predicted relationships between hypothesized variables but, rather, to determine if the relationships in question "can be destroyed by controlling for a variable that has been hypothesized to be potentially relevant and conceptually distinct within the theoretical context in which one has chosen to operate" (Gordon, 1968, p. 593). Gordon cautions about the fallacy of utilizing variables that are not "meaningfully different." "So closely do these variables approach being identical with one of the variables already in the zero-order relationship that controlling for them becomes tantamount to partialling that relationship out of itself" (Gordon, 1968, p. 593). This occurrence can mask the significance of the low partials. In effect, "a high degree of correlation between variables may lead to skewing of the standardized regression coefficients" (Hinshaw and Field, 1974, p. 297). Possible ramifications of this occurrence will be discussed in the subsequent chapters.

It was assumed that the construct validity of the operational definitions could be estimated if the data supported the predicted relationships. Further substantiation could come only through replication. To examine the theorized relationships it was therefore necessary to (1) develop a theoretical proposition; (2) demonstrate substantiation of the specified relationships; and (3) assume that because the data supported the theorized predictions, the operational
definitions measured what they were intended to measure. A path model (Figure 3) was drafted based on the proposed theoretical relationships. Operational definitions were specified in accordance with the proposed theoretical framework. The results of the statistical analysis, path analysis in this case, were assumed to confirm predicted relationships if they substantiated the predicted directional influence of an independent variable or set of independent variables on a particular dependent variable.

**Correlation Matrix**

Following the averaging out of random measurement error and the logarithmic transformation of the data, a correlation matrix (Table 3) for logarithms of each variable and every other variable was generated. Correlation analysis was performed to provide data as well as to aid in the interpretation of the multiple regression analysis. The matrix was generated based on a responding population of twenty-seven due to the omission of demographic data in three cases. The presence of a highly intercorrelated set of independent variables is again evident. The highest degree of correlation was between the variables (1) anxiety and invasion of privacy (r = 0.857), (2) anxiety and intrusion of territorial space (r = 0.868), (3) anxiety and intrusion of personal space (r = 0.956), (4) anxiety and loss of control (r = 0.908), (5) invasion of privacy and intrusion of territorial space (r = 0.966), (6) invasion of privacy and intrusion of personal space (r = 0.875), (7) invasion of privacy and loss of control (r = 0.863), (8) intrusion of territorial space and intrusion of personal space (r = 0.888), (9) intrusion of
Table 3. Adjusted Correlation Matrix for Logarithms of Each Variable with Every Other Variable

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>IP</th>
<th>ITS</th>
<th>IPS</th>
<th>ALCA</th>
<th>ALCB</th>
<th>CTC</th>
<th>LC</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1.0000</td>
<td>0.8746</td>
<td>0.8679</td>
<td>0.9557</td>
<td>-0.1957</td>
<td>-0.1008</td>
<td>0.3631</td>
<td>0.9084</td>
</tr>
<tr>
<td>IP</td>
<td>1.0000</td>
<td>0.9656</td>
<td>0.8752</td>
<td>-0.2207</td>
<td>-0.1333</td>
<td>0.4003</td>
<td>0.8635</td>
<td></td>
</tr>
<tr>
<td>ITS</td>
<td>1.0000</td>
<td>0.8882</td>
<td>-0.2382</td>
<td>-0.1832</td>
<td>0.4098</td>
<td>0.8210</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPS</td>
<td>1.0000</td>
<td>-0.2983</td>
<td>-0.2206</td>
<td>0.3674</td>
<td>0.9029</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALCA</td>
<td>1.0000</td>
<td>0.7414</td>
<td>0.0961</td>
<td>-0.1615</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALCB</td>
<td>1.0000</td>
<td>0.2336</td>
<td>-0.0456</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTC</td>
<td>1.0000</td>
<td>0.4615</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC</td>
<td>1.0000</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Appropriateness of Level of Caregiver—Professional (ALCA), Non-professional (ALCB); Centrality of Task to Cure (CTC); Loss of Control (LC); Intrusion of Territorial Space (ITS); Intrusion of Personal Space (IPS); Invasion of Privacy (IP); Anxiety (A).
territorial space and loss of control \((r = 0.821)\), (10) intrusion of personal space and loss of control \((r = 0.901)\), and (11) appropriateness of level of caregiver—professional—and appropriateness of level of caregiver—nonprofessional \((r = 0.741)\).

