COMPLIANCE-GAINING THEORY AND ITS VALUE TO DIABETES EDUCATORS

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COMPLIANCE-GAINING THEORY

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EDUCATORS

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PREFACE

I analyzed a specific communication theory, Marwell and Schmitt's compliance-gaining theory, for its value and application to the practical, clinical setting of diabetes education, and I extrapolated the relevant pieces of this theory and created educational tools for use in this setting. Both technical writers and diabetes educators can use the information contained in this thesis. Technical writers will learn how communication theory is applicable to a workplace setting and how a relevant theory can facilitate their technical communication responsibilities. Diabetes educators will learn the import of communicating scientific information to patients in a manner that stresses compliance with prescribed treatment regimens.

I developed educational tools, based on Gerald Marwell and David Schmitt's compliance-gaining theory, to assist diabetes educators in selecting specific compliance-gaining techniques that target individual patient needs. I have personally used these tools when educating diabetic patients and I discuss my impressions of their usefulness and effectiveness. Also, two diabetes educators at Stillwater Medical Center in Stillwater, Oklahoma are currently using these tools in their diabetes education work, and I include their responses to the tools via surveys they completed. I did not test these tools in a controlled clinical study, but I hope that this research will generate such a study within the community of diabetes educators.

I have conducted this research and developed these educational tools from a nursing perspective because I am a Registered Nurse, and I have integrated the theory

and the tools into the standard of nursing practice, The Nursing Process, because I believe this process is an excellent way to approach diabetes education. I explain this process and its convergence with compliance-gaining theory regularly throughout this thesis. I believe that diabetes educators from all disciplines can benefit from this research and the resulting compliance-gaining tools.

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CHAPTER I

INTRODUCTION

Background

Diabetes

Diabetes mellitus is a chronic metabolic disease that affects nearly 16 million Americans and is characterized by potentially fatal and costly complications that impact quality of life. Diabetes was the seventh leading cause of death in 1996, and physicians diagnose approximately 798,000 new cases each year. Direct and indirect costs of diabetes reach $98 billion annually (Center for Disease Control [CDC], 1998). However, with treatment and lifestyle changes, people with diabetes can prevent or delay complications such as blindness, amputations, heart disease, kidney failure, and premature death.

Compliance with a diabetes management regimen is requisite for diabetic patients to live healthy and productive lifestyles, avert long-term complications, and reduce healthcare costs. Noncompliance results in an exacerbation and progression of diabetes, the inaccurate assessment of treatment outcomes, and unnecessary or dangerous secondary diagnoses and treatments (Klingle, 1996). Normal blood glucose levels not only prevent cellular damage, but also contribute to well-being, energy, and positive moods on a daily basis. Patients who keep their blood glucose within normal limits do not experience the signs and symptoms of hyperglycemia or hypoglycemia, which often preclude work and recreational activities and make patients more susceptible to illness.

The Center for Disease Control's National Diabetes Fact Sheet lists some disturbing statistics on long-term diabetes complications and demonstrates the negative sequelae of poor glycemic control (CDC, 1998):

- the risk of heart disease and stroke among diabetic adults is 2-4 times more than non-diabetic adults
- 60-65% of diabetic individuals have hypertension
- diabetes is the leading cause of new cases of blindness in adults 20-74 years of age
- almost 28,000 diabetic individuals had end-stage renal disease in 1995
- 60-70% of diabetic individuals have mild to severe nervous system damage
- more than one-half of lower extremity amputations in the United States occur among diabetic patients
- dental disease occurs more frequently among diabetic adults than non-diabetic adults
- more diabetic patients die of pneumonia and influenza than those without diabetes

Another important, although peripheral, reason to comply with diabetes self-management principles is to reduce healthcare costs. The annual expenditure for diabetes care in the United States is $98 billion, for both direct and indirect (disability, work loss, premature mortality) costs (CDC, 1998). Individual maintenance costs involve a blood glucose monitor, test strips, medication, physician office visits, and laboratory tests. A person who is non-compliant may incur extra expenses, such as additional medication for diabetes and secondary ailments, additional physician and hospital services, medical equipment, and work loss. Also, many people with diabetes are uninsurable and have no reimbursement benefits to defray these costs. Management and prevention costs are much lower than the costs of treating diabetes complications.

