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**LA THÈSE A ÉTÉ
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CONTACT WITH DEATH, PROFESSIONAL EXPERIENCE, AND
THE COPING RESPONSES OF NURSES

by .

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Thesis presented to the School of
Graduate Studies of the University
of Ottawa as partial fulfillment of
the requirements for the degree of
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ABSTRACT

An investigation of hospital nurses was conducted in an effort to determine whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience significantly influenced nurses' responses to patient-deaths. Also of interest was whether Bandura's theory of social modeling was applicable in understanding how hospital nurses learn to confront patient-deaths. A sample of 210 female nurses gathered from public general hospitals, were assessed in terms of their personal death anxiety, the anxiety they reported in response to the death of another person, their levels of general anxiety, and in terms of the coping strategies reportedly used by nurses following patient-deaths. The extent to which social modeling occurred was assessed by means of a questionnaire developed for the project.

Nurses who indicated that they had a high amount of contact with patient-deaths reportedly used an altruistic coping strategy to a significantly greater extent in response to patient-deaths than did other nurses in the sample. In addition, nurses who indicated that they had a low degree of professional experience expressed significantly greater denial of death anxiety than did other nurses in the sample. Two significant interactions of the independent variables were found in regard to nurses' fearful anticipation of their

own deaths and in regard to the anxiety nurses reported following the death of another person. Evidence was obtained to indicate that social modeling occurred among hospital nurses, with reference to learning how to confront patient-deaths. Relationships among several of the dependent measures and the variables of age, a history of personal loss, and social desirability were also discovered. Explanations were offered to account for the project's findings, and recommendations for future research in the area were suggested.

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INTRODUCTION

By considering Bandura's social modeling conceptual framework as the theoretical infrastructure for the project, the present investigation was undertaken to explore hospital nurses' psychological responses to patient-deaths and to delineate some of the coping strategies used by nurses when confronted with the threat posed by the deaths of patients.

Social scientists have expressed increasing interest in the topics of dying and death, with particular attention to the ways in which the process of dying and the event of death affect people involved in those circumstances. Kübler-Ross' (1969) work regarding the dying process has addressed the plight of the dying person, identifying a number of response patterns that may likely be found among those personally facing imminent death. The reports of Lindemann (1944) and Parkes (1975), as examples from the growing body of literature concerned with grief reactions and bereavement, have also delineated psychological response patterns often found in family members following the deaths of persons especially close to them.

In recent years, reports in the death and dying literature have begun to address the psychological impact that patient-deaths have on members of the health professions, whose increasing responsibility it has become to provide direct care to dying patients in hospitals and attend

to patients' subsequent deaths. Within the health care delivery system of a hospital, registered nurses occupy a position of primary importance in relation to dying patients and patient-deaths. According to Kastenbaum (1978), nurses tend to have a greater frequency of contact with dying patients and patient-deaths than all other hospital health professionals, including physicians. On the basis of knowledge that nurses have more exposure to patient-deaths than others in hospital systems, explorations of the impact of these events on nurses seem warranted.

It has been suggested that the ways in which a nurse responds to confrontations with patient-deaths may be related to a number of variables that operate within the nursing profession, such as the amount of contact one has with patient-deaths or the overall professional nursing experience one possesses. While the vast majority of reports about nurses' responses to patient-deaths have been anecdotal in nature, a few investigations (e.g., Hurley, 1974/1975) have attempted to explore the topic from the theoretical perspective of Glaser and Strauss' (1965) sociological conceptualizations of "death trajectories" and from the rationally-based stage theory offered by Kübler-Ross (1969).

Given the style of instruction involved in the education of nurses and the ways in which nurses' subsequent performances are conducted, rewarded, and /or censured within the social milieu of a hospital environment, Bandura's (1969)

social learning theory of modeling appears to provide a meaningful theoretical framework within which to view how nurses may respond to confrontations with patient-deaths. Since the use of social modeling seems to be an integral component in the training of professional nurses, the ways in which nurses respond to patient-deaths may be partly related to the extent to which modeling of other hospital personnel occurs.

A detailed description of the project is set forth in the following four chapters. The first chapter is designed to provide reviews of psychological literature in the areas of (1) Bandura's social learning theory of modeling, (b) threat perception, and (c) nurses' responses to patient-deaths. At the conclusion of the first chapter, the theoretical-empirical rationale for the project is outlined, as are the theoretical hypotheses. The second chapter describes the sample of research participants, the instruments used to explore nurses' psychological responses to patient-deaths, and the procedures carried out in the collection of data for the project. At the conclusion of the second chapter, both the statistical null hypotheses and the planned statistical analyses will be explained. The third chapter focuses on the results of the data analyses, and the final chapter provides a discussion of the project's findings regarding nurses' responses to confrontations with patient-deaths. Following the discussion, recommendations

for future research in this area and an overall summary of the study are to be found.

CHAPTER. I

REVIEW OF THE LITERATURE

This chapter is intended to review relevant literature in three major areas of psychological interest. First of all, a review of Bandura's theory of social modeling will be offered, with particular emphasis on his concept of vicarious extinction of avoidance behavior. Secondly, a selective review of literature concerning threat perception will be presented, since perceptions of threat (and its often accompanying reports of anxiety) seem to influence avoidance behaviors. The third major area of focus concerns the topic of nurse responses to patient-deaths, since nurses are often exposed to perceived threat in the form of patient-deaths (i.e., aversive stimuli) and may behaviorally respond in ways they have learned from observations of others. At the conclusion of the literature reviews, the author will present the rationale for the study and the hypotheses investigated herein.

Modeling

Bandura's social learning theory of modeling (also known as "observational learning") has emerged in this century as one of the most significant contributions to psychology's understanding of the learning process. Since the appearance

of his work, psychological interest in modeling as a vehicle for learning has focused on several issues believed to be influential. What follows is an exploration of some of those issues. The terminology used requires some attention, since an initial misunderstanding of reference points may lead to widely divergent interpretations/conclusions. A brief historical overview of modeling, exploring the antecedents of Bandura's analysis, may be of help in clarifying his unique contribution. The major components, effects, and variables which govern responsiveness to modeling influences may be delineated, as these three aspects of modeling have received wide attention in the research literature. Concurrent with the theoretical developments in modeling, variant forms of this learning approach have evolved, again generating investigations pertaining to the relative efficacy of each such form. Finally, attention will be directed at the impact of modeling on the acquisition and extinction of avoidance behavior, with reference to some of the particular variables that may contribute to modeling's usefulness in regard to this issue.

Definition of Terms

Citing several theories of modeling that evolved since the late 19th century, Miller and Dollard (1941) used the term "imitation" to signify learning which takes place by observing others; furthermore, they sought to outline several

sub-mechanisms of imitation, among them "same behavior", "matched-dependent behavior", and "copying", each of which reportedly differed from the other in terms of the imitator's knowledge about the response-eliciting stimulus. More recently, Rachman (1972) argued that distinctions be made in the use of the terms "observational learning", "imitation", and "modeling", insisting that modeling is a sub-class of both observational learning and imitation. In demarcating the differences among the terms, Rachman suggested that somewhat different mechanisms governed these learning phenomena, and that interchangeable usage of the terms would only cloud the issue further. In order to alleviate much of the terminological confusion, Bandura (1971a) openly charged that, unless it can be conclusively shown that different variables govern the differing forms of modeling behavior, further distinctions among the terms in use would be fruitless and only add needless confusion to the matter. Bandura has used the terms modeling, vicarious-learning, and observational learning interchangeably to refer to learning,

... in which new responses are acquired or the characteristics of existing response repertoires are modified as a function of observing the behavior of others and its reinforcing consequences, without the modeled responses being overtly performed by the viewer during the exposure period (Bandura, 1965a, p. 3).

It is in the sense explained above that modeling/observational learning may henceforth be considered.

Historical Overview

The notion that one can learn from observing the social behavior of others has appeared in the psychological literature since the late nineteenth century. Early speculations about modeling behavior attributed its existence to innate tendencies already present in the observer, as evidenced by findings that even infants were capable of reproducing modeled actions (Valentine, 1930). Nonetheless, with the establishment of behaviorism as the predominant learning theory in the first-half of this century, the instinctual speculations about modeling fell into disrepute (Hilgard & Bower, 1966). However, in their classic publication, Social Learning and Imitation, Miller and Dollard (1941) renewed psychologists' interest in modeling as a viable method for learning.

Deriving largely from Hullian concepts of drive, cue, and reinforcement, Miller and Dollard (1941) were successful in demonstrating in their work with children that "... imitation of a given response will be learned if rewarded, ..." (p. 131), thereby offering what they considered an acceptable explanation for the acquisition of behavior. Although Miller and Dollard's work demonstrated the utility of imitative learning, Bandura (1970) raised two major

objections about their findings: (1) what learning had occurred was contingent largely upon reinforcement to the observer, and (b) Miller and Dollard's work did not actually account for the acquisition of new forms of behavior. Rather, Bandura argued that Miller and Dollard satisfactorily showed how the performances of already-existing behavior patterns in observers were strengthened or weakened by the administration of reinforcement, and that such reinforcements then served as discriminative stimuli whereby observers would come to match their performances with behaviors that produced reinforcement.

Following Miller and Dollard's work, operant theories (e.g., Gewirtz & Stingle, 1971) also posited that reinforcement to observers was necessary in order for learning to occur, on either a direct or observational basis. Bandura (1970, 1971a) questioned how operant theorists could hold to the belief that reinforcement was necessary for learning, since in some of his earlier experiments (Bandura, 1965b) it was found that the acquisition of new behavior could be brought about without observers receiving reinforcement. In an effort to clear up some of the apparent confusion, Bandura found it useful to distinguish between acquisition and performance, as these two properties represent distinctively different perspectives of learning phenomena.

According to Bandura (1965a), the acquisition of

response patterns occurs when an observer is exposed to a model's behaviors without the observer having to behaviorally enact what he has seen; in subsequent tests of the observer, it has generally been found that learning has occurred, but that it assumed the form of symbolic representations of that to which the observer was exposed. Performance, however, seems to be well accounted for by the operant theories of learning, insofar as reinforcement to observers serves to regulate/maintain that which has already been learned. While operant theories appear to be well-suited to explications of how already-existing behaviors are maintained or discarded, they fall short in explaining how new patterns of behavior are initially learned. Still, Bandura holds that reinforcement can play an important part in enhancing modeled behavior, even though he does not view reinforcement as essential for the acquisition of new forms of behavior.

While several early theories attempted to explain observational learning, Bandura's theory of modeling presented yet another evolutionary step. The early speculations about observational learning attributed its origins to internal, instinctual patterns within individuals. With the appearance of behaviorism and its clear preference for study of observable behaviors, the shift in attention focused on the external situational determinants of how people responded to the actions of others. In Bandura's social learning analysis, however, the focus must shift again; that is, there

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must now be a consideration of interacting internal and external determinants of social behavior (Bandura, 1977a; 1978).

Bandura's Theory of Modeling

Bandura is the one person most responsible for the renewed recognition of the importance of observational learning in psychology. It is principally through his theory and subsequent research findings that the conclusion has been reached that virtually all human learning that occurs through direct experience can occur vicariously by observing the behavior of others.

Bandura's theory of modeling is said to differ from other social learning theories in that his formulations concern almost exclusively the acquisition and modification of social behaviors (Bandura & Walters, 1963). Bandura has objected to those modeling theories which continue to rely heavily on explicit reinforcement-based explanations of modeling, reasoning that learning which is contingent upon reinforcement is inordinately time-consuming, uneconomical, and dangerous in some cases. Bandura (1965a, 1969) proposed his theory as an example of "no-trial learning", in which an observer can acquire patterns of behavior solely on the basis of observing a model, with subsequent modeling exposures often helpful in perfecting the learning that occurred during the initial exposure. According to Bandura, some forms of behavior cannot reasonably be expected to be acquired on the

basis of trial-and-error learning (e.g., surgical techniques) and must, therefore, rely heavily on observational methods of information transmission. In Bandura's analysis of no-trial learning, reinforcement is not considered an essential component for learning to occur, but rather occupies a secondary role in helping to maintain already existing responses.

Another defining characteristic of Bandura's social modeling theory is the significance attributed to the cognitive activity of the observer, who can symbolically represent for himself what he has observed (Bandura, 1969, 1971a), rather than having to rely on specific stimulus-response associations to activate his newly-acquired behavior. The observer can either respond at the moment without receiving reinforcement or can delay his responding for long periods, even in the model's absence, in both cases using the symbolic representations of his initial observations as "guides" for later behavior.

An examination of additional features in Bandura's theory will now be undertaken, as there is much evidence that they cogently pertain to his proposals about human social learning.

Components of Modeling

Repeated reference in Bandura's social learning theory has been made to four integral processes essential for

modeling to occur. The components are: (a) attention to modeled behavior, (b) retention of the model's behavior in symbolic representational form, (c) motoric reproduction of modeled activities, and (d) motivational or incentive processes. Together, they constitute the conditions which must be met in order for modeling to achieve optimal results; if modeling does not occur, Bandura believed it to be due to an impairment in one or more of the necessary components.

For observational learning to have any impact on the observer, it is imperative that he attend to the actions of the model. Experimental evidence, gained from investigations with children (Bandura, 1965b), has clearly shown that the observer's attention to modeled stimuli affect the extent to which observational learning takes place. However, merely exposing an observer to a performing model does not guarantee that the observer will be attentive. In order to promote attention, certain modeling "enhancers" need to be operative, as well as selectivity on the part of the observer, to choose from among the multiple stimuli to which he is exposed those aspects to be modeled (Bandura, 1971b). One such determinant of attention is reported to be the model(s) with whom one usually interacts (Bandura, 1977b), who delimit the types of behavior that are repeatedly observed and hence learned most thoroughly.

The second identified component requires the observer to retain in symbolic form what he has noted about the model's

behavior. According to Bandura (1971b), observational learning includes two symbolic systems useful for the retention of modeled stimuli: an imaginal system and a verbal system. As one is exposed to models, the action(s) to be retained is thought to be coded into an imaginal form (e.g., "seeing" the model perform his behavior). In the absence of the model, the imaginal coding is hypothesized to become verbally encoded and covertly rehearsed by the observer, thus becoming capable of being stored in memory and retrieved for future use. The importance of the retention component in observational learning has been demonstrated both with children (Bandura, Grusec & Menlove, 1966) and with adults (Bandura & Jeffery, 1973; Jeffery, 1976), suggesting that modeled behavior can be learned as a whole symbolically before behavioral enactment.

While the components of attention and retention are assumed to govern the acquisition of observed behaviors, the following two components are believed to regulate the performance of such behaviors.

Motoric reproduction processes refer to the observer's execution of the retained aspects of modeled performance. Although less research has been conducted in regard to this component as compared with the other three, Jeffery's (1976) work, comparing the relative influence of symbolic and motoric reproduction processes in adults, attests to its importance. Bandura (1969) has reported that the level of

observational learning can be greatly increased when the observer overtly practices (or rehearses) the modeled response patterns. The chief limitation regarding motoric reproduction, however, is that the model's behavior must be within the perceptual and motor capacity of the observer; if it is not, it is unlikely that observational learning can be completely successful.

Motivational processes are considered to be the fourth essential component. The extent to which one learns through observations of others may be governed, in part, by conditions surrounding the models that influence the likelihood of observers similarly behaving in the same or similar circumstances. Even though an observer may well have attended closely to modeled behavior, is able to symbolically retain the modeled behavior, and possesses the capacity to overtly perform the modeled behavior, he may be prevented from doing so if sufficiently strong negative sanctions exist in his environment (Bandura, 1969).

Effects of Modeling

The social learning theory of modeling has proposed that three different classes of effects can result within the realm of observational learning. These classes are most often referred to as (a) modeling effects, (b) inhibitory/disinhibitory effects, and (c) eliciting/response-facilitation effects. Although the three effects do not

exhaust the potential expressions of observational learning, they reportedly do account for many of them.

Modeling effects refer to the observer's acquisition of novel response patterns, one which did not previously exist in his behavioral repertoire (Bandura, 1969). This particular effect most clearly distinguished Bandura's theory of modeling from the operant conditioning analyses of the same, since herein new response patterns are acquired, not merely maintained or regulated. In order to demonstrate the modeling effect experimentally, it is necessary for the model to exhibit highly novel responses which observers have not yet learned and which the observers later reproduce in substantially identical form (Bandura, 1965a; Bandura, Ross & Ross, 1963a). Bandura also reported that observers may be exposed to more than one model, and from having observed the models, also exhibit novel patterns of behavior derived from combining features of each model; however, this latter effect is difficult to demonstrate experimentally.

Inhibition/disinhibition refers to the strengthening or weakening of inhibitions in the observer's behavioral repertoire as a result of noting the response consequences accruing to a model's performance (Bandura, 1965c).

Inhibitory effects are indicated when observers display a reduction of general responsiveness after having observed models' behaviors producing negative consequences for them (e.g., Walters, Leat & Mezei, 1963), while disinhibition

occurs when observers display an increase in formerly inhibited responses after observing that a model's responses meet with positive consequences (Bandura, 1971b).

The final effect, eliciting/response-facilitation, refers to the fact that the behavior of models may serve as discriminative stimuli for the observer, by eliciting previously learned and noninhibited response patterns that may be applicable in a variety of situations other than the one where the response pattern was first employed (Bandura, 1969). An example of such an eliciting effect is provided by Bandura and Walters (1963). They suggested that children initially learn from their parents or other models how to respond when faced with stressful situations. As a child matures and happens to confront such situations, his learned pattern of stress responses is "elicited" and used to cope with the stress, rather than having the child resort to trial-and-error methods of coping with the situation.

Modeling Enhancers

Several factors are believed to influence responsiveness to modeling. In order of their apparent importance, Bandura (1971b) listed three such influences: (a) the reinforcement contingencies associated with modeling behavior, (b) model characteristics, and (c) observer characteristics.

Although an individual may possess the requisite components for modeling, the consequences accruing to the

model tend to act as powerful incentives in determining whether or not one will manifest the observationally learned behaviors. Should one see, or infer from certain attributes of a model, that a model's behavior results in positive outcomes, it is believed that an observer can be so motivated to attempt to act similarly (Bandura, 1965c). Such reinforcement contingencies operating in the environment provide discriminative informational cues to observers as to which actions may result in positive reinforcement or aversive consequences. On receipt of such information, the observer's expectancies become attuned to what conditions are most often rewarded and which are not (Bandura, 1977b). The perception that any two events may be correlated in their effects (Baum, 1973) seems to be facilitated when the reinforcement contingencies for actions are unambiguously presented. It has been demonstrated that the outcome consequences of a model's behavior influence not only task-performance but also the acquisition of certain altruistic values (see Hornstein, 1970).

Experimental evidence generally supports the claim that reinforcement contingencies influence the extent to which behavior is modeled, both with children (Bandura, 1965b; Mischel & Liebert, 1966) and with adults (Rosenbaum & Hewitt, 1966), although some discrepant observations can be found in the literature. In a study concerning the influence of electric shock delivered to a model on a maze-learning task,

Rosenbaum and Hewitt (1966) found that male college students who acted as observers seemed to be uninfluenced, unexpectedly, by the aversive consequences experienced by models (i.e., administration of electric shocks during performances). Instead, that study found that observers were quite able to learn the task correctly in spite of the models' intermittent mistakes. Notwithstanding this example, the effects of reinforcement contingencies on observers' later behaviors certainly appear quite powerful.

Model characteristics have been underscored as having a notable effect on responsiveness to observational learning. Findings gleaned during 35 years of research have rather consistently shown that models who possess high status in prestige (Bandura, 1971b; Miller & Dollard, 1941), social power (Bandura, 1971c; Grusec & Mischel, 1966), competency (Bandura, 1971c; Baron, 1970), and rewardingness (Bandura & Huston, 1961; Bandura, Ross & Ross, 1963b; Grusec & Mischel, 1966; Mischel & Grusec, 1966) elicit a greater degree of imitative learning than do models who do not possess these characteristics. Since the appearance of Meichenbaum's (1971) model-characteristics research, considerable supportive evidence has been found for the hypothesis that "coping" models (e.g., those who are initially apprehensive when confronted with a task, but who eventually are able to overcome their hesitancy and perform the task as prescribed) are as effective, in particular instances (Bandura & Barab,

1973; Kazdin, 1974a; Melamed & Siegel, 1975), as Bandura's "mastery" models, who show no hesitancy throughout task performance. Additional model attributes found to influence observational learning have focused on the model's attractiveness (Baron, 1970), whether the model resembles an observer's peer (Hartup & Coates, 1967; Melamed, Yurcheson, Fleece, Hutcherson & Hawes, 1978), and sex of the model, despite inconclusive evidence for this variable's particular influence (see Flanders, 1968).

Certain observer characteristics have also been found to, in part, augment modeling's effectiveness: (a) persons who engage in help-seeking behaviors and who generally accept the suggestions of others seem to be receptive to modeling influences (Bandura, 1969; Jakubczak & Walters, 1959); (b) those who readily conform to established behavior patterns, which define the boundaries of the observers' actions, tend to be responsive to models (Bandura & Walters, 1963); (c) observers who have been previously rewarded for behaving as models tend to continue, to ensure future rewards (Miller & Dollard, 1941); and (d) observers who perceive a degree of similarity between themselves and a model may be more likely to respond to modeled actions (Hornstein, 1970).

Bandura and Walters (1963) have noted that the degree of emotional arousal in the observer may affect responsiveness to modeling influences. According to their reasoning, a person confronted with a salient stressful stimulus may be

more prone to attend to the specifics of a model's behavior than he otherwise could be. If confronted with a situation or event that is not emotionally arousing, the observer may disregard a model's behavioral cues altogether or, in the case of extreme emotional arousal, the observer may not be able to clearly discriminate what are the proper modeling cues to which he should attend.

Modeling Modes

Concurrent with the development of Bandura's social learning theory of modeling has been a refinement in the ways modeling stimuli are presented. Four such examples include (a) live modeling, (b) symbolic modeling, (c) participant modeling, and (d) covert modeling.

Initial research efforts concerning observational learning made extensive use of live models, since it was believed that much of our social behavior derives, in part, from exposure to live exemplars. To ascertain the relative efficacy of such procedures, live modeling was often contrasted with symbolic modeling (i.e., films or pictorial presentations) of the same behaviors. Bandura and Mischel (1965) found that, over time, live modeling effects were more enduring than symbolic modeling effects.

Subsequent research pointed to the merits of symbolic modeling. Although people are exposed to live models through whom they can observationally acquire diverse social

behaviors, people are also heavily exposed to symbolic modeling influences. Research conducted with symbolic modeling has decidedly demonstrated its potency, as illustrated in the acquisition of aggressive behaviors in children via filmed models (Bandura, Ross & Ross, 1963a), the increase in children's approach behavior toward feared stimuli (Bandura, Grusec & Menlove, 1967; Bandura & Menlove, 1968), and in the acquisition of assertive responses for specific situations by adults (Eisler, Hersen & Miller, 1973).

Developments in the therapeutic use of modeling have investigated how modeling procedures may be enhanced. In their investigation, in which modeling techniques were applied to snake-phobic individuals, Bandura, Blanchard, and Ritter (1969) compared the relative effectiveness of systematic desensitization, symbolic modeling, and live modeling with-guided-participation (hereafter referred to as "participant modeling"). The participant modeling procedure essentially involves having observers watch the model (i.e., the therapist or experimenter) engage in the behavior to be modeled, followed by actively including the observer in the model's activities. While doing so, the model can provide response guidance in the form of suggested expectations about the behavior being performed and immediate feedback to the observer about his performance. Of all the modeling techniques employed, research evidence has conclusively

shown participant modeling to be the most effective (Bandura, Blanchard & Ritter, 1969; Bandura, Jeffery & Gajdos, 1975; Blanchard, 1970). An important goal in participant modeling procedures is said to be the development of a sense or expectation of greater self-efficacy and/or competency (Bandura, 1977a), whereby the observer comes to view himself as now possessing a new skill to be used again in situations that previously were construed by the observer to be beyond his capabilities.

Covert modeling differs from the three other modes insofar as the stimulus to be modeled is cognitively-cued rather than overtly presented. In an initial comparison of overt and covert modeling, Cautela, Flannery and Hanley (1974) found both methods equally effective in reducing avoidance behavior toward laboratory rats among fearful college students. Subsequent reports by Kazdin (e.g., 1974a) have provided further support for the claim of covert modeling's effectiveness in reducing avoidance behavior and in increasing assertiveness.

Response to Perceived Threat

When an event or situation is perceived as capable of arousing negative and unpleasant reactions, it is believed to possess aversive, fear-arousing qualities. How one responds to these conditions has been explained in terms of conditioning theories, vicarious learning, and in terms of

the expectations one has.

For years, conditioning explanations for responses to aversive stimulation were widely accepted, on the grounds that exposures to aversive stimuli were often found to be associated with painful experiences in a subject. Mowrer's (1960) dual-process theory, combining elements of both classical and instrumental conditioning, posited that when stimulus events assumed aversive qualities through association with painful experiences, they generated fear arousal; in turn, the fear arousal was believed to then generate defensive or avoidance behaviors which appeared to reduce the degree of negative emotional arousal. Research findings attesting to Mowrer's hypothesis have been documented, although continued reliance on the theory as an adequate explanation of responses to perceived threats seems to be waning.

Vicarious learning has also been invoked as a possible explanation in accounting for the acquisition of emotional responses to perceptions of threat. It has been reported that persons can observationally acquire emotional response patterns to a variety of stimuli from watching others, including the painful consequences incurred by a model (Bandura & Walters, 1963). Although some evidence suggests that negative emotional responses may be transmitted vicariously, it has also been reported that observational methods of learning do not consistently support that

contention (Geer & Turteltaub, 1967; Rachman, 1972).

The self-expectations one learns have recently become popularized in the social learning literature as important mediators of response. How capable a person views himself to be in terms of coping with threatening stimuli is likely to be related to previous performance accomplishments (Bandura, 1977a). If a person has skillfully coped with threatening stimuli in the past, his expectations are believed to transfer to new situations in which he may encounter similar threatening stimuli; on the other hand, if a person's performance history in the face of perceived threats has been marked by repeated failures (i.e., unskilled coping behaviors), it is assumed that the expectation of failure will continue unless modified. Evidence demonstrating the influence of expectations seems to support the social learning analysis of learned responses to perceived threat (Bandura, et al., 1975).

Vicarious Extinction

The reduction of avoidance behavior, which is assumed to be brought on by confrontation with fearful/anxiety-provoking stimuli, occupies a place of central significance among the therapeutic uses of modeling procedures. When persons are faced with fearful and/or anxiety-provoking stimuli, it has been repeatedly shown that modeling treatments are often successful in reducing avoidance behaviors. In the modeling

literature, a process by which such avoidance reduction takes place is referred to as "vicarious extinction".

Just as avoidant behavior may be acquired vicariously (Bandura & Walters, 1963), it has also been shown to be amenable to vicariously provided extinction processes. Bandura (1969) proposed that vicarious extinction of avoidance responses occurs when observers are exposed to models who engage in fear-provoking actions without experiencing aversive consequences. The theoretical rationale for the effectiveness of vicarious extinction rests partially on a dual-factor theory of avoidance behavior. If the arousal capacity of threatening stimuli is extinguished, then the motivation to engage in avoidance behaviors diminishes, and the expectancy of aversive consequences to the observer similarly becomes weakened (Bandura, 1977b).

In order for vicarious extinction to occur, both the models and behavioral tasks need to be "relevant" for observers, as indicated previously for other modeling procedures. Can the observer discern any degree of similarity between himself and the model, leading the observer to realistically expect that he too could behave like the model? The evidence bearing on perceived-similarity between the observer and the model in vicarious extinction studies seems rather inconclusive (Bandura & Barab, 1973; Kazdin, 1974a). As for the behavioral task, is the activity in which the model successfully engages likely to be

encountered by the observer? If not, such a task may be irrelevant for the observer and thus serve to distract his attention away from the modeling behaviors. If the task is, in fact, relevant for the observer, it is then assumed there would be a greater likelihood that the observer would respond to the model.

Research concerning the vicarious extinction of avoidance behavior has been conducted in a variety of settings with both children and adults. The most frequently reported focus of vicarious extinction operations has been for phobias of animals (Bandura, et al., 1967; Bandura & Menlove, 1968; Ritter, 1968), although its successful applications in preparations for dental-medical procedures (Melamed & Siegel, 1975; Melamed, et al., 1978), test-taking behavior (Mann & Rosenthal, 1969), pain (Vernon, 1974), and acrophobia (Ritter, 1969) have also been documented.

The modes through which vicarious extinction procedures have been presented have also varied. Those most often used include symbolic modeling (Bandura & Menlove, 1968), covert modeling (Kazdin, 1974a), and different classes of participant modeling (Bandura & Barab, 1973; Ritter, 1969).

Key Variables in Vicarious Extinction

In much of the literature concerned with vicarious extinction, reference is repeatedly made to variables believed partly responsible for the sought modeling effects.

Three variables which seem most prominent include: (a) the use of multiple models, (b) the amount of exposure to the aversive stimulus, and (c) opportunities to observe models frequently interacting with the aversive stimulus without incurring negative consequences.

It is unlikely, in real-life social settings, that people are regularly exposed to singular models from whom they can vicariously acquire information about behavior. More often, the laboratory is the setting in which the sheer number of models can easily be controlled. In vicarious extinction situations as contrived as those existing in laboratories, people may observe one model engage in potentially hazardous behavior. However, when confined to only one stimulus person, as Maher (1978) suggested, certain attributes of the model may well have stimulus value that will be unknown to the observer and extremely difficult to explain experimentally, thereby perhaps methodologically obscuring results.

A number of studies have investigated the relative efficacy of single vs. multiple models, as a potentially influential variable in vicarious extinction. Bandura and Menlove (1968) found that while a single model treatment effected reductions in avoidance behaviors of children toward dogs, the use of multiple models proved to be more thoroughly successful. However, as Kazdin (1974b) indicated, the results of Bandura and Menlove's study were somewhat unclear.

Although there was evidence that multiple models could interact with a number of different dogs and so aid in bringing about greater avoidance behavior reductions in observers, no evidence was apparently gathered regarding multiple models' interactions with one dog (the single aversive stimulus) to aid in the vicarious extinction of avoidance behaviors. Since the 1968 experiment, it has been shown that multiple models interacting with the same fearful stimulus are superior to single models in the vicarious extinction of observers' avoidance behaviors, as shown in both overt and covert modeling programs (Bandura, 1971b; Meichenbaum, 1971). The rather conclusive findings about multiple models appear to have prompted Kazdin (1974b) to suggest that in future research, "modeling techniques should routinely include multiple models" (p. 230).

The amount of exposure an observer has to an aversive stimulus - independent of the response consequences accruing to the model or observer - has also been reported to influence vicarious extinction's effects on avoidance behavior. Repeated exposure has been addressed in the research literature on fear under the headings of both "mere exposure" and "prolonged exposure". Harrison's (1977) review of mere exposure research provides evidence that a subject's response to repeated exposure to stimulation often involves a phasic process. A subject may be quite responsive to a stimulus during the initial phase of exposure, but his

responsiveness gradually diminishes as a function of the repetition. Stang (1975) proposed a theory of learning and satiation to account for the effects of repeated exposure. According to his hypothesis, repeated exposure is accompanied by learning about the presented stimulus; however, once learned, a state of satiation is assumed to develop, "... causing a depression of affect ratings" (Stang, 1975, p. 7). Support for Stang's position was earlier provided by Rachman (1972), with particular reference to the effects of repeated exposure on the extinction of avoidance behavior. According to Rachman, the therapeutic use of modeling, desensitization, and flooding all suggest a common mechanism that accounts for reduced responsiveness to aversive stimulation, namely, extinction. In each therapeutic approach, a subject may be repeatedly and enduringly exposed to an aversive stimulus and prevented from engaging in avoidant/escape responses. Rachman also suggested that the three treatment procedures may operate in accord with a sensitization-habituation process, such that initial responsiveness to a feared stimulus may increase fear or anxiety responses, but that repeated presentation of the stimulus leads to decrements in responsiveness (i.e., habituation).

Bandura has expressed interest in the influential role of repeated exposure in the vicarious extinction of avoidance behavior. Bandura and Menlove (1968) suggested that repeated (i.e., massed) presentations of aversive stimuli augmented

vicarious extinction far more than occasional presentations of such stimuli. They concluded that observers who are highly susceptible to emotional arousal would tend to respond to occasional fear-provoking stimuli with heightened arousal reactions and show relatively strong resistance to vicarious extinction. Later reports by Bandura (1971b) concurred with his earlier observations that massed presentations of aversive stimuli were more efficacious in reducing avoidance behavior than distributed presentations. Clinical evidence attesting to repeated exposure's effectiveness over intermittent exposure has been demonstrated in cases of chronic phobias (Watson, Gind & Marks, 1971) and for obsessive-compulsive disorders (Rabavilas, Boulougouris & Stefanis, 1976).

A third variable in vicarious extinction concerns the opportunity of observing models frequently interact with an aversive stimulus, believed to be hazardous, without incurring negative consequences. It is believed that by observing models safely interact with aversive stimuli, observers cannot only learn to increase their approach behaviors toward feared stimuli, but also shift their self-expectations and those they have about the aversive stimuli. Bandura (1965a) has suggested that what may partially account for the extinction effect is the vicarious induction of competing positive responses in observers. After having been exposed to models who interact with

aversive stimuli without incurring negative consequences, continued practice or training under advantageous conditions is recommended (Bandura, 1971b), to reduce the observer's vulnerability to future negative experiences with such stimuli.

It has been proposed that not only an observer's overt behaviors but also his appraisals and expectations about aversive stimuli can be modified by vicarious means. Seeing models' successes in the face of threatening stimuli can serve as a motivator by arousing in an observer expectations that he too is capable of success in similar situations (Bandura, 1977a). As such self-expectations are subsequently reinforced and strengthened, occasional instances of failure when confronting aversive stimuli are believed to have reduced negative impacts on the observer.

Generalizability-Specificity of Modeling Effects

To what extent do modeling effects and vicarious extinction effects generalize from one learning situation to another? The literature on this issue contains evidence which suggests both generalizability and specificity of effects.

It might be expected, on the basis of generalization principles, that what one has learned in one situation would tend to generalize to other situations, given that some degree of similarity exists between the new situation and the

original one. However, contrary to expectations, there appears to be some inconsistency about the place of generalizability insofar as modeling effects are concerned.