**Regression Systems**

Table 4 presents the multiple regression results for logarithms of (A) intrusion of territorial space with the variables appropriateness of level of caregiver—professional to loss of control; Table 5, (B) intrusion of personal space with the variables appropriateness of level of caregiver—professional—to loss of control; Table 6, (C) invasion of privacy with intrusion of territorial space to loss of control; and Table 7, (D) anxiety with invasion of privacy to loss of control. The independent variables that demonstrated regression coefficients significant at the .01 level include: loss of control in stage A \((F = 16.284, \text{df} = 7/19)\), loss of control in stage B \((F = 96.011, \text{df} = 7/19)\), intrusion of territorial space and loss of control in stage C \((F = 56.165 \text{ and } F = 4.926, \text{df} = 9/17)\), and intrusion of personal space in stage D \((F = 7.368, \text{df} = 11/15)\).

An empirical path model (Figure 6) was constructed based upon the results obtained from the multiple regression analysis of the variables by stage. The variables with standardized regression coefficients significant at the \(p < .05\) level for 2/24 degrees of freedom were included in the model. This incorporated the variables anxiety, invasion of privacy, intrusion of territorial space, intrusion of personal space, appropriateness of level of caregiver—nonprofessional,
Table 4. Multiple Regression Results for Logarithms of (A) Intrusion of Territorial Space with the Variables, Appropriateness of Level of Caregiver--Professional to Loss of Control

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression Coefficients</th>
<th>RSQ Change</th>
<th>F-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of Control</td>
<td>0.674</td>
<td>0.674</td>
<td>16.284*</td>
</tr>
<tr>
<td>Appropriateness of Level of Caregiver--Non-professional</td>
<td>0.696</td>
<td>0.022</td>
<td>1.345</td>
</tr>
<tr>
<td>Centrality of Task to Cure</td>
<td>0.702</td>
<td>0.006</td>
<td>0.807</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.60822. \]

*Regression coefficient significant at the p < .01 level for df = 7/19.

Table 5. Multiple Regression Results for Logarithms of (B) Intrusion of Personal Space with the Variables, Appropriateness of Level of Caregiver--Professional to Loss of Control

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression Coefficients</th>
<th>RSQ Change</th>
<th>F-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of Control</td>
<td>0.815</td>
<td>0.815</td>
<td>96.011*</td>
</tr>
<tr>
<td>Appropriateness of Level of Caregiver--Non-professional</td>
<td>0.847</td>
<td>0.032</td>
<td>1.094</td>
</tr>
<tr>
<td>Appropriateness of Level of Caregiver--Professional--</td>
<td>0.879</td>
<td>0.032</td>
<td>2.521</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.83503. \]

*Regression coefficient significant at the p < .01 level for df = 7/19.
Table 6. Multiple Regression Results for Logarithms of (C) Invasion of Privacy with Intrusion of Territorial Space to Loss of Control

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression Coefficients</th>
<th>RSQ Change</th>
<th>F-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrusion of Territorial Space</td>
<td>0.932</td>
<td>0.932</td>
<td>56.165*</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>0.948</td>
<td>0.016</td>
<td>4.926*</td>
</tr>
<tr>
<td>Intrusion of Personal Space</td>
<td>0.951</td>
<td>0.004</td>
<td>0.769</td>
</tr>
<tr>
<td>Centrality of Task to Cure</td>
<td>0.953</td>
<td>0.002</td>
<td>0.769</td>
</tr>
<tr>
<td>Appropriateness of Level of Caregiver—Non-professional</td>
<td>0.957</td>
<td>0.004</td>
<td>0.098</td>
</tr>
</tbody>
</table>

*R2 = 0.93399.

*Regression coefficient significant at the p < .01 level for df = 9/17.
Table 7. Multiple Regression Results for Logarithms of (D) Anxiety with Invasion of Privacy to Loss of Control

<table>
<thead>
<tr>
<th>Variables</th>
<th>Regression Coefficients</th>
<th>RSQ Change</th>
<th>F-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrusion of Personal Space</td>
<td>0.913</td>
<td>0.913</td>
<td>7.368*</td>
</tr>
<tr>
<td>Appropriateness of Level of Caregiver—Non-professional</td>
<td>0.926</td>
<td>0.013</td>
<td>0.058</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>0.931</td>
<td>0.005</td>
<td>2.127</td>
</tr>
<tr>
<td>Invasion of Privacy</td>
<td>0.938</td>
<td>0.007</td>
<td>0.121</td>
</tr>
<tr>
<td>Centrality of Task to Cure</td>
<td>0.942</td>
<td>0.004</td>
<td>1.032</td>
</tr>
<tr>
<td>Intrusion of Territorial Space</td>
<td>0.946</td>
<td>0.004</td>
<td>0.061</td>
</tr>
<tr>
<td>Appropriateness of Level of Caregiver—Professional</td>
<td>0.946</td>
<td>---</td>
<td>0.056</td>
</tr>
</tbody>
</table>