Probably the most outstanding evidence for the positive effects of compliance came out of the Diabetes Control and Complications Trial (DCCT), a ten-year study by the National Institutes of Health that tested and observed 1,441 insulin-dependent diabetic individuals. The study population was divided into two groups, one group had no signs of diabetes complications and another had early signs of diabetic retinopathy. These groups were subdivided into two groups, those receiving intensive control and those receiving conventional control, to determine what level of control is necessary to prevent complications. Researchers found the following results in the intensive control group (Guthrie and Guthrie, 1997):

- a 76 % reduction in the risk of retinopathy
- a 56 % reduction in the risk of nephropathy
- a 61 % reduction in the risk of neuropathy
- a 35 % reduction in the risk of developing high levels of LDL cholesterol

From this study, diabetes experts concluded that an integral part of intensive control and the benefits thereof is thorough patient education in all aspects of diabetes self-management (Guthrie and Guthrie, 1997). Long-term complications are preventable with a healthy diet, regular exercise, and proper medication. Regular home blood glucose monitoring is also essential to good management and to treatment evaluation and change. The lifestyle choices diabetic patients make impact their health and well-being more than any medical intervention, and education on self-management techniques is prerequisite to patient compliance with recommended behaviors (American Association of Diabetes Educators [AADE], 1998; Guthrie and Guthrie, 1991; Levich, 1999; National Standards

for Diabetes Self-Management Education Programs and American Diabetes Association Review Criteria [NS], 1999; Rubin et al., 1999).

People who live with diabetes do not comply for several reasons. First, they may not have knowledge of self-management principles because they received no education on diabetes. Second, they are so overwhelmed and distraught when diagnosed with diabetes that they deny having the disease to diminish these intense feelings. Third, diabetic patients may have difficulty maintaining a self-management regimen long-term because it is expensive and time-consuming. Also, if they are not presently experiencing health problems, they may not be compelled to spend money and time preventing complications they cannot perceive (Guthrie and Guthrie, 1997). Diabetes educators must address each of these noncompliance issues if they are to help patients adhere to their prescribed treatment regimens.

Compliance-Gaining Theory

Some social scientists posit that people behave in a manner that restructures their environment and manipulates others in order to satisfy some desire. They call this goal-directed behavior compliance-gaining and acknowledge the vast amount of time people spend attempting to gain compliance from a target. In 1967, Gerald Marwell and David Schmitt developed and tested a theory of message production known as compliance-gaining based on the premise that people use a variety of techniques to get others to act in desired ways. Prior research explored only the reasons for compliance, not compliance-gaining behavior. Marwell and Schmitt composed a set of possible compliance-gaining techniques and then, using a questionnaire, asked a group of college students to rate the

likelihood of using these techniques in four different situations (Marwell & Schmitt, 1967). The sixteen compliance-gaining strategies are listed in Table 1.

STRATEGY	DESCRIPTION
Promise	If you comply, I will reward you
Threat	If you do not comply, I will punish you
Expertise (Positive)	If you comply, you will be rewarded because of "the nature of things"
Expertise (Negative)	If you do not comply, you will be punished because of "the nature of things"
Liking	Actor is friendly and helpful to get target in "good frame of mind" so that he will comply with request
Pre-Giving	Actor rewards target before requesting compliance
Aversive Stimulation	Actor continuously punishes target making cessation contingent on compliance
Debt	You owe me compliance because of past favors
Moral Appeal	You are immoral if you do not comply
Self-Feeling (Positive)	You will feel better about yourself if you comply
Self-Feeling (Negative)	You will feel worse about yourself if you do not comply
Altercasting (Positive)	A person with "good" qualities would comply
Altercasting (Negative)	Only a person with "bad" qualities would not comply
Altruism	I need your compliance very badly, so do it for me
Esteem (Positive)	People you value will think better of you if you comply
Esteem (Negative)	People you value will think worse of you if you do not comply

Table 1. Marwell and Schmitt's Compliance-Gaining Strategies (1967)

Marwell and Schmitt note that compliance-gaining strategies reflect the extent of power resources people possess and their willingness to use them. For example, punishing activities, such as threats or aversive stimulation, carry a threat of social ostracism for both the actor and the target. Although the actor may have the power to punish the target, the potential negative consequences of this compliance-gaining method

may motivate the actor to choose a more socially acceptable technique. This observation led Marwell and Schmitt to conclude that people may eschew certain compliance-gaining techniques because they either lack the requisite power or they wish to avoid the undesirable consequences of the act (Marwell & Schmitt, 1967).