Miller and Dollard (1941) reported that generalizations of imitative responding can be observed in animals. What an animal learns in one situation can generalize to other situations, given that appropriate conditions of drive, cue, and reward for such behavior obtain. Miller and Dollard also reported that, on the basis of experiments conducted with children, imitative responding in children will tend to generalize from one situation to a new one. The major qualification for such generalization, however, is that the new situation be "somewhat similar" (Miller & Dollard, 1941, p. 131) to the original one. Later experiments with children by Lepper, Sagotsky and Mailer (1975) attempted to determine the generalizability of the effects of exposure to models who displayed either very strict or very lenient standards of self-reward. The findings of Lepper, et al. were taken as evidence that modeling effects in children are quite generalizable, even from one situation to a different one some weeks after the modeling exposures.

In a study of adolescent and adult snake-phobic individuals, Bandura, et al. (1975) found that once expectations for success in coping with threatening situations could be well established, there was a tendency to generalize to other situations in which performance had

previously been handicapped by concern over one's coping inadequacies.

In a covert modeling investigation using adult subjects, in which single vs. multiple covert models were factorally combined with confrontation with either the same fear stimulus or varied fear stimuli (i.e., snakes), Kazdin (1974b) unexpectedly found that varying the fear stimuli across sessions failed to contribute to avoidance reduction. Although he had assumed that the greater the number of stimuli to which anxiety is extinguished, the greater should be the reduction in avoidance behavior, his results indicated that such generalization did not occur.

Several investigations have identified variables that may account for the limitations on generalizability. It has been suggested that generalization may be influenced by the potency of the modeling treatment(s) used (Bandura, 1971b), the degree of close similarity between the original learning situation and the novel sets of cues (Bandura & Walters, 1963), the degree to which expectations for success have been well established (Bandura, 1977a), the homogeneity of certain social groups in which imitative responses undergo little or no change across successive models (Bandura & Walters, 1963), the personal history of a person who has had prior direct experience with related feared objects (Bussey & Perry, 1976), and perhaps due to observations that, while modeling is usually quite powerful in and of itself, "Vicarious

extinction is completely successful with only a portion of the subject population, about 40% ..." (Blanchard, 1970, p. 60).

Clearly, the cited examples of variables that could impede generalization of modeling effects is not exhaustive, but highlights a number of conditions that may need added consideration when investigations intend to demonstrate generalization effects. It appears, then, that "even though a model's rewarding qualities are equally associated with the different types of behaviors he performs, modeling effects nevertheless tend to be specific rather than general" (Bandura, 1969, p. 131). However, as recent evidence suggests, one of the more promising avenues to pursue regarding the issue of generalizing modeling effects across situations seems to be increased attention to the self-expectations learners have for themselves in different situations.

Summary of Modeling Literature

Bandura's social learning theory of modeling appears to be sound, both theoretically and empirically. As a major method of social learning, it requires the active operation of four integral components, without which observational learning purportedly does not occur. Modeling's effects - reciprocally influenced by a number of personal and situational variables - extend from the acquisition of novel

forms of behavior to the reduction of other forms of established behavior. As a treatment approach, that can be appropriately modified to fit the situation, modeling appears to be especially well-suited to reducing avoidance behaviors that are considered maladaptive. The generalization of modeling effects, however, seems to be limited by a plethora of often uncontrollable variables.

Threat Perception

Throughout much of the psychological literature, a great deal of attention has focused on stress, threat, and the consequent patterns that emerge in response to such stimulation. What follows is a brief review of some of the theoretical and empirical literature in this area, with particular emphasis on perceptions and appraisals of threat and some of the efforts employed to mitigate the impact of perceived threats.

Definition of Terms

Deriving largely from Selye's physiological work, "stress" has sometimes referred to an abnormal stimulus overload, in which an individual's resources to manage the overload are heavily taxed. Arising from physiological, psychological, and/or social conditions, several other general classes of stressors have been identified (Korchin,

1976), among them uncertainty, understimulation, danger, ego-control/ego-mastery failures, self-esteem danger, and the danger of losing the esteem of others.

"Threat" may be distinguished from "stress" insofar as it denotes an anticipation that a future confrontation with harm (i.e., a stressor) will befall an individual (Lazarus, 1966). By virtue of its anticipatory nature, threat involves the active perception and appraisal of potentially noxious or unpleasant stimuli that impinge upon individuals.

The term "coping" has accrued a wide variety of meanings among psychological writers, in much the same manner as has the term "anxiety". In an attempt to provide what they considered some clarification about the issue, Lazarus, Averill and Opton (1974) suggested the following general definition for "coping":

We regard coping as problem-solving efforts made by an individual when the demands he faces are highly relevant to his welfare (that is, a situation of considerable jeopardy or promise), and when these demands tax his adaptive resources (pp. 250-251).

"Coping", then, is determined and affected by at least three major variables, including the person, the situation, and the available responses possessed by the person. When considering coping, therefore, attention to these three variables appears to be essential.

On the basis of the three defined components thus far

listed, psychological stress may be viewed as a three-stage process: (a) a taxing stimulus impinges upon an organism, which leads to (b) a perception of anticipated confrontation with harm, coupled with an evaluation of that harm's impact, which in turn progresses toward (c) attempts to satisfactorily respond to the stimulus (Lazarus, 1966). The emphasis here is intended to address the second and third stages of the process, perceptions of threat and coping responses.

Determinants of Threat

Just as coping is reportedly determined by personal, situational, and response-related variables, the same determinants also enter into discussions of threat perception. Research efforts have tried to isolate the unique influence of certain person variables. Krupat's (1974) study of 60 undergraduate males found that both the amount of prior experience a subject had with a dangerous situation, as well as confidence in his own ability to deal with that danger, coacted to influence the degree of perceived threat. He concluded that the greater the amount of previous danger experience and the higher the self-confidence of a person, the less will events or situations be perceived in threatening terms, psychologically as well as physiologically.

Schwitzgebel (1976), addressing another determinant, has

argued for the relatively greater significance of situational factors as they pertain to threat perceptions and the arousal of anxiety. From his vantage point, the more threatening the situation, the greater the likelihood that the behavioral responses to deal with the perceived threat will be linked to the situation itself, rather than to an individual's private emotional responses.

The response dimension's relation to perceived threat (and its often accompanying anxiety) has also been addressed. Discussing the effects of interruptions of behavioral sequences, Mandler and Watson (1966) suggested that an organism may perceive interruptions as threatening whenever alternate responses to the interruptions are unavailable to the organism; in that case, the organism may well anticipate upcoming confrontation with harm. In a related article concerning perceived control, Averill (1973) suggested that what may be considered threatening is, in part, a function of the number of responses available to a person.

While the cited references appear to make legitimate claims for the relative contributions of personal, situational, and response-related variables in perceptions of threat, they tend to compartmentalize the respective influence of each or overlook points of juncture. Despite the fact that perceptions of threat can be derived from each of the dimensions thus far listed, it has been suggested that each may be reciprocally dependent upon the other in order

for threat to be perceived (Lazarus, 1966). That is, one cannot define a situation as the sole determinant of threat unless one also knows the characteristics of the perceiver and the response alternatives available to him. As Lazarus, et al. (1974) have recommended, it is perhaps more appropriate to conceptualize the perception of threat as resulting from "transactions" among the three interacting variables of person, situation and response.

Appraisals and Expectations

The issues of cognitive appraisals and expectations about threat assume central importance for Lazarus' (1966) explanations of the threat-coping process (consideration of such appraisals at this point shifts the focus from threat to coping responses, of which appraisals are one part). When one is confronted with a situation, the degree of threat posed is purported to be the product of active cognitive appraisals made by the organism. Lazarus, et al. (1974) hypothesized that an initial appraisal serves to distinguish potentially harmful stimuli from those which are either beneficial or irrelevant to the organism. Having arrived at the distinction, a second appraisal acts to alert the organism to the range of coping responses available to it, by means of which to either master the anticipated harm, adapt to it, or respond otherwise.

In the process of evaluating the potential threat

stimulus, Lazarus (1966) has indicated that three stimulus properties affect the degree to which threat is perceived: (a) the balance of power between the harm-producing stimulus and the organism's resources to combat the harm; (b) the imminence of the anticipated time before confrontation with the stimulus; and (c) the ambiguity of cues about whether there is to be a harmful confrontation. On the basis of his appraisals of threat and the stimulus properties associated with it, a person's expectations about his ability to cope with the threat assume significance (Lazarus, 1977). If a person has previously been exposed to similar threats and responded to them in ways considered to be successful or adaptive, mastery expectations gleaned from previous accomplishments would be assumed to take prominence. On the other hand, if a person's previous experience with a threat stimulus has been marked by ineffective or inadequate responses that go unmodified (which, in turn, interfere with relevant approaches to problem solving and serve to further increase anxiety), failure expectations may well be generated.

Coping Responses

Having both appraised the threat stimulus and generated expectancies about one's response to the threat, the coping strategies that one adopts will be related to interacting personal, situational, and response-related characteristics.

Lazarus (1966) proposed the existence of two general classes of coping responses: (a) direct actions taken toward one's self or the environment, and (b) cognitive maneuvers aimed at effecting interpretive changes in the appraisals of a situation, without actually directing action toward the objective situation. Within the realm of the first class are included some of the more obvious response patterns of attack, avoidance, and active preparation against harm. Within the second class, however, the response patterns allegedly rely on covert operations. Typically, such maneuvers are regarded in the sense of the Freudian defense mechanisms, which act to distort the significance of a threat stimulus by creating an intrapsychic impression of security. Viewing the covert operations from a less maladaptive perspective, Girodo (1977), for example, has discussed the use of self-statements to readjust the appraisal of threat into nonthreatening terms. While both classes of coping responses appear to be applicable to a diversity of threat stimuli, there still exist some stimuli to which the only appropriate response can be cognitive in nature. As Lazarus, et al. (1974) have indicated, certain conditions such as terminal illnesses, severe injury, or the death of a loved one prevent a person from taking direct action against the threat and permit a person, instead, to only cope with the threat cognitively.

Death, Threat and Coping

The prospect of death is usually considered a threat stimulus of extremely high potency to both humans and animals, since an individual is incapable of preventing or controlling its occurrence; the only thing that can be done is to delay it (Lazarus, 1966). The threat of death, and the anxiety it arouses in people, reportedly can be observed in both threats of personal death and in confrontations with the deaths of others. In his description of the impact that attendance at an autopsy has for a beginning medical student, Lazarus (1977) indicated that many students have difficulty maintaining a balance between objectivity and their affective responses to death. However, certain institutional procedures facilitate the adoption of detachment or distancing as legitimate methods of taking direct action against the threat posed by death, and so tend to reduce its impact.

Summary of Threat Perception

Perceptions of threat and concomitant coping responses characterize psychological processes of adaptation. Based on Lazarus' (1966) model of psychological responses to threat, personal, situational, and response-related characteristics interact to determine both whether a stimulus is perceived as threatening and the behavioral, affective, and cognitive operations of coping with threats. Of principal interest to

Lazarus' theoretical conceptualizations of threat are cognitive appraisals that mediate the perception of threat, as well as the expectations one has for either mastering or failing the threatening stimulus. Coping responses have been classified into two major groups, the first consisting of direct actions taken against either the self or the environment, and the second of cognitive maneuvers to re-conceptualize the perception of threat. Of all threatening stimuli, death seems to provoke the most anxiety because of humans' inability to prevent its eventual occurrence, although even those who must confront it (i.e., health professionals) learn ways of coping with it.

Nurse Responses to Patient-Deaths

In recent years, the topics of dying, death and bereavement have become popularized in the theoretical and empirical writings of psychology and allied disciplines. Despite Freud's (1917/1963) dictum that contemplation of death was beyond the scope of man's capability - an assertion that served to inhibit scientific explorations of the topic -, the lethal events of this century and frank media depictions of death have activated a renewed awareness of and interest in these issues.

Inquiries into the dying process, the death event, and the impacts of these related matters have primarily focused

either on dying patients or on the people closest to them. Lindemann's (1944) ground-breaking study of survivors' grief reactions following the Cocoanut Grove fire elucidated many of the ways in which people grapple with tragic death occurrences. In a somewhat similar vein, increasing attention has been directed toward the widowed, both to examine their responses to loss and to then predict and effectively treat the outcomes of different forms of mourning (e.g., Parkes, 1975). Kübler-Ross' (1969) work with dying patients provided yet another example of the concerns both the living and the dying have with death and the ways with which it can be coped.

Although today our society appears to be somewhat more conscious and aware of death in an abstract sense than it may have been in the past, there is now less direct contact with death for most people than ever before. Owing in part to advances in medical technology, people today tend to live for longer periods and when death occurs, it more often than not takes place within institutional settings. Where in the past most families had been exposed to the deaths of loved ones in familiar surroundings, the responsibility for caring for the dying and dealing with death has now been delegated to "professionals" (Feifel, 1977). It has been estimated that 70% to 80% of the population now die in health care facilities (Fulton, 1978-1979), and the trend is expected to continue. How health care professionals, who tend to receive

more exposure to death than most others, respond to deaths that occur in their institutions has in recent years finally become a burgeoning area of interest. However, aside from theoretical position papers and a plethora of anecdotal reports, there is a genuine scarcity of methodologically sound applied research concerning health professionals' psychological responses to the deaths of patients (Kastenbaum & Costa, 1977; Vachon, Lyall & Freeman, 1978).

This review is intended to examine how nurses, as one segment of the health care professions, respond to patient-deaths. The effects of contact with patient deaths has received wide attention from within nursing, psychiatric, and psychological circles, as have the conflicts that beset the nursing profession's traditional goals in the face of a growing recognition of death's impacts. The socialization of nurses into their specific reference groups seems pertinent to a discussion of response styles to patient-deaths, since valued nursing behaviors are often rooted within such social groups. Preparation for dealing with routine stresses as well as the stress of death will be considered, as the preparation topic has attracted the attention of those responsible for the education of health professionals. Nurses' appraisals of the threat posed by patient-deaths and some of their ensuing coping responses will be explored, since these reactions appear to affect further exposures to deaths. Finally, attention will be directed toward a number

of variables believed to exert considerable influence on nurse responses to patient-deaths.

Contacts with Patient-Deaths

It has been reported that nurses have a greater degree of actual contact with patients and their subsequent deaths, both in nursing homes and in hospitals, than all other health professionals including physicians (Kastenbaum, 1978). Whether patient-deaths occur in areas designated as having high death rates (e.g., intensive care or emergency units) or low death rates (e.g., obstetrics/gynecology or psychiatry), nurses spend appreciably greater amounts of time with patients as the primary providers of direct care. It has been repeatedly documented that contacts with patient-deaths tend to be extremely stressful events for nursing personnel within a hospital (Hay & Oken, 1972; Rabin & Rabin, 1970), even though nurses from low-death-rate units do not confront patient-deaths with as high a frequency as do nurses from high-death-rate units. In areas such as intensive care units, nurses work under conditions of sustained stress, where relief from the pressures of closely monitored patients, emergency situations, and the extra stress posed by patient-deaths is not readily available; to respond to patient-deaths under such conditions, a nurse's psychological resilience becomes heavily taxed. On hospital units where the patient-death rate is comparatively low, the stresses

impinging upon nurses tend to be of a different variety due, in part, to the fact that there is considerably less exposure to death and, consequently, less advanced preparation and experience in how to deal with the additional stress when it occurs.

Traditional Nursing Goals and Death

Traditionally, institutional health care systems have been devoted to the curing of illness. However, as Brunner and Suddarth (1975) have indicated, the emphasis has shifted from an almost exclusive concern with cure to a heightened awareness of health and a growing interest in its maintenance. Nursing, then, is considered to be a service oriented toward the prevention of illness, the maintenance of health, and the provision of relief to those who are suffering. In all three aspects of the nursing orientation listed here death's relative significance appears conspicuous by its absence. It does not appear that there is a gross denial of the fact that deaths do occur, but rather a deflected emphasis toward providing all of the available services to somehow delay its inevitability.

The prospect of patient-death for nurses calls into question some of the traditional nursing objectives and suggests still another shift in emphasis. The point must be recognized that, at some times, the active treatment and/or health maintenance goals for a patient yield to a "care"

orientation (Saunders, 1969). However, most health care systems have not been well organized to provide such care and, consequently, often pose a dilemma for nurses who may be caught in the conflicting demands of two orientations: (a) cure "at all costs", and (b) personalized care (Benoliel, 1977, 1978). The manner in which a nurse responds to this conflict and others may often be functionally related to the training provided to those in the nursing profession.

Social Conformity and Nursing

As a social institution, the nursing profession provides its members and its recruits (i.e., nursing students) with rather clear guidelines about the profession's functions, its expectations of them, and the limits of conduct that will be reinforced, tolerated, or censured. Throughout a nurse's training - both in preparation to become a nurse, as well as during her professional career -, instructors furnish information about the technical aspects of work, the interpersonal components necessary for efficient nursing functions, and the nursing behaviors that are highly valued. In order for a nurse to perform within the guidelines provided by the profession, a nurse must, to some extent, conform to the demands and preferred activities of her social reference group.

Social psychologists have suggested that an interaction of several factors combine to influence the degree to which

one will conform to a group, including personal characteristics of the conformer, characteristics about members of the reference group, and the consequences which may result from either conformity or nonconformity (Baron & Liebert, 1971). Examples of conformers' personal characteristics are said to include features such as dependency on others to provide clarity in ambiguous situations, or safety-orientations by which uncertainty and anxiety can be reduced via active modeling of the responses of reference group members (Wilson, 1976). The degree of attraction the reference group holds also has been identified as influential in fostering conformity; the greater the degree of similarity between a group and an outsider, the greater the likelihood that the group will be viewed as acceptable (Allen, 1965). Moreover, the extent to which the group nurtures conformity appears to be related to the support it provides its members and to the frequency with which the support is delivered by the group (Hollander, Julian & Haaland, 1965). The consequences of conformity and meeting the social pressures and expectations of the group appear to be related to deriving valued reinforcements from social referents, thereby increasing one's acceptance into the group (Schwartz, 1977) and the adoption of the group's standards of behavior.

From this brief account of some of the social

psychological aspects of conformity, it is clear that much is applicable for those in the nursing profession. Within the microcosm of hospital settings, several behavioral characteristics of health care workers tend to be valued most highly; among them are the maintenance of self-control, composure, and competent efficiency (Benoliel, 1974; Glaser & Strauss, 1964, 1965). To insure the continued presence of these characteristics among health care workers, nursing instructors emphasize the necessity for nurses to learn professionally responsible ways of behaving and so maintain the valued behaviors. In so doing, high expectations for success are reportedly instilled in student nurses and new nurses (Quint, 1967a), as are the grave consequences that will result for those who may be negligent in their required nursing duties. Confrontations with patient-deaths are considered to present the greatest jeopardy to a nurse's professional demeanor and provide the situations when the valued characteristics of the nurse's social reference group are most challenged. The group's social pressures and supports at such times are considered crucial in influencing the ways in which a nurse responds to either a patient's death or other stress situations (Benoliel, 1978; Parkes, 1978); unless the supports and feedback systems exist for nurses, their actions in such circumstances may prove to be both personally and professionally unsatisfying. Those nurses who are able to maintain their composure, as gleaned

from the teaching of others, under the stress provided by a patient's death may obtain rewards in the form of admiration, status, and praise from other staff members (Caughill, 1975), while those who do not maintain such group standards may be perceived as weak in character and their actions frowned upon (Kastenbaum, 1978). Preparation for stress confrontations would likely seem to also influence a nurse's actions when faced with a patient's death or related threats to a nurse's composure, and so may be discussed at this point.

Preparation for Stress

Examples of stresses to be encountered as a professional nurse are provided during the course of a nurse's training, with guidance from instructors on how to effectively manage them so as to avoid losses in one's professional demeanor. As Brunner and Suddarth (1975) have indicated, almost all areas of nursing continually deal with anxiety and stress generated by a variety of events. The range of stresses may include having to withstand supervisors' critical reprimands about nursing behaviors, working with particularly annoying or obnoxious patients and their families, carrying out repulsive or noxious procedures, preparing children for surgery, and so forth. The stress presented by death, however, may not be routinely addressed in either the formalized training of nurses or in the less formal educational surroundings of hospital in-service training

programs. In fact, Quint and Strauss (1964) observed that the notion of death may not readily be built into the work-related expectations of young nurses and that a nursing student can complete all of her clinical training/education without ever having confronted the stress and heightened anxiety of a patient's death. Thus, when the nurse initially encounters patient-deaths during her nursing career, she will most likely be most unprepared to effectively cope with their effects. Despite the fact that Quint and Strauss' observation was made in 1964, more recent reports attest to its validity and continue to claim that nurses' preparation for effective death confrontation is still seriously inadequate (Beneliel, 1978; Bunch & Zahra, 1976; Kastenbaum & Aisenberg, 1972).

Self-reports from working hospital nurses indicate that, of all of the stress situations that pose major difficulties for nurses, the dying and deaths of patients tend to have the most devastating impacts (Davitz & Davitz, 1975; Vachon, et al., 1978). Confronted with the stress of a patient's death, a nurse's perception and appraisal of that event, in part, determines the extent to which the nurse may be threatened by death. A number of variables appear to influence the threat-value of death, three of which are discussed below.

Appraisals of Patient-Death

The literature concerning nurses' appraisals of the

threat posed by patient-deaths may be grouped into essentially three separate clusters. It has been shown in several investigations that unexpected deaths tend to provoke greater stress and anxiety in nursing personnel than do those deaths that may be anticipated (Kastenbaum & Aisenberg, 1972; Spitzer & Folta, 1964). Owing in part to Glaser and Strauss' (1965) "death trajectories" (e.g., certain death-expected time, certain death-unexpected time, etc.), observations of nursing personnel confronted with unexpected deaths find them ill-prepared for the events in terms of effectively managing their responses and anxiety to the deaths. With anticipated deaths, however, staff members may have time to prepare themselves for the stress-confrontation before it arrives and so be less "taken off guard" with its appearance.

A second area of concern has focused on the relative social loss value attributed by nursing personnel to patients. Certain hospitalized patients tend to be characterized as more "valuable" than others by virtue of their age, social status in the community, education, or friendly relations with the nursing staff. The deaths of young patients consistently evoke strong emotional responses from hospital staff members because of their "high social loss" value (Reynolds & Kalish, 1974). Older patients, the comatose, or those simply forgotten by others tend to be considered as less socially valued and, subsequently, their deaths pose less of a threat for nursing personnel. By

reducing the social importance of those who die, caretakers are then able to reduce the impact of death and further protect themselves from the stress and pervasive feelings of anxiety brought on by death (Blauner, 1966; Kastenbaum, 1978).

A third issue that may influence the degree of threat associated with death is the perceived-meaningfulness of a nurse's actions when confronted with a patient's death. In a recent study involving nurses from a coronary care unit, Price and Bergen (1977) found that those who could remain "active" and find some sense to their work felt a greater degree of control over often uncontrollable situations and lessened feelings of impotence when confronted with death than those nurses who perceived little meaningfulness in their functional roles.

Among the variables here presented as possible determinants of death's threat-value to a nurse, there does not appear to be any uniformity inherent in any one combination of the three variables (or in any of their permutations) that would indicate the extent to which a nurse may be threatened by a patient's death. Clearly, other variables would have to be considered.

Nurses' Coping Responses

The range of responses nurses employ with patient-deaths may reflect what nurses have been taught by others (or taught

themselves) about such events, what nurses have consistently used in the past when confronted with stresses that bear a resemblance to death, or what kinds of coping behavior tend to be sanctioned by the institutional setting in which nurses work. The literature on nurses' coping responses includes five very general, and somewhat overlapping, response classes that tend to be those predominantly employed in reference to patient-deaths.

Avoidance and withdrawal from patients and other staff members tend to be the most widely used coping responses used by hospital nurses in confronting dying patients and death (Hurley, 1974/1975). Not only are such responses provided by a hospital's system, but they are also encouraged and considered necessary protective mechanisms (BenolieI, 1972) for those whose work brings them into contact with patient-deaths. Since exposure to patient-deaths is generally believed to be emotionally-draining on staff members, opportunities to remove oneself from that milieu so as to restore one's emotional equilibrium are frequently endorsed as legitimate responses for nurses.

In those instances where outright avoidance/withdrawal cannot be easily effected, as in emergency or intensive care settings, the allied response of denial is said to often be invoked, so that a nurse may sometimes be relieved of some of the emotional pressures that obtain with continued exposure to death. Denial may take the form of distraction away from

a dying patient's psychological needs and attaching sole significance to the tasks designed to keep the patient alive (Caughill, 1975; Schulz & Aderman, 1976).

A third variety of responses to death among nurses reportedly involves blaming oneself for negligent behavior in not having "done enough" for a patient. Given the training and expectations imposed on nurses by their educational background, in which instructors repeatedly emphasize the necessity for thoroughly professional competence in handling medical emergencies (Quint, 1967a), it is understandable that feelings of negligence and guilt would follow when nurses' efforts fail (Quint, 1967b). Indeed, the manner in which deaths may be perceived often entails a sense of failure since death signifies an affront to a nurse's professional sense of self-esteem and coveted institutional values.

Grief reactions are considered to be natural responses to death (e.g., depression, anguish, anger, isolation, etc.), in which emotion-laden material is ventilated prior to an eventual acceptance of death by a survivor of the loss. As coping responses, grief reactions are sometimes found among nurses, although the intensity of their grief tends to be appreciably lower than that experienced by families (Parkes, 1978). Because of the institutional values of composure, control, and competence, grief reactions among professional staff members are often viewed as illegitimate and may subsequently be blocked by nurses to avoid the negative

sanctions accruing to those who openly express themselves (Benoliel, 1974; Kastenbaum, 1978).

Another group of coping responses, used to dissipate anxiety after a patient's death, consists of projecting blame for the death onto others, usually directed at physicians or the hospital structure (Vachon, Lyall & Rogers, 1976). Resentful of the fact that death uncontrollably has occurred and intent on preserving some degree of self-esteem, nurses often displace their anger onto others for "allowing" the death to take place or for negligence or insufficient treatment of the patient.

In an evaluation of coping strategies, Worden and Proctor (1976) listed (a) withdrawal from others, (b) avoidance, (c) distraction, (d) fatalistic acceptance, (e) self-blame, and (f) blaming others as "less effective" than (a) confronting the problem, (b) seeking additional information, (c) redefining the problem, and (d) sharing one's concerns with others. While Worden and Proctor indicated that the first six strategies may be somewhat effective in reducing anxiety, their assessment concluded that the responses tend to have only short-range effectiveness and never adequately resolve the problems provoked by death.

Influential Variables in Responses to Death

Among the issues thus far discussed, a number of

variables have been listed which seem to exert an influence on how nurses respond to patient-deaths. In the discussion that follows, four variables will be explored in terms of their relative influence on responses to patient-deaths.

Repeated exposure to/contact with patient-deaths has been designated as an important determinant of nurses' responses to confrontation with death, although the literature does not reveal complete consistency with regard to its effects. Investigations of intensive care unit nurses suggest that personnel become habituated to the impact of patient-deaths by the sheer repetition of their occurrences, thus precluding the experience of chronic anxiety that would accompany the deaths of patients and perhaps interfere with work performance (Hay & Oken, 1972). To reduce the anxiety and emotional upset that accompany loss, nurses working on units with high death rates tend to affix labels of lessened social significance to patients in order that the nursing staff can become "accustomed" to deaths (Glaser & Strauss, 1964). Studies conducted in extended-care facilities for war veterans have found that staff members claim to have "gotten used" to seeing death, stating that it no longer arouses in them the anxiety that it initially had (Reynolds & Kalish, 1974). In contrast to the observations cited thus far, Granich's (1976) study of nursing students' exposure to patient-deaths found that relatively high amounts of clinical experience dealing with death did not result in a predicted

desensitization to/lowering of death anxiety or concern about death. Despite Granich's unexpected findings, repeated exposure to patient-deaths does seem to exert a considerable influence over the ways in which nurses respond to patient-deaths.

A second variable that has been proposed as influential involves the amount of professional nursing experience a person has, although again, results of studies point to inconclusive findings. In Granich's (1976) study, a group of pre-nursing students was compared with groups of junior-year and senior-year nursing students (total $N=139$) to determine whether the total amount of clinical nursing experience impacted on reducing death anxiety and death concern; as the results of her study indicated, the amount of nursing experience did not significantly seem to influence the dependent variables of death anxiety or death concern. In a study of nurses aides employed in nursing homes, Howard (1974) found, on the basis of interview responses, that the longer the term of employment, "the greater the avoidance of death among employees. However, in a study of 122 hospital nurses, using theoretical conceptions about responding to death derived from the writings of Glaser and Strauss, Benoliel, and Kübler-Ross, Hurley (1974/1975) concluded, on the basis of retrospective reports and interviews, that those who had more nursing experience and who perceived themselves as competent in handling the stresses of their work tended to avoid dying patients to a lesser degree than did nurses who

had less experience and less perceived-competence in their nursing abilities.

Age has also been identified as a plausible determinant of responses to patient-deaths. In an investigation with groups of terminally-ill patients, chronically ill and physically disabled patients, psychiatric patients, and normals ($N=371$), Feifel and Branscomb (1973) attempted to isolate the major demographic variables that were most closely associated with fears of personal death. Of the ten predictor variables included in their analyses, a self-rating of religiosity and one's age were the only ones significantly related to conscious fear of death. In another study involving 235 nurses from both chronic- or acute-care facilities and from public health agencies, Gow and Williams (1977) concluded that age was an important determinant in nurses' perceptions of death, as older nurses in their sample (i.e., those 40 years of age and older) reported less anxiety about death and more positive attitudes than groups of younger nurses (contrary to Gow and Williams' predictions).

Finally, a history of personal loss (through the death of loved ones) has been suggested as another variable that may affect how one responds to death. Recounting the stresses of emergency room nursing, Caughill (1975) suggested that nurses who have suffered a recent loss of their own may have great difficulty coping with patient-deaths and the patients' families. Brown (1975) concluded from her study

of 209 university students that real-life confrontations with death (i.e., having a history of personal loss) may have an effect of lowering death anxiety, as measured by responses on a death anxiety scale. In considering the conflicting observations about the effects of personal loss experiences with death, Kastenbaum and Costa (1977) suggested further study to obtain clarification about the impact of this variable.

Summary of Nurse Responses to Patient-Deaths

Only in recent years has the renewed social awareness in death and dying been directed toward health professionals. Due to the greater degree of exposure health professionals have with death, investigators have indicated an interest in the ways in which nurses and physicians psychologically respond to the deaths of patients in hospitals. Members of the nursing profession, while dedicated to the goals of health restoration and maintenance, are often faced with conflict when their traditional aims must yield to a "caring" orientation toward those patients for whom active treatment is no longer a viable alternative. The training and education of nurses has been found to foster conformity among its members, giving certain institutional behaviors high priority and value, while socially censuring those nurses who fail to uphold such standards. Although formally prepared in their education to meet the stresses usually imposed on

nurses, preparation for the stress of patients' deaths and the usually ensuing anxiety the stress prompts remains seriously inadequate. Appraisals of the threat presented by patient-deaths are believed to vary, depending upon the response, situational, and personal characteristics that exist for nurses. The predominant coping responses used by nurses appear to be effective in dissipating some of the anxiety of death's impact, although the responses' effectiveness seems to be relatively short-lived. Repeated exposure to death, amount of professional nursing experience, age, and history of personal loss have all been identified as potentially related to the manner in which nurses psychologically respond to patient-deaths, although the findings from investigations of these variables provide inconclusive evidence attesting to their purported influence.

Summary of the Literature Reviewed

Having provided selective reviews of Bandura's social learning theory of modeling, threat perception, and the topic of nurse responses to confrontations with patient-deaths, it is evident that features of each of these separate areas coincide in part with features in the other areas.

It would appear that social modeling occupies a role of central importance in the education and training of nurses. According to Bandura (1965a), the provision of social models

is an indispensable method for conveying information in situations where errors may produce costly or even fatal consequences; if left to learning on the basis of trial-and-error, such undesirable outcomes may frequently occur. Through their observations of social models, however, individuals may acquire information about what kinds of behaviors result in positive outcomes, the manner in which those behaviors or procedures may be carried out to insure the desired outcomes, and what skills are necessary in order to function effectively. Bandura's theoretical notions about social modeling may be applied quite easily to the instructions and training provided for nurses. Guided by their exemplars - be they either nursing school instructors or those nurses who possess greater professional nursing experience in the field -, nurses are taught, via observational methods, a variety of procedures, skills that may be used in a variety of situations, and standards that are to be upheld by members of the nursing profession. By means of observing the actions of nurse models, three types of modeling effects (Bandura, 1969) may emerge, including the acquisition of new styles of nursing behavior, the strengthening or weakening of previously learned actions, and the elicitation of nursing behaviors applicable in situations that differ from the one in which such behaviors were initially learned.

In addition to the three modeling effects, the personal

characteristics of models, observers, and response consequences, as outlined by social learning theorists (e.g., Bandura, 1971c; Bandura & Walters, 1963; Miller & Dollard, 1941), appear to be similarly influential for nurses, who are members of a social organization that requires some degree of conformity among its constituents (e.g., Baron & Liebert, 1971).

As suggested, nurses make extensive use of social modeling principles throughout their formal education and subsequent careers. If observation of models by nurses can assist in the acquisition of new modes of behavior, theoretically it should be equally effective in reducing certain manifestations of avoidance or anxiety-related behavior. According to the principles which are said to govern the vicarious extinction process (Bandura, 1971b), nurses' anxieties and often subsequent avoidance behaviors upon confrontation with anxiety-producing stimuli (i.e., patient-deaths) may be efficaciously reduced through observations of multiple nurse models, repeated exposure to patient-deaths, and observations of nurse models who can seemingly confront patient-deaths without incurring negative consequences or suffering ill-effects.

A final point of convergence between the topics of modeling and nurse responses to confrontation with patient-deaths concerns the relative significance attributed to appraisals and expectancies. Recent developments

in Bandura's (1977a, 1977b) theoretical notions about social modeling suggest the utility of cognitively-mediated expectations as partial determinants of the extent to which observational learning may occur. In the literature pertaining to nurse responses to confrontation with patient-deaths (Glaser & Strauss, 1965; Reynolds & Kalish, 1974), appraisals of anxiety-producing situations (i.e., the death of a patient) appear to influence one's expectations of the impact a patient's death may have and so serve to somewhat prepare nurses in advance of a death.