$R^2 = 0.90675$

*Regression coefficient significant at the $p < .01$ level for 11/15.
Variables with standardized regression coefficients significant at the p < .05 level for 2/24 degrees of freedom:

- Loss of Control (LC)
- Appropriateness of Level of Caregiver—Non-professional (ALCB)
- Intrusion of Territorial Space (ITS)
- Intrusion of Personal Space (IPS)
- Invasion of Privacy (IP)
- Anxiety (A)

Figure 6. Empirical Path Model
and loss of control. The variables appropriateness of level of caregiver—professional—and centrality of task to cure failed to demonstrate a significant influence on any other variable. They were therefore omitted from the empirical path model.

The variable loss of control demonstrated the greatest influence on perceived intrusion of territorial space ($R^2 = 0.66092$). The variable loss of control demonstrated the greatest influence on perceived intrusion of personal space ($R^2 = 0.80785$). The variable appropriateness of level of caregiver—nonprofessional—demonstrated a lesser, though significant, effect on perceived intrusion of personal space ($R^2 = 0.83478$). The variable intrusion of territorial space demonstrated the greatest influence on perceived invasion of privacy ($R^2 = 0.92962$). The variable loss of control demonstrated a lesser effect on perceived invasion of privacy ($R^2 = 0.94334$). It is assumed that, based on the high correlation demonstrated between the variables intrusion of territorial space and intrusion of personal space, these variables may have measured the same response phenomenon and thus unduly skewed the multiple regression coefficient of the variable, intrusion of personal space, to nonsignificance. The variable intrusion of personal space demonstrated the greatest influence on experienced anxiety ($R^2 = 0.90996$). The variable appropriateness of level of caregiver—nonprofessional demonstrated a lesser though significant effect on the variable anxiety ($R^2 = 0.91999$).
CHAPTER 4

DISCUSSION OF FINDINGS AND LIMITATIONS

Interpretation

Altman (1975) speaks to the maintenance of a "privacy regulation system" in which a desired level of privacy is initially situationally defined by an individual and then attempted through the manipulation of privacy regulating mechanisms. Territorial behavior and personal space elaboration are two of the regulatory mechanisms that Altman identifies. Altman proposed that an individual evaluates the effectiveness of these coping behaviors and that stress results from the individual's failure to achieve the desired level of privacy as it had been situationally defined.

In this study several variables were proposed as possible factors that might influence an individual's formulation of a situational definition for a desired level of privacy when hospitalized. The variables considered included appropriateness of the level of caregiver—professional and nonprofessional, centrality of task to cure, and loss of control. Two variables, intrusion of territorial space and intrusion of personal space, were identified as measures of the successful regulation afforded by the coping mechanisms, territorial behavior and personal space elaboration. Assessment of the variable invasion of privacy was hypothesized to have provided a specific measurement of an individual's perceived achieved level of
privacy. The variable anxiety was hypothesized to have provided a specific measurement of an individual's resultant level of stress.

Based on the results of the pooled data, the variable loss of control demonstrated the greatest influence on the variables intrusion of territorial space and intrusion of personal space, and a lesser influence on the variable invasion of privacy. The variable appropriateness of level of caregiver—non-professional—had a slight negative influence on intrusion of personal space and a slight positive effect on anxiety. The variables appropriateness of level of caregiver—professional—and centrality of task to cure failed to demonstrate a significant effect on either perceived intrusion of territorial space or perceived intrusion of personal space.

In this study only two coping behaviors were considered and, of those, only intrusion of territorial space demonstrated a strong influence on perceived invasion of privacy. It would appear that, in part, Altman's thinking was substantiated by the data. That is, the attained level of privacy was perceived as unsuitable and privacy was perceived as having been invaded in direct relationship to the degree to which behaviors were perceived as being invasive of territorial space. Recall, however, the high degree of correlation between the variables intrusion of territorial space and intrusion of personal space, and the discussions of multicollinearity and its associated problems. In light of these discussions, it is assumed that measurement of the variables intrusion of territorial space and intrusion of personal space may have represented measurement of the same response phenomenon. One must necessarily question the possibility of an
adjusted relative significance of the variable intrusion of personal space in this light.

Altman suggested that a stress response followed over- or under-shooting of the defined level of privacy. Altman's thinking was not substantiated by the findings in this study. The variable intrusion of personal space demonstrated a strong positive effect on the perceived level of anxiety. Invasion of privacy, however, failed to demonstrate a significant effect on that variable. As above, however, there was a high degree of correlation between the variables intrusion of personal space and anxiety. It is therefore assumed that measurement of the variables may have represented measurement of the same response phenomenon.

Comparative Analysis

Six hypotheses were proposed based on the theoretical framework drafted to explore Altman's (1975) proposed "privacy regulation system" as it applies to the hospitalized individual. The hypothesized relationships between variables were depicted in a theoretical path model. A second empirical path model was generated to examine the tenability of the first. The hypothesized relationships could then be discussed in terms of a comparison between the two path models.

The first hypothesis stated that the more a patient perceived a given task as appropriate to a specific level of caregiver, the less he would perceive the performance of that task or behavior as intrusive of his defined territorial and personal space. The variable appropriateness of level of caregiver—non-professional—demonstrated a weak
negative effect on the variable intrusion of personal space. The variable appropriateness of level of caregiver—professional—failed to demonstrate an effect on perceived intrusion of personal space. Neither level of that variable, professional nor nonprofessional, demonstrated a significant effect on the variable intrusion of territorial space. At best, then, the first hypothesis was supported to a limited degree. The less the patient population perceived tasks as appropriate to a non-professional caregiver, the more they perceived the performance of the tasks as intrusive of their defined personal space.

The second hypothesis stated that the more a patient perceived a given task as essential or "central" to his cure, the less he would perceive that task or behavior as intrusive of his defined territorial and personal space. This hypothesis was clearly unsubstantiated by the findings. The variable centrality of task to cure failed to yield a regression coefficient of significance during any stage of analysis. Thus, the degree to which patients perceived tasks as essential or "central" to their cure failed to demonstrate a significant effect on the extent to which they perceived the performance of the tasks or behaviors as intrusive of their defined territorial and personal space.

The third hypothesis stated that the degree to which a patient experienced a loss of control with the performance of a specific task or behavior would be directly related to the degree to which that patient would perceive that action as intrusive of his defined territorial and personal space. Perceived loss of control demonstrated the greatest influence on the variables intrusion of territorial and personal space. Thus, the degree to which a patient experienced a loss
of control with the performance of tasks or behaviors was directly related to the degree to which they perceived the actions as intrusive of their territorial and personal space.

The fourth hypothesis proposed that the more a patient perceived the performance of a specific task or behavior as intrusive of his defined territorial space, the more he would perceive its performance as invasive of his privacy. This hypothesis was also substantiated by the findings. The variable intrusion of territorial space demonstrated the greatest influence on the variable invasion of privacy. While the variable loss of control also demonstrated a significant positive effect on the variable invasion of privacy, its influence on perceived invasion of privacy was far less substantial than that of the variable intrusion of territorial space. Thus, the more patients perceived the performance of tasks or behaviors as intrusive of their defined territorial space, the more they perceived their performance as invasive of their privacy. However, again, one must consider the preceding discussions of multicolinearity and its associated ramifications.

The fifth hypothesis spoke to the counterpart of the fourth by stating that the more a patient perceived the performance of a specific task or behavior as intrusive of his defined personal space, the more he would perceive its performance as invasive of his privacy. This hypothesis was not substantiated by the findings. The variable intrusion of personal space failed to demonstrate a significant effect on the variable invasion of privacy. Thus, the degree to which patients perceived the performance of tasks and behaviors as intrusive of their
defined personal space did not demonstrate a significant effect on the degree to which they perceived their performance as invasive of their privacy.

The sixth and final hypothesis stated that the more a patient perceived the performance of a task or behavior as invasive of his privacy, the more he would perceive it as anxiety-producing. This hypothesis was not substantiated by the findings. Instead, the variable intrusion of personal space demonstrated a strong positive effect on the variable anxiety. The variable appropriateness of level of caregiver also demonstrated a weak positive effect on the variable anxiety. The degree to which patients perceived the performance of tasks or behaviors as invasive of their privacy failed to demonstrate a significant effect on the degree of anxiety they experienced.

**Construct Validity**

The validity of an instrument is its ability to measure what it is intended to measure (Hilgard et al., 1975, p. 402). Construct validity relates that which an instrument measures to an underlying theoretical concept (Lathrop, 1969, p. 25). It was assumed that the construct validity of the operational definitions proposed in this study could be estimated by developing a theoretical proposition based on a review of the literature and by substantiating the predicted relationships derived from that theoretical framework.