As alluded to in the preceding paragraph, threat perception is directly related to the way(s) in which a nurse responds to patient-deaths. Lazarus (1966) indicated that the three-stage process of psychological stress ordinarily involves perception and appraisal of a stressor as threatening, followed by an organism's coping response(s). If a stressor is capable of arousing fear or anxiety in an organism, the threat perception would suggest an anticipated confrontation with harm. The prospect of death, either one's own or that of others, is said to be among those stimuli which most consistently are perceived as threatening and tend to provoke a high degree of anxiety in people. In response to the perception of threat posed by death, one's expectations about the ability to cope with the anticipated harm (e.g., a high level of anxiety) in part determine the impact that death may have (Lazarus, 1977). Similarly in nursing, as

already suggested (e.g., Reynolds and Kalish, 1974), the appraisals a nurse makes about death's impact and the expectations a nurse may have about her ability to cope with the death appear to be influential in the coping response(s) selected for the task."

Theoretical-Empirical Rationale for Project

Bandura's social learning analysis of modeling phenomena appears to provide a reasonably sound theoretical foundation by means of which to conceptualize how nurses might respond to confrontation with anxiety-provoking stimuli such as deaths of patients. Although previous investigations have sought to explain nurses' responses to confrontation with patient-deaths from differing conceptual perspectives (e.g., Hurley, 1974/1975; Quint, 1967a), the author was unable to locate studies in the literature that explored actively-working hospital nurses' responses to confrontation with patient-deaths within the theoretical context of Bandura's social learning analysis of modeling.

On the basis of the reviewed literature, two primary independent variables have emerged which theoretically appear to exert an influence over a class of dependent variables referred to as "nurse responses to confrontation with patient-deaths". For this study, "nurse responses to confrontation with patient-deaths" includes the level of

reported death anxiety, the level of reported general anxiety, and the kinds of behavioral coping responses employed by nurses who confront patient-deaths.

The first major independent variable believed to be theoretically relevant for this project concerns the influence exerted by the amount of exposure to/contact with patient-deaths on nurses' subsequent responses to confrontation with patient-deaths. According to the observations of Glaser and Strauss (1965) and Hay and Oken (1972), nurses who experience high levels of exposure to patient-deaths tend to become less anxious with repeated exposure to death. In her study of student nurses, Granich (1976) empirically examined the hypothesis that repeated exposure to patient-death leads to lowered death anxiety levels and lowered concern about death. Contrary to her expectations, Granich found that repeated exposure to death did not result in a statistically significant lowering of student nurses' anxiety or death concern. The unexpected results of Granich's investigation may be understood in light of the fact that student nurses do not typically encounter dying patients and patient-deaths with as high a relative frequency as do professional hospital nurses (see Quint and Strauss, 1964) and thus may not be as likely to report lowered levels of death anxiety or death concern. By examining the observations of Glaser and Strauss (1965) and Hay and Oken (1972) with reference to a group of professional

hospital nurses in the present project, as contrasted with the student nurses used in Granich's (1976) investigation, the possible effect of exposure to/contact with patient-deaths in lowering a nurse's death anxiety may be more clearly delineated. Theoretically, it was believed in this project that the level of exposure to/contact with patient-deaths would significantly influence the class of dependent variables referred to as "nurse responses to confrontation with patient-deaths."

The second major independent variable believed to be theoretically relevant for this project concerns the influence exerted by level of professional nursing experience on nurses' responses to confrontation with patient-deaths. Since empirical evidence pertaining to the relative influence of this variable is still inconclusive (e.g. Howard, 1974; Hurley, 1974/1975), it would be appropriate to further investigate its impact on how nurses respond to patient-deaths. With higher levels of professional nursing experience, such nurses would likely have been exposed to nurse models for longer periods, through whom they would be hypothesized to have observationally learned how to confront patient-deaths. Theoretically, it was believed in this project that the level of professional nursing experience would also significantly influence the class of dependent variables referred to as "nurse responses to confrontation with patient-deaths".

Two additional variables, age and history of personal loss, appear to be theoretically relevant for this project, although they may be closely allied with the second independent variable of level of professional nursing experience; that is, those nurses with higher levels of professional nursing experience would more likely be older and also more likely to have experienced a personal loss. The variables of age and history of personal loss have each been reported in the literature as bearing a relation to responses to death. Feifel and Branscomb (1973) found age to be significantly related to fear of death, whereas eight other demographic variables investigated in relation to death lacked a significant association to that fear. Gow and Williams' (1977) study found that older, more experienced nurses were less anxious than younger nurses when relating to dying patients, a finding the authors reported as a significant difference. As for the influence of a history of personal loss, Brown (1975) found that persons in her study who reported having experienced a personal loss also reported lower levels of death anxiety than subjects who had no such history of personal loss. On the basis of the apparent, although inconclusive, evidence which suggests that the variables of age and history of personal loss may influence responses to death confrontation, they were included for investigation in this project as covariates.

Statement of Purpose and Theoretical Hypotheses

The purpose of this study is to explore the relative influence of the amount of exposure to/contact with patient-deaths and the level of professional nursing experience, while statistically controlling for the effects of the variables of age and history of personal loss, on the class of dependent variables referred to as "nurse responses to confrontation with patient-deaths".

The independent variables are investigated in relation to (a) a measure of death anxiety, (b) measures of state and trait anxiety, and (c) the types of behavioral coping strategies used by nurses in response to patient deaths.

Two theoretical hypotheses are addressed in this project:

1. Nurses who report a high degree of exposure to/contact with patient-deaths will report lower death anxiety, lower general anxiety, and will report using behavioral coping responses associated with both lower death anxiety and lower general anxiety than nurses who report a low degree of exposure to/contact with patient-deaths, when the effects of age and history of personal loss are statistically controlled.
2. Nurses who report a high degree of professional nursing

experience will report lower death anxiety, lower general anxiety, and will report using behavioral coping responses associated with both lower death anxiety and lower general anxiety than nurses who report a low degree of professional nursing experience, when the effects of age and history of personal loss are statistically controlled.

CHAPTER II

METHOD

The purpose of this chapter is to provide detailed information concerning (a) the research participants, (b) the instruments used, and (c) the procedures followed in data collection. At the conclusion of the chapter, the statistical hypotheses will be presented and the statistical procedures for the data analyses will be outlined.

Research Participants

The sample of research participants consisted of 210 female registered nurses, ranging in age from 21 to 59 years, who were drawn from a sample pool of 400 nurses. Inclusion in the sample was limited to females, due to the greater availability of females who are employed as registered nurses and so that possible sex differences often found on one of the measures used for the project (i.e., the death anxiety measure) could be avoided. Participation in the project by the sampled nurses was voluntary and involved no financial remuneration to them for their assistance.

All of the participating nurses were employed in one of three, predominantly English-speaking, Ottawa public general hospitals: the Ottawa General Hospital (a 526-bed, full-teaching institution), the Ottawa Civic Hospital (a 960-bed, full-teaching hospital), and the Grace Hospital

(a 203-bed, partial-teaching hospital). Nurses employed in pediatric, psychiatric, convalescent and/or rehabilitation, chronic and/or extended care, or other hospitals which provide primarily for the treatment of a limited range of diseases or injuries, or which restrict admissions to a particular age group or sex were not included in the project.

Descriptive demographic information about each participant was obtained by means of a Biographical Data Sheet, developed by the author for this project and found in Appendix A.

In order to ascertain the degree of similarity between the present sample and the larger group of Ontario nurses, three sets of comparisons were drawn between 1975-1976 data provided by Statistics Canada (1978) and the present group of nurses. The first comparison concerned nurse occupational levels. In 1975, the occupational category of "general duty nurse" included approximately 84.86% of all Ontario hospital nurses; in the present study, "general duty nurses" comprised approximately 97.61% of the sample. In 1975, the occupational category of "nursing supervisor" included approximately 10.97% of all Ontario hospital nurses; in the present study, "nursing supervisors" (also known as "nursing coordinators") comprised approximately 2.39% of the sample. A chi-square analysis of the difference between proportions of uncorrelated data (Downie & Heath, 1970, p. 208) revealed a statistically significant difference between the two

groups of data ($\chi^2 = 16.00$), evidenced in this sample by the predominance of general duty nurses, and the virtual absence of nursing supervisors, as compared with the larger group of Ontario nurses.

The second comparison concerned the attained level of education among nurses. In 1976, the ratio of Ontario nurses with and without academic degrees (i.e., possession of baccalaureate degrees or higher versus possession of registered nursing diplomas) was 1:10.2; persons with academic degrees accounted for 8.93% of all Ontario nurses, while those without academic degrees accounted for 91.06%. In the present sample, the ratio of nurses with and without academic degrees (i.e., baccalaureate degrees versus registered nursing diplomas) was 1:10.6; persons with academic degrees accounted for 8.59% of the total sample, while those without academic degrees accounted for 91.42% of the total sample. A chi-square analysis for the difference between proportions of uncorrelated data resulted in no statistically significant difference between the 1976 Ontario nurse data and the present sample's in terms of level of attained education ($\chi^2 = .03$).

The third set of comparisons explored the dimension of the nurses' marital status. In 1976, the percentage of married Ontario nurses employed in nursing was 68.65%, whereas the total percentage of single, separated, divorced, and widowed Ontario nurses employed in nursing was 31.34%. For those nurses participating in the present study, 49.52%

reported being married, while the percentage of those reportedly single, separated, divorced, and widowed combined to a total of 50.47%. A chi-square analysis for the difference between proportions of uncorrelated data indicated a statistically significant difference ($\chi^2 = 35.00$) between the proportions of marital status for Ontario nurses in 1976 and those in the present sample. According to the data, the present sample appeared to manifest a greater degree of balance between the number of single and married nurses than has been found in the larger group of Ontario nurses.

The participants were asked whether they had experienced a personal loss through the death of someone close to them. The responses indicated that 162 of the total sample of 210 (i.e., 77.14%) reported having such a history of personal loss, ranging in intensity from "very little sense of loss" ($n=6$), to "mild" ($n=22$), to "moderate" ($n=62$), to "severe" ($n=43$), to "profound" ($n=29$). The remaining 48 respondents (i.e., 22.85%) reported no such personal loss history. The reported incidence of personal loss among members of this sample differed markedly from Brown's (1975) study, in which only 13% of her sample of 209 university students had reported a history of personal loss.

Asked whether one had received training or had attended classes on the topics of death and dying, 103 of the respondents (i.e., 49.04%) indicated that they had received some form of instruction about the topic area, whereas 107

respondents (i.e., 50.95%) indicated that they had not received such training.

Information regarding the socioeconomic levels of the research participants was derived from items found in the Biographical Data Sheet. By providing information about their occupational level, or that of their spouse if married, the participants indicated the approximate income-education level of the head-of-household. Blishen and McRoberts' (1976) socioeconomic class scale, based upon 1971 Canadian census data, was used to group the occupational level of the head-of-household into one of Blishen and McRoberts' six class intervals. The Blishen and McRoberts (1976) scale was employed in this study because it represents the second major updating of Blishen's original index, based upon 1951 Canadian census data. As compared with his two previous scales (based upon 1951 and 1961 census data), the most recent scale has increased the number of occupations listed, and concurrently the number of socioeconomic index scores, and has been adjusted to more accurately reflect the Canadian labor force. Table 1 presents the breakdown of the sample's socioeconomic levels, according to the Blishen and McRoberts index system.

Six general types of hospital nursing units were represented in the sample of nurses: (a) Psychiatric ($n=23$, 10.95%), (b) Obstetrics (OB)/Gynecology (GYN)/Newborn nursery ($n=28$, 13.33%), (c) Surgical ($n=52$, 24.76%), (d) Medical

Table 1

SOCIOECONOMIC LEVELS OF SAMPLE, BASED ON BLISHEN & MCROBERTS
(1976) SOCIOECONOMIC INDEX FOR OCCUPATIONS IN CANADA

<u>Class Intervals</u>	<u>n</u>	<u>% of Sample</u>
70.00 +	11	5.24
60.00 - 69.99	31	14.76
50.00 - 59.99	139	66.20
40.00 - 49.99	24	11.42
30.00 - 39.99	5	2.38
Below 30.00	<u>0</u>	<u>0.00</u>
	210	100.00

($n=70$, 33.33%), (e) Emergency ($n=11$, 5.23%), and (f) Intensive Care (ICU)/Coronary Care (CCU)/Recovery ($n=12$, 38%).

The nurses who worked on each identified type of hospital unit were asked to provide an estimate of the incidence of patient-deaths that occur on their units during a six-month period. The mean estimates of the relative incidence of patient-deaths within a six-month period on the different units is presented in Table 2, in order of increasing incidence rates of patient-deaths. The estimates provided by the respondents permitted the six different hospital units to be collapsed into two separate groups, one designated "low-death-rate" units (i.e., psychiatric, OB/GYN/newborn nursery, and surgical units) and the other "high-death-rate" units (i.e., medical, ICU/CCU/recovery, and emergency units). A test of the difference between the mean incidences of patient-deaths on low-death-rate units and high-death-rate units was found to be statistically significant ($z=10.66$, $p < .001$), suggesting rather striking differences between the two groups of units in terms of the incidence of patient-deaths (i.e., a significantly greater number of patient-deaths on the high-death-rate units).

The ages of nurses working on the three low-death-rate units ranged from 21 to 59 years, with a mean age of 32.42 years. The ages of nurses working on the three high-death-rate units ranged from 21 to 57 years, with a mean age of 29.99 years. A test of the difference between the two

Table 2
MEAN ESTIMATES OF INCIDENCE OF PATIENT-DEATHS
WITHIN A 6-MONTH PERIOD

<u>Unit</u>	<u>n</u>	<u>Mean</u>	<u>SD</u>
Psychiatric	23	.69	1.18
OB/GYN/Newborn nursery	28	1.46	1.79
Surgical	52	3.61	4.14
Medical	70	14.84	12.52
ICU/CCU/Recovery	26	25.65	20.11
Emergency	11	29.00	12.00

groups' age means was found to be statistically non-significant ($z=1.88$).

The amounts of time spent in active professional nursing for nurses on the low-death-rate units varied from 9 months to 38 years, with a mean amount of nursing experience of 10.59 years. The amounts of time spent in active professional nursing for nurses on the high-death-rate units ranges from 7 months to 36 years, with a mean amount of nursing experience of 7.86 years. Comparing the two means of low- and high-death-rate nurses in terms of their experience yielded a statistically significant difference ($z=2.44$, $p < .05$), indicating that, as a group, nurses working on low-death-rate units tend to have higher levels of nursing experience than nurses working on high-death-rate units.

Finally, the nurses were asked to provide an estimate of the amount of contact each had with patient-deaths in the last six months. In the order of patient-deaths contacts, the estimated means became increasingly higher from nurses on psychiatric units, to OB/GYN/newborn nursery units, to surgical units, to medical units, to emergency units, and then to ICU/CCU/recovery units. The order of patient-death-contacts estimated by the present sample was found to be consistent with the relative order of patient-death-contacts obtained in a 1975 survey of 15,430 practicing nurses, conducted by the Nursing 77 Skillbook Series (see Chaney, 1977). The difference between the mean

amounts of patient-death-contacts experienced by nurses on high-death-rate units and nurses on low-death-rate units was found to be statistically significant ($z=10.19$, $p < .001$).

Table 3 presents the means and standard deviations for age, nursing experience, and patient-death-contact characteristics for the two groups of low- and high-death-rate unit nurses.

Instruments

In addition to the Biographical Data Sheet, six instruments were included in the collection of data. As measures of the dependent variables, (a) Templer's Death Anxiety Scale, (b) and (c) Spielberger, Gorsuch, and Lushene's State and Trait Anxiety Inventories, and (d) a Nurse Reaction Inventory, developed for use in this project, were used. Two other instruments, (a) the Marlowe-Crowne Social Desirability Scale and (b) a Role-Model Questionnaire, also developed for this project, were used for allied purposes. A description of each of the instruments is provided below, together with the rationale for their use in the project. Copies of the seven instruments used in the project are found in Appendix A.

Death Anxiety Scale (DAS)

In order to assess the level of death anxiety experienced when nurses confront patient-deaths, a suitable and appropriate measure had to be found. McMordie's (1978)

Table 3

MEANS AND STANDARD DEVIATIONS FOR THE CHARACTERISTICS OF
AGE^a, NURSING EXPERIENCE^a, AND CONTACT WITH
PATIENT-DEATHS^b AMONG NURSES

Unit	n	Age		Experience		Contact with Patient-Deaths	
		X	SD	X	SD	X	SD
Psychiatric	23	34.60	10.10	11.86	7.58	.65	1.07
OB/GYN/ Newborn Nursery	28	36.82	11.78	15.00	11.33	1.25	1.62
Surgical	<u>52</u>	29.09	7.56	7.66	6.77	2.86	3.68
Low-Death- Rate Group	103	32.42	9.97	10.59	8.94	1.93	2.94
Medical	70	30.44	9.45	8.09	7.77	9.87	8.17
Emergency	11	28.45	4.82	6.81	3.54	11.00	6.72
ICU/CCU/ Recovery	<u>26</u>	29.42	7.82	7.69	6.53	14.00	10.36
High-Death- Rate Group	107	29.99	8.67	7.68	7.12	10.99	8.72

a. = in years

b = in number of patients.

review of the death anxiety literature indicated that at least 15 different scales exist, each purporting to be both a reliable and valid indicator of death anxiety. However, because of the lack of agreement among scale developers as to the exact meaning of the term "death anxiety", it is difficult to determine what the individual scales actually measure.

Death anxiety has been reported to encompass attitudes toward personal death and dying (Durlak, 1972); a generalized fear reaction to death (McDonald, 1976); contemplation of death's inevitability and a negative evaluation of that reality (Dickstein, 1972); and, as factor-analytic investigations have shown (e.g., Nelson & Nelson, 1975), a multidimensional pattern of death avoidance, death fear, death denial, and reluctance to interact with dying people.

Templer (1970), whose Death Anxiety Scale (DAS) has been used more extensively than others in existence, defined the concept of death anxiety as an unpleasant emotional state precipitated by contemplation of one's own eventual death; furthermore, as Templer, Ruff, and Franks (1971) have indicated, arousal of the state of death anxiety appears to be sensitive to environmental events. According to Klug (1976), Templer's definition of death anxiety has come to be the one most widely accepted in the literature.

A rationally-based instrument, Templer's DAS appears to be the only one among all of the published scales for which a substantial amount of data about its relative reliability and

validity has been amassed. For a sample of 31 students, Templer (1970) reported an internal consistency reliability coefficient of .76 (Kuder-Richardson Formula 20), a finding later verified by McMordie (1978) who obtained the same coefficient with a sample of 320 subjects. Information pertaining to the DAS' stability over time has also been reported by Templer (1970) for a sample of 31 students who were re-tested with the DAS after a 3-week interval; Templer obtained a test-retest reliability coefficient of .83, a value he considered acceptable. In terms of its content validity, Templer (1971) found that the DAS was positively related to both emotional reactions to death-related words ($r=.30$) and subjects' self-reports of the fear of death ($r=.51$). Other studies have demonstrated that females tend to obtain higher scores on the DAS than males (Templer, Ruff, & Franks, 1971), that psychiatric patients tend to score higher on the DAS than non-psychiatric control subjects (Templer, 1970), and that DAS scores are unaffected by the variable of age (Templer, Ruff, & Franks, 1971). Templer (1970) has addressed the issue of construct validity by reporting significant correlation coefficients between his scale and Boyar's Fear of Death Scale ($r=.74$), the Welsh Anxiety Scale ($r=.39$), the Taylor Manifest Anxiety Scale ($r=.36$), and a sequential word association task ($r=.25$) in a sample of 77 college students.

A recent report by Dickstein (1977-1978) further

attests to the construct validity of the DAS, as evidenced by its significant relationships with Dickstein's Death Concern Scale (r s of .50 for males, .61 for females), Tolor and Reznikoff's Death Anxiety Scale (r s of .82 for males, .56 for females), and Collett and Lester's Fear of Death and Dying Scale (r s of .62 for males, .38 for females) in a sample of 68 college students. As for its discriminant validity, Templer (1970) has posited that, although his DAS tends to correlate significantly with measures of general anxiety, the intercorrelations with such measures and death anxiety tend to be lower than those found among the general anxiety measures themselves. In a study comparing groups of medical patients and their wives on measures of death anxiety and general anxiety, Lucas (1974) obtained results which essentially supported Templer's claims about the DAS' discriminant validity.

Since the appearance of the DAS, several investigators have pointed out the limitations of the scale. Nelson and Nelson (1975) suggested that by treating death anxiety as a unidimensional concept, as Templer has, one risks the loss of potentially valuable information about death anxiety that could be found in a multidimensional approach toward death anxiety. Regarding the DAS' reported discriminant validity, Kastenbaum and Costa (1977) have suggested that Templer's scale may be a poor measure of general anxiety and not actually specific to anxiety regarding death. In his

attempt to improve upon the psychometric properties of the DAS, McMordie (1978) described Templer's coefficient of .76, as the index of the scale's internal consistency reliability, as "too low" (p. 21) to be considered adequate, and that many of Templer's claims for both construct and discriminant validity are overestimated and only "marginally acceptable" (p. 18). A final criticism about the DAS concerns its relationship to the response set of social desirability. Whereas Templer (1970) reported a non-significant correlation coefficient of .03 between the DAS and the Marlowe-Crowne Social Desirability Scale, others (Dickstein, 1977-1978; McMordie, 1978) have more recently indicated that, in fact, a significant negative correlation exists between the DAS and the Marlowe-Crowne measure of social desirability. That is, there seems to be a relationship between reports of low death anxiety and the desire to be perceived by others in a favorable light.

Despite its shortcomings and after considering the other available death anxiety measures, Templer's scale seemed to be the one most appropriate for use in this project. The DAS consists of 15 statements that are answered in a true-false format, with nine items keyed "true" and six items keyed "false". Completion of the DAS can be accomplished within a 5- to 10-minute period, and may be administered either to individuals or to groups. In accordance with what appears to be a trend in analyzing death anxiety measures (e.g.,

McMordie, 1978; Nelson & Nelson, 1975), a factor analytic approach to scoring the DAS was adopted in this study.

State-Trait Anxiety Inventory (STAI)

The measures of general anxiety adopted for this project included the State (Form X-1, A-State) and Trait (Form X-2, A-Trait) anxiety scales developed by Spielberger, Gorsuch, and Lushene (1970). Based upon factor-analytic studies by Cattell and Scheier, in which two distinct types of anxiety emerged, Spielberger (1966) suggested that it is meaningful to distinguish between anxiety as a transitory state and anxiety which seems to reflect a rather stable personality trait, i.e., anxiety-proneness.

Spielberger (1972) has described state anxiety as a transitory emotional condition that is evoked when an individual perceives a situation or event as somehow threatening; because of its situational-specificity, state anxiety is said to vary in intensity and fluctuate over time as a function of the degree of threat impinging upon an individual. Trait anxiety refers to rather stable individual differences in anxiety proneness. While trait anxiety theoretically does not manifest itself directly through overt behavior, the degree of trait anxiety may be inferred from the frequency and intensity of state anxiety over time.

Evidence for the reliability of the STAI is provided in Spielberger, et al.'s (1970) test manual. Based on samples of college students who were among those included in the

STAI's normative group, test-retest reliability coefficients were obtained for both the A-Trait and A-State scales, with retest administrations varying from one hour after the first administration to 20 days later to then 104 days later. Reliability coefficients for the A-Trait scale ranged from .73 to .86, while those for the A-State scale ranged from .16 to .54. The test authors reportedly anticipated the low test-retest reliability coefficients for the A-State scale, since its situationally-based nature precluded stability across time. The authors reasoned that alpha coefficients of the scale's internal consistency could better reflect both A-State and A-Trait reliability. The obtained alpha reliability coefficients ranged from .83 to .92 for both the A-State and A-Trait scales. Thus, Spielberger, et al. (1970) concluded that their scales possessed relatively high degrees of internal consistency and that the A-Trait scale's stability over time tended to be quite acceptable.

As for the A-Trait scale's concurrent validity, Spielberger, et al. reported that the measure correlated significantly with the IPAT Anxiety Scale (r_s from .75 to .77), the Taylor Manifest Anxiety Scale (r_s from .79 to .83), and Zuckerman's Affect Adjective Checklist (r_s from .52 to .58). On the basis of these relatively high correlation coefficients, the authors concluded that all of the instruments essentially measure A-Trait. Evidence bearing on the construct validity of the A-State scale has been

collected, in which students responded to the scale's items under "norm" (non-stressful) conditions and under "exam" (stressful) conditions. The mean scores obtained in the "exam" condition were found to be considerably higher than in the "norm" condition for the A-State scale.

The A-State scale is a 20-statement inventory that requests a description of how one feels at a particular moment in time, and requires one to select, from among four alternatives, a description of the intensity of feeling (e.g., "not at all", "somewhat", "moderately so", or "very much so"). The A-Trait scale similarly consists of 20 statements that asks for a description of how one generally feels, again to be indicated by one of four alternative responses (e.g., "almost never", "sometimes", "often", or "almost always"). According to Spielberger, et al. (1970), the A-State scale has been balanced to rule-out the influence of an acquiescence response set, although the A-Trait scale could not be so balanced. While the authors of the STAI have not reported evidence suggesting a relationship with other response sets, they did cite a 1969 study by Sachs in which a significant negative correlation ($r = -.25$) was found between the A-Trait scale and the Marlowe-Crowne Social Desirability Scale. It remains to be conclusively demonstrated whether the STAI's scales may be influenced by the social desirability component.

In consideration of the acceptable reliability and

validity information for the STAI, its wide usage in psychological research (see Kendall, Finch, Auerbach, Hooke, & Mikulka, 1976), its distinction between state and trait anxiety, the ease with which it can be administered, and the short time needed for its completion (estimated to be 15 to 20 minutes by the authors), its application in assessing nurse responses to confrontation with patient-deaths seemed germane to this project.

As has been done in other investigations (e.g., Lucas, 1974), the STAI may here be compared with Templer's DAS to determine the degree of relationship that exists between a reportedly specific anxiety scale pertaining to death and a general anxiety scale (i.e., A-Trait). While the standard instructions for the A-Trait scale remain as suggested by the test authors, Spielberger, et al. (1970) have indicated that modifications may be made in the A-State scale's instructions if the researcher intends to evaluate the level of A-State intensity for any situation of particular interest. In this project, the research participants were specifically instructed to indicate on the A-State scale how they felt "following the death of a patient". In so doing, it was believed that A-State responses would reflect situationally-bound anxiety associated with a patient's death. Further, the relationship between Templer's DAS (said to reflect anxiety about contemplation of one's own death) and this project's specific A-State scale (intended to

reflect anxiety associated with another's death) was of interest to ascertain the degree of convergence in these two measures of anxiety purportedly associated with death.

Nurse Reaction Inventory (NRI)

In order to determine what behavioral coping strategies nurses employ in response to patient-deaths, an exploratory inventory was devised for this project. A four-phase process was involved in the inventory's construction: (a) identification of persons believed to have a high degree of exposure to/contact with patient-deaths; (b) enlistment of the identified persons in interviews; (c) individual, audio-tape-recorded interviews with the identified persons to determine how they behaviorally respond to patient-deaths; and (d) construction of the NRI on the basis of interview responses.

A ten-item questionnaire was sent to a random sample of 50 nurses from the three participating hospitals, asking each respondent to identify one person she considered a "significant model" for nurses in the area of dealing with critically ill patients and patient-deaths. Phrased within the context of Bandura's modeling theory, the form briefly explained the utility of "models" and how beginning nurses appear to depend on a variety of more experienced people for learning specific tasks or for dealing with problem situations. Of the 50 forms distributed to the nurses, 34 were completed and returned to the investigator. Inspection

of the returned forms revealed the identification of 22 individual "models", including nurses, physicians, social workers, and chaplains; of the identified models, 11 were found to have been mentioned by two or more nurses.

Letters were subsequently sent to the 11 models whose names were provided by two or more nurses. Again phrased within the context of the social learning theory of modeling, the letters indicated that the person had been named as a "model" for nurses and that the investigator was interested in discovering how the models responded to patient-deaths. The investigator suggested that an individual interview be scheduled, at which time the model would be asked a series of questions regarding his/her responses to patient-deaths. To insure accurate recall of interview material, the investigator requested that the interview be audio-tape-recorded. The model was informed that his/her responses would be kept confidential and that the recorded interviews would be coded by number (e.g., 001, 002, etc.). At the bottom of the letter, a "Notice of Informed Consent" was provided which the models were to complete and return to the investigator in a stamped, self-addressed envelope that accompanied the letter. Of the 11 letters sent, five individuals returned the "Notice of Informed Consent" and telephone contacts were then made to schedule the interviews.

Individual audio-tape-recorded interviews were conducted with the models at each of their respective hospitals, and

lasted from 20 to 45 minutes in length. A 17-item interview schedule, comprised of both open-ended and closed questions, was employed, seven items of which provided information about personal characteristics of the models, while the remaining ten items focused on both the models' immediate and delayed (i.e., "In the first few days after a patient's death,...") responses to patient-deaths. The five models included three nurses, one physician, and one social worker. The ages of the models ranged from 27 to 46 years, with a mean age of 40.2 years (SD of 7.52). The levels of professional experience ranged from 6 to 23 years, with a mean level of professional experience of 17 years (SD of 7.31). All five models reported working in hospital areas where confrontation with patient-deaths were relatively frequent (i.e., emergency, intensive care, and medical units). Of the five models, two (40%) reported having a history of personal loss, and three (60%) indicated attendance at informal seminars relating to care of the dying patient and death.

Once all of the interviews were completed, the models' responses to questions concerning their behavioral coping strategies in death-confrontation were transcribed. Inspection of the interview data indicated the frequent repetition of certain behavioral responses to patient-deaths (e.g., "I start crying", "I try to comfort the patient's family"); however, other responses were mentioned by some of the models only once (e.g., "I begin to blush" or "I just take the day off"). Using all of the model's interview

responses, a total of 29 types of responses (i.e., 19 "immediate" responses and 10 "delayed" responses) to patient-deaths emerged.

The 29 items to be used were grouped into two temporal classes: (a) "Situation I: Immediately after witnessing or hearing about a patient's death", and (b) "Situation II: In the first few days after a patient's death". As suggested by Thorndike and Hagen's (1977) guidelines for inventory construction, all responses used in the inventory reflected overt behaviors that were rated on a 5-point continuum in terms of the frequency of their occurrence, from "almost never" to "almost always".

The NRI was constructed and used in this project for essentially two reasons. First of all, it was intended to provide a means of identifying the varieties of behavioral coping responses nurses use in confrontations with patient-deaths. Secondly, it was believed to be one device for identifying some of the overt behavioral correlates associated with levels of death anxiety. As Kastenbaum and Costa (1977) have suggested, the sole use of direct self-report measures as indicators of death anxiety is highly questionable and needs to be verified by other types of data. Use of the NRI was partially intended to answer the following question: if a nurse's report of death anxiety was found to be comparatively high in relation to other nurses, would the coping responses used by that nurse be different from the

coping responses used by nurses who report comparatively low death anxiety? In a pretest of the NRI with a sample of 17 non-participant nurses, it was found that the inventory's directions were understandable and that the inventory could be completed within a 15-minute time period.

Copies of the ten-item questionnaire used for model-identification, the letter sent to the models to arrange for individual interviews, and the 17-item interview schedule may all be found in Appendix B.

Marlowe-Crowne Social Desirability Scale (M-C SDS)

Responses on psychological tests or in psychological experiments reportedly reflect not only what the test or experiment is intended to measure, but oftentimes also response characteristics of the subject, what Orne (1962) termed "demand characteristics", that may distort the test's or experiment's results. One such set of response characteristics, or habitual response preferences, that has received wide attention concerns an hypothesized need for social approval. According to Crowne and Marlowe (1964), certain test items tend to elicit responses that favor a need for approval or to present oneself in a socially acceptable and conforming manner; the response set is thus described as one of social desirability.

Of the measures designed to assess test items' social desirability, the Marlowe-Crowne SDS (Crowne & Marlowe,

1960, 1964) appears to be recognized in the psychological literature as the most widely accepted such measure.

Comprised of 33 statements that are answered in a true-false format (18 items keyed "true", 15 items keyed "false"), the scale is usually used to account for non-test-relevant response variance on personality questionnaires (Marlowe & Crowne, 1961). In the development of the SDS, the authors selected scale items which defined behaviors that were socially sanctioned and approved, but which were unlikely to occur. Persons who depict themselves in very favorable terms on the M-C SDS may be understood as displaying a social-desirability response set.

The authors reported an internal consistency reliability coefficient for their scale (using the Kuder-Richardson Formula 20) of .88; test-retest reliability coefficients after two 1-month intervals have been reported to be .88 and .89 (Crowne & Marlowe, 1960, 1964). Both sets of reliability coefficients for internal consistency and stability over time have been considered adequate. As for the M-C SDS' correlation with other measures of social desirability, Crowne and Marlowe (1960) reported a significant coefficient of .35 between their measure and Edwards' social desirability scale, suggesting a tendency for scores on the two tests to be associated, although the M-C SDS reportedly does not involve acquiescence or denial by the respondent of pathology. Thus, the M-C SDS appears to be widely accepted

in psychological research, is easy to administer, and requires a short length of time (approximately 15-minutes) for its completion.

The M-C SDS was selected for use in this project to ascertain to what degree the DAS, STAIs, and NRI were each influenced by the social desirability response set.

Although Templer (1970) indicated that no significant relationship existed between his measure of death anxiety and social desirability (as measured by the M-C SDS), both Dickstein (1977-1978) and McMordie (1978) reported significant inverse relationships between the two measures. As suggested by Kastenbaum and Costa (1977), research concerning death anxiety should routinely include measures of social desirability to ascertain the influence of that component on reported death anxiety.

Although Spielberger, et al. (1970) indicated that their A-State scale did not seem to be influenced by an acquiescence response set, the relation of the A-Trait scale to response distortion remains unclear. Since it has been suggested that A-Trait may be inversely related to social desirability, further investigation of that alleged association seems warranted in this project.

Inquiry into the possible influence of social desirability on the NRI appeared appropriate in this project for two reasons. First of all, many of the NRI items could ostensibly mirror socially desirable responses among nurses

to confrontation with patient-deaths, and it was considered necessary to determine to what extent that might have been the case. Secondly, since hospital nurses reportedly function within highly evaluative social atmospheres (see Quint, 1967a), it might be assumed that the ways in which they respond to events that can threaten the institutional values of control, competence, and composure are influenced by what is socially sanctioned and acceptable.

Role-Model Questionnaire (RMQ)

Since the theoretical underpinnings for the project were grounded in Bandura's social learning theory of modeling, it was considered essential to try to ascertain whether modeling does, in fact, exist among nurses. Of additional interest was whether a vicarious extinction process involving nurses' anxiety responses to confrontation with patient-deaths occurs, as suggested by Bandura (1971b). To that end, a Role-Model Questionnaire (RMQ) was constructed by the author.

The RMQ sought to determine the relative influence of various parameters believed to operate in the modeling and vicarious extinction processes. As suggested by research evidence, a number of model characteristics apparently affect responsiveness in observational learning situations. Among those identified in the literature, the four characteristics of a model's prestige (e.g., Miller & Dollard, 1941), social influence or power (e.g., Grusec & Mischel, 1966),

competency (Bandura, 1971c), and rewardingness or helpfulness (e.g., Bandura & Huston, 1961) have been reported as particularly influential. Similarly, four observer characteristics have been noted to augment the effectiveness of modeling: (a) persons having low levels of experience at performing tasks and who seek assistance from others (e.g., Bandura, 1969); (b) those who readily conform to established patterns of behavior (e.g., Bandura & Walters, 1963); (c) those who have been reinforced in the past for modeling the behavior of others (e.g., Miller & Dollard, 1941); and (d) those who perceive a degree of similarity between themselves and a model (e.g., Hornstein, 1970). Regarding the vicarious extinction process of modeling, it appears rather well established that exposure to multiple models greatly facilitates modeling's effectiveness (e.g., Bandura, 1971b; Kazdin, 1974b). The opportunity to observe models interact with stimuli, believed to be hazardous, without incurring negative consequences is also hypothesized to effect a reduction of anxiety in observers (e.g., Bandura, 1971b, 1977a). Finally, having observers interact with the aversive stimuli after observing models, without incurring negative consequences, has been suggested as evidence that modeling has occurred (e.g., Blanchard, 1970).

To address the variables believed to be theoretically relevant in modeling processes, 14 questions were devised for the project. The term "role-model" was used rather than

"model" alone since it was assumed that the former term would be less ambiguous for respondents and might better characterize the people selected for purposes of observational learning. In the order of their occurrence in the questionnaire, two questions asked about the number of modeling influences available to nurses; one item focused on the opportunity to observe models effectively provide nursing care to patients following another patient's death; four items addressed characteristics believed to be influential in nurse models; another four items inquired about observer characteristics; and, the remaining three items were worded so as to reflect the extent to which a vicarious extinction process in nurses' anxiety responses to patient-deaths might occur. Twelve questions were worded, as suggested by Thorndike and Hagen (1977), in terms of overt behaviors that could be observed by the research participants; the last two items in the RMQ were directed more toward covert responses within the respondents. Responses for the first 12 items were given a frequency rating along a 5-point continuum, while the last two items were answered in terms of intensity ratings, also along a 5-point continuum. As found in a pretest application of the RMQ, the form appeared to be understandable and could be completed in less than ten minutes.

On the basis of the RMQ responses, it was assumed that (a) one could determine whether modeling does occur in

nurses' as it is strongly suggested by Bandura's modeling theory, and that (b) one could identify which of the modeling parameters seem to exert the greatest influence for this sample of nurses, whether all of the parameters are necessary or only a portion of them. To accomplish this goal, a discriminant analysis of the RMQ seemed most appropriate.

Procedure

Upon receipt of the dissertation committee's endorsement for the project, letters were written to the nursing directors of seven Ottawa hospitals to inform them of the study and to enlist their cooperation in its completion. Three of the seven nursing directors agreed to allow their nurses to voluntarily participate in the project if they so desired. The procedures followed in the development of the NRI (outlined previously) were then instituted.

Once all of the selected measures for the project were assembled, they were printed in booklet form, with either the tests' standard instructions or instructions developed by the author for the A-State scale, NRI, and RMQ. The order in which the measures were presented was the same for all participants and appeared in the following sequence: (a) Biographical Data Sheet, (b) Templer's Death Anxiety Scale (entitled "DAS"), (c) Marlowe-Crowne Social Desirability Scale (entitled "Personal Reaction Inventory"), (d) the A-State scale (entitled "Self-Evaluation Questionnaire, STAI

Form X-1"), (e) the A-Trait scale (entitled "Self-Evaluation Questionnaire, STAI Form X-2"), (f) the Role-Model Questionnaire, and (g) the Nurse Reaction Inventory.

Following the procedure used by McMordie (1978), the M-C SDS was administered after the DAS so that it would not affect responses given to the DAS items. Since both the A-State and A-Trait scales were given together, the A-State scale was presented first, as recommended by Spielberger, et al. (1970).

Accompanying each test booklet was an answer sheet that could be optically scanned for purposes of data analyses. Altogether the test booklet contained 143 items; however, only 137 items could be entered on the accompanying answer sheet. For the remaining items (e.g., age, nursing experience, etc.), blank spaces for the requested information were provided on the Biographical Data Sheet. Since the answer sheet was to be completed using an HB lead pencil, each participant was supplied with one by the investigator.

A cover letter for the test booklet preceded the self-administered measures. It was briefly explained to the participants that the project concerned how the deaths of patients affect nurses and how nurses use "role-models" for learning how to confront patient-deaths. The letter informed the participants that several forms were included and that the booklet could be completed in less than one hour (based upon feedback information from a pretest of the booklet).

Confidentiality of the participants' responses was emphasized, with each booklet and its accompanying answer sheet coded by means of a 3-digit number to avoid use of the participants' names. All participants were requested to not discuss their responses to the booklet items with other nurses.

For their participation in the project, the nurses were informed that they would be provided with a summary of the results. If interested in receiving such information from the investigator, nurses were instructed to complete an enclosed "Results Request" form, providing their name and address. To maintain confidentiality and the respondents' anonymity, the nurses were instructed to mail their "Results Request" forms to the investigator, in an addressed envelope provided for them, after completing the measures in the test booklet.

Thus, the materials provided for each participant included a 9" x 12" envelope containing (a) the cover letter and test booklet, (b) an answer sheet, (c) a "Results Request" form enclosed in a 5" x 7" white envelope, and (d) one HB lead pencil.

Four-hundred packets of material were distributed among the three participating hospitals. Arrangements were made by the investigator with the nursing directors at each hospital to deliver the forms to their respective offices. From the nursing directors' offices, the packets of material were

then distributed, via head nurses, to nurses who worked on units that had been identified by the nursing directors as either having what they considered high or low incidences of patient-deaths. Upon completion of the test measures, the research participants were instructed to re-insert their booklets into the 9" x 12" envelopes, seal them, and return the envelopes to the nursing directors' offices.

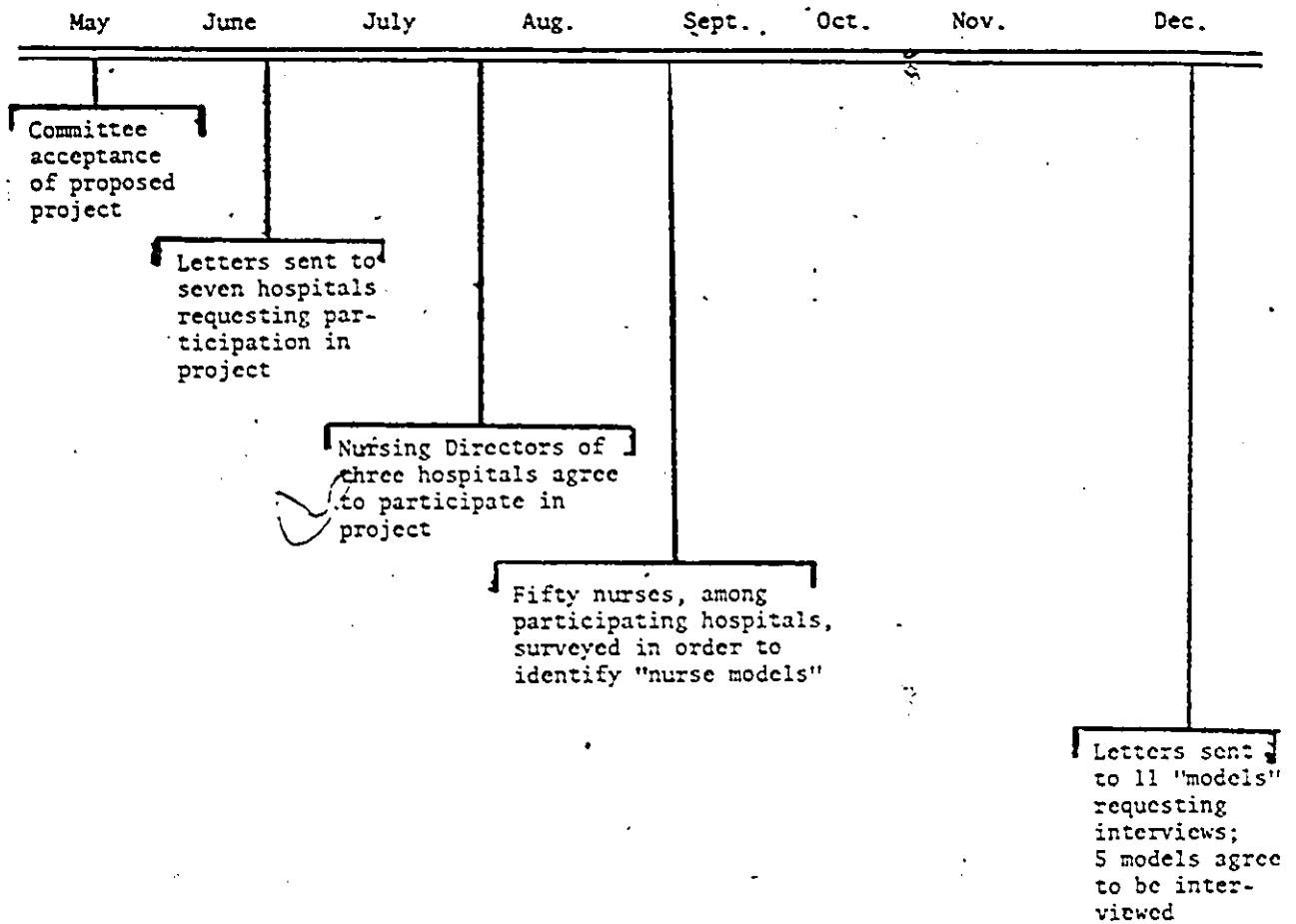
Arrangements were then made for the investigator to return to each of the hospitals to collect the completed forms. Of the original 400 packets, 210 (i.e., 52.5%) were completed and returned to the investigator, after which time the data analyses could begin.

A flowchart outlining the project's procedures may be found in Figure 1. Copies of the cover letter and "Results Request" form may be found with the booklet measures in Appendix A.

Statistical Hypotheses

Two statistical hypotheses, stated in the null form, were addressed in the present project:

1. There are no statistically significant differences among nurses who report varied amounts of contact with patient-deaths on their levels of measured death anxiety, state and trait anxiety, or behavioral coping responses, when the effects of age and history of personal loss are statistically controlled.



1979

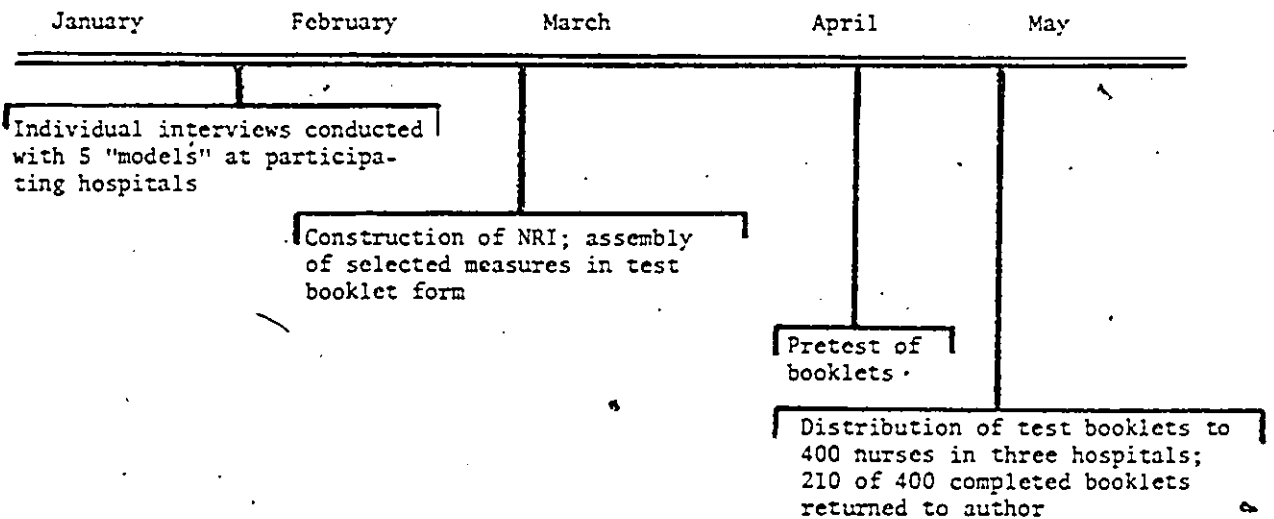


Figure 1. Flowchart of project's procedures.

2. There are no statistically significant differences among nurses who report varied degrees of professional nursing experience on their levels of measured death anxiety, state and trait anxiety, or behavioral coping responses, when the effects of age and history of personal loss are statistically controlled.

Planned Data Analyses

Prior to examining the statistical hypotheses, both Templer's DAS and the present study's Nurse Reaction Inventory (NRI) were subjected to factor analytic procedures. Following what appears to be a recent trend in the measurement of death anxiety (see McMordie, 1978; Nelson & Nelson, 1975), the DAS was factor analyzed, with the resultant factor(s) employed as the measure(s) of "death anxiety" for the current project. Similarly, by factor analyzing the NRI, the behavioral coping responses reportedly employed by nurses who confront patient-deaths could be more satisfactorily and accurately delineated. Following the NRI factor analysis, Pearson product-moment correlation coefficients were computed to determine if the NRI coping

responses were, in fact, behavioral correlates of measured death anxiety.

Subsequent to determining the extent of relationship / between the death anxiety measure(s) and the NRI's behavioral coping responses, correlation coefficients were computed to ascertain whether statistically significant relationships existed between the dependent measures and the covariates of (a) age and (b) history of personal loss. Although the empirical literature has indicated that a person's age and/or a history of personal loss may be related to measures of death anxiety (e.g., Feifel & Branscomb, 1973; Brown, 1975), such relationships were considered open to examination for the present sample of nurses.

In order to statistically examine the three null hypotheses, two-way analyses of variance were computed. In the event that correlational analyses revealed statistically significant relationships between any dependent measure and the covariates of age and/or history of personal loss, two-way analyses of covariance were computed to test the null hypotheses. The decision to use two-way analyses of variance or covariance seemed reasonable, since both the main effects of the two independent variables (i.e., for Hypotheses 1 and 2) and the interaction effect of the two independent variables (i.e., for Hypotheses 3) could be addressed in a single statistical framework.

In order to assess the extent to which each of the

dependent measures could be statistically significantly associated with the social desirability component (as measured by the Marlowe-Crowne Social Desirability Scale), Pearson product-moment correlation coefficients were computed. In order to statistically control for the possible effects of age and/or history of personal loss, first- and second-order partial correlation coefficients were also computed between the dependent measures and the social desirability measure. In addition to examining the relationships between the dependent measures and social desirability, intercorrelations that may have existed among the dependent measures in this project were also explored.

Finally, two stepwise discriminant analyses of the 14 variables that comprised the Role-Model Questionnaire (RMQ) were conducted in an effort to determine which modeling parameters seemed to be of the greatest importance for nurses who must learn how to confront patient-deaths. The first discriminant analysis was computed for nurses who had either a low or high amount of contact with patient-deaths (i.e., two groups). The second discriminant analysis was computed for nurses who possessed either low or high degrees of professional nursing experience (i.e., two groups). The decision to employ stepwise discriminant analyses was based on the assumption that through such procedures the best sets of discriminating variables from the RMQ could be located for each analysis.

CHAPTER III

RESULTS

The purpose of this chapter is to present the results of the statistical analyses computed for the data collected in this project. Due to the variety of statistical procedures that were employed, this chapter's focus may be divided among the following six sections: (a) DAS factor analysis; (b) NRI factor analysis and correlation analyses; (c) correlation analyses of the dependent measures' associations with the suspected covariates of age and history of personal loss; (d) analyses of the three statistical hypotheses; (e) correlation analyses of the relationships between the dependent measures and the measure of social desirability, as well as explorations of the dependent measures' intercorrelations; and (f) stepwise discriminant analyses of the RMQ.

Prior to the commencement of the formal data analyses, the level of significance for all statistical tests was set at the .05 level.

DAS Factor Analysis:

A factor analytic approach was undertaken with Templer's DAS in order to explore the patterning of the DAS variables and to identify the fundamental properties underlying the measure of death anxiety. A principal-axes factor analysis

with iteration was conducted, using the SPSS subprogram Factor-PA2 (see Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Since the major concern of the present study was to explore nurses' psychological responses to confrontation with patient-deaths and, to that end, used as a measure of death anxiety the one empirically considered most adequate, the principal-axes factoring method with iteration seemed apropos to addressing the project's needs.

After calculation of an R-type correlation matrix, based upon intercorrelations among the 15 DAS variables, initial factors were extracted. The principal-axes factoring method yielded five factors, each with an eigenvalue greater than 1.0. Together, these five factors accounted for 52.9% of the total variance for the DAS items.

In order to enhance the interpretability of the factors and simplify the DAS' factor structure, the factor matrix was subjected to an orthogonal rotation by means of the normalized varimax method. The varimax method was selected because of its wide usage and applicability in behavioral science data analyses and because of its documented reliability as a rotational method (see Gorsuch, 1974). The criterion level adopted for statistical significance of the factor loadings was $\pm .30$, as suggested by Nunnally (1967). The rotated factor matrix of the DAS items is presented in Table 4. Included in Table 4 are the final communality estimates (i.e., h^2) for each of the DAS variables. These

Table 4
VARIMAX ROTATED FACTOR MATRIX OF DAS ITEMS

Item	Factor					h^2
	1	2	3	4	5	
DAS1	-.296	.472	.131	.157	.078	.358
DAS2	.228	-.047	-.346	-.060	.067	.183
DAS3	.116	-.456	-.095	.037	-.169	.260
DAS4	-.080	.204	.302	.099	.117	.158
DAS5	.636	-.076	-.097	-.044	-.082	.429
DAS6	.243	-.066	-.143	-.301	.056	.173
DAS7	.686	.061	-.119	-.120	-.003	.504
DAS8	-.105	.175	.415	.192	.061	.254
DAS9	-.088	-.034	.038	.757	.118	.597
DAS10	-.029	.427	.160	-.002	.042	.211
DAS11	.129	.427	-.001	.217	.029	.247
DAS12	.128	.125	.653	-.012	.192	.496
DAS13	-.042	.086	.151	.079	.735	.579
DAS14	.090	.515	-.011	-.127	-.133	.307
DAS15	.178	.040	-.316	.038	-.012	.135
% of Common Variance	41.2	22.1	14.6	12.9	9.2	
Cumula- tive %	41.2	63.2	77.9	90.8	100.0	

communality estimates are equal to the total variance of each variable accounted for by the combination of the five rotated factors. Inspection of the communality estimates reveals that at least two variables (i.e., DAS4 and DAS6) do not seem to contribute substantially to the definition of a single factor, as demonstrated by the generally lower values of their estimates (.158 and .173, respectively). Nevertheless, as suggested by Overall and Klett (1972), to the extent that these two variables are related to the other variables in the set, their relationships may be quite meaningful.

When applied to the initial factor matrix, the varimax method of orthogonal rotation resulted in two variables loading above $\pm .60$ on the first factor, five variables loading above $\pm .40$ on the second factor, five variables loading above $\pm .30$ on the third factor, two variables loading between $\pm .30$ and $.76$ on the fourth factor, and one variable loading above $\pm .70$ on the final factor. The five factors were then interpreted in light of the DAS items loading highest on them. The first three factors may be considered major ones, since together they accounted for 77.9% of the common variance.

In an effort to procure factor definitions, a modified version of the Delphi method of factor-naming was employed. The Delphi method essentially requires that a group of individuals respond to a situation, after which time they are provided with feedback about their responses, and are finally requested to react to the situation again based on the

group's response (Linstone & Turoff, 1975). Five graduate student interns and full-time staff counsellors from the University of Ottawa Counselling Service were approached and told that the DAS items were sorted into five groups because the items in each group had something in common with one another, yet were different from items in the other groups. That is, all of the grouped items were said to reflect anxiety about death, but that different aspects of death anxiety were represented in each separate group. The interns and staff counsellors were asked to provide a definition for each of the five different factors.

After obtaining and collating the factor names generated by the group, all five group members were given feedback regarding the suggested factor names. The group members were then asked to review the suggested definitions and again read the DAS items. Finally, the task of the group members was to come to an agreement and choose the one description that best defined each factor.

Factor 1, which accounted for 41.2% of the common variance, was defined by the group as "Death Anxiety Denial", since the two items upon which the factor is based appeared to reflect an active denial of the anxiety usually associated with one's own eventual death. As indicated by Templer (1970), the DAS apparently reflects anxiety related to contemplation of one's own death and therefore would be expressed by the DAS factors in that light. The group

defined the second factor as "General Death Anxiety" (accounting for 22.1% of the common variance), since the five items that comprise that factor seemed to encompass rather general, negatively-toned emotional responses to one's own death. Factor 3, which accounted for 14.6% of the common variance, was characterized by the group as "Fearful Anticipation of Death", as the items loading highest on the factor referred to the notion of untoward circumstances associated with one's death in the future.

The remaining two factors together accounted for as much of the total common variance as did factor 2 alone. Factor 4, which accounted for 12.9% of the common variance, was defined by the group as "Physical Death Fear", since the two items loading highest on the factor pertained to having cancer and the pain which is associated with dying and death. The final DAS factor, which accounted for 9.2% of the common variance, was based upon only one item loading highly on it. The group defined the factor as "Fear of Catastrophic Death", because the content of the item was related to the possible outbreak of another world war. A summary of the factor interpretations is provided in Table 5.

For the five defined DAS factors, estimated factor-score coefficients were computed for each of the 210 research participants. The factor-score coefficients were derived from a least-squares regression method and were estimates rather than exact coefficients.

Table 5

FACTOR INTERPRETATION OF THE DAS ITEMS
AFTER VARIMAX ROTATION

<u>Item</u>	<u>Factor 1 - Death Anxiety Denial</u>
*5	I am not at all afraid to die.
*7	The thought of death never bothers me.
	<u>Factor 2 - General Death Anxiety</u>
1	I am very much afraid to die.
3	It doesn't make me nervous when people talk about death.
10	The subject of life after death troubles me greatly.
11	I am really scared of having a heart attack.
*14	The sight of a dead body is horrifying to me.
	<u>Factor 3 - Fearful Anticipation of Death</u>
2	The thought of death seldom enters my mind.
4	I dread to think about having to have an operation.
8	I am often distressed by the way time flies so rapidly.
*12	I often think about how short life really is.
15	I feel that the future holds nothing for me to fear.
	<u>Factor 4 - Physical Death Fear</u>
6	I am not particularly afraid of getting cancer.
**9	I fear dying a painful death.
	<u>Factor 5 - Fear of Catastrophic Death</u>
**13	I shudder when I hear people talking about a World War III.

* loading between .50 and .70

** loading above .70

On the basis of the DAS factor analysis, five factors were identified which appeared to reflect a number of different dimensions within Templer's measure of death anxiety. Rather than examining the influence of varied amounts of contact with patient-deaths (i.e., first independent variable) and/or the influence of varied degrees of professional nursing experience (i.e., second independent variable) on a single measure of death anxiety, this project explored the impact of the two major independent variables on each of the five "death anxiety" factors. The individual DAS factors were thus considered as five separate dependent variable measures and were used in combination with the state and trait anxiety dependent measures in all subsequent statistical analyses.

NRI Factor Analysis:

A second exploratory principal-axes factor analysis with iteration (Nie, et al., 1975) was computed for the 29 variables that comprised the NRI, in an effort to determine whether a variety of behavioral coping strategies reportedly used by nurses in response to patient-deaths could be efficaciously described by a more manageable number of grouped factors.

As was the case for the DAS factor analysis, an R-type correlation matrix was calculated prior to the extraction of initial factors. The principal-axes factoring method

generated five factors with eigenvalues greater than 1.0, which were subsequently subjected to an orthogonal rotation by means of the normalized varimax method. The rotated factor matrix for the NRI variables is presented in Table 6. According to the data in Table 6, the first NRI rotated factor accounted for 46.5% of the common variance, whereas the remaining four factors dropped off sharply in terms of their ability to individually account for large portions of the common variance.

The "composite estimate" approach for determining NRI factor scores was adopted in this project. According to both Cattell (1957) and Rummel (1970), this frequently-employed and highly recommended approach involves selecting a group of variables to represent an identified factor and summing their values for each subject; the computed sums of the values for the different variables loading on each factor then serve as the factor-score estimates. For the present project, those variables with the highest loadings on each of the five factors above the Nunnally criterion for statistical significance of $\pm .30$ were included in the composite estimates approach for factor scores. By retaining the established statistical significance criterion level, the factor loadings of four NRI variables (i.e., NRI4, NRI9, NRI10, and NRI24) fell short of statistical significance and were subsequently excluded in the determination of factor-score estimates.

Table 6
VARIMAX ROTATED FACTOR MATRIX OF NRI VARIABLES

NRI Variable	Factor				
	1	2	3	4	5
NRI1	-.031	.055	.220	.181	.309*
NRI2	.044	.133	.362*	.144	.025
NRI3	-.059	.328*	.000	-.056	.087
NRI4 **	.019	.068	.078	.213	.203
NRI5	.362*	-.128	.143	.312	.047
NRI6	.522*	-.285	.132	.053	.120
NRI7	-.115	.264	-.513*	.019	-.039
NRI8	-.260	.670*	.003	-.136	.126
NRI9 **	.030	.021	.075	.108	.000
NRI10**	.261	-.022	.184	-.068	-.058
NRI11	-.138	.478*	-.229	.058	-.156
NRI12	-.171	.454*	-.031	.028	.060
NRI13	.037	-.143	.391*	.390	-.028
NRI14	.068	-.191	.084	.315*	.039
NRI15	.122	.442*	.014	.081	-.091
NRI16	.229	.042	.078	.433*	.055
NRI17	.344*	.127	.095	.291	-.052
NRI18	.352*	.060	.179	.263	-.090
NRI19	-.024	-.020	-.094	.605*	.057
NRI20	.612*	-.243	.147	-.037	.061
NRI21	.628*	-.255	-.049	-.036	.243
NRI22	.485	.042	-.104	.007	.642*
NRI23	.557*	-.112	.265	.236	-.078
NRI24**	-.127	.133	-.063	.282	.003
NRI25	-.037	-.030	.104	.069	.630*
NRI26	.036	-.085	.146	.348*	.123
NRI27	.102	-.102	.492*	.125	.126
NRI28	.256	.062	.521*	.094	.040
NRI29	-.235	.376	-.544*	.073	-.216
% of Common Variance	46.5%	18.2%	13.4%	12.0%	9.9%
Cumulative Percentage	46.5%	64.7%	78.1%	90.1%	100.0%

* loadings statistically significantly above +/- .30 for each factor.

** variables excluded due to nonsignificant loadings on any factor.

As evidenced by the data presented in Table 6, seven NRI variables loaded above the level of statistical significance on Factor 1, five NRI variables loaded above the level of statistical significance on Factor 2, six NRI variables loaded above the level of statistical significance on Factor 3, four NRI variables loaded above the level of statistical significance on Factor 4, and three NRI variables loaded above the level of statistical significance on Factor 5. According to the computational descriptions of the composite estimates approach (see Cattell, 1957; Rummel, 1970), the range of summed numerical values for the group of seven NRI variables loading highest on Factor 1 was found to vary from 0 to 28 for each research participant, with the numerical value of each NRI variable itself ranging between 0 and 4. Summed numerical values for the NRI variables loading highest on Factors 2, 3, 4, and 5 were determined in a similar fashion.

In order to obtain appropriate definitions for the five NRI factors, the modified version of the Delphi method of factor-naming was used in the same manner as it had been for naming the DAS factors. Again, five graduate student interns and full-time staff counsellors from the University of Ottawa Counselling Service were approached and informed that the NRI's items were divided into five classes and that the items comprising each class shared something in common, yet differed in some respects from items found in the other

classes. While all of the NRI items were described as indicative of nurses' response styles following patient-deaths in hospitals, the items in each class were said to reflect an aspect of responding to patient-deaths that in some way distinguished one class from another. The interns and staff counsellors were then asked to provide a definition for each of the five different classes.

After obtaining and collating the definitions generated by the factor-naming group, all five group members were provided with feedback about the variety of suggested factor definitions. The group members were then asked to review the suggested definitions, as well as the items that comprised all five NRI classes. Finally, the group was instructed to come to an agreement and decide which of the alternative factor names best defined each NRI factor.

Factor 1, which accounted for 46.5% of the common variance, was defined by the group as an "Avoidance" response, since the items that comprised the factor were considered to reflect movement away from contact with others. Factor 2, which accounted for 18.2% of the common variance, was defined by the group as an "Altruism" response. It was the group's decision that the items in factor 2 represented exemplary kinds of nursing behaviors that could be enlisted during times of crisis, such as when patients die. The definition offered for Factor 3 (which accounted for 13.4% of the common variance) was that of an "Emotion Suppression" response, since the items that comprised the factor suggested

a conscious suppression of emotional reactions that might accompany a patient's death. Factor 4, accounting for 12.0% of the common variance, was defined by the group as a "Blaming" response that could be either self- or other-directed. The group of four items included in this factor were considered by the interns and staff counsellors as representing the ways in which a nurse might seek to place responsibility for the patient's death onto someone, either herself or someone else. The three items which comprised Factor 5 (accounting for 9.9% of the common variance) were characterized by the group as collectively denoting a "Sympathy" response, because the items apparently reflected feelings of sorrow over the death of a patient and a need to share one's sorrow with the grieving family. Table 7 presents the factor interpretations for the NRI items. Only those NRI items that demonstrated statistically significant loadings above the $\pm .30$ criterion level for each of the NRI's five factors were included in the interpretation.

On the basis of a principal-axes factor analysis and derived composite factor scores, five categories of behavioral coping strategies used by hospital nurses in response to patient-deaths were identified. In order to determine whether and to what degree the categories of behavioral coping responses could be considered correlates of death anxiety, state anxiety, and/or trait anxiety, Pearson product-moment correlation coefficients were computed, using

Table 7

FACTOR INTERPRETATION OF THE NRI ITEMS
AFTER VARIMAX ROTATION

<u>Item</u>	<u>Factor 1 - Avoidance</u>
5	I withdraw from other people.
6	I ask to not work with dying patients for awhile.
17	I talk sarcastically to others..
18	I begin to blush.
20	I call in sick.
21	I just take the day off.
23	I try to avoid working with dying patients.
	<u>Factor 2 - Altruism</u>
3	I prepare the body for the family's visit.
8	I try to comfort the patient's family.
11	I try to remain composed and "in control" in front of others.
12	I try to comfort my co-workers who act as though they are upset.
15	I "watch" what I say in front of others..
	<u>Factor 3 - Emotion Suppression</u>
2	I leave the nursing unit.
7	I continue working as I did before the patient's death.
13	I am slow to return to my assigned nursing duties with other patients.
27	I slow down my pace at work.
28	I leave the unit so that I can just be alone.
29	I try to continue working as I did before the patient's death.
	<u>Factor 4 - Blaming</u>
14	I act surprised and shocked.
16	I react violently to things unrelated to the patient's death.
19	I ask others, "What went wrong? How come the patient died?"
26	I try to give more nursing care to other patients than I did before a patient's death.
	<u>Factor 5 - Sympathy</u>
1	I start crying.
22	I call or visit the patient's family.
25	I send flowers or attend patient's funeral.

the SPSS subprogram Pearson Corr (Nie, et al., 1975), between each of the NRI categories and the seven dependent measures. Since it was not known in advance whether the possible relationships between the NRI categories and the dependent measures would be positive or negative, two-tailed tests of statistical significance were applied for each coefficient. In addition to computing product-moment correlation coefficients for these data (as well as for data to be reported in later sections of this chapter), eta correlation coefficients were computed to ascertain whether non-linear relationships, rather than linear associations, existed; however, no statistically significant non-linear relationships were found to exist.

An immediate impression gleaned from the data in Table 8 is that the five NRI categories of coping responses appear to represent behavioral correlates of death anxiety, and demonstrate some relationships to State and/or Trait anxiety. The correlation coefficients for the relationship of "Avoidance" with the seven dependent measures ranged from -.016 to .394, with five of the seven coefficients attaining statistical significance. More specifically, "Avoidance" was found to be statistically significantly correlated with three of the five death anxiety factors, as indicated by its inverse relationships with Death Anxiety Denial (r of $-.149$, $p < .05$) and General Death Anxiety (r of $-.355$, $p < .01$) and its positive relationship with Fear of Catastrophic Death

Table 8

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS FOR
NRI BEHAVIORAL COPING RESPONSES WITH MEASURES
OF DEATH ANXIETY, STATE ANXIETY, AND TRAIT ANXIETY

	<u>DAS1^a</u>	<u>DAS2^b</u>	<u>DAS3^c</u>	<u>DAS4^d</u>	<u>DAS5^e</u>	<u>State</u>	<u>Trait</u>
Avoidance	-.149*	-.355**	.012	-.016	.175**	.167**	.394**
Altruism	.054	.205**	-.035	-.127	-.085	-.118	-.147*
Emotion Suppression	-.008	.148*	-.008	.046	.075	.003	.042
Blaming	.073	-.113	-.139*	.056	.009	.207**	.313**
Sympathy	-.134	-.127	.022	.145*	.002	.077	-.009

* $p < .05$, two-tailed test of statistical significance.