In the preceding sections, discussion relevant to the analysis of the findings has been presented. In general, it would appear that the variables loss of control and appropriateness of level of
caregiver—nonprofessional—represent two possible factors in the formulation of a situational definition for the desired level of privacy when individuals are hospitalized. This would tend to substantiate Altman's (1975) speculation that individuals establish a target level of interaction. It would appear that, as hypothesized, there is a direct relationship between perceived loss of control and attempts to implement territorial and personal space behavior to insure retained control. As predicted, there appears to be an inverse relationship between perceived appropriateness of the level of caregiver—nonprofessional—and attempts to implement personal space behavior. As predicted, measurement of the variable intrusion of territorial space demonstrated a strong influence on perceived invasion of privacy.

Data analysis did not support Altman's thinking, nor that proposed in this study, regarding the predicted relationship between the variables intrusion of personal space and invasion of privacy. A significant positive relationship was not demonstrated between these variables. It is possible that this outcome is related to the problem of multicollinearity related to the variables intrusion of territorial space and intrusion of personal space, as discussed previously. Failure of the data to support this predicted relationship may also indicate that the definitions as operationalized for intrusion of personal space and invasion of privacy failed to present a sufficiently comprehensive treatment of these concepts.

In presenting his theoretical framework, Altman (1975, p. 86) notes that his emphasis in discussion of personal space intrusion is on "intrusion of personal-space barriers rather than on territorial or
'place' invasion." He points out that Leibman (1970) speaks to three types of personal space violation: "(1) overly close physical distances, (2) inappropriate body positions, and (3) behaviors that result in excessive symbolic intimacy" (Altman, 1975, p. 87).

Altman (1975, p. 100) also emphasized that "personal space functions as part of a 'system,' sometimes substituting for, sometimes compensating for, and sometimes amplifying other behaviors." He suggests that it is difficult to isolate the component behaviors of this subsystem.

The operational definition of personal space intrusion as proposed in this study may have placed too much emphasis on the proxemics of the concept although an attempt was made to incorporate consideration of the emotional buffering that personal space elaboration can provide. It is also possible that the intricacies of the subsystem Altman refers to require closer examination. Perhaps such an in-depth exploration would better clarify the interrelationship between intrusion of personal space and perceived invasion of privacy.

An element of concern was expressed regarding the demonstrated low reliability of the variable invasion of privacy (r = 0.265):

Allowing for the problems of multicolinearity and the possible ineptitudes in the operational definitions, this researcher wishes to caution that measurement of the variables intrusion of personal space and invasion of privacy may reflect a valid perception in spite of the failure of the findings to support the proposed interrelationship between the two variables. In support of this thinking, please note that Evans and Eichelman (1976) speak to the "expectational interpretation" that can be accorded to Altman's work. They write, "privacy is
viewed as a central regulator which opens and closes the self to others based on personal goals and social expectations" (Evans and Eichelman, 1976, p. 105). The pooled responses of the studied subjects may indicate that perceived intrusions of personal space were in accord with the subjects' expectations of what might occur when hospitalized and, therefore, were not perceived as also invasive of their privacy. Certainly this is in agreement with the suggestion proposed by Allekian in support of her findings. It may be that behaviors related to personal space violation, i.e., eye contact, orientation, or lean, would prove to be more closely related to perceived invasion of privacy than intrusions of personal space per se. Only further in-depth exploration of the subtleties of personal space behavior as it relates to the concept of privacy can estimate the construct validity of the definitions as operationalized in this study.

Another deviation between a relationship as hypothesized and that obtained occurred between the variables invasion of privacy and anxiety. The failure appears to have strong implications regarding the construct validity of the variable anxiety. Altman has suggested that a stress response would follow perceived invasion of privacy; that is, a stress response would follow a perceived failure to achieve the desired level of interaction. It was the intent of this researcher to define that stress response in terms of experienced "annoyance," "uneasiness," and/or "embarrassment." However, the operational definition for the variable anxiety did not include the characteristic "annoyance" and spoke only to the elements of "uneasiness" and "embarrassment." Subjects frequently responded that the performance of
various tasks and behaviors would not make them "anxious," thus "uneasy" or "embarrassed," but that their performance might cause them to become "annoyed" or "angry." It is, therefore, the belief of this researcher that the operational definition for the variable anxiety needs to be reconceptualized and then retested.