** $p < .01$, two-tailed test of statistical significance.

a Death Anxiety Denial.

b General Death Anxiety.

c Fearful Anticipation of Death.

d Physical Death Fear.

e Fear of Catastrophic Death.

(r of .175, $p < .01$). The negative coefficients may be viewed as signifying that as Death Anxiety Denial and General Death Anxiety increase, the use of an Avoidance strategy in response to patient-deaths decreases; alternately, the positive correlation coefficients may be viewed as signifying direct relationships between any two variables. Avoidance was also found to be directly related to State anxiety (r of .167, $p < .01$), the measure adopted in this project to reflect the situational anxiety associated with the death of another person. Finally, the use of Avoidance was found to be directly related to a nurses' relative level of general Trait anxiety (r of .394, $p < .01$).

The second NRI coping strategy, "Altruism", was found to be statistically significantly related to General Death Anxiety ($r = .205$, $p < .01$), suggesting that as General Death Anxiety increases, a nurse may similarly increase her use of the Altruism coping strategy when confronted with patient-deaths. Altruism also correlated in a statistically significant inverse fashion with the measure of trait anxiety ($r = -.147$, $p < .05$), reflecting the increased use of a particular type of coping response in order to reduce one's level of general anxiety.

"Emotion Suppression" also correlated at a statistically significant level with General Death Anxiety ($r = .148$, $p < .05$). This finding would suggest that as General Death Anxiety increases, a nurse's use of Emotion Suppression would

also increase in order for her to successfully manage her response to patient-deaths. Beyond the one observed relationship with General Death Anxiety, the Emotion Suppression response was not found to statistically significantly correlate with any of the other six dependent measures.

Statistically significant correlation coefficients were obtained between the Blaming response and Fearful Anticipation of Death ($r = -.139, p < .05$), the measure of state anxiety ($r = .207, p < .01$), and the measure of general trait anxiety ($r = .313, p < .01$). The inverse relationship of Blaming with Fearful Anticipation of Death would suggest that the Blaming response serves to reduce the discomfort associated with anticipation of one's own death. Direct relationships were obtained between the Blaming response and the state and trait anxiety scales, perhaps suggesting that as one engages the Blaming response following patient-deaths one's anxiety associated with those deaths as well as one's level of general anxiety would both tend to also increase.

The "Sympathy" response was found to be statistically significantly related to Physical Death Fear ($r = .145, p < .05$), although its relationship with Death Anxiety Denial approached significance. One may infer that as the fear associated with physical death increases, there would tend to be a corresponding increase in the use of a Sympathy coping response.

Despite the fact that the statistically significant

correlation coefficients obtained between the five behavioral coping responses and the other seven dependent measures were generally low in magnitude, the evidence indicated that the death anxiety factors and indices of state and trait anxiety may be partially reflected in the overt behavioral actions of participants in this sample.

In all further statistical analyses, the impact of the two major independent variables will be assessed in relation to the five death anxiety factors, the measure of state anxiety, the measure of trait anxiety, and the five behavioral coping strategies used by nurses in response to patient-deaths. Given the increased number of dependent measures used in the project, the null hypotheses may be revised at this time to include the various dependent measures and to address possible interaction effects.

1. There are no statistically significant differences among nurses who report varied amounts of contact with patient-deaths on their levels of Death Anxiety Denial (1.1), General Death Anxiety (1.2), Fearful Anticipation of Death (1.3), Physical Death Fear (1.4), Fear of Catastrophic Death (1.5), state anxiety (1.6), trait anxiety (1.7), Avoidance (1.8), Altruism (1.9), Emotion Suppression (1.10), Blaming (1.11), or Sympathy (1.12), when the effects of age and history of personal loss are statistically controlled.
2. There are no statistically significant differences

among nurses who report varied degrees of professional nursing experience on their levels of Death Anxiety Denial (2.1), General Death Anxiety (2.2), Fearful Anticipation of Death (2.3), Physical Death Fear (2.4), Fear of Catastrophic Death (2.5), state anxiety (2.6), trait anxiety (2.7), Avoidance (2.8), Altruism (2.9), Emotion Suppression (2.10), Blaming (2.11), or Sympathy (2.12), when the effects of age and history of personal loss are statistically controlled.

3. There are no statistically significant interaction effects between varied amounts of contact with patient-deaths and varied degrees of professional nursing experience on nurses' levels of Death Anxiety Denial (3.1), General Death Anxiety (3.2), Fearful Anticipation of Death (3.3), Physical Death Fear (3.4), Fear of Catastrophic Death (3.5), state anxiety (3.6), trait anxiety (3.7), Avoidance (3.8), Altruism (3.9), Emotion Suppression (3.10), Blaming (3.11), or Sympathy (3.12), when the effects of age and history of personal loss are statistically controlled.

The parenthetical expressions found in each hypothesis refer to the specific dependent measures that precede them.

Relationships of Age and Loss to Dependent Measures:

According to Empirically-derived evidence, it had been

hypothesized that the variables of age and/or having a history of personal loss through the death of someone close are related to death fear or death anxiety. In order to explore whether such hypothesized relationships do, in fact, exist for the participants in the present study, Pearson product-moment correlation coefficients were computed between the age variable and all 12 dependent measures. Since the measurement level of the history of personal loss variable (abbreviated "Loss") was considered ordinal in nature (i.e., ranging in value from 0 ("no history of personal loss") through a value of 5 ("profound sense of loss")), Spearman rank-order correlation coefficients were computed between the loss variable and the dependent measures. The results of the combined correlation analyses are presented in Table 9. For purposes of tabular presentation, the five death anxiety measures are abbreviated DAS1 (Death Anxiety Denial), DAS2 (General Death Anxiety), etc. Similarly, the five coping responses are abbreviated NRI1 (Avoidance), NRI2 (Altruism), etc.

As is evident, the age variable was found to correlate at a statistically significant level with Death Anxiety Denial (DAS1) ($r = -.441$, $p < .01$) and the Sympathy coping response (NRI5) ($r = .215$, $p < .01$); however, the age variable failed to significantly correlate with any of the remaining dependent measures. Because of the association of two dependent measures with the age variable, all future

Table 9

CORRELATION COEFFICIENTS BETWEEN AGE AND LOSS AND
MEASURES OF DEATH ANXIETY, STATE AND TRAIT ANXIETY, AND
BEHAVIORAL COPING RESPONSES

	<u>DAS1</u>	<u>DAS2</u>	<u>DAS3</u>	<u>DAS4</u>	<u>DAS5</u>	<u>A-ST</u>	<u>A-TR</u>	<u>NRI1</u>	<u>NRI2</u>	<u>NRI3</u>	<u>NRI4</u>	<u>NRI5</u>
Age ^a	-.441**	-.089	.026	.118	-.073	-.078	-.126	-.036	.025	-.028	.005	.215**
Loss ^b	-.036	-.028	-.021	.077	.149*	-.091	-.094	-.011	.152*	.112	.011	.075

a Pearson product-moment correlation coefficients.

b Spearman rank-order correlation coefficients.

* $p < .05$

** $p < .01$

statistical analyses that involve Death Anxiety Denial and/or the Sympathy coping response must take into account the influence exerted by one's age and so statistically control for its effects. Since statistically significant relationships of age with the other dependent measures were not found to exist, it was decided that statistical control for age's potential effects could be deferred in analyses that involved the four remaining death anxiety measures, the measures of state and trait anxiety, or the four remaining behavioral coping responses.

The loss variable was similarly found to correlate at a statistically significant level with Fear of Catastrophic Death (DAS5) ($r = .149$, $p < .05$) and the Altruism coping response (NRI2) ($r = .152$, $p < .05$); according to the computed results, no other dependent measure demonstrated a statistically significant relationship with the loss variable. Therefore, in subsequent statistical analysis that involve Fear of Catastrophic Death and/or the Altruism coping response, it will be necessary to impose statistical control over the effects of loss. No such impositions of statistical control for the effects of loss need be employed for the other dependent measures in the project.

On the basis of results from the preceding correlation analyses, the analyses of the statistical null hypotheses could be initiated, controlling for the effects of age and loss where appropriate.

Analyses of Statistical Null Hypotheses:

The approaches selected as the most efficient and appropriate means of addressing the statistical null hypotheses were two-way analyses of variance and two-way analyses of covariance. A separate analysis of the main effects of the two independent variables and their possible interactions was conducted for each of the 12 dependent measures. Due to the fact that the intercorrelation coefficients among the dependent measures were quite low (i.e., ranging from .003 through .394), the multivariate analysis of variance approach could not be used in this project.

A 2 x 2 fixed-effect analysis of variance design was adopted to explore whether the main effect of varied amounts of contact with patient-deaths (Hypothesis 1) and/or the main effect of varied degrees of professional nursing experience (Hypothesis 2) and/or the interaction of the two independent variables (Hypothesis 3) exerted a statistically significant effect upon five dimensions of personal death anxiety, anxiety associated with another's death, general trait anxiety, and five categories of behavioral coping responses reportedly used by nurses.

The independent variable "amount of contact with patient-deaths" was dichotomized and defined as either "low-" or "high-contact". The determination of low or high contact was made on the basis of reported estimates of contact with

patient-deaths (see Biographical Data Sheet, item F) and on the basis of the type of hospital unit on which a nurse reported to have been employed (see Biographical Data Sheet, item 6). As indicated in Table 3, nurses reporting comparatively low amounts of contact with patient-deaths ($n = 103$) correspondingly worked on "low-death-rate" units (i.e., psychiatric, OB/GYN/newborn nursery, and surgical units), whereas nurses reporting comparatively high amounts of contact with patient-deaths ($n = 107$) correspondingly worked on "high-death-rate" units (i.e., medical, emergency, and ICU/CCU/recovery units). Thus, the type of unit on which a nurse was employed was considered to best reflect her approximate amount of contact with patient-deaths.

By means of a median split for the reported years actively spent in professional nursing (see Biographical Data Sheet, item B), the entire sample of nurses was divided into two groups for the second independent variable. One group consisted of "low-experience" nurses ($n = 107$), in which the degree of professional nursing experience ranged from seven months to six years, while the second group was comprised of "high-experience" nurses ($n = 103$), whose degrees of professional nursing experience ranged from seven years to 38 years.

In order to explore the main effects and/or the interaction effects of the independent variables, the two "contact" groups and the two "experience" groups were

combined to produce a 2 x 2 design, consisting of four groups of nurses: (a) nurses having low contact with patient-deaths and low professional nursing experience ($n = 44$); (b) nurses having high contact with patient-deaths and low professional nursing experience ($n = 63$); (c) nurses having low contact with patient-deaths and high professional nursing experience ($n = 59$); and (d) nurses having high contact with patient-deaths and high professional nursing experience ($n = 44$).

In order to adjust for the inequality of cell frequencies and the consequent nonorthogonal nature of the design, a hierarchical approach to the analysis of variance in each main effect and interaction effect was employed. According to Nie, et al. (1975, p. 414), by specifying the option for a hierarchical approach in the SPSS subprogram Anova, each type of effect is evaluated separately and hierarchically, with adjustments made for the effects of each variable prior to assessing the effects of subsequent variables or interactions. For those instances in which a covariate is to be included in an analysis (Nie, et al., 1975, p. 416), the main effects will be assessed first, followed by an assessment of the covariate's effect, with adjustments then made for the main effects. Finally, the interaction effect will be computed after adjustments have been made for the influence of the covariate.

Table 10 presents the means and standard deviations

obtained by the four groups of nurses on each of the dependent measures.

Since each two-factor analysis of variance or covariance is designed to examine the three statistical null hypotheses, the three separate findings which result from an analysis of variance will each be addressed to the respective null hypothesis. Thus, for example, should neither the main effects nor the interaction effect on, for example, the third dependent measure, be found to reach statistical significance, the decision to not reject a null hypothesis will be stated as follows:

"Therefore, null hypotheses 1.3, 2.3, and 3.3 could not be rejected."

By means of the SPSS subprogram Anova (Nie, et al.; 1975), a two-way fixed-effect hierarchical analysis of covariance was computed, statistically controlling for the effects of age, to determine whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or their interaction significantly influenced the level of measured Death Anxiety Denial. The results of the analysis are presented in Table 11. According to the summary table, no statistically significant differences in levels of reported Death Anxiety Denial were found to exist between nurses who have either low or high amounts of contact with patient-deaths: $F(1, 205) = 2.97$. Therefore, null hypothesis 1.1 could not be rejected.

Table 10
 MEANS AND STANDARD DEVIATIONS FOR
 FOUR NURSING GROUPS AND TOTAL SAMPLE ON
 DEPENDENT MEASURES

Dependent Measures	Group 1 ^a		Group 2 ^b		Group 3 ^c		Group 4 ^d		Total ^e	
	X	SD	X	SD	X	SD	X	SD	X	SD
Death Anxiety Denial	.29	.48	.21	.64	-.37	.93	-.10	.90	.00	.81
General Death Anxiety	.08	.71	.10	.66	-.17	.94	-.03	.70	.00	.77
Fearful Anticipation of Death	-.16	.73	.07	.77	.19	.74	-.19	.68	-.00	.75
Physical Death Fear	-.10	.76	-.10	.70	.14	.85	-.03	.78	-.00	.78
Fear of Catastrophic Death	-.12	.74	.06	.74	-.00	.76	.03	.76	-.00	.75
State Anxiety	49.5	9.2	42.7	8.8	42.7	10.9	44.4	10.0	44.5	10.0
Trait Anxiety	38.7	9.0	37.4	8.2	36.0	7.8	37.1	7.8	37.2	8.2
Avoidance	2.3	2.8	1.7	2.9	2.4	3.2	1.7	2.6	2.0	2.9
Altruism	13.0	3.7	15.1	3.1	12.7	3.9	15.2	3.2	14.0	3.6
Emotion										
Suppression	8.6	1.8	8.1	1.5	8.4	1.6	8.4	2.3	8.3	1.8
Blaming	4.4	2.8	3.5	2.4	3.8	2.3	4.1	2.7	3.9	2.5
Sympathy	1.0	1.5	.6	1.0	1.1	1.6	1.0	1.8	.9	1.5

a = low contact X low experience, $\bar{n}$ = 44.

b = high contact X low experience, $\bar{n}$ = 63.

c = low contact X high experience, $\bar{n}$ = 59.

d = high contact X high experience, $\bar{n}$ = 44.

e = 210 research participants.

Table 11

ANALYSIS OF COVARIANCE FOR THE EFFECTS OF
 CONTACT WITH PATIENT-DEATHS AND
 PROFESSIONAL NURSING EXPERIENCE ON DEATH
 ANXIETY DENIAL, CONTROLLING FOR THE EFFECTS OF AGE

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	1.58	1	1.58	2.97
B (Experience)	12.26	1	12.26	23.07*
AB	1.09	1	1.09	2.05
Error	108.95	205	.53	

* $p < .001$.

With regard to the influence of professional nursing experience on the dependent measure, a statistically significant difference in the level of reported Death Anxiety Denial was found to exist between nurses who possessed differing degrees of professional nursing experience, even when statistical adjustments were made for the effects of age: $F(1, 205) = 23.07$ ($p < .001$). Inspection of the mean Death Anxiety Denial scores for the low- and high-experience groups indicated that nurses who possessed a low degree of nursing experience (as defined in this study) reported a significantly greater degree of Death Anxiety Denial than did high-experience nurses. The significant main effect obtained in the present analysis might have been expected, since age was previously found to significantly correlate in an inverse fashion with measured Death Anxiety Denial ($r = -.441$, $p < .01$). The results may also be partially explained by the fact that the age variable was found to statistically significantly correlate with one's degree of professional nursing experience ($r = .69$, $p < .001$). This particular correlation coefficient indicated that younger nurses tended, as a group, to possess lower degrees of professional nursing experience than the group of older nurses. On the basis of the obtained significant effect of experience, null hypothesis 2.1 may be rejected.

Finally, as indicated in Table 11, there was no statistically significant interaction effect for the two

independent variables on measured levels of Death Anxiety Denial: $F(1, 205) = 2.05$. Thus, null hypothesis 3.1 could not be rejected.

A two-way fixed-effect hierarchical analysis of variance was computed to ascertain whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or their interaction significantly influenced levels of measured General Death Anxiety. Table 12 presents a summary table of the results of the analysis. Regarding the influence of varied amounts of contact with patient-deaths, no statistically significant differences were found on the measure of General Death Anxiety for nurses who reported either low or high amounts of contact with patient-deaths: $F(1, 206) = 1.31$. Consequently, null hypothesis 1.2 could not be rejected.

Likewise, no statistically significant differences in measured General Death Anxiety were obtained among nurses who reported having either low or high degrees of professional nursing experience: $F(1, 206) = 2.93$. Hence, null hypothesis 2.2 could not be rejected.

Finally, no statistically significant interaction effect for the influence of the two independent variables upon levels of measured General Death Anxiety was found to exist for the present sample of nurses: $F(1, 206) = .52$. Therefore, null hypothesis 3.2 could not be rejected.

A second two-way fixed-effect hierarchical analysis

Table 12

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
GENERAL DEATH ANXIETY

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	.78	1	.78	1.31
B (Experience)	1.74	1	1.74	2.93
AB	.31	1	.31	.52
Error	122.59	206	.59	

of variance was computed to explore whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or an interaction of the two independent variables exerted a statistically significant influence on the levels of measured Fearful Anticipation of Death. A summary table outlining the results of the analysis is presented in Table 13. According to the analysis of variance, the main effect of contact with patient-deaths was found to be statistically non-significant: $F(1, 206) = .53$. The obtained F -value may be interpreted to mean that no statistically significant differences in measured levels of Fearful Anticipation of Death were found among nurses who reported having either low or high amounts of contact with patient-deaths. Therefore, null hypothesis 1.3 could not be rejected.

Similarly, no statistically significant differences in measured levels of Fearful Anticipation of Death were found to exist among nurses who reported either low or high degrees of professional nursing experience: $F(1, 206) = .16$. Due to this finding, null hypothesis 2.3 could not be rejected.

However, as indicated in Table 13, a significant interaction effect for the influence of the independent variables was obtained: $F(1, 206) = 9.13$ ($p < .003$). Consequently, null hypothesis 3.3 may be rejected.

A graphic representation of the interaction of contact with patient-deaths and professional nursing experience is

Table 13

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
FEARFUL ANTICIPATION OF DEATH

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	.29	1	.29	.53
B (Experience)	.09	1	.09	.16
AB	5.03	1	5.03	9.13*
Error	113.41	206	.55	

* $p < .003$

shown in Figure 2. It is evident from Figure 2 that nurses who possess a low degree of professional nursing experience report increasingly higher levels of Fearful Anticipation of Death as their amount of contact with patient-deaths increases, whereas nurses who possess a high degree of nursing experience report increasingly lower levels of Fearful Anticipation of Death as their amount of contact with patient-deaths increases.

On the basis of having obtained a significant interaction, the decision was made to compute tests of simple main-effects for each independent variable (Kirk, 1968). Table 14 presents a summary table for tests of simple main-effects in the present analysis. According to that summary table, it may be concluded that a statistically significant difference in measured levels of Fearful Anticipation of Death exists between nurses with low and high amounts of contact with patient-deaths, but only at the high level of professional nursing experience: $F(1, 202) = 6.46$ ($p < .025$).

A third two-way fixed-effect hierarchical analysis of variance was computed to ascertain whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or an interaction of the independent variables significantly influenced nurses' levels of measured Physical Death Fear. A summary of the analysis of variance results is presented in Table 15. Evident in

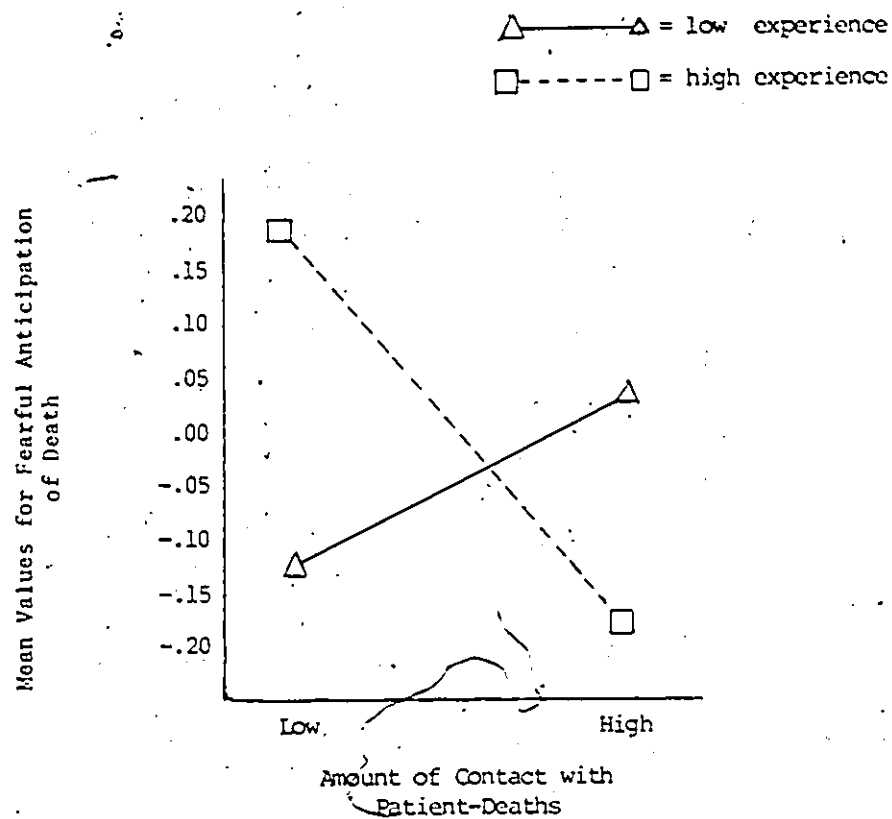


Figure 2. Significant interaction effect between contact and experience on Fearful Anticipation of Death measure.

Table 14

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
FEARFUL ANTICIPATION OF DEATH,
EXAMINED FOR SIMPLE MAIN-EFFECTS

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	.29	1	.29	.52
A at <u>b₁</u>	.99	1	.99	1.76
A at <u>b₂</u>	3.62	1	3.62	6.46*
B (Experience)	.09	1	.09	.16
B at <u>a₁</u>	2.38	1	2.38	4.24
B at <u>a₂</u>	1.85	1	1.85	3.30
AB	5.03	1	5.03	8.96*
Error	113.40	202	.56	

* $p < .025$

Table 15

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
PHYSICAL DEATH FEAR

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	1.35	1	1.35	2.21
B ² (Experience)	.65	1	.65	1.06
AB	.10	1	.10	.17
Error	125.98	206	.61	

Table 15 are the findings that no statistically significant differences were obtained in terms of measured levels of Physical Death Fear for nurses with varied amounts of contact with patient-deaths ($F(1, 206) = 2.21$) or varied degrees of professional nursing experience ($F(1, 206) = 1.06$). Moreover, the analysis failed to reveal a statistically significant interaction of the two main effects ($F(1, 206) = .17$). Consequently, null hypotheses 1.4, 2.4, and 3.4 could not be rejected.

A second two-way fixed-effect hierarchical analysis of covariance was computed, statistically controlling for the effects of loss, to determine whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or an interaction of the independent variables have a significant effect upon nurses' levels of measured Fear of Catastrophic Death. According to the summary of the covariance analysis in Table 16, no statistically significant differences in measured levels of Fear of Catastrophic Death were found for nurses who reported either varied amounts of contact with patient-deaths ($F(1, 205) = 1.18$) or varied degrees of professional nursing experience ($F(1, 205) = .16$); in addition, no statistically significant interaction effect was found ($F(1, 205) = .46$). Hence, null hypotheses 1.5, 2.5, and 3.5 could not be rejected.

A fourth two-way fixed-effect hierarchical analysis of

Table 16

ANALYSIS OF COVARIANCE FOR THE EFFECTS OF
 CONTACT WITH PATIENT-DEATHS AND
 PROFESSIONAL NURSING EXPERIENCE ON
 FEAR OF CATASTROPHIC DEATH,
 CONTROLLING FOR THE EFFECTS OF LOSS

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	.66	1	.66	1.18
B (Experience)	.09	1	.09	.16
AB	.26	1	.26	.46
Error	114.99	205	.56	

variance was computed to ascertain whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or their interaction exerted a significant influence on measured levels of State Anxiety (i.e., the anxiety one may experience in relation to the death of another person). The results of the analysis are summarized in Table 17. Inspection of the summary table indicates that neither the main effect for contact with patient-deaths nor the main effect for professional nursing experience was statistically significant. That is, no statistically significant differences were found to exist on levels of measured State Anxiety for nurses having either low or high amounts of contact with patient-deaths ($F(1, 206) = 2.65$) or for nurses possessing low or high degrees of professional nursing experience ($F(1, 206) = 3.24$). Thus, null hypotheses 1.6 and 2.6 could not be rejected.

Despite the findings of no significant main effects in this analysis, a statistically significant interaction was obtained: $F(1, 206) = 9.44$ ($p < .002$); therefore, null hypotheses 3.6 may be rejected. Figure 3 depicts a graphic representation of the interactive effect of contact with patient-deaths and professional nursing experience on measured levels of State Anxiety. According to Figure 3, low-experience nurses' reported levels of State Anxiety (i.e., anxiety associated with the death of another person) tend to decrease as the amount of contact with patient-

Table 17

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
STATE ANXIETY

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	254.36	1	254.36	2.65
B (Experience) ^s	311.27	1	311.27	3.24
AB	906.37	1	906.37	9.44*
Error	19772.06	206	95.98	

* $p < .002$

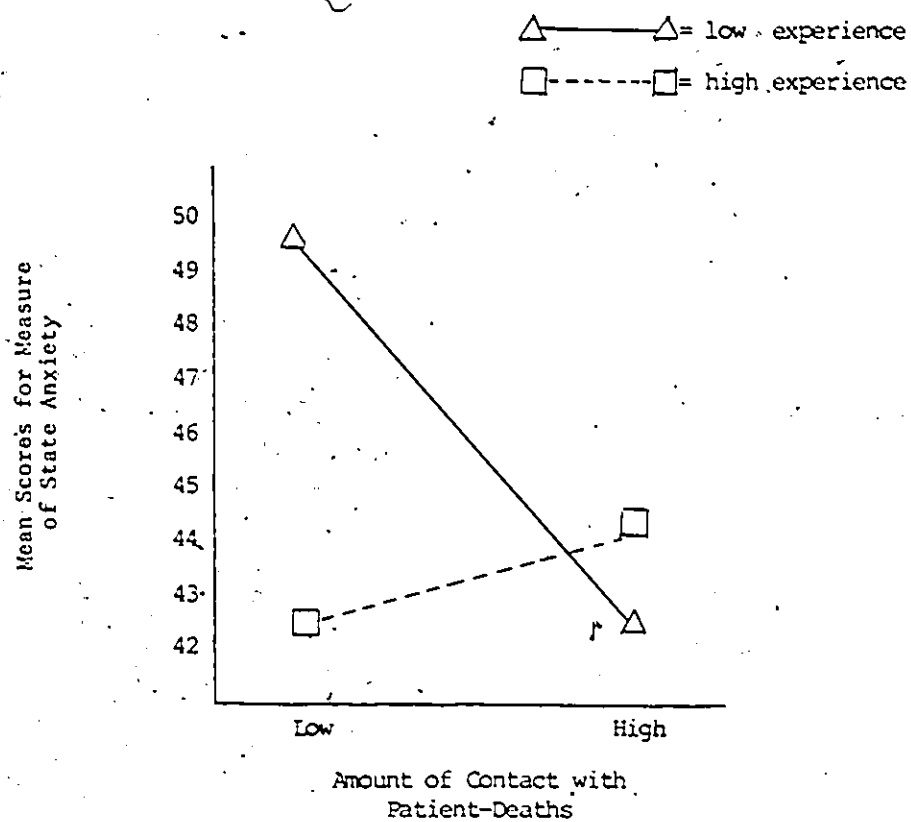


Figure 3. Significant interaction effect between contact and experience on measure of State Anxiety.

deaths increases. However, the levels of reported State Anxiety among high-experience nurses tend to increase slightly as high-experience nurses increase their amounts of contact with patient-deaths.

Due to the significant interaction effect, the decision was made to compute tests of simple main-effects for each independent variable. Table 18 provides a summary of the tests of simple main-effects for the present analysis of variance. According to Table 18, it may be concluded that a statistically significant difference in levels of measured State Anxiety exists between nurses who have low amounts of contact with patient-deaths and those who have high amounts of contact with patient-deaths, but only at the low level of professional nursing experience ($F(1, 202) = 12.07, p < .025$). Similarly, it may be concluded that a statistically significant difference in levels of measured State Anxiety exists between nurses who have a high degree of nursing experience, but only at the low level of contact with patient-deaths ($F(1, 202) = 11.68, p < .025$).

A fifth two-way fixed-effect hierarchical analysis of variance was computed to determine whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or an interaction of the independent variables significantly influenced nurses' measured levels of general Trait Anxiety. The summary table

Table 18

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
STATE ANXIETY,
EXAMINED FOR SIMPLE MAIN-EFFECTS

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	254.36	1	254.36	2.59
A at <u>b₁</u>	1181.75	1	1181.75	12.07*
A at <u>b₂</u>	70.22	1	70.22	.71
B (Experience)	311.27	1	311.27	3.18
B at <u>a₁</u>	1144.03	1	1144.03	11.68*
B at <u>a₂</u>	73.63	1	73.63	.75
AB	906.37	1	906.37	9.26*
Error	19772.06	202	97.88	

* $p < .025$

of the analysis is presented in Table 19. The results indicate that no statistically significant differences in measured levels of general Trait Anxiety were found for nurses who reported varied amounts of contact with patient-deaths ($F(1, 206) = .01$) or for nurses who reported varied degrees of professional nursing experience ($F(1, 206) = 1.52$). Likewise, no statistically significant interaction effect was found to exist ($F(1, 206) = 1.09$). Hence, null hypotheses 1.7, 2.7, and 3.7 could not be rejected.

A sixth two-way fixed-effect hierarchical analysis of variance was computed to specify whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or an interaction of the two main effects significantly influenced nurses' use of the Avoidance coping strategy in response to patient-deaths. As inspection of the data in Table 20 reveals, no statistically significant differences were found in regard to the extent to which nurses with varied amounts of contact with patient-deaths reportedly use the Avoidance strategy ($F(1, 206) = 2.67$) or in regard to the extent to which nurses with varied degrees of professional nursing experience use the Avoidance strategy ($F(1, 206) = .02$). Finally, no statistically significant interaction effect was found: $F(1, 206) = .01$. On the basis of the absence of significant results in this analysis, null hypotheses 1.8, 2.8, and 3.8 could not be rejected.

Table 19

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
 CONTACT WITH PATIENT-DEATHS AND
 PROFESSIONAL NURSING EXPERIENCE ON
 TRAIT ANXIETY

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	.80	.1	.80	.01
B (Experience)	102.66	1	102.66	1.52
AB	73.94	1	73.94	1.09
Error	13902.43	206	67.48	

Table 20

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
THE AVOIDANCE COPING RESPONSE

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	23.57	1	23.57	2.67
B (Experience)	.23	1	.23	.02
AB	.09	1	.09	.01
Error	1818.53	206	8.82	

A third two-way fixed-effect hierarchical analysis of covariance was computed, statistically controlling for the effects of loss, to ascertain whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or their interaction exerted a significant influence on nurses' use of the Altruism coping strategy in response to patient-deaths. A summary of the results of the analysis is presented in Table 21. According to the data in Table 21, the amount of contact a nurse has with patient-deaths does appear to statistically significantly influence the extent to which she may employ the Altruism strategy for coping with patient-deaths ($F(1, 205) = 22.66, p < .001$). Thus, null hypothesis 1.9 may be rejected. Examination of the mean Altruism scores for the nurses having either low or high amounts of contact with patient-deaths revealed that nurses who have high amounts of contact with patient-deaths tend, as a group, to report using the Altruism coping strategy to a significantly greater extent than do nurses having comparatively low amounts of contact with patient-deaths.

Beyond the statistically significant main effect of contact with patient-deaths, no statistically significant differences in regard to the use of the Altruism coping strategy were found to exist among nurses with varied degrees of professional nursing experience $F(1, 205) = .006$. Furthermore, no statistically significant interaction effect

Table 21

ANALYSIS OF COVARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
THE ALTRUISM COPING RESPONSE,
CONTROLLING FOR THE EFFECTS OF LOSS

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	276.28	1	276.28	22.66*
B (Experience)	.07	1	.07	.006
AB	2.34	1	2.34	.19
Error	2499.17	205	12.19	

resulted in the analysis: $F(1, 205) = .19$. Consequently, null hypotheses 2.9 and 3.9 could not be rejected.

A seventh two-way fixed-effect hierarchical analysis of variance was computed to determine whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or an interaction of the two independent variables significantly influenced nurses' use of the Emotion Suppression coping strategy in response to patient-deaths. The results of the analysis of variance are presented in Table 22. As indicated in the summary table, no statistically significant differences in the use of the Emotion Suppression coping strategy were obtained for nurses who varied either in the amount of contact with patient-deaths ($F(1, 206) = 1.29$) or in the degree of professional nursing experience ($F(1, 206) = .004$); moreover, no statistically significant interaction effect was found ($F(1, 206) = 1.08$). Therefore, null hypotheses 1.10, 2.10, and 3.10 could not be rejected.

An eighth two-way fixed-effect hierarchical analysis of variance was computed to explore whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or their interaction resulted in a statistically significant difference in nurses' use of the Blaming coping strategy in response to patient-deaths. Table 23 presents a summary table for the analysis of variance. According to the results provided in

Table 22

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
 CONTACT WITH PATIENT-DEATHS AND
 PROFESSIONAL NURSING EXPERIENCE ON
 THE EMOTION SUPPRESSION COPING RESPONSE

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	4.44	1	4.44	1.29
B (Experience)	.01	1	.01	.004
AB	3.72	1	3.72	1.08
Error	707.55	206	3.43	

Table 23

ANALYSIS OF VARIANCE FOR THE EFFECTS OF
CONTACT WITH PATIENT-DEATHS AND
PROFESSIONAL NURSING EXPERIENCE ON
THE BLAMING COPING RESPONSE

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	3.66	1	3.66	.55
B (Experience)	.008	1	.008	.001
AB	18.36	1	18.36	2.75
Error	1373.00	206	6.66	

Table 23, no statistically significant differences in the use of the Blaming coping strategy were obtained for nurses who had varied amounts of contact with patient-deaths ($F(1, 206) = .55$) or for nurses who possessed varied degrees of professional nursing experience ($F(1, 206) = .001$). Furthermore, no statistically significant interaction effect was obtained: $F(1, 206) = 2.75$. On the basis of these findings, null hypotheses 1.11, 2.11, and 3.11 could not be rejected.