**Limitations**

Serious limitations or restrictions on the generalizability of the findings exist based on the limited scope, the nature of the design, and the implementational shortcomings of this research effort. Multiple regression is designed to demonstrate highest-order partials and thus is "extremely susceptible to the partialling fallacy" (Gordon, 1968, p. 595). According to Hinshaw and Field (1974, p. 296, "multicolinearity leads to substantial intersample variations of standardized coefficients in a multiple regression analysis, making reliance on this procedure questionable." Generalization can be made only in terms of the underlying theoretical framework. The sample population included only thirty subjects. Randomization with replacement was not possible in selecting the sample population. Only twenty-seven sets of data were subjected to analysis due to the omission of specific demographic data in three cases. The implemented method of data analysis entailed the pooling or averaging out of data across subjects. Discussion of the results obtained must therefore be limited to discussion of the population's perceptions as a whole.

Replication will be necessary to further examine the reliability and validity of the methodology implemented. The interview sessions
were lengthy. The fatigue factor must be questioned in spite of the fact that variables and behavioral items were presented for evaluation in random order. The sixteen behavioral items to which the subjects responded incorporated task as well as behavioral elements. It is necessary to question which aspect or combination of aspects elicited the obtained responses. For example, item #7B reads, "While you are lying in bed, a hospital staff member leans over you in the process of making your bed." Did the subjects respond to the suggestion of the overly close contact with the hospital staff member? Were their responses weighted by the task element of the item? Does "having one's bed made" elicit some sense of loss of control, territorial intrusion, or invasion of privacy in and of itself? If so, how, and to what degree? It would be helpful to address such questions in the future in the hope of gaining a fuller understanding of the degree to which one's manner in performing a task effects a hospitalized individual's perception of his retained control, sense of autonomy, etc.

It is the impression of this researcher that the projective nature of demonstrating a felt response by "drawing a line" permits individualization of response as well as an accurate translation of a perceived phenomenon into a measurable response. However, further applications of this measurement methodology must be implemented and its reliability evaluated.

The construct validity of the operational definitions intrusion of territorial space and privacy and intrusion of personal space and anxiety were questioned. Did measurement of them reflect measurement of
the same response phenomena? Again, further exploration and evaluation must come through replication.

Ultimately, only a limited number of aspects of a very complex behavioral network were examined. It is essential that the effects of such selective isolation and exploration of these concepts be questioned by any who might evaluate and weigh the findings obtained from this beginning research effort.
CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

Conclusions

Mindful of the limitations discussed above, this researcher concluded the following from the obtained data. The variable loss of control demonstrated a strong positive effect on the variables intrusion of territorial space and intrusion of personal space. As hypothesized, the variable appropriateness of level of caregiver—nonprofessional—demonstrated a weak negative effect on the variable intrusion of personal space. The variables appropriateness of level of caregiver—professional—and centrality of task to cure failed to demonstrate a significant positive or negative effect on the variables intrusion of territorial space and intrusion of personal space. Therefore, the variables loss of control and appropriateness of level of caregiver—nonprofessional—may have represented two possible factors in the formulation of a situational definition for the desired level of privacy when hospitalized by the studied population. The data would, thereby, tend to substantiate Altman's speculation of a direct relationship between the formulation of a situational definition and the implementation of coping mechanisms in an attempt to insure a desired level of privacy.

The variable intrusion of territorial space demonstrated a strong positive effect on the variable invasion of privacy. Altman's
speculation that perceived territorial control is directly related to perceived attained privacy and/or the alternative—that is, perceived intrusions of territorial space would also be perceived as invasions of privacy—may have been substantiated by the findings.

The variable intrusion of personal space failed to demonstrate a significant effect on the variable invasion of privacy. This researcher concluded that this outcome may be related to the apparent problem of multicollinearity as suggested by the high degree of correlation between the variables intrusion of territorial space and intrusion of personal space. It is hoped that future research efforts will elucidate the correct interpretation of this outcome by ruling out others. For example, is it possible that perceived personal space intrusions are, indeed, not also perceived as invasive of the privacy of hospitalized individuals? The expectational interpretation that Evans and Eichelman (1976) accorded to Altman's work was discussed as a possible alternative explanation for the failure of the data to confirm this hypothesized relationship. It is believed that Evans and Eichelman's interpretation supports and clarifies the speculation by Allekian (1974) that patients might anticipate intrusions of personal space when hospitalized.

Lastly, the variable invasion of privacy failed to demonstrate a significant effect on the variable anxiety. This researcher concluded that this failure was a direct reflection of the lack of construct validity of the operational definition ascribed to the variable anxiety. The exclusive emphasis on experienced "uneasiness" by the definition is believed to be responsible for the demonstrated high
degree of correlation between the variables intrusion of personal space and anxiety. It is also believed that a reconceptualized definition of the variable anxiety might more accurately reflect the concept of stress as defined by Altman.

**Recommendations**

Recommendations for further study were spawned by the preceding discussions. Replication is to be encouraged to further explore the reliability of the implemented methodology and the construct validity of the operational definitions. Improved randomization in sample selection, further evaluation of the fatigue factor as it might affect data collection, as well as repeated results with different populations are essential to improve the generalizability of the findings.

Two areas of concern regarding the measurement technique implemented give rise to additional recommendations. Recall that the sixteen task items incorporated a "task" as well as a "behavioral" component. This researcher questioned which aspect or combination of aspects elicited the obtained responses. It is suggested that the task and behavioral elements be isolated from each item, responses to each grouping be obtained on the variables, and the results compared to determine if a significantly different response was elicited from either group. Secondly, the projective value of the response reporting technique utilized in this study was questioned. Often, in instituting the magnitude estimation procedure, ratio scaled data are obtained by asking the subjects to respond to a test item by assigning a number which reflects the magnitude of their reaction in relation to a given
standard, for example, the number ten. Throughout this study, the subjects were asked to "draw a line" in relation to a given standard. This researcher recommends that the more traditional method of obtaining a response be implemented and that the results be compared to those obtained from studied populations in which the subjects were asked to "draw a line." The test-retest practice should be implemented to estimate intrasubject reliability. Interrater reliability on both measurement procedures should also continue to be evaluated.

The possibility of demonstrated multicolinearity particularly on the variables intrusion of territorial space and intrusion of personal space and the resultant ramifications of such a problem must be addressed.

To speak to the concern expressed regarding the failure of the variables intrusion of personal space and invasion of privacy, to demonstrate a significant positive relationship, it is recommended that the subsystem of personal space behavior discussed by Altman be explored more thoroughly in relation to the hospitalized individual. Direct observation may demonstrate that eye contact, lean, and/or orientation are more closely related to perceived invasions of privacy than are intrusions of personal space when an individual is hospitalized.

Additionally, while measures of reliability should be repeated on all variables as operationalized in this study, this is particularly essential for the variable invasion of privacy.

In terms of the demonstrated lack of construct validity, the variable anxiety should be reconceptualized. The new definition should then be retested to determine if a significant positive relationship
between the variables invasion of privacy and anxiety would be demonstrated.

Lastly, the concept loss of control required continued exploration. How does the hospitalized individual retain control? Does the manner in which a task is performed by a hospital staff member affect perceived control? If so, what is a positive manner? Does the notion of "professional distance" affect perceived control? If so, how can that distance be utilized most supportively?

Summary

Levine (1968, p. 84) writes, "the nurse who recognizes and respects the spacial dimensions of human interaction fortifies the patient's integrity and at the same time strengthens her own."

Stillman, like Levine, reminds nurses of the significance of recognizing spatial boundaries within the hospital setting. She writes, "when hospitalized, individuals usually experience a loss of privacy and control over their bodies and the surrounding area" (Stillman, 1978, p. 1671). Stillman (1978, p. 1672) continues:

Indeed, it is impossible to render nursing care without intrusion of personal space. Even with psychological preparation, however, this does not preclude the development of psychological stress derived from such intrusions. . . . When personal space must be invaded for necessary care, it need not be done in a way that is demeaning to the patient's dignity. . . . There are times, however, when inattention may be effective in decreasing anxiety, such as avoiding direct eye contact during care of intimate body areas.

Appreciating a need for further empirical examination of the beliefs spoken to by Levine and Stillman, the general purpose of this
study was to expand upon the limited research efforts which have explored patients' perceptions of their perceived privacy, territorial and personal space needs within the hospital environment. It was hoped that the information gained would contribute to a fuller understanding of the dynamics involved in spatial elaboration by hospitalized individuals thereby facilitating provision of their care in a manner which would be most respectful of the patients, least invasive, and minimally anxiety-producing.

Altman's theory and model concerning the concept of privacy and privacy-regulation lent impetus to and provided the underpinnings for this preliminary research effort. A theoretical path model was proposed to provide a framework within which the researcher might operate. This model attempted to isolate specific elements or mechanisms which were related to one of four stages advanced in Altman's general model. Data by means of which to examine the tenability of this path model were generated through the implementation of a magnitude estimation procedure. The ratio scaled data were subjected to path analysis. The findings were discussed, the construct validity of the operational definitions was estimated, the limitations identified, the conclusions drawn, and the recommendations advanced.