A final two-way fixed-effect hierarchical analysis of covariance was computed, statistically controlling for the effects of age, to ascertain whether varied amounts of contact with patient-deaths and/or varied degrees of professional nursing experience and/or the interaction of the independent variables exerted a significant influence on nurses' use of the Sympathy coping strategy in response to patient-deaths. The results of this analysis may be found in Table 24. According to the summary of the covariance analysis, no statistically significant differences in the use of the Sympathy response were found for nurses reporting varied amounts of contact with patient-deaths ($F(1, 205) = 1.45$) nor were statistically significant differences found among nurses who reported varied degrees of professional nursing experience ($F(1, 205) = 1.46$). Lastly, no statistically significant interaction effect was obtained: $F(1, 205) = .83$. Therefore, null hypotheses 1.12, 2.12, and

Table 24

ANALYSIS OF COVARIANCE FOR THE EFFECTS OF
 CONTACT WITH PATIENT-DEATHS AND
 PROFESSIONAL NURSING EXPERIENCE ON
 THE SYMPATHY COPING RESPONSE,
 CONTROLLING FOR THE EFFECTS OF AGE

Source of Variation	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
A (Contact)	3.19	1	3.19	1.45
B (Experience)	3.23	1	3.23	1.46
AB	1.84	1	1.84	.83
Error	450.79	205	2.19	

3.12 could not be rejected.

In summary, the findings from the preceding 14 sets of analyses resulted in the following two significant main effects and two significant interaction effects:

(a) A statistically significant difference exists between low- and high-experience nurses on their measured levels of Death Anxiety Denial, such that low-experience nurses report a significantly greater degree of Death Anxiety Denial than do high-experience nurses, even when statistical adjustments are made for the effects of age.

(b) A statistically significant difference exists between low- and high-contact nurses in the extent to which the Altruism coping strategy is used in response to patient-deaths, such that high-contact nurses reportedly use the Altruism coping strategy in response to patient-deaths to a significantly greater degree than do low-contact nurses, even when statistical adjustments are made for the effects of a history of loss.

✓ (c) A statistically significant interaction effect for the two independent variables indicated significant differences between low- and high-contact nurses in measured levels of Fearful Anticipation of Death, but only for those nurses who possess a high degree of professional nursing experience.

(d) A statistically significant interaction effect for the two independent variables revealed two significant

differences: (1) a statistically significant difference was found between low- and high-contact nurses in their measured levels of State Anxiety, but only for those nurses who possess a low degree of professional nursing experience; (2) a statistically significant difference was found between low- and high-experience nurses in their measured levels of State Anxiety, but only for those nurses who have a low amount of contact with patient-deaths.

All other analyses of variance and covariance failed to reveal statistically significant differences on measured levels of the other dependent measures for the present sample of nurses.

Relative Influence of Social Desirability:

Pearson product-moment correlation coefficients were computed to learn whether statistically significant relationships existed between the twelve dependent measures used in this project and the response-distortion dimension of social desirability. The results of the correlation analyses identified three statistically significant inverse relationships.

First, a statistically significant negative correlation coefficient of $-.27$ ($p < .001$) was found to exist between the measure of Death Anxiety Denial and the measure of social desirability (i.e., Marlowe-Crowne Social Desirability Scale). Using the SPSS subprogram for partial correlations

(Nie, et al., 1975), the individual effects of age and loss were statistically removed, with resulting first-order partial correlation coefficients of $-.20$ ($p < .003$) and $-.26$ ($p < .001$), respectively. Statistically controlling for the combined influence of age and loss resulted in a second-order partial correlation coefficient between Death Anxiety Denial and social desirability of $-.20$ ($p < .003$). The significant inverse association between the two variables would seem to suggest that, for the present sample of nurses, as one's Death Anxiety Denial increases, the socially-desirable nature of such a denial correspondingly decreases.

Second, a statistically significant negative correlation coefficient was obtained between the measures of Trait Anxiety and social desirability: $r = -.37$ ($p < .001$). When the influence of age was partialled-out, the correlation coefficient for the two variables decreased somewhat, but remained statistically significant: $r = -.35$ ($p < .001$); likewise, when the influence of loss was statistically removed, the correlation coefficient retained its significance: $r = -.36$ ($p < .001$). Controlling for the combined influence of age and loss again resulted in a statistically significant second-order partial correlation coefficient: $r = -.35$ ($p < .001$). This unexpected finding would appear to suggest that, for the present sample of nurses, as one's reported-level of general trait anxiety decreases, the socially-desirable nature of such a report

would, inversely, tend to increase.

Third, a statistically significant negative correlation coefficient was obtained between the measure of the Avoidance coping response and the social desirability dimension: $r = -.18$ ($p < .009$). After partialling-out the effects of age, the correlation coefficient remained significant ($r = -.17$, $p < .01$); similarly, when the effects of loss were statistically removed, the coefficient was again significant ($r = -.17$, $p < .01$). Statistically controlling for the effects of both age and loss resulted in still another significant second-order partial correlation between Avoidance and social desirability: $r = -.17$ ($p < .01$). This finding would suggest that, for the present sample of nurses, the use of an Avoidance coping strategy in response to patient-deaths may be at odds with more socially-desirable kinds of nursing behavior.

Although the data in Table 8 provide information regarding the correlations between the five behavioral coping responses and the measures of both death anxiety and state-trait anxiety, information pertaining to the interrelationships among the death anxiety measures and the state-trait anxiety measures themselves has not as yet been addressed. Table 25 presents the intercorrelations found among the five measures of death anxiety and the measures of state-trait anxiety.

As is noted in Table 25, three dimensions of personal

Table 25

INTERCORRELATIONS AMONG DEATH ANXIETY MEASURES AND
MEASURES OF STATE-TRAIT ANXIETY

	DAD	GDA	FAD	PDF	FCD	SA	TA
Death Anxiety Denial	1.000						
General Death Anxiety	-.015	1.000					
Fearful Antici- pation of Death	-.088	.139*	1.000				
Physical Death Fear	-.098	.010	.045	1.000			
Fear of Catas- trophic Death	-.006	.053	.155	.087	1.000		
State Anxiety	.124	-.249**	-.153*	-.159**	.112	1.000	
Trait Anxiety	.023	-.346**	-.242**	-.175**	.027	.368	1.000

* $p < .05$ ** $p < .01$

death anxiety (i.e., General Death Anxiety, Fearful Anticipation of Death, and Physical Death Fear) were found to correlate at a statistically significant level with the measures of state anxiety and trait anxiety. As pointed out in Chapter II, the measure of state anxiety in this project was intended to reflect situational anxiety associated with the death of a patient, thereby providing a contrast to the personal anxiety associated with one's own eventual death.

The statistically significant negative correlation between the three measures of personal death anxiety and the measure of state anxiety may be viewed as indicating that as the anxiety a nurse reports in relation to the death of another person increases, her own level of general death anxiety, her own level of fearful anticipation of death, and her own level of physical death fears may decrease in intensity.

The statistically significant negative correlations between the three measures of personal death anxiety and the measure of trait anxiety also lead to the tentative conclusion that as a nurse's level of measured death anxiety increases (i.e., in terms of general death anxiety, fearful anticipation of death, and/or physical death fear), her overall reported level of trait anxiety may tend to decrease.

Two dimensions of measured death anxiety, Death Anxiety Denial and Fear of Catastrophic Death, were not found to correlate at a statistically significant level with either

the state or trait anxiety measures. Furthermore, neither of the two dimensions correlated at a statistically significant level with any of the other death anxiety measures.

The measure of state anxiety was found to correlate at a statistically significant level with the measure of trait anxiety ($r = .368$, $p < .01$), a result that is generally to be expected according to the tests' developers (Spielberger, et al., 1970).

Finally, although the DAS factor analysis attempted to generate five orthogonal factors (by means of the varimax rotation method), one statistically significant correlation was found to exist, between General Death Anxiety (Factor 2) and Fearful Anticipation of Death (Factor 3). Inspection of the item content for each factor is suggestive of some degree of overlap. Nevertheless, while the correlation coefficient obtained for the two factors is statistically significant, the magnitude of the relationship appears to be relatively low.

RMQ Discriminant Analyses:

In an effort to ascertain which modeling parameters tend to be most prominent for nurses who must learn how to confront patient-deaths in hospitals, the Role-Model Questionnaire (RMQ) was subjected to discriminant analyses. The RMQ was analyzed in relation to varied amounts of contact a nurse has with patient-deaths and analysed in relation to varied degrees of professional nursing experience as well.

The results of the discriminant analysis for those who differed in terms of contact with patient-deaths will be discussed first, with appropriate data presented in Table 26 through 29.

An inspection of the mean values for each of the 14 RMQ variables found high-contact nurses to have higher values for each variable than low-contact nurses. As indicated in Table 26, the results of univariate F-tests revealed that mean differences between the two groups were statistically significant, at less than the .01 level, for all variables except for RMQ3 and RMQ8, which were found to be not statistically different. On the basis of such findings, the data indicate that significant differences exist between the two contact groups on at least 12 of the 14 RMQ variables.

A stepwise discriminant analysis was performed, using the SPSS subprogram Discriminant (Nie, et al., 1975). Variables were selected for entry into the analysis on the basis of their discriminating power. The method of variable selection decided upon was Rao's V criterion. According to Rao's method, the variable selected is the one which contributes the largest increase in V, a generalized distance measure, when added to the variables already chosen, thereby resulting in the greatest overall separation of the groups. (Nie, et al., 1975, p. 448).

After progressing through a series of ten steps, a subset of ten RMQ variables emerged which significantly discriminated between the two groups of nurses (i.e., those

Table 26

ROLE-MODEL QUESTIONNAIRE (RMQ): UNIVARIATE F-TESTS
FOR THE LOW-HIGH CONTACT GROUPS' DISCRIMINATION

RMQ Variable	Wilks' Lambda	F-ratio	p
RMQ1	.953	10.19	.001
RMQ2	.920	18.06	.001
RMQ3	.993	1.36	n.s.
RMQ4	.880	28.20	.001
RMQ5	.973	5.67	.01
RMQ6	.843	38.66	.001
RMQ7	.777	59.62	.001
RMQ8	.982	3.60	n.s.
RMQ9	.830	42.49	.001
RMQ10	.955	9.58	.002
RMQ11	.972	5.92	.01
RMQ12	.899	23.33	.001
RMQ13	.946	11.86	.001
RMQ14	.890	25.66	.001

having low-contact with patient-deaths and those with high-contact). A summary of the RMQ variables selected for their discriminating power in the analysis is presented in Table 27. Of the ten selected variables listed in Table 27, RMQ7 (i.e., referring to a model's rewardingness) was found to have been the single best-discriminating variable, as reflected by the change in Rao's V , and to have thus made the greatest contribution to discriminating between the two nursing groups. The order in which the remaining nine variables were entered indicates their relative discriminating power.

Since only two groups were included in the analysis, it was possible to derive only one discriminant function to account for 100% of the variation between the low- and high-contact groups. Table 28 presents a summary of the discriminant function data for the comparison between nurses having low-contact and high-contact with patient-deaths. According to the summarized information, the discriminating power of the function was statistically significant, as indicated by a chi-square value of 109.18, with 10 degrees of freedom ($p < .001$). These results suggest that discriminations between nurses having low-contact with patient-deaths and nurses having high-contact with patient-deaths may be made on the basis of obtained values for ten discriminating RMQ variables.

The placement of low-contact and high-contact nurses

Table 27

SUMMARY OF MOST DISCRIMINATING RMQ VARIABLES

Step	Variable Entered	Wilks' Lambda	p	Rao's V		Change in V
					p	
1	RMQ7	.777	.001	59.6	.001	59.62
2	RMQ14	.708	.001	85.7	.001	26.07
3	RMQ9	.661	.001	106.3	.001	20.61
4	RMQ10	.628	.001	123.0	.001	16.69
5	RMQ11	.616	.001	129.7	.001	6.66
6	RMQ5	.609	.001	133.5	.001	3.89
7	RMQ12	.601	.001	137.9	.001	4.36
8	RMQ3	.594	.001	142.0	.001	4.10
9	RMQ6	.589	.001	145.0	.001	2.94
10	RMQ8	.584	.001	148.2	.001	3.19

Table 28

DISCRIMINANT FUNCTION SUMMARY DATA FOR RMQ
DISCRIMINANT ANALYSIS

Comparison	Function	Relative %	Wilks' Lambda	χ^2	df	p
Low Contact- High Contact	1	100.00	.584	109.18	10.	.001

along each group's respective discriminant function axis may be determined by inspecting the centroids for the two groups of nurses. Thus, a nurse with a discriminant function score closer in space to the low-contact centroid (.639) would be classified among those in the low-contact group. Likewise, a nurse with a discriminant function score closer in space to the high-contact centroid (-1.103) would be classified among those in the high-contact group.

In order to examine the adequacy of the derived discriminant function to correctly assign individuals to the appropriate group, Table 29 presents the classification results for the "contact" discrimination. The results indicate the number of cases who were either correctly or incorrectly predicted to be members of the low- and high-contact groups. According to the information in Table 29, 103 of 133 low-contact nurses (i.e., 77.4%) were correctly classified as belonging to that group on the basis of their discriminant function scores for the selected RMQ variables; however, 30 of the low-contact nurses were incorrectly classified. In similar fashion, 65 of the 77 high-contact nurses (i.e., 84.4%) were correctly classified as belonging to that group, while 12 nurses were misclassified. On the basis of discriminant function scores for the ten discriminating RMQ variables, 168 of 210 nurses (i.e., 80%) were correctly classified as belonging to either the low-contact or high-contact group.

Table 29

CLASSIFICATION RESULTS FOR THE LOW CONTACT-HIGH CONTACT
DISCRIMINATION

Actual Group	n	Predicted Group Membership			
		Low Contact	n	High Contact	n
Low Contact	133	77.4%	103	22.6%	30
High Contact	77	15.6%	12	84.4%	65
Correctly classified cases: 80.00%					4

The second discriminant analysis concerned the ability of the RMQ to discriminate between nurses who differed in degrees of professional nursing experience. Once again, a stepwise analysis was conducted, using Rao's V as the criterion by means of which to select the best subset of RMQ discriminating variables. The results of the second discriminant analysis will be presented in Tables 30 through 33. Due to the fact that 30 of the 210 cases had either missing or out-of-range group codes, only 180 cases (85.7%) were processed for the analysis.

Low-experience nurses were found to have high mean values on RMQ variables 2, 3, 4, 5, 12, 13, and 14, whereas high-experience nurses had high mean values on RMQ variables 1, 6, 7, 8, 9, 10, and 11. As may be seen in Table 30, univariate F -tests indicated that although the two experience groups differed in terms of mean values for the RMQ variables, statistically significant differences between the low-experience and high-experience groups were found for only five of the 14 variables.

After progressing through a series of four steps, a subset of four RMQ variables was found which significantly discriminated between the low- and high-experience groups of nurses. A summary of the four RMQ variables selected for their discriminating power is presented in Table 31. Of the four variables entered into the analysis after stepwise selection, RMQ2 (i.e., referring to ongoing exposure to

Table 30

ROLE-MODEL QUESTIONNAIRE (RMQ): UNIVARIATE F-TESTS
FOR THE LOW-HIGH EXPERIENCE GROUPS' DISCRIMINATION

RMQ Variable	Wilks' Lambda	<u>F</u> -ratio	p
RMQ1	.982	3.11	n.s.
RMQ2	.947	9.96	.001
RMQ3	.995	.75	n.s.
RMQ4	.991	1.55	n.s.
RMQ5	.985	2.58	n.s.
RMQ6	.991	1.55	n.s.
RMQ7	.989	1.92	n.s.
RMQ8	.979	3.73	n.s.
RMQ9	.992	1.30	n.s.
RMQ10	.981	3.34	n.s.
RMQ11	.953	8.67	.003
RMQ12	.962	6.98	.008
RMQ13	.958	7.63	.006
RMQ14	.956	8.03	.005

Table 31

SUMMARY OF MOST DISCRIMINATING RMQ VARIABLES

Step	Variable Entered	Wilks' Lambda	p	Rao's <u>V</u>	p	Change in <u>V</u>
1	RMQ2	.947	.001	9.96	.001	9.96
2	RMQ11	.911	.001	17.33	.001	7.37
3	RMQ7	.904	.001	18.88	.001	1.54
4	RMQ3	.897	.001	20.40	.001	1.52

multiple models) presented itself as the single best-discriminating variable, as indicated by the change which occurred in Rao's $\bar{Y}$. That is, the RMQ2 variable exerted the greatest effect in discriminating between the low-high experience nursing groups. The order in which the remaining three RMQ variables were entered may be viewed as reflecting each variable's relative discriminating power.

The analysis generated one discriminant function which accounted for 100% of the variation between low- and high-experience nursing groups. Table 32 provides a summary of the discriminant function data for the comparison between nurses who differed in terms of their levels of nursing experience. As may be seen in Table 32, the discriminating power of the function was found to be statistically significant, as indicated by the chi-square value of 19.09, with four degrees of freedom ($p < .001$). It may be said that discriminations between nurses who differ with respect to their level of nursing experience are possible on the basis of obtained values for the subset of four selected RMQ variables.

The placement of low-experience nurses and high-experience nurses along each group's discriminant function axis may be determined from an examination of the two groups' centroids. Nurses with discriminant function scores closer in space to the low-experience centroid (.488) would be classified as belonging to that group, whereas

Table 32

DISCRIMINANT FUNCTION SUMMARY DATA FOR RMQ
DISCRIMINANT ANALYSIS

Comparison	Function	Relative %	Wilks' Lambda	χ^2	df	p
Low Contact- High Contact	1	100.00	.897	19.09	4	.001

nurses with discriminant function scores closer in space to the high-experience centroid (-.232) would be classified as belonging to that group.

Although the discriminating power of the derived function was found to be statistically significant (see Table 32), its adequacy in correctly assigning individuals to the appropriate group was explored. Table 33 presents the classification results for the "experience" discrimination. According to the information in the Table, 43 of 58 low-experience nurses (i.e., 74.1%) were correctly classified as belonging to that group on the basis of their discriminant function scores for the four discriminating variables; however, almost 26% of the low-experience nurses ($n = 15$) were misclassified. Similarly, 75 of 122 high-experience nurses were correctly identified as belonging to that group, while 47 high-experience nurses (i.e., 38.5%) were incorrectly classified. On the basis of their discriminant function scores for the four discriminating RMQ variables, 118 of 180 nurses (i.e., 65.56%) were correctly classified into either the low-experience or high-experience groups.

In view of the findings from the two discriminant function analyses, one may conclude that discriminations between nurses who differ in terms of (a) amount of contact with patient-deaths and (b) degree of professional nursing experience may be made based upon the relative significance of certain modeling parameters for each group.

Table 33

CLASSIFICATION RESULTS FOR THE LOW EXPERIENCE-
HIGH EXPERIENCE DISCRIMINATION

<u>Actual Group</u>	<u>n</u>	<u>Predicted Group Membership</u>			
		<u>Low Contact</u>	<u>n</u>	<u>High Contact</u>	<u>n</u>
Low Contact	58	74.1%	43	25.9%	15
High Contact	122	38.5%	47	61.5%	75
Correctly classified cases: 65.56%					

For those nurses who differed with respect to having either low or high amounts of contact with patient-deaths, the following sequence of modeling parameters served to best discriminate the two groups: (a) a model's rewardingness, (b) perceived self-change following frequent exposure to patient-deaths, (c) extent to which an observer conforms to group standards, (d) an observer's previous history of reinforcement for modeled behaviors, (e) an observer's degree of perceived-similarity to a model, (f) a model's prestige, (g) extent to which vicarious extinction of avoidance behavior occurs, (h) exposure to models who confront patient-deaths without models' suffering negative after-effects, (i) a model's competence, and (j) an observer's amount of contact with patient-deaths.

For those nurses who differed with respect to having either low or high degrees of professional nursing experience, the following sequence of four modeling parameters served to best discriminate the two groups: (a) ongoing exposure to multiple models, (b) an observer's degree of perceived-similarity to a model, (c) a model's rewardingness, and (d) exposure to models who confront patient-deaths without models' suffering negative after-effects.

The results of the discriminant analyses, as well as all of the preceding statistical analyses, will be discussed in the following final chapter.

CHAPTER IV

DISCUSSION

The purpose of this chapter is to explore and discuss the results obtained in the statistical treatment of the data. The order in which the results are to be discussed follows the same sequence of presentation as found in Chapter III: (a) DAS factor analysis; (b) NRI factor analysis and correlation analyses; (c) correlation analyses of the relation of age and loss to the dependent measures; (d) analyses of the statistical null hypotheses; (e) correlation analyses of the influence of social desirability on the dependent measures; (f) examinations of the intercorrelations of death anxiety measures and measures of state-trait anxiety; and (g) the RMQ discriminant analyses. Recommendations for future research will also be offered. Following this chapter, a summary of the project and its conclusions will be presented.

DAS Factor Analysis:

During the past decade, interest in the assessment of "death anxiety" has addressed the development of valid and reliable measures of death anxiety, needed clarification of the meaning of the term "death anxiety", and examination of death anxiety's multidimensionality. According to Nelson and Nelson (1975), ambiguities inherent in definitions of death anxiety and the assumption that death anxiety refers to a

unidimensional construct together serve to retard the growth of knowledge that might derive from a clearer understanding of the essential components of "death anxiety".

Until recent years, the assumption about the unitary nature of death anxiety has been accepted, and it is upon such an assumption that most of the published measures of death anxiety are founded. One such instrument that defines death anxiety in unidimensional terms is Templer's (1970) Death Anxiety Scale (DAS). Although the scale is empirically considered as one of the most reliable and valid measures of death anxiety, Templer has limited his definition of the construct to refer to anxiety which arises from contemplation of one's own eventual death. To consider death anxiety in such terms undoubtedly provides some information, but, as suggested by Nelson and Nelson (1975), it also risks the loss of additional information that might be gleaned only when the multidimensionality of death anxiety is taken into account. To enhance our understanding about death anxiety and so identify some of its component-dimensions, the statistical technique of factor analysis has increasingly been employed.

In the current project, a principal-axes factor analysis of Templer's (1970) DAS yielded five relatively independent factors. According to the results of the analysis, the factors were interpreted as representing different components of death anxiety not readily apparent in the DAS's traditionally unfactored index. In the order of their

relative prominence for the sample of nurses who participated in the project, the identified factors included: (1) Death Anxiety Denial, (2) General Death Anxiety, (3) Fearful Anticipation of Death, (4) Physical Death Fear, and (5) Fear of Catastrophic Death.

Other reports in the psychological literature attest to the increased use of factor analysis as a suitable method for inquiry into the multidimensionality of death anxiety.

Nelson and Nelson (1975) administered a 20-item "death questionnaire" to one group of 135 students and to another group of 1,279 male residents of the state of Virginia. A factor analysis of the questionnaire responses indicated the presence of four dimensions subsumed within the notion of death anxiety: (1) death avoidance, (2) death fear, (3) death denial, and (4) reluctance to interact with the dying. For their sample, the "death avoidance" factor was found to be the most prominent and correlated most highly with their questionnaire's unfactored score (i.e., r of .88).

Nevertheless, the three additional factors identified in their analysis were considered essential; it was hypothesized, however, that the factors' emergence was most probably masked or overshadowed by the more global unfactored questionnaire's single score.

Klug and Boss (1976) factor analyzed Dickstein's 30-item Death Concern Scale (DCS), a measure they believed to reflect more than the single dimension proposed by the scale's

developer. Dickstein (1972) had proposed that the DCS measured a conscious contemplation of the reality of death and a negative evaluation of that reality. Klug and Boss (1976) contended that, if Dickstein's scale assessed the two aspects of death concern, perhaps the two aspects were distinct phenomena. Testing their hypothesis with samples of 671 college students, Klug and Boss found, after factor analyzing the DCS, that in fact two relatively distinct, yet correlated factors comprised the scale and thus warranted separate scores instead of the unfactored single score usually provided by the DCS.

Employing Templer's DAS with samples of 320 college students, McMordie (1978) derived five factors from the measure of death anxiety by means of the principal-axes factoring method. Based upon his student samples, the five factors identified by McMordie included, in their order of relative prominence, (1) high death fear, (2) physical death fear, (3) time fear, (4) ugliness of death, and (5) fear of after-life.

In comparing the overall results of this project's factor analysis of the DAS with findings obtained in other factor analytic studies of death anxiety measures, similarities among the studies' general findings become apparent. It is clear that some of the most widely-used death anxiety scales are unequivocally multidimensional in nature and, indeed, involve more than an ill-defined negative

emotional response to contemplation of one's own death. The notion that a single scale score or that a single global definition can sufficiently provide clear information about a variety of components that comprise a single death anxiety measure appears to be increasingly less tenable as additional support for the multidimensional nature of death anxiety becomes more evident.

The five factors derived from the present DAS factor analysis resemble factors identified by McMordie (1978) in his analysis of the DAS and bear a resemblance to factors identified in Nelson and Nelson's (1975) analysis of their "death questionnaire". Both McMordie's analysis and the one conducted for the present investigation identified factors associated with fear that accompanies one's own physical dying and death. For the students in McMordie's study and the nurses in this project, fears related to life-threatening illness and pain assumed prominence. In addition, McMordie's factor of "high death fear" bore some resemblance in terms of its content to this project's factor of "General Death Anxiety". Nelson and Nelson's (1975) identification of "death denial" may be related to the first factor of this project, "Death Anxiety Denial", since both factors seem to reflect a self-protective defense against the impact of death.

While the three previously-cited factor analytic studies of death anxiety (i.e., Klug & Boss, 1976; McMordie, 1978; Nelson & Nelson, 1975) used samples which were comprised of

college students, who probably do not have much exposure to death, the present investigation differed in its assessment of death anxiety's various dimensions by sampling people who tend, as a group, to have more exposure to dying people and death than do others in the general population (see Kastenbaum, 1978). On the basis of this fact alone, one might intuitively suspect that the factor structure of the DAS for nurses would likely be different from that which is found for college students. In point of fact, this appears to be the case.

The most prominent factor for the present sample of nurses, which accounted for more than 40% of the common variance, was defined as "Death Anxiety Denial". Two explanations may be offered to elucidate this factor's prominence. First of all, in accord with proposals espoused by several learning theorists and by some of those concerned with the effects of repeated exposure to stimulation (e.g., Harrison, 1977; Rachman, 1972; Stang, 1975), it may be hypothesized that the initial exposure of a nurse to the deaths of patients may produce a sensitized response to the events, such that a nurse's awareness of death's impact is markedly heightened. However, as exposure to patient-deaths increases, a nurse's response to the deaths may progress from increased sensitization toward a diminution of responsiveness to patient-deaths. If such was the case, high "death anxiety denial" for a nurse who has had repeated exposure to patient-

deaths may actually reflect a virtual decline in one's relative level of anxiety about death.

Although the sensitization-desensitization hypothesis about nurses' responses to patient-deaths may be intuitively attractive, it seems unlikely that such a process would regularly occur. That is, certain extraneous variables, such as a nurse's interpersonal relationship with a patient, her identification with the present circumstances or experiences of a patient, or the diagnosis of a patient's illness, may each effectively interfere with the transition from increased responsiveness (i.e., sensitization) to death to decreased responsiveness (i.e., desensitization). Hence, a second alternative explanation seems warranted.

In many instances, the death of another person with whom one has had contact may be considered an "aversive" event. According to learning theories, when confronted with an aversive stimulus, an organism's initial response typically involves an attempt to escape from the unpleasant situation. However, escape may not always be a viable option for those people whose work brings them into contact with aversive stimuli, such as patient-deaths. According to Hay and Oken's (1972) account of intensive care nursing stresses, physical escape from such an environment is not always possible; consequently, nurses may then have to resort to gross denial of the death anxiety they may experience as a result of exposure to a patient's dying and eventual death. The

denial of anxiety about one's own eventual death, engendered in nurses through exposure to patient-deaths, thus serves as a protective device by means of which nurses may figuratively "escape" an aversive situation and continue working in a highly stressful environment.

Since several extraneous variables such as one's relationship with a patient, or any of the variables previously mentioned may be involved in nurses' responses to patient-deaths, such variables may effectively preclude an easy transition from sensitization to desensitization.

The second most prominent factor derived from this study's analysis of the DAS was defined as "General Death Anxiety". It would appear that the items loading highest on this factor refer to general concerns that people may have about their own deaths, such as worry about an afterlife, the fright associated with suffering a heart attack, and expressed uneasiness with the topic of death. According to Kastenbaum (1978), the general lay public often assumes that health professionals somehow have learned how to stoically confront death, have learned how to feel comfortable in the presence of death, and that physicians and nurses are perhaps immune to death's impact. Notwithstanding these common misconceptions, nurses and other health professionals do appear to report varying degrees of death anxiety in much the same way as do other people found in the general population.

The third factor, "Fearful Anticipation of Death", may

be said to reflect nurses' fears that death will, in any event, be untimely for them. Because of their employment in general hospitals, nurses in this project would most likely work with people who range in age from the very young to the elderly, and thus could potentially encounter deaths among very different age groups. Witnessing the death of a young child, adolescent, young adult, or a patient with whom a nurse closely identifies, tends to be particularly taxing for nurses (Vachon, et al., 1978) and perhaps may serve to increase a nurse's anxiety and awareness that death, in fact, often does come before one may expect it.

The final DAS factor to be considered from the present analysis is that of "Physical Death Fear". Although McMordie (1978) identified a similarly-defined factor in his analysis of the DAS, that factor in McMordie's study occupied a position of major prominence (i.e., his first factor). Since his samples were comprised of students, it may reasonably be understood that fears about death could most often include fears about the physical components of dying, suffering, and death, which people may reflexively associate with death. For nurses, on the other hand, fears relating to the physical aspects of death may be considered from a somewhat different perspective. For nurses, the physical act of dying and the outcome of death may not be shrouded in as much mystery as death has come to be perceived by the general public. Because of the greater likelihood of their acquaintance

with the physical manifestations of dying and death, and their familiarity with ways to medically manage the pain associated with dying, nurses may be less prone than others to express fears about those features of death with which they are somewhat familiar.

On the basis of the DAS analysis for this sample of nurses, it may be concluded that the major underlying property of Templer's scale is one of "Death Anxiety Denial". However, in addition to this factor, the present analysis identified four other aspects of personal death anxiety that merit consideration in future explorations of the multidimensional death anxiety construct.

NRI Factor Analysis and Correlation Analyses:

Developed from interviews conducted with five "nurse-models", the Nurse Reaction Inventory (NRI) represents in this project one attempt to delineate some of the ways in which hospital nurses behaviorally respond to patient-deaths. Although a total of 29 different response items comprised the inventory, a principal-axes factor analysis with varimax rotation was able to identify five distinct factors which define various response-styles for nurses who confront patient-deaths. In the order of their relative prominence for the present sample of nurses, the factors included (1) an "Avoidance" response, (2) an "Altruism" response, (3) an "Emotion Suppression" response, (4) a "Blaming" response, and

(5) a "Sympathy" response.

The "Avoidance" response, which accounted for the largest proportion of common variance, undoubtedly represents a major response strategy employed by nurses in this study who must confront patient-deaths. Not only does avoidance of dying patients reportedly take place, but so also does a general withdrawal (both active and passive in nature) from contact with others. According to reports in the nursing literature that concern the dual topic of dying and death, it has been amply documented that "avoidance" is by far the most commonly-used manner of responding to dying patients and patient-deaths among health professionals (Hurley, 1974/1975). Moreover, as Benoliel (1972) has indicated, such a manner of response may be considered legitimate by the nursing profession for nurses when they are confronted with an emotionally-taxing situation such as the death of a patient. In order for one to be productive as a nurse, one needs the emotional stamina required to complete a variety of assigned tasks; if a nurse's emotional strengths have been depleted through constant or frequent exposure to high-crisis situations (e.g., patient-deaths), one's productivity-level may not be at its peak and thus a nurse may require time away from patient-deaths in order to replenish her supply of emotional strength.

The second most prominent factor derived from analysis of the NRI was defined as an "Altruism" response. As is

obvious- in a perusal of the factor's contents, the items refer to nursing behaviors aimed at taking care of other people during a time of crisis. Furthermore, the kinds of behavior that load highest on the Altruism factor may be described as what one might expect a nurse to do at the time of death. By responding to a death with "other-directed" comforting behaviors, a nurse knowingly or otherwise fulfills the institutional/professional expectations of others that a nurse remain effective, composed, and in control of herself (Caughill, 1975; Quint, 1966). However, in attending to the apparent needs of others, a nurse's use of altruistic behaviors may serve to distract her attention away from whatever emotional impact a patient's death may actually have for her (Quint, 1967a). In this sense, the "Altruism" coping strategy bears some resemblance to the general notion of avoidance, although the manifest behaviors that comprise the "Altruism" response serve to quite legitimately and successfully mask the protective nature of such coping behaviors.

The third factor was defined as an "Emotion Suppression" response. According to the items that loaded highest on this factor, the adopted-coping strategy presumably includes an active attempt to continue working effectively despite the fact that a death has occurred. While the "Emotion Suppression" response may be viewed as encompassing elements of denial (e.g., "I continue working as I did before the

patient's death"), the overwhelming impression remains one of stymied emotional expression. Within the health professions, but particularly so in the field of nursing, the outpouring of one's emotional reactions following patient-deaths reportedly tends to be frowned upon by others and is considered a sign of professional "weakness" (Benoliel, 1974; Kastenbaum, 1978). Rather than risk the loss of social approval for what may professionally seem to be unwarranted or unprofessional behavior, it is hypothesized that nurses would seek to maintain self-control over their frank expressions of grief, at least while faced by their co-workers or other attending personnel. In so doing, a number of the traditional standards of nursing behavior (i.e., composure, competence, and control) may remain intact, perhaps at the expense of added emotional strain for a nurse.

An inherent dilemma appears to exist for nurses in regard to the ventilation of their personal feelings after a patient's death. On the one hand, contemporary textbooks of nursing practice (e.g., Brunner & Suddarth, 1975) urge nurses to share with others their feelings of helplessness and hopelessness when confronted with events over which they have very little control, as in the case of a patient's death. However, despite such textbook directives and suggestions, the theoretical and practical instructions provided for nurses alternatively reinforce traditional nursing standards of operation that emphasize the ability to objectively assess

a crisis situation and carry out appropriate nursing actions on the basis of that assessment. The frequent situational demands of nursing practice and strong negative sanctions against breaking with time-honored nursing traditions may together serve to inhibit nurses' overt emotional expressions following patient-deaths.

The fourth factor was defined as a "Blaming" response. Because of their adherence to the goals of cure and health-maintenance, health care systems and their professional employees often respond to a patient's death as if it signified personal failure on the part of physicians and nurses (Rabin & Rabin, 1970). One expectation prevalent among health professionals is that a patient's life can now be maintained for almost indefinite periods of time, owing in part to the tremendous technological advances of modern medicine. Operating from this perspective, when death occurs it serves to highlight the possibility that someone or something has failed to function in a desired way and that the death might well have been prevented had someone or something not been negligent in an assigned task.

The NRI's "Blaming" response strategy may be said to reflect one device by means of which a nurse can maintain some sense of professional integrity when confronted with patient-deaths, either by assuming partial responsibility for the death or by attributing responsibility for the death onto others' mistakes. According to Vachon, et al. (1976),

nurses' projections of blame onto physicians or the hospital system often serve to provide nurses with a "reason" for the death's unreasonable occurrence. If "blame" can be affixed to someone or something, then much of the confusion and uneasiness one experiences after a death may, for a time, be dissipated. If blame becomes self-imposed, such that a nurse comes to view herself as partially responsible for a patient's death, increased attention to other patients may function to compensate for one's previous negligent behavior and the guilt that may accompany such behavior.

The final NRI coping strategy, and the one which assumed the position of least prominence for nurses in this sample, was defined as a "Sympathy" response. The behaviors that comprise the "Sympathy" response include the overt expression of emotion (e.g., "I start crying"), as well as expressions of continued comforting of others (e.g., "I call or visit the patient's family", and "I send flowers or attend patient's funeral"). According to Benoliel (1977), personalized relations with a patient's family may be one way in which nurses respond to a patient's dying and death. As a means of coping with patient-deaths, the "Sympathy" response bears some resemblance to features of both the "Altruism" and "Blaming" response classes. As an altruistic type of response, "Sympathy" is essentially "other-directed", intent on making certain that the suffering of those most affected by a patient's death may be somewhat eased. As a blaming

type of response, sympathetic actions may serve to reinforce for a nurse the notion that she has now done for the patient and his/her family everything possible; such sympathetic actions thereby aid in decreasing the residual guilt a nurse may experience after a patient's death (Janes, & Weisz, 1970).

When the five coping strategies identified in this project are compared with those most frequently reported in the literature, marked similarities are apparent, with the possible exception of the "Sympathy" response found here. Although there is little evidence to suggest that previously-defined coping responses used by nurses have been identified by means of factor-analytic procedures, the results of the present analysis of the NRI serve as verification for the existence of several rationally-based nursing responses believed to emerge as a consequence of patient-deaths. In accord with Hurley's (1974/1975) observations, "Avoidance" tends to define the most general class of responses to patients' dying and deaths, with related response categories branching off from "Avoidance".

In sum, the five response strategies identified by a factor analysis of the NRI primarily reflect the first of Lazarus' (1966) two general classes of coping, namely, action tendencies. By employing any one or a combination of the NRI response strategies, a nurse may attempt to mitigate the anticipated threat to personal and professional self-esteem

which may be provoked by patient-deaths. However, according to Worden and Proctor (1976) and Vachon, et al. (1976), four of the five NRI response strategies (i.e., "Avoidance", "Altruism", "Emotion Suppression", and "Blaming") may be considered to have only short-lived effectiveness, in terms of reducing one's immediate anxiety level and allowing a nurse to efficiently continue working after a patient's death. As suggested by Worden and Proctor (1976) and others (e.g., Lazarus, 1977), cognitive maneuvers aimed at re-defining the threat imposed by death may result in more effective long-term coping responses when one is confronted with patient-deaths.

As the results of correlation analyses indicated (see Table 8), the five NRI coping responses were found to statistically significantly correlate with the five measures of death anxiety, as well as with measures of state anxiety and/or trait anxiety. Although statistically the relationships between the various coping responses and death anxiety measures were significant at the .05 level or better, the relative magnitude of many of the significant correlation coefficients was considered to be low (i.e., ranging from $\pm .139$ to $.394$). When examined in terms of their statistical power, those coefficients above $\pm .20$ attained power values greater than .80 (Cohen, 1969, p. 90); however, for those correlation coefficients ranging from the minimum value for significance ($\pm .139$) to less than $\pm .20$, the

corresponding power values ranged from .29 to approximately .50. On the basis of examinations of the statistical power of the significant correlations, the interpretation of the present set of correlations needs to be qualified. Despite the fact that this study obtained indications of statistically significant relationships between a set of five classes of coping responses and measures of death anxiety, state anxiety, and/or trait anxiety, only five of the twelve significant correlation coefficients (i.e., 41.66%) achieved a high level of statistical power (i.e., greater than .80 power values); for the remaining seven significant correlation coefficients, the power values were less than .50. So as to avoid the complication of low statistical power in future investigations, it is imperative that validity and reliability data be obtained for newly-developed psychometric measures. Specifically, an item analysis and the validity coefficients of a proposed index of coping responses are warranted to identify clearly those items that are most representative of the topics under consideration. In addition, such measures should be examined for their test-retest reliability, in order to ascertain this relative stability over time. By means of such procedures, it is believed that some of the limitations inherent in the present study may be avoided in future research efforts.

Five classes of behavioral coping responses reportedly used by nurses after patient-deaths were found to correlate at statistically significant levels with the measures of

personal death anxiety, a measure of situational anxiety experienced in relation to the death of another person, and a measure of general trait anxiety. The nature of the relationship of each coping response with the different anxiety measures may here be discussed.

As a nurse's measured level of Death Anxiety Denial increases, use of the Avoidance coping response correspondingly decreases (as indicated by the significant, although modest negative correlation coefficient between the two variables). This finding lends support to the notion that denial may function as a protective device for nurses. It may be stated here that a basic assumption in this project is that death anxiety varies in all people along a continuum from very low death anxiety to very high death anxiety. Within the limits of such a continuum, it cannot be said that a person has no death anxiety, since absolutes such as "no death anxiety" exist beyond the range of the continuum and existing scales used to measure death anxiety. According to Hay and Oken's (1972) observations, intensive care unit nurses often employ denial as one means of reducing their anxiety after repeated exposure to the loss of patients. It would seem, in the context of the present study, that those nurses who were able to manage their own anxiety about death through the use of denial were also less prone to respond to patient-deaths with avoidance maneuvers. Alternately nurses in this study having low levels of measured Death Anxiety

Denial may be expected to have used avoidance responses to a far greater extent, since a low degree of denial may reflect acknowledgement of one's own death anxiety and subsequently serve as a threat to one's professional sense of integrity (Garfield, 1977).

The relationship of measured levels of General Death Anxiety to Avoidance for nurses in the project is conceptually more complex. According to the significant negative correlation coefficient for these two variables, as a nurse's level of General Death Anxiety about her own death increases, her tendency to employ an Avoidance strategy in response to patient-deaths decreases. It would seem in this case that the Avoidance coping response does not provide an effective means of reducing one's personal anxiety about death. That is, when confronted with the awareness of one's own eventual death after witnessing the death of another person, a nurse's use of avoidance maneuvers may only serve to increase her own death anxiety; one way of controlling her anxiety level then is to refrain from withdrawing from the fearful situation and confront her anxiety by other means. Since Avoidance responses may function so as to increase one's awareness of death's presence, coping with that heightened awareness and its concomitant anxiety may require that a nurse attend more closely to the death event. Viewed from this perspective, a nurse whose General Death Anxiety is relatively high may find herself "paralyzed" in her attempts

to deal successfully with patient-deaths.

The Avoidance response was also found to significantly correlate with one's Fear of Catastrophic Death. Having confronted or witnessed the death of a patient in a hospital, a nurse's own fears of perhaps dying in a similar fashion may be heightened. In such an instance, some degree of vicarious identification with the patient's outcome, death, may result (Pattison, 1978) and thus prompt a nurse to withdraw from people or things that have come to be associated with moments of unbearable fear or uneasiness regarding one's own death.

A modest relationship was found to exist between the situational anxiety a nurse experiences in relation to a patient's death (as assessed by the State Anxiety scale) and her use of Avoidance maneuvers, such that when a nurse's exposure to another person's death initiates an anxious response in the nurse, avoidance may function to then reduce the anxiety associated with a patient's death.

As might be expected, a nurse's use of Avoidance coping responses was found to be directly related to her level of general anxiety (as assessed by the Trait Anxiety scale). For a nurse whose level of general anxiety tended to be relatively high, the likelihood that she would employ Avoidance maneuvers in response to patient-deaths to reduce that anxiety would similarly be relatively high.

The Altruism response was found to significantly correlate with only two of the seven measures of various

types of anxiety: First of all, the results suggested that as a nurse's level of General Death Anxiety increased, rather than openly avoiding the situation, which would apparently increase the general anxiety associated with one's own death, a nurse may instead increase the extent of her professional involvement or helping behaviors with others and thereby effect a reduction in her level of General Death Anxiety. Such Altruistic responses, it may be recalled, may function to distract a nurse's attention or awareness away from the anxiety-provoking situation of a patient's death (see Quint, 1967a) and so relieve a nurse of the General Death Anxiety she may otherwise experience about her own death.

Secondly, a modest inverse relationship was found to exist between the Altruism response and one's level of general anxiety (as measured by the Trait Anxiety scale). A tentative interpretation for this relationship may be that increased use of Altruistic response strategies after patient-deaths may be related to lower general anxiety. By actively engaging in familiar, standard nursing behaviors at a time of crisis (that are in large part altruistic in nature), a nurse may increase her sense of mastery over what appears to be an uncontrollable situation and consequently may experience little in the way of debilitating anxiety. In their investigation of the responses of coronary care nurses to patient-deaths, Price and Bergen (1977) concluded that active nursing management of crisis situations resulted in

a greater sense of control for nurses and lessened feelings of impotence. Such a conclusion may be applicable for nurses in this sample as well.

The Emotion Suppression response was found to significantly correlate at a modest level only with the measure of one's General Death Anxiety. According to the directionality of the correlation, increases in the suppression of emotional responses to patient-deaths may be associated with increases in a nurse's level of anxiety about her own death. Alternately, as a nurse's anxiety about her own death decreases, the need to restrict her emotional responsiveness following another person's death may similarly decrease. The rather well-established traditions in the nursing profession which reinforce the maintenance of one's self-control and composure on the job (Benoliel, 1974) may function as a kind of protective "buffer" for nurses. That is, by restraining one's emotional responsiveness in the face of a crisis situation (e.g., a patient's death), a nurse may also avoid confrontation with the anxiety associated with her own eventual death. If increased awareness of one's personal death anxiety were to become unmanageable, it is unlikely that a nurse could continue working effectively with others without being constantly reminded of the fact that she too will someday die. Thus, the "Emotion Suppression" response, like the "Altruism" response, can serve as a variant form of a more general class of avoidance maneuvers used by nurses

in response to patient-deaths.

In the present project, the Blaming response significantly correlated in an inverse fashion with the measure of Fearful Anticipation of Death. A tentative interpretation of the relationship might suggest that as a nurse's fearful anticipation of her own death increases, to the extent that she becomes overly-preoccupied with her own future, the need to use the Blaming response to cope with a patient's death may conversely decrease. Because a patient's death can serve to heighten a nurse's awareness and fear that she, like the patient, will also die, the nurse's expectation of having no appreciable control over death may preclude adoption of the Blaming coping response when a patient dies. If the Blaming strategy is used to cope with a patient's death, the result may be an increase in a nurse's fearful expectations about death.

A significant positive relationship was found between the Blaming response and the measure of a nurse's situational anxiety associated with another person's death. Because the death of a patient reportedly can represent a "failure" and, to a degree, negligence on the part of health professionals (Caughill, 1975; Rabin & Rabin, 1970), self- and/or other-directed blame for allowing the death to occur is not at all uncommon (Benoliel, 1977; Vachon, et al., 1978). It would follow, then, that in order to reduce her level of anxiety and uncertainty following the death of a patient, "a

nurse may likely employ the Blaming strategy to identify the "responsible" agent(s).

A significant positive correlation was also found between a nurse's level of general anxiety and use of the Blaming coping strategy. For reasons presumed to be similar to those that applied to the measure of State Anxiety, a high level of general anxiety in a nurse was correspondingly associated with increased use of the Blaming response. Able to affix the "blame" for a death onto either oneself or some other agent in the environment, and thus find a "reason" which accounts for the death, a nurse's level of general anxiety may consequently become more manageable.

The final significant correlation coefficient to be discussed concerns the positive relation found between use of the Sympathy response strategy and a nurse's level of Physical Death Fear. According to the obtained correlation, as a nurse's own fears about the physical aspects of her dying and death increase, the expression of sympathy in response to a patient's death may correspondingly increase. Expecting difficulty with one's own physical dying and death, after exposure in her work to the pain suffered by many patients who die, may serve to increase a nurse's appreciation of the difficulty experienced by those who survive a patient's death and prompt increased expressions of sympathy.

Relationships of Age and Loss to the Dependent Measures:

In order to explore whether two variables, age and a history of personal loss (abbreviated "loss"), were related to any of the dependent measures, correlation coefficients were computed. Feifel and Branscomb (1973) had reported that a person's age significantly influenced the dread one had of personal death. According to Brown's (1975) investigation, persons in her sample who had sustained a personal loss through the death of someone close to them correspondingly reported lower levels of death anxiety, as measured with the unfactored, standard version of the Templer DAS.

The results of the correlation analyses demonstrated that the variables of age and loss significantly influenced two measures of personal death anxiety and two of the behavioral coping responses. No statistically significant relationships were found to exist between either the age or loss variables and the measures of either State or Trait Anxiety.

Specifically, age inversely correlated at a statistically significant level with the measure of Death Anxiety Denial, and positively correlated at a statistically significant level with the Sympathy coping response. Since both of the correlation coefficients exceeded a value of $\pm .20$, the statistical power for each coefficient may be considered quite adequate in terms of Cohen's (1969) convention of .80 for desired power. The relationship between age and Death Anxiety Denial may be interpreted to indicate

that with increasing age, a nurse's level of Death Anxiety Denial may decrease (and vice versa). Empirical support for such an interpretation is provided by Gow and Williams' (1977) investigation, in which older nurses (i.e., nurses 40 years of age or older) reportedly had more positive reactions to caring for dying patients than did younger nurses; on the basis of their findings, Gow and Williams concluded that age was an important determinant of nurses' perceptions of and responses to death.

Age's relationship with the Sympathy coping response may be interpreted to indicate that with increasing age, there is a concomitant increase in nurses' use of sympathetic responses after patient-deaths. Theoretically, as one grows older, there is an increased probability that one will personally experience the death of someone close; a statistically significant correlation between age and loss of .23 in the present study attests to that hypothesized correspondence. For older nurses, expressions of sympathy following another person's death may more commonly occur, as these nurses in all likelihood have also survived the death of someone close and similarly were likely the recipients of sympathetic condolences from others. Therefore, when other people with whom these nurses have contact die, one characteristic way of responding would tend to include expressions of sympathy.

The variable of loss was found to positively correlate

with Fear of Catastrophic Death and the Altruism coping response. In contrast to the two significant correlations already discussed for the age variable, the statistical power values for the two significant loss-correlation coefficients failed to satisfy Cohen's (1969) convention of .80 for desired power; consequently, the relationships should be regarded in more tentative terms than the relationships reflecting high statistical power.

Loss' relationship with the measure of Fear of Catastrophic Death may be interpreted to indicate that as the degree to which one experiences a sense of personal loss increases, one's Fear of Catastrophic Death may similarly increase. The relationship may be more clearly defined upon examination of the extreme responses for the loss variable. For a nurse who has not experienced the death of someone close, her own Fear of Catastrophic Death may be comparatively low; however, for a nurse who has experienced a "profound sense of loss" from the death of someone close, her own Fear of Catastrophic Death may be comparatively high. Theoretically, such a conclusion seems tenable, particularly in light of evidence from the threat-perception literature which suggests that one's expectations are important determinants of the anticipated harm that a threat such as death can impose (Lazarus, 1966; Lazarus, et al., 1974).

Finally, loss was found to significantly correlate with the Altruism coping response. The relationship may

tentatively be interpreted to indicate that as the degree to which one experiences a personal loss increases, use of the Altruism coping response may similarly increase. When nurses who have a history of personal loss are further exposed to the deaths of patients with whom they have worked, the anxiety, uneasiness, and grief associated with the former losses may be revived (Caughill, 1975). To mitigate the impact of such feelings within themselves, nurses may behaviorally respond by comforting others who appear distressed and thereby regain a measure of control that affirms their ability to function effectively at a time of crisis.

On the basis of correlation analyses, evidence was obtained to support previous empirical conclusions that age and a history of personal loss both influence, to some degree, measures of personal death anxiety or death fear. In addition, both age and a history of personal loss were found to influence two of the five behavioral coping responses reportedly employed by nurses following patient-deaths, an observation not previously cited in the nursing literature.

Before concluding this section of the chapter, one observation derived from the above correlation analyses called into question one of the assumptions about Templer's (1970) measure of death anxiety. Whereas Templer, et al. (1971) indicated that the unfactored DAS showed no relationship to the variable of age, this project's factor-

analyzed version of the DAS found that age indeed was related to the factor defined as Death Anxiety Denial. Although the unfactored DAS may show little or no relation with the age variable, closer examination of the scale suggests otherwise.

Analyses of the Statistical Null Hypotheses:

According to reports in the nursing and psychological literatures, two independent variables were theoretically presumed to exert a significant influence upon nurses' responses to patient-deaths. It had been reported (Glaser & Strauss, 1964; Hay & Oken, 1972; Reynolds & Kalish, 1974) that nurses who experienced repeated contacts with patient-deaths tended to respond to such events with less anxiety than did nurses whose exposure to patient-deaths was appreciably less frequent. However, when such documented evidence was explored in relation to the effects of varied amounts of contact with patient-deaths on the levels of death anxiety and death concern of student nurses (Granich, 1976), no significant differences were found among student nurses who had either relatively low or relatively high amounts of patient-death-contacts. To ascertain whether and to what degree the amount of contact nurses have with patient-deaths impacts upon their measured levels of personal death anxiety, their situational anxiety associated with another person's death, general anxiety levels, and behavioral coping responses, an empirical exploration of the hypothesized

influence of contact with patient-deaths was conducted with professional hospital nurses.

The second variable believed to affect nurses' responses to patient-deaths had been reported to be one's overall degree of professional nursing experience. According to Gow and Williams (1977), nurses in their sample with high degrees of professional experience reportedly expressed less anxiety about work with dying patients than did their less-experienced colleagues. However, Howard (1974) discovered that, among nursing home employees, personnel who possessed a high degree of nursing experience tended to avoid work with dying patients. Granich's (1976) investigation of student nurses similarly considered that the degree of overall nursing experience would impact upon the students' reported-levels of death anxiety and death concern; however, according to her results, no significant differences were found in the measures of death anxiety or death concern for student nurses who had differing degrees of nursing experience. Since evidence regarding the "experience" variable has thus far yielded inconclusive results about its impact on responses to patient-deaths, further examination of the variable seemed warranted.

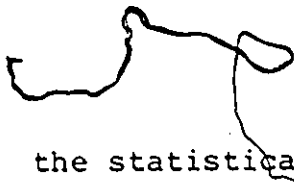
In addition to examining the relative influence of each independent variable, the possibility that the two variables might statistically interact and consequently affect nurses' responses to patient-deaths was also investigated.

According to the results of the analyses of variance and covariance, four theoretical expectations were realized; however, the remainder of the results indicated no statistically significant differences or interactions. Prior to discussing the statistical findings, several reasons which may account for the non-significant results need to be addressed.

Methodologically, three conditions existed in the project which could have interfered with the attainment of statistically significant results. According to analyses of the statistical power of the F tests for factorial designs with unequal cell frequencies, the power values of the project's non-significant findings in all instances were no greater than .57 and, in many cases, demonstrated considerably lower degrees of statistical power. The condition of low statistical power, and its consequent inability to precisely detect statistical significance, appears to have been influenced by at least two other conditions.

First, although the project's sample size was moderately large (i.e., 210 research participants), an even larger sample of approximately 256 nurses would be required in order to achieve the desired power value of .80 (Cohen, 1969, p. 377).

Secondly, psychometric weaknesses in the measuring instruments used for the project may have also detracted from



the statistical power of the F test. Although Templer's (1970) DAS is considered to be psychometrically among the most adequate measures of death anxiety currently available, the scale's validity has been questioned in terms of whether the DAS actually can assess the death anxiety construct (Kastenbaum & Costa, 1977; McMordie, 1978). In addition to the shortcomings of the DAS, neither reliability nor validity estimates exist for the five identified coping strategies derived from a factor analysis of the present study's NRI. Thus, it may be seen that three methodological conditions (i.e., low statistical power, an insufficient number of research participants, and psychometric weaknesses in several of the project's dependent measures) combined in this project to effectively limit the extent of statistically significant findings.

Theoretically, many of the non-significant findings of the project might have been anticipated to some extent. Based upon conflicting empirical results for the effect of one's degree of professional nursing experience on responses to patient-deaths (Gow & Williams, 1977; Howard, 1974) and Granich's (1976) observation that the degree of nursing experience exerted no significant influence on responses to death among student nurses, several of the present project's results would tend to confirm Granich's findings. Similarly, the unique influence of the "contact with patient-deaths" variable may have been contaminated, as a post-analysis

observation indicated a modest, although significant inverse relationship between the two independent variables ($r = -.16$, $p < .01$). That is, it was determined that nurses with high degrees of professional nursing experience tended, as a group, to have low amounts of contact with patient-deaths, whereas nurses with low degrees of professional nursing experience tended, as a group, to have high amounts of contact with patient-deaths.

Despite the cited methodological and theoretical shortcomings in the project, the analyses of variance and covariance revealed two significant main effects and two significant interaction effects, to which attention may now be addressed.

According to the first statistical null hypothesis, no significant differences in measured levels of death anxiety, state anxiety, trait anxiety, or behavioral coping responses were proposed for nurses who reported varied amounts of contact with patient-deaths. As the results of analyses of variance and covariance indicated, no statistically significant differences in five measures of personal death anxiety, a measure of state anxiety, a measure of trait anxiety, or four measures of behavioral coping responses were detected for nurses having varied amounts of contact with patient-deaths. However, an analysis of covariance did indicate that the amount of contact (i.e., low or high) a nurse had with patient-deaths significantly influenced the

extent to which a nurse would employ the Altruism coping strategy in response to patient-deaths. Specifically, it was found that nurses who tended to have high amounts of contact with patient-deaths reportedly employed altruistic coping behaviors significantly more often than nurses who tended to have low amounts of contact with patient-deaths. As Hay and Oken (1972) suggested, nurses who have frequent exposure to patient-deaths are often unable to physically withdraw from their nursing tasks. To circumvent the impact that repeated death-confrontations may have, nurses must adopt coping methods other than outright avoidance. According to Hay and Oken (1972), "denial" is one such response that nurses may select. For nurses in the present project who reported high amounts of contact with patient-deaths, it appeared as though the Altruism response was the preferred choice for coping with patient-deaths. By employing either denial or, as was the case for the present sample of nurses, altruistic behaviors, nurses may then continue to function effectively without suffering debilitating effects that could accrue from repeated contacts with patient-deaths.

According to the second statistical null hypothesis, no significant differences in measured levels of death anxiety, state anxiety, trait anxiety, or behavioral coping responses were proposed for nurses who reported varied degrees of professional nursing experience. As the results of analyses of variance and covariance indicated, no statistically

significant differences in four measures of personal death anxiety, a measure of state anxiety, a measure of trait anxiety, or five measures of behavioral coping response were detected for nurses possessing varied degrees of professional nursing experience. However, an analysis of covariance indicated that significant differences did exist between nurses having low experience and those having high experience on the measure of Death Anxiety Denial. Specifically, the results suggested that low-experience nurses in this sample tended to report a significantly greater degree of Death Anxiety Denial than did their more experienced colleagues, even when the effects of age were statistically controlled.

As shown by both Kastenbaum and Aisenberg (1972) and Quint and Strauss (1964), the training of nurses is, in large measure, concerned with insuring that nurses will be capable of competent performance in their professional nursing careers. Hence, in the training of nurses, a great deal of emphasis is placed on the nurse's ability to objectively assess and master situations as they arise, on her ability to remain composed and controlled when confronted with crises, and on her ability to function properly in accord with the ideals of her profession. Such concerns in nurses' training have been described as "one-sided" and unrealistic, such that a nurse may begin a professional career without the notion of death included in her job-related expectations. When confronted with patient-deaths in her work, a low-

experience nurse may engage in cognitive maneuvers in an effort to persuade herself that she can withstand the impact of death, that "it's happening to them", and that at least for a moment a nurse is somehow removed from the possibility that she too could die. By means of such "self-talk", a nurse may be able to successfully, albeit temporarily, convince herself that she is quite free of anxiety about her own eventual death.

Two significant interactions of the independent variables were found, one for the measure of Fearful Anticipation of Death and the second for the measure of State Anxiety, or that situational anxiety specifically associated with the death of another person.

According to the test results for simple main-effects, a significant difference in the measure of Fearful Anticipation of Death was found for high-experience nurses who reported having either low or high amounts of contact with patient-deaths. Inspection of the obtained mean values for the two high-experience nursing groups on this variable

(see Table 10 and Figure 2) revealed that the high-experience nurses who had a low amount of contact with patient-deaths tended to report significantly more fearful anticipation of death than high-experience nurses who had a high amount of contact with patient-deaths.

Theoretically, such a finding may be explained by drawing upon the observations of Glaser and Strauss (1965) in regard to "death expectations". When a nurse can expect with some certainty that a patient will die in the foreseeable future, such an anticipated death may prove to be anxiety-provoking for a nurse; however, "unanticipated deaths", those for which little or no warning signs are available, tend to have significantly more devastating effects on people than the "anticipated" deaths. For high-experience nurses who work in hospital areas where patient-deaths are relatively infrequent, those deaths that do occur may be classified within Glaser and Strauss' "unanticipated" group. Perhaps for high-experience nurses from low-death-rate nursing units, the occasional deaths of patients who have not been defined as "terminal" or dying serve to remind the more-experienced nurses that they too could die unexpectedly. Such high anticipatory fear may then account for the differences that obtain for high-experience nurses in this sample who reported varied amounts of contact with patient-deaths.

A significant interaction of the independent variables

was also demonstrated for the measure of State Anxiety. According to the test results for simple main-effects, two differences were indicated. First of all, low-experience nurses who reported varied amounts of contact with patient-deaths significantly differed in terms of their levels of situational anxiety associated with the death of another person. Inspection of the mean State Anxiety scores for the two groups of low-experience nurses indicated that those nurses having low amounts of contact with patient-deaths tended to report higher levels of State Anxiety than did their high-contact colleagues. The significant difference may be explained in terms of differing expectations about the incidence of patient-deaths (see Quint & Strauss, 1964) and/or in terms of an anxiety-extinction process that might take place. According to Rachman (1972), extinction is the common denominator in many therapeutic techniques aimed at anxiety-reduction; after repeated presentations of an anxiety-producing stimulus (in this case, patient-deaths), one's initial sensitivity to and anxiety about the stimulation gradually diminishes until the stimulus can no longer elicit an anxiety response. While such an explanation may be theoretically appealing, its practical application to the matter of responses to patient-deaths is only conjecture at this point.

The second difference found in regard to the measure of State Anxiety was that among nurses who reported low amounts

of contact with patient-deaths, the less-experienced nurses again reported higher levels of State Anxiety than their more-experienced colleagues. The reasons offered for the first-obtained difference for the measure of State Anxiety may similarly be applied to the second-obtained difference.

Relative Influence of Social Desirability:

In the present study, three dependent measures demonstrated statistically significant inverse relationships with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). According to Cohen's (1969) convention of .80 for desired power of correlation coefficients, two of the obtained partial correlation coefficients satisfactorily exceeded Cohen's criterion; the third statistically significant partial correlation coefficient (i.e., r of $-.17$) failed to reach the level of desired power and should therefore be interpreted in light of the power analysis.

A significant negative correlation coefficient was obtained for the relationship between the Death Anxiety Denial factor and the measure of social desirability, even after statistically controlling for the individual and combined effects of the age and loss variables. Although Templer (1970) indicated that the DAS bore no appreciable relationship to the response set of social desirability, the results of the present analysis indicate otherwise. Moreover, two other investigations have recently noted

significant inverse relationships between Templer's DAS and the Marlowe-Crowne scale. In a comparison study of several measures of death anxiety and their relations with measures of general anxiety and social desirability, Dickstein (1977-1978) found that, for a sample of 34 female college students, Templer's DAS (in unfactored form) was significantly correlated with the Marlowe-Crowne Social Desirability Scale (r of $-.42$, $p < .05$). McMordie's (1978) study of the psychometric properties of the DAS similarly discovered a significant negative correlation between Templer's DAS and the measure of social desirability (r of $-.21$, $p < .001$) in a sample of 320 college students. In the present study, only the Death Anxiety Denial factor was significantly related in an inverse manner with the measure of social desirability, with the remaining four death anxiety factors showing no such relationship. On the basis of a factor-analyzed version of the DAS for the present sample of nurses, it is hypothesized that the two variables loading highest on the factor may, in large measure, account for the relationship with the social desirability component (i.e., "I am not all afraid to die", and "The thought of death never bothers me").

A second significant negative correlation was found to exist between Spielberger, et al.'s (1970) Trait Anxiety measure and the measure of social desirability, even after the individual and combined effects of the age and loss

variables were statistically removed. As indicated by the authors of the STAI, it was not possible to develop a completely balanced Trait Anxiety scale from the original pool of test items (Spielberger, et al., 1970, p. 5), which may have accounted in part for the significant negative correlation obtained in this project. However, a theoretically more interesting and possible explanation for the relationship may be considered.

Repeated reference has been made to the training of nurses, in which a great deal of emphasis and stress is placed upon one's ability to successfully perform nursing duties in a responsible, competent manner; for a nurse to perform otherwise may be considered an indication of professional failure (Garfield, 1977; Quint, 1967a), accompanied by a lowered sense of professional self-esteem. In an effort to prevent the occurrence of such professional losses and thereby sustain the social approval of her colleagues, a nurse may respond to potentially anxious situations in a manner which has been prescribed by her training and which is reinforced by her social network of professional peers. Interestingly, Kendall, et al. (1976) have concluded that the Trait Anxiety scale may actually be a "dispositional measure of fear of failure or loss of self-esteem" (p. 406). Thus, for the present sample of nurses, the significant negative correlation obtained between the measure of Trait Anxiety and the measure of social

desirability may reflect a phenomenon applicable to those people whose work demands allegiance to common group goals and professional ideals.

Finally, the Avoidance coping response was found to negatively correlate with the measure of social desirability, even after the individual and combined effects of the age and loss variables were statistically removed. Although the correlation coefficient was of a low magnitude, the directionality of the association suggests that the use of clearly avoidant behaviors to cope with patient-deaths may be considered less socially-desirable than other, somewhat more subtle nursing behaviors that indirectly serve a similar purpose.

Intercorrelations of Death Anxiety and State-Trait Anxiety:

The correlations to be discussed in this section were those found to exist between the five measures of personal death anxiety, the measure of state anxiety (which served as an index of the situational anxiety a nurse reportedly experiences in relation to the death of another person), and the measure of trait anxiety. Once again, only those correlation coefficients which exceeded the level of $\pm .20$ were considered to possess an acceptable degree of statistical power, according to Cohen's (1969) convention of .80 for desired power; those correlation coefficients lower in magnitude than that of $\pm .20$ (and thus of lower

statistical power) should be interpreted as conditionally reflecting relationships that may exist in this project.

Three measures of personal death anxiety were found to negatively correlate at statistically significant levels with both the State and Trait Anxiety measures. For a group of 60 women who participated in his study, Lucas (1974) obtained significant correlations between the State and Trait Anxiety measures and the standard, unfactored version of Templer's DAS; however, the directionality of the correlation coefficients was in each case positive (r of .49 for the association between the DAS and State Anxiety scale, and r of .50 for the association between the DAS and Trait Anxiety scale). Since Lucas' (1974) results are indicative of a fair degree of similarity between a measure of death anxiety and two measures of general anxiety, there does not appear to be much evidence that the three measures reflect essentially different kinds of anxiety; that is, the unfactored DAS may have poor discriminant validity, as suggested by Kastenbaum and Costa (1977). However, according to the significant negative correlations in this project among the factor-analyzed measures of personal death anxiety, the measure of other-directed "death anxiety" (i.e., State Anxiety) and the measure of general anxiety (i.e., Trait Anxiety), it may be that the measures of personal death anxiety do reflect dimensions of death-related anxiety that essentially differ from dimensions of general anxiety, as

assessed by conventional anxiety measures. This hypothesis is only speculation and would require further investigation.

In the present project, the measures of State and Trait Anxiety significantly correlated with one another (r of .368). This finding compares favorably with correlations reported by Spielberger, et al. (1970). For females, the correlation coefficients for the two scales under differentially stressful conditions generally range from .11 to .53, with a median correlation coefficient of .30.

Lastly, a modest, although significant correlation coefficient was obtained for the relationship between the measure of General Death Anxiety and the measure of Fearful Anticipation of Death (r of .139). According to this finding, two of the purportedly orthogonal factors derived from the DAS demonstrated a significant degree of association. However, examination of the statistical power for a correlation coefficient of this magnitude reveals a power value of .29 (Cohen, 1969, p. 90). Although statistically significant, such a correlation coefficient for the two factors may be regarded as spurious and unlikely to be found when greater statistical precision is employed.

RMQ Discriminant Analyses:

The results obtained in stepwise discriminant analyses of the Role-Model Questionnaire (RMQ) lend empirical support to the theoretical expectation that Bandura's (1969, 1971b)

conceptions of social modeling occupy a position of central importance for nurses, particularly in regard to the ways in which nurses learn how to confront patient-deaths. It can be argued, on the basis of the nurses' self-reports, that certain of the reported modeling parameters were differentially influential for nurses who varied in terms of their amounts of contact with patient-deaths, as well as for nurses who varied in terms of their degrees of professional nursing experience.