While it might appear that many more questions were generated than were answered, it is hoped that this research undertaking represents a beginning effort, though limited, to explore a system of complex psychosocial behaviors in an objective manner. In prefacing his book, The Environment and Social Behavior, Altman (1975; p. vii) writes, "this book presents an analysis of the concepts of privacy, crowding,
territory, and personal space in humans. By tying together these concepts, I hope to make it easier for researchers to obtain some preliminary guides for their research and theorizing, and for practitioners to think about these issues in an integrated fashion." It is this researcher's belief that Altman's intent regarding the usefulness of his efforts was, in part, actualized in this study. While a great deal remains to be done to individualize his theorizing to the hospital environment, his analysis did permit this practitioner to think about the issues of privacy and privacy-regulation in an "integrated fashion." It would also appear that some of the findings from the work to which his thinking lent impetus supported the observations of practitioners like Levine and Stillman. The need for privacy and one's sense of autonomy and control do appear to be related to territorial control. Perceived loss of control, intrusions of personal space, and anxiety do appear to be interrelated concepts. There does appear to be a need for further exploration of Stillman's suggestion regarding the usefulness of "inattentive" behavior in situations of overly close interpersonal contact. The findings in this study in conjunction with Altman's discussions concerning personal space and a subsystem of related behaviors do appear to legitimize her observation.

Perhaps the findings and discussions presented will contribute to a fuller understanding of the dynamics involved in spatial elaboration by hospitalized individuals. Perhaps the findings will facilitate provision of patient care in a manner which is respectful, least invasive, and minimally anxiety-producing. Perhaps not. However, it is hoped that, in some small way, this beginning effort will encourage
practitioners to increase and refine their knowledge of the spatial behavior of hospitalized individuals and that it will assist them in integrating this understanding into their professional activities.
APPENDIX A

SUBJECT'S CONSENT

I understand that Donna Donahue, R.N., a graduate student in Psychiatric Mental Health nursing at The University of Arizona, is conducting a study entitled, "Surgical Patients' Perceptions of Invasions of Their Personal and Territorial Space." The main purpose of this study is to explore my feelings when intrusions of my territorial and personal space occur during the administration of my care. I understand that my "territorial space" is that physical space and the things in it which become mine during my stay in the hospital. I also understand that my "personal space" is that physical space which immediately surrounds me no matter where I go throughout the hospital. It is my "emotional bubble." It is hoped that the information gained will benefit patients by assuring that their care will be administered in a manner which is least invasive.

I understand that my participation is voluntary and involves a 45 minute to 1 hour interview between myself and Donna Donahue. I understand that I will be asked to respond to 16 behavioral items by drawing a series of lines in a pre-instructed manner. The interview is to be conducted in the privacy of my hospital room. I am free not to participate or to withdraw with no ill will or risk to my hospital standing. I understand that the interview is unrelated to any evaluation of my hospitalization and that there are no costs to be assumed in connection with the study.

I understand that the researcher will be able to answer any questions that I may have about the study or any of the items to which I am asked to respond.

I understand that all confidentiality will be insured. I will be asked to sign my name to the consent form. The interview response sheets do not contain my name but will be identified by a number. This is necessary in order to permit the researcher to identify and compare results. I understand that the researcher will be the only person to have the information.

I understand that results of the research will be shared with faculty and students in a printed thesis which will be among the holdings of The University of Arizona libraries.

I understand that this consent form will be filed in an area designated by the Human Subjects Committee with restricted access to the principal investigator or authorized representatives of the particular Department.

71
I have read the above subject consent. I understand what is expected of me. I am willing to participate.

Signature: ______________________   Date: ______________________

Witness' Signature: ________________   Date: ______________________
APPENDIX B

DATA SUMMARY SHEET

Subject's Code Number:

Sex: Male
Female

Seriousness of surgery:
Major
Minor

Number of past hospitalizations:
First
Two-five
More than five

Behavioral items: 1A 2A 3A 4A 5A 6A 7A 1B 2B 3B 4B 5B 6B 7B 8B 9B

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APPENDIX C

DEMOGRAPHIC DATA TABLES

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REFERENCES


Levine, M. E. "Knock Before Entering Personal Space Bubbles--Part II." *Chart*, 65 (1968), pp. 82-84.