For nurses who differed ~~with~~ respect to having either low- or high-contact with patient-deaths, a combination of ten parameters of social modeling significantly discriminated between the two groups. Of the ten discriminating variables, nurses who had high-contact with patient-deaths reported significantly more extensive use of eight such variables, while the low- and high-contact nursing groups did not appreciably differ in the extent of their use of two discriminating variables.

The rewardingness of a model (i.e., RMQ7) was found to be the most significantly influential parameter for nurses who had a high amount of contact with patient-deaths. According to findings from several investigations in the area of social modeling (e.g., Bandura & Huston, 1961; Bandura, et al., 1963b; Grusec & Mischel, 1966), "rewarding" models tend to positively influence the degree to which modeling of their behavior occurs. Nadelson (1975) observed that rather

strong, mutually supportive relationships tend to exist among nurses whose work brings them frequent contacts with patient-deaths; if one nurse may experience difficulty working with a patient, physician, or technical aspects of her work, other nurses reportedly become available to assist in completing the difficult task. As a "new" nurse is introduced into this atmosphere of mutual support and camaraderie (which may reflect an "altruistic" strategy for coping with patient-deaths), the rewardingness and helpfulness of her professional peers tends to be highlighted and consequently provides a viable atmosphere for the "new" nurse to engage in observational learning (one of the principal teaching methods used in nurses' training programs).

In addition to the singular significance of a model's rewardingness for nurses who have high-contact with patient-deaths, the characteristics of a model's prestige level and high degree of professional competence were both prominent in terms of their discriminating power. Such an observation provides further support for previous research findings which demonstrated the influence of each of these other model characteristics (e.g., Baron, 1970; Miller & Dollard, 1941).

For nurses having high-contact with patient-deaths, three "observer" characteristics were found to significantly influence the extent to which modeling of others occurred:

(a) observers who tended to readily conform to established patterns of behavior, (b) observers who had received reinforcement in the past for modeling the behavior of nurse-models, and (c) observers who perceived a degree of similarity between their own nursing behaviors and those of a model. Evidence attesting to the importance of certain observer qualities in the present project serves to support the findings of prior investigations in the area of observational learning (see Bandura & Walters, 1963; Hornstein, 1970; Miller & Dollard, 1941).

As suggested in the results of the discriminant analysis, it may be concluded that nurses who have high-contact with patient-deaths may be distinguished from nurses who have low-contact with patient-deaths on the basis of a combination of ten interacting modeling parameters. Given exposure to models who possess certain characteristics (cited above), as well as exposure to models who are able to provide effective nursing care to other patients subsequent to the death of a patient (see Bandura, 1971b, 1977b), a group of observing nurses, who all possess certain salient characteristics (cited above), may then be able to confront patient-deaths in a manner similar to what they had learned from observing the performances of their models.

For nurses who differed with respect to having either a low or high degree of professional nursing experience, a combination of four modeling parameters were selected in the

second analysis which significantly discriminated between the two groups.

Of the four discriminating RMQ variables identified in the second analysis, ongoing exposure to multiple models (i.e., RMQ2) was found to be the most significantly influential modeling parameter used to distinguish low-experience nurses from nurses who had a high degree of professional nursing experience. Inspection of the RMQ2 mean values for the low- and high-experience groups indicated that low-experience nurses assigned a higher degree of importance to exposure to multiple models than did high-experience nurses. This finding is understandable in light of Bandura and Walters' (1963) observation that members of relatively homogeneous groups, such as a group of high-experience nurses, may tend to discern such high degrees of similarity among one another that it becomes difficult to separate from one's peers those nurses who may be considered "models". The relative importance attributed by the group of low-experience nurses to having multiple modeling influences serves to confirm Kazdin's (1974a) observation that exposure to multiple models is more effective in promoting observational learning than is exposure to a single model.

A second variable found to distinguish low-experience nurses from high-experience nurses concerned the extent to which low-experience nurses reported exposure to models who are able to provide effective nursing care to other patients

subsequent to the death of a patient. To the extent that many professional nurses with whom a low-experience nurse has contact may be perceived as "models", it would appear that low-experience nurses attend most closely to those "models" who personify what a low-experience nurse has been taught about nurses in her training (Brunner & Suddarth, 1975; Gow & Williams, 1977).

As was found in the first discriminant analysis, the parameters of a model's rewardingness and perceived-similarity in nursing behaviors on the part of the observer with a model were influential discriminators for nurses who reported varied degrees of professional nursing experience.

According to the responses of the present sample of nurses to the RMQ items, it would seem that modeling is indeed of importance for nurses who must, as part of their work, learn how to confront the deaths of patients. However, a question that remains to be answered is whether a vicarious extinction process of nurses' anxiety responses in relation to patient-deaths does occur. Perhaps future research efforts which espouse Bandura's social learning theory of modeling may be able to explore that issue in depth.

Recommendations for Future Research:

According to Kastenbaum and Costa (1977) and Vachon, et al. (1978), theoretical and/or applied research concerning the psychological impact of death on health professionals has

only recently made its appearance in the psychological literature. The majority of research reports are, therefore, exploratory in nature and open to continued investigations. In accord with the findings of the present project, several recommendations and suggestions are offered for those who wish to pursue the topic discussed in this report.

A number of practical problems need to be weighed before one chooses to investigate the psychological responses of nurses to patient-deaths. In the present project, a sizeable amount of time was spent securing the cooperation and participation of several community hospitals. Once permission was granted to conduct the investigation in three such hospitals, further practical problems arose in terms of enlisting the cooperation of a sample of research participants. Other practical factors that require consideration in such an investigation include the amounts of time and money that are expended in the collection of data (e.g., periodic visits to hospitals to distribute and collect test booklets, duplication costs for test materials, etc.)

In the present project, several methodological shortcomings were encountered which may well have influenced the results of the data analyses. To circumvent such problems in the future, an increased sample size may aid in improving the level of statistical power. Furthermore, use of psychometrically-improved instruments which possess acceptable standards of reliability and validity is

recommended, since clear evidence for the reliability and validity of several of this project's dependent measures was lacking or insufficient.

Having considered some of the practical and methodological issues, several research areas invite further inquiry.

First, the continued use of factor-analyzed measures of death anxiety seems warranted in order to more cogently define what is meant by "death anxiety" and to delineate its underlying dimensions. By means of factor analysis, greater comparisons among diverse measures of death anxiety may be conducted in an effort to explore whether different measures reflect essentially different dimensions of the construct.

Second, this project found that the age variable was significantly related to the measure of Death Anxiety Denial, the most prominent factor derived from Templer's (1970) DAS. Further inquiry into the possible influence of age on measures of death anxiety is thus indicated.

Third, since evidence appears to be accumulating that attests to the influence of social desirability on measures of death anxiety (such as Templer's scale), the construction of death anxiety scales that are relatively free of this component would be preferred. Until the time when such scales may be constructed, Kastenbaum and Costa's (1977) recommendation should be observed, that measures of social desirability be routinely included in studies of death

anxiety.

Fourth, to verify or refute this project's identification of certain behavioral coping strategies used by nurses in response to patient-deaths, further exploratory work in this area is suggested.

Fifth, although this project determined what may be considered several behavioral correlates of death anxiety, many of the observed relationships were of low magnitude and equally low statistical power. It remains to be seen whether the behavioral correlates found in this project can be identified in future research in which greater statistical precision is apparent.

Sixth, the observed significant inverse relationship found for the measures of Trait Anxiety and social desirability in the present sample of nurses demands further investigation. It remains to be seen whether those employed in the helping professions characteristically respond to anxiety in what may be considered a socially-desirable or socially-undesirable manner.

Seventh, inconclusive evidence remains for the hypothesized relative significance nurses' amounts of contact with patient-deaths and/or degrees of professional nursing experience have on their responses to patient-deaths. Further inquiry using restricted samples of nurses with extreme amounts of contact with patient-deaths and extreme degrees of professional nursing experience (i.e., low and

high in both cases) may serve to more clearly demonstrate whether significant differences actually exist for such groups in terms of their responses to patient-deaths.

Eighth, consideration of other independent variables, such as the degree of a nurse's relationship with a patient, may be investigated to ascertain what effect the relationship variable has on nurses' responses to patient-deaths. The literature which concerns grief responses (e.g., Parkes, 1975) has addressed the relationship variable's significance in regard to family members' responses to death, although there is a dearth of such explorations among health-care professionals.

Ninth, for a more accurate indication of "amount of contact with death" than was used in this project, two alternative indicators may be considered. First of all, an investigator may secure hospital records that identify the specific rates of patient-deaths among different hospital nursing units, rather than having to rely solely on the biased recall of research participants. Secondly, one may want the research participants to indicate the relative percentage of patients who die on their units, thereby avoiding some of the inherent biases in the subjective recollection of absolute numbers of patients.

Finally, although this project identified a number of significant modeling parameters for nurses who confront patient-deaths, it remains to be seen whether such parameters

can be identified in future studies that more validly and reliably assess the impact of social modeling. In addition, future investigations of this type would do well to study the overt behaviors of models and observers rather than, as was the case in this study, relying completely on the selective recall of people to report past experiences with social modeling.

SUMMARY AND CONCLUSIONS

Adopting Bandura's (1969, 1977b) social learning conceptualizations of modeling as a theoretical infrastructure, the present project explored hospital nurses' psychological and behavioral responses to confrontations with patient-deaths. Specifically, the project investigated the impact of two independent variables, (a) the amount of contact a nurse had with patient-deaths and (b) the degree of professional nursing experience one had, on five measures of nurses' personal death anxiety, on a measure of anxiety associated with another person's death, on a measure of general trait anxiety, and on the use of five coping strategies which may be employed in response to patient-deaths. In addition, the project sought to (a) determine the extent to which social modeling takes place among hospital nurses and to (b) determine which modeling parameters were of most importance for the sample of 210 female nurses.

According to the results of the study, nurses who had high-contact with patient-deaths used an altruistic class of coping responses following patient-deaths significantly more often than low-contact nurses. Secondly, low-experience nurses reported significantly higher degrees of anxiety denial in regard to their own deaths than high-experience nurses. Thirdly, significant interaction effects of the two

independent variables significantly influenced nurses' own levels of fearful anticipation of death and the situational anxiety a nurse reported in relation to another person's death. Expectations regarding the impact of the independent variables on the other dependent measures were not realized. It was concluded that low statistical power, an insufficient number of research participants, and psychometric inadequacies in the measuring instruments all served to interfere with the potential achievement of a greater number of statistically significant results.

Apart from the test results of the statistical hypotheses, significant correlations were found among several of the dependent measures, as were relationships with the variables of age, a history of personal loss, and the social desirability component. Tentative behavioral correlates of death anxiety were also discovered. Finally, it was concluded that social modeling appears to occur among hospital nurses and that combinations of selected modeling parameters were differentially of importance to nurses who varied with respect to their amounts of contact with patient-deaths and with respect to their degrees of professional nursing experience.

Recommendations were made that future research concerned with nurses' responses to patient-deaths attempt to build a greater degree of statistical precision into their designs by using both sufficiently large samples of participants and

instruments possessing sound psychometric qualities. Continued use of factor analysis for measures of death anxiety was emphasized, as was application of the same statistical technique to explore coping strategies used by nurses. Finally, suggestions were made for future research to consider, in addition to the independent variables used in this project, other variables which potentially also influence nurses' responses to patient-deaths.

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APPENDIX A

Materials and Instruments
Used for Data Collection

Code No. XXX

In nursing journals a great deal of attention is focused on the deaths of patients in hospitals. To increase our understanding of how these deaths affect nurses, it is important to study large numbers of nurses who have experienced the deaths of patients with whom they have had contact. I will be grateful for your assistance and input in one such study that I am conducting for my doctoral thesis. My study has to do with "role-models" and how nurses use these people to learn how to confront patient-deaths,

In learning how to confront and cope with patient-deaths, as in learning many other things, we tend to watch how others respond to deaths. These "others" may be supervisors, friends, co-workers, or other kinds of "role-models". When observing "role-models", we watch what they do, how they do it, what approaches they use, etc. From our observations we can learn how we might respond in similar situations, and possibly then be a "role-model" for someone else.

There are several forms I would like you to complete. A number of them were developed from interviews I conducted with some of your peers at this and two other Ottawa hospitals. They can all be completed in less than an hour. Please do not discuss your answers with other nurses. I will return to the hospital in one week to collect all completed forms.

All of your responses will be kept strictly confidential, will not affect your job security, and will be used only by me in tabulating the results. Enclosed is a special answer sheet that is coded with a number (see upper right-hand corner of this letter), in lieu of having to use your name.

For your participation in this study, I will gladly provide you with its results. If you would like such information, please fill in the "Results Request Form" (found inside the small white envelope) and mail it to me after you have completed the questionnaires. In that way, your questionnaire responses will remain confidential and anonymous.

Thank you very much for your time, assistance, and cooperation in this project!

Thomas O. Martin
University of Ottawa

DIRECTIONS FOR USING YOUR ANSWER SHEET: The green/white answer sheet must be used for recording your responses (with the exception of Questions A-F on the following page). The ANSWER spaces are numbered across, ranging from 0 to 9, and correspond to the selection of responses on the questionnaires. Use the enclosed pencil to completely blacken in the answer space you choose.

EXAMPLE: If your answer to a question is (4) - ALMOST ALWAYS, record it as follows:

(0) (1) (2) (3) ☒ (5) (6) (7) (8) (9)



NE RIEN INSCRIRE A GAUCHE DE CETTE LIGNE. UTILISER UN CRAYON A MINE 'HB'.

MAKE NO MARKS TO THE LEFT OF THIS LINE. USE AN 'HB' LEAD PENCIL.

RESULTS REQUEST FORM

YES, I am interest in receiving a summary of the results of Mr. Martin's study on nurses' experiences with patient-deaths.

He may send the summary to me in care of:

Name: _____

ST. ADDRESS: _____

CITY & PROV.: _____

POSTAL CODE: _____

I agree that I will not be hearing from Mr. Martin until the completion of his study.

BIOGRAPHICAL DATA SHEET

DIRECTIONS: Please fill in the blanks (A-F) below with the requested information.

- A. What is your age? _____
- B. How long have you actively worked as a nurse? _____
- C. What is your occupational level (e.g., staff nurse, team leader, head nurse, coordinator)? _____
- D. If married, what is your spouse's occupation? _____
- E. On the average how many deaths occur in a 6-month period on your unit (give number)? _____
- F. In the last 6 months, how many patients have you had contact with who have died (give number)? _____

DIRECTIONS: For the multiple-choice items below (items 1-6), choose the number that corresponds to your answer. Blacken that number in the appropriate space of the answer sheet.

1. Sex: 0-Male
1-Female
2. Level of nursing education: 0-Diploma
1-Bachelor's degree
2-Master's degree
3-Doctorate
3. Marital status: 0-Single, never married
1-Married
2-Separated
3-Divorced
4-Widowed
4. Have you had courses or received training in the area of death and dying? 0-Yes
1-No
5. To what degree have you experienced personal loss from the death of someone especially close to you? 0-Never lost someone especially close to me through death
1-Very little sense of loss
2-Mild sense of loss

- 3-Moderate sense of loss
 4-Severe sense of loss
 5-Profound sense of loss
6. On what type of unit do you work in this hospital?
- 0-OB/GYN/Newborn nursery
 1-Pediatrics
 2-Geriatrics
 3-Psychiatric
 4-Emergency
 5-ICU/CCU/Recovery
 6-Medical
 7-Surgical

DAS

DIRECTIONS: Listed below are a number of statements that cover items 7-21 on your answer sheet. If you feel that the statement is TRUE for you, blacken the 0 space on the answer sheet; if you feel the statement is FALSE for you, blacken the 1 space on the answer sheet. There are no right or wrong answers. Answer the statements as each one pertains to you personally.

EXAMPLE: "I enjoy reading novels." If TRUE, mark you answer as: ☒ (1)
 If FALSE, mark you answer as: ☐ (0)

7. I am very much afraid to die. 0-true
 1-false
8. The thought of death seldom enters my mind. 0-true
 1-false
9. It doesn't make me nervous when people talk about death. 0-true
 1-false
10. I dread to think about having to have an operation. 0-true
 1-false
11. I am not at all afraid to die. 0-true
 1-false
12. I am not particularly afraid of getting cancer. 0-true
 1-false
13. The thought of death never bothers me. 0-true
 1-false
14. I am often distressed by the way time flies so very rapidly. 0-true
 1-false

- | | |
|---|-------------------|
| 15. I fear dying a painful death. | 0-true
1-false |
| 16. The subject of life after death troubles me greatly. | 0-true
1-false |
| 17. I am really scared of having a heart attack. | 0-true
1-false |
| 18. I often think about how short life really is. | 0-true
1-false |
| 19. I shudder when I hear people talking about a World War III. | 0-true
1-false |
| 20. The sight of a dead body is horrifying to me. | 0-true
1-false |
| 21. I feel that the future holds nothing for me to fear. | 0-true
1-false |

PERSONAL REACTION INVENTORY

DIRECTIONS: Listed below are a number of statements that cover items 22-54 on your answer sheet. If you feel the statement is TRUE for you, blacken the 0 space on the answer sheet; if you feel the statement is false for you, blacken the 1 space on the answer sheet. There are no right or wrong answers.

EXAMPLE: "I look forward to the summer". If TRUE, mark your answer as: ☒ (1)
If FALSE, mark your answer as: (0) ☒

- | | |
|---|-------------------|
| 22. Before voting, I thoroughly investigate the qualifications of all the candidates. | 0-true
1-false |
| 23. I never hesitate to go out of my way to help someone in trouble. | 0-true
1-false |
| 24. It is sometimes hard for me to go on with my work if I am not encouraged. | 0-true
1-false |
| 25. I have never intensely disliked anyone. | 0-true
1-false |
| 26. On occasion I have had doubts about my ability to succeed in life. | 0-true
1-false |
| 27. I sometimes feel resentful when I don't get my way. | 0-true
1-false |

28. I am always careful about my manner of dress. 0-true
1-false
29. My table manners at home are as good as when I eat out in a restaurant. 0-true
1-false
30. If I could get into a movie without paying and be sure I was not seen, I would probably do it. 0-true
1-false
31. On a few occasions, I have given up doing something because I thought too little of my ability. 0-true
1-false
32. I like to gossip at times. 0-true
1-false
33. There have been times when I felt like rebelling against people in authority even though I knew they were right. 0-true
1-false
34. No matter who I'm talking to, I'm always a good listener. 0-true
1-false
35. I can remember "playing sick" to get out of something. 0-true
1-false
36. There have been occasions when I took advantage of someone. 0-true
1-false
37. I'm always willing to admit it when I make a mistake. 0-true
1-false
38. I always try to practice what I preach. 0-true
1-false
39. I don't find it particularly difficult to get along with loud mouthed, obnoxious people. 0-true
1-false
40. I sometimes try to get even rather than forgive and forget. 0-true
1-false
41. When I don't know something I don't at all mind admitting it. 0-true
1-false
42. I am always courteous, even to people who are disagreeable. 0-true
1-false
43. At times I have really insisted on having things my own way. 0-true
1-false
44. There have been occasions when I felt like smashing things. 0-true
1-false

45. I would never think of letting someone else be punished for my wrongdoings. 0-true
1-false
46. I never resent being asked to return a favor. 0-true
1-false
47. I have never been irked when people expressed ideas very different from my own. 0-true
1-false
48. I never make a long trip without checking the safety of my car. 0-true
1-false
49. There have been times when I was quite jealous of the good fortune of others. 0-true
1-false
50. I have almost never felt the urge to tell someone off. 0-true
1-false
51. I am sometimes irritated by people who ask favors of me. 0-true
1-false
52. I have never felt that I was punished without cause. 0-true
1-false
53. I sometimes think when people have a misfortune they only get what they deserved. 0-true
1-false
54. I have never deliberately said something that hurt someone's feelings. 0-true
1-false

SELF-EVALUATION QUESTIONNAIRE

(Developed by C.D. Spielberger, R.L. Gorsuch & R. Lushene)

STAI FORM X-1

DIRECTIONS: A number of statements which people use to describe themselves are given below. They cover items 55-74 on your answer sheet. Read each statement and then blacken on your answer sheet the appropriate number to indicate how you feel following the death of a patient. Your alternatives are: 0-NOT AT ALL, 1-SOMEWHAT, 2-MODERATELY SO, or 3-VERY MUCH SO. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to describe your feelings best.

55. I feel calm. 0-not at all
1-somewhat
2-moderately so
3-very much so
56. I feel secure. 0-not at all
1-somewhat
2-moderately so
3-very much so

57. I am tense.
0-not at all
1-somewhat
2-moderately so
3-very much so
58. I am regretful.
0-not at all
1-somewhat
2-moderately so
3-very much so
59. I feel at ease.
0-not at all
1-somewhat
2-moderately so
3-very much so
60. I feel upset.
0-not at all
1-somewhat
2-moderately so
3-very much so
61. I am presently worrying over possible misfortunes.
0-not at all
1-somewhat
2-moderately so
3-very much so
62. I feel rested.
0-not at all
1-somewhat
2-moderately so
3-very much so
63. I feel anxious.
0-not at all
1-somewhat
2-moderately so
3-very much so
64. I feel comfortable.
0-not at all
1-somewhat
2-moderately so
3-very much so
65. I feel self-confident.
0-not at all
1-somewhat
2-moderately so
3-very much so
66. I feel nervous.
0-not at all
1-somewhat
2-moderately so
3-very much so
67. I am jittery.
0-not at all
1-somewhat
2-moderately so
3-very much so

68. I feel "high strung".
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so
69. I am relaxed.
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so
70. I feel content.
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so
71. I am worried.
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so
72. I feel over-excited and
 "rattled".
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so
73. I feel joyful.
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so
74. I feel pleasant.
 0-not at all
 1-somewhat
 2-moderately so
 3-very much so

SELF-EVALUATION QUESTIONNAIRE

STAI FORM X-2

DIRECTIONS: A number of statements which people have used to describe themselves are given below. They cover items 74-94 on your answer sheet. Read each statement and then blacken on your answer sheet the appropriate number to indicate how you generally feel. Your alternatives are: 0-ALMOST NEVER, 1-SOMETIMES, 2-OFTEN, or 3-ALMOST ALWAYS. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

75. I feel pleasant.
 0-almost never
 1-sometimes
 2-often
 3-almost always

76. I tire quickly. 0-almost never
1-sometimes
2-often
3-almost always
77. I feel like crying. 0-almost never
1-sometimes
2-often
3-almost always
78. I wish I could be as happy
as others seem to be. 0-almost never
1-sometimes
2-often
3-almost always
79. I am losing out on things
because I can't make up my
mind soon enough. 0-almost never
1-sometimes
2-often
3-almost always
80. I feel rested. 0-almost never
1-sometimes
2-often
3-almost always
81. I am "calm", cool, and
collected". 0-almost never
1-sometimes
2-often
3-almost always
82. I feel that difficulties are
piling up so that I cannot
overcome them. 0-almost never.
1-sometimes
2-often
3-almost always
83. I worry too much over some-
thing that really doesn't
matter. 0-almost never
1-sometimes
2-often
3-almost always
84. I am happy. 0-almost never
1-sometimes
2-often
3-almost always
85. I am inclined to take things
hard. 0-almost never
1-sometimes
2-often
3-almost always
86. I lack self-confidence. 0-almost never
1-sometimes
2-often
3-almost always

87. I feel secure. 0-almost never
 1-sometimes
 2-often
 3-almost always
88. I try to avoid facing a 0-almost never
 crisis or difficulty. 1-sometimes
 2-often
 3-almost always
89. I feel blue. 0-almost never
 1-sometimes
 2-often
 3-almost always
90. I am content. 0-almost never
 1-sometimes
 2-often
 3-almost always
91. Some unimportant thought runs 0-almost never
 through my mind and bothers 1-sometimes
 me. 2-often
 3-almost always
92. I take disappointments so 0-almost never
 keenly that I can't put them 1-sometimes
 out of my mind. 2-often
 3-almost always
93. I am a steady person. 0-almost never
 1-sometimes
 2-often
 3-almost always
94. I get in a state of tension 0-almost never
 or turmoil as I think over 1-sometimes
 my recent concerns and 2-often
 interests. 3-almost always

ROLE-MODEL QUESTIONNAIRE

As mentioned earlier, an important way to learn involves watching "role-models" perform. A "role-model" for a nurse might be someone whose nursing care you admire, who communicates well with patients, families, and staff, and who you think is able to cope well with stressful situations; in short, a person who you want to be more like.

DIRECTIONS: Listed below are a number of questions about you and your "role-models". The questions cover items 95-108 on your answer sheet. Read each question and then select one of the possible alternatives (0 to 4) for your answer. Blacken

the number of your response on the answer sheet, as you have on the other forms.

95. How many "role-models" do you suppose you have been exposed to since you became a nurse? 0-none
1-only one
2-a couple
3-a few
4-many
96. How many "role-models" are you now exposed to in your work? 0-none
1-only one
2-a couple
3-a few
4-many
97. Have you seen your "role-models" provide what you consider effective nursing care to other patients after a patient has died? 0-almost never
1-only one
2-a couple
3-a few
4-many
98. Does having "role-models" affect the ways in which you act as a nurse? 0-not at all
1-slightly
2-somewhat
3-pretty much so
4-very much so
99. From your vantage point, do your "role-models" occupy a place of importance in the nursing staff hierarchy? 0-not at all
1-slightly
2-somewhat
3-pretty much so
4-very much so
100. Have you seen your "role-models" successfully perform their nursing duties in a consistent way? 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
101. Do you find that your "role-models" personally try to help you with your nursing duties? 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
102. How much nursing experience do you have working with patients who have died? 0-high
1-moderately high
2-average
3-moderately low
4-low

103. If "role-models" offer you verbal suggestions about your work, do you try to do as they suggest? 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
104. To the best of your recollection, have you received approval from other staff members for behaving like your "role-models"? 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
105. From your perspective, do you notice similarities between your nursing behaviors and those of your "role-models"? 0-not at all alike
1-slightly alike
2-somewhat alike
3-pretty much alike
4-very much alike
106. From what role-models" teach you, can you then provide what you consider effective nursing care to other patients, after you have experienced a patient's death? 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
107. Following a patient's death, do you generally feel 0-very upset?
1-moderately upset?
2-somewhat upset?
3-only a little upset?
4-not upset?
108. What kinds of changes do you notice in yourself as you get more exposure to patient-deaths? 0-much more upset after each death
1-a little more upset after each death
2-no changes in myself noticed
3-a little less upset after each death
4-much less upset after each death

NURSE REACTION INVENTORY

DIRECTIONS: Listed below are some reactions that nurses have reported in two situations after patients die. They cover items 109-137 on your answer sheet. Read each item and decide which answer applies to you. Your alternatives are: 0-ALMOST NEVER, 1-SELDOM, 2-SOMETIMES, 3-OFTEN, or 4-ALMOST ALWAYS. Blacken the appropriate number on your answer sheet, as you have on the other forms.

SITUATION I: IMMEDIATELY AFTER WITNESSING OR HEARING
ABOUT A PATIENT'S DEATH:

- | | |
|--|---|
| 109. I start crying. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 110. I leave the nursing unit. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 111. I prepare the body for the family's visit. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 112. I become silent. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 113. I withdraw from other people. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 114. I ask to not work with dying patients for awhile. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 115. I continue working as I did before the patient's death. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 116. I try to comfort the patient's family. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |

117. I begin talking a lot.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
118. I express anger toward other staff members.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
119. I try to remain composed and "in control" in front of others.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
120. I try to comfort my co-workers who act as though they are upset.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
121. I am slow to return to my assigned nursing duties with other patients.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
122. I act surprised and shocked.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
123. I "watch" what I say in front of others.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
124. I react violently to things unrelated to the patient's death.
- 0-almost never
1-seldom
2-sometimes
3-often
4-almost always
125. I talk sarcastically to others.
- 0-almost never
1-seldom
2-sometimes
3-often
4-often
4-almost always

- | | |
|--|---|
| 126. I begin to blush. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 127. I ask others, "What went wrong? How come the patient died?" | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |

SITUATION II: IN THE FIRST FEW DAYS AFTER
A PATIENT'S DEATH:

- | | |
|--|---|
| 128. I call in sick. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 129. I just take the day off. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 130. I call or visit the patient's family. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 131. I try to avoid working with dying patients. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 132. I talk over the patient's death with other staff members. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |
| 133. I send flowers or attend patient's funeral. | 0-almost never
1-seldom
2-sometimes
3-often
4-almost always |

134. I try to give MORE nursing care to other patients than I did before a patient's death.

0-almost never
1-seldom
2-sometimes
3-often
4-almost always

135. I slow down my pace at work.

0-almost never
1-seldom
2-sometimes
3-often
4-almost always

136. I leave the unit so that I can just be alone.

0-almost never
1-seldom
2-sometimes
3-often
4-almost always

137. I try to continue working as I did before the patient's death.

0-almost never
1-seldom
2-sometimes
3-often
4-almost always

THANK YOU VERY MUCH!

APPENDIX B

Questionnaire, Letter, and Interview Schedule
used in Development of
Nurse Reaction Inventory

One of the most profitable ways to learn is by watching another person; psychologists call this "observational learning" or modeling. Modeling has been shown to be highly effective when a person is in a position to learn something new or unusual - for example, as when one begins a new job.

When a nurse begins working in a hospital, she is expected to be knowledgeable about many complicated procedures and techniques and to know ways of handling problems as they arise. As part of her orientation into the hospital milieu, a "new" nurse is often encouraged to observe other hospital personnel, who have more experience than she does in that setting. By observing those who have more experience, one can learn how to carry out specific tasks and/or how to deal with problem situations.

As part of a larger future study, I am interested in finding out who are significant models for nurses, who work in areas of this hospital where patients are often critically ill and where patient-deaths occur at a relatively high rate.

Please answer the questions listed below and return this form in an envelope to the Nursing Director's office. Your cooperation will be invaluable and very much appreciated, as the information you provide will contribute to the larger study. Thank you.

Thomas O. Martin
University of Ottawa

-
1. Your age: _____
 2. Your sex: F
M
 3. Your amount of professional experience (in years & months) as a registered nurse: _____
 4. Your professional position in the hospital (e.g., staff nurse, coordinator, head nurse, or others): _____
 5. The name of a person you consider to be a model for nurses, who works in a hospital area where the rate of patient-deaths is high: _____
 6. Where does that model usually work in this hospital? _____

7. What is that model's professional position in this hospital (e.g., registered nurse, RNA, physician, chaplain, etc.)? _____
8. What is the approximate age of that model? _____
9. What is the sex of the model? F
M
10. About how much professional experience do you think the model has? _____

Dear (Model's Name),

I am a doctoral student in Clinical Psychology at the University of Ottawa. My thesis topic involves the study of registered nurses' responses to patient-deaths. In that regard, the act of modeling - or how one person learns from observing the behavior of others - is considered to be influential in how nurses respond to patient-deaths.

Having obtained permission from the Director of Nursing, I am in the process of recruiting registered nurses for participation in my study. I have already collected information which identifies certain hospital staff members who are thought of as "models" by registered nurses. For the next part of the study, I would like to collect information, via interviews with the models identified by the surveyed nurses, and so discover how the models respond to patient-deaths.

Since you were^a named by some of the nurses as a model, I would like to interview you for the project. The interview will require approximately 30 to 45 minutes of your time and I will ask for your answers to a few selected questions. The information I receive from you will be held in strictest confidence and will only be used by me to help construct a questionnaire for use later in the study. I would like to tape-record our interview to insure accurate recall of the information you provide, though arrangements can be made to not use the tape-recorder if you so desire. To maintain confidentiality of your interview responses, all recordings will be coded by number (e.g., 001, 002, etc.). With the cooperation of the Director of Nursing, a room at your hospital will be provided where the interview can be conducted.

I will appreciate your assistance should you decide to participate. All interviews are planned to take place during the weeks of January 9 and 15. Please complete the "Notice of Informed Consent" at the bottom of this letter and return it to me in the enclosed envelope by January 2. After that date, I will call you to schedule an appointment for our interview.

Thank you very much for your time and consideration in this matter.

Sincerely yours,

Thomas O. Martin

(Encl.)

NOTICE OF INFORMED CONSENT:

I, _____, having read the information contained in the letter, agree to participate in Mr. Martin's study of registered nurses' responses to patient-deaths. I may be contacted AT WORK by calling _____ so that an appointment for an interview can be scheduled for the week of either January 9 or 15.

Date: _____ Signature: _____

INTERVIEW SCHEDULE

As I indicated in my letter, I am in the process of trying to determine how hospital staff members respond when a patient dies. Some months ago, registered nurses were surveyed and named you as a person they considered a "model". That is, the nurses selected you as a person they believed to have a good deal of professional experience in working with dying patients and in confronting patients' deaths.

I am now going to ask you a few questions. I would like you to answer in the light of your own professional experiences from working with patients who die. Please feel free to add information you consider related to the questions. Your responses will be kept confidential and will have no bearing on your job security. Do you have any questions? If not, we can now begin (turn on tape-recorder).

-
1. What is your age?
 2. What position to you hold in the hospital?
 3. For how long have you worked in your professional capacity?
 4. In what section(s) of the hospital do you usually work?
 5. Have you ever experienced the death of someone especially close to you (e.g., spouse, parent, sibling, etc.)?
 6. Have you had any training in how to deal with dying and death?
 7. Why do you think people selected you as a "model"?
 8. Immediately after a patient's death, how to you behave?
 9. Do you sometimes feel that you are supposed to react to the death of a patient in a prescribed way?
 10. When a patient with whom you have worked closely dies, how do you usually feel and behave?
 11. Do you sometimes feel like a patient's death interrupts your schedule? How?

12. How do personal characteristics of the patient influence your response (e.g., patient's age, the diagnosis, etc.)?
13. When a patient dies, do you behave differently when you are by yourself than when you are in front of others?
14. How do you respond to a patient's death while in the presence of other staff members?
15. How can other staff members tell if you are upset or anxious after a patient's death? Is there something you do differently or don't do?
16. In the first few days after a patient's death, do you notice any changes in your interactions with other patients, your work habits, your absences from work, your personal habits, and so forth?
17. Is there anything you would like to add?

MODEL CODE NO. _____