Since Marwell and Schmitt presented their research, other communication theorists and researchers have discussed compliance-gaining theory and applied it to various situations and disciplines. Garko (1990) acknowledges the prevalence of compliance-gaining behaviors in society, but emphasizes that communication researchers should conceptualize this behavior in terms of communication, not of reward/cost and power principles. Lu (1997) studied compliance-gaining behaviors in classroom settings to observe cultural differences and concluded that in China, teachers use behavior alteration techniques more frequently than U.S. teachers do. Their message types differ also; U.S. teachers prefer reward-based messages whereas Chinese teachers are more apt to use punishment-oriented messages.

Schneider and Beaubien (1996) have analyzed compliance-gaining behaviors in a medical setting and have observed clinicians using several of Marwell and Schmitt's strategies, as well as others not included in their taxonomy. Schneider and Beaubien found that physicians frequently use two strategies identified by Marwell and Schmitt, positive expertise and liking. They also discovered three new techniques not part of Marwell and Schmitt's typology: legitimacy, intermediaries, and procrastination. Legitimacy refers to requests that are within the normally accepted rights of a doctor in a medical context, i.e., "Take deep breaths." Intermediaries are references to third parties who support what the physician is saying, such as a second opinion or a nurse instructing

on home treatment. Procrastination involves making difficult patients wait longer to see a doctor in hopes that they will either leave or be more inclined to follow directions.

Although Marwell and Schmitt's theory has evolved somewhat via analysis and practical application by researchers in various disciplines, an updated taxonomy may be more applicable to a medical setting. I have selected the techniques from their taxonomy that are most appropriate to diabetes education based on my personal experience and diabetes research. A new taxonomy could be developed for health communication in general and for diabetes education specifically, perhaps using Marwell and Schmitt's taxonomy as a foundation, through clinical research.

Purpose of Study

The purpose of this thesis is to apply communication theory to diabetes education and offer a means to increase compliance of diabetic patients. In order for persons with diabetes to live healthy, productive lives, they must comply with certain self-management principles. Diabetes educators provide diabetic individuals with the requisite knowledge and skills to manage their diabetes successfully and live healthy lives. Diabetes educators must effectively communicate to patients the importance of compliance with self-management regimens, and these educators can benefit from communication theory in order to meet this responsibility. Specifically, Marwell and Schmitt's theory can help diabetes educators improve their communication skills, which in turn will help convince their patients to make long-term lifestyle changes. This thesis integrates Marwell and Schmitt's theory with The Nursing Process to offer diabetes educators a tool to incorporate effective compliance-gaining communication into education plans.

The Nursing Process is a logical, systematic method of delivering nursing care to patients that involves four sequential steps: *assessing* patient status and needs, *planning* appropriate interventions based on the assessment, *intervening* to restore or maintain patient health, and *evaluating* the effects of the intervention. Diabetes educators can use specific techniques from Marwell and Schmitt's compliance-gaining theory in all stages of the process.

This thesis demonstrates how communication theory applies to patient-clinician relationships using Marwell and Schmitt's compliance-gaining theory. However, I have selected the compliance-gaining messages most appropriate for diabetes educators, namely expertise, self-feeling, pre-giving, liking, and direct request. This selection is based on a literature review of diabetes and my own personal experience educating people with diabetes (see Chapter III for a more extensive discussion of the five techniques selected for this thesis). Using this taxonomy, clinicians can choose compliance-gaining messages based on patient characteristics and thereby select the most effective messages to use when educating diabetic patients.

Objective of Study

The objectives of this study are to develop a tool for healthcare practitioners to use in diabetes education and to integrate Marwell and Schmitt's theory with The Nursing Process. This study proposes a tool for developing effective education plans for diabetic patients. Diabetes educators use compliance-gaining methods regularly when educating patients, but many are unaware that they are doing so or of the importance of choosing the correct method. This lack of awareness results in random and non-

purposeful communication, which may or may not relate to patients' needs. Educators could benefit from a systematized method of communication based on compliance-gaining theory and research and incorporated into The Nursing Process. This method will assist them in developing effective and individualized diabetes education plans that include specific and purposeful compliance-gaining messages. Marwell and Schmitt's taxonomy supplies this purposeful and systematic communication lexicon. This thesis illuminates the specific compliance-gaining messages from Marwell and Schmitt's taxonomy that are pertinent and applicable to diabetes education, namely expertise, self-feeling, pre-giving, liking, and direct request.

Significance of Study

This study is significant to diabetes education because it provides a method for educators to improve their communication skills and an opportunity to improve the compliance of diabetic patients. By incorporating Marwell and Schmitt's taxonomy into The Nursing Process, educators can develop patient-specific education plans. The assessment criteria will reveal patient needs, or what particular factors interdict their compliance with a prescribed diabetic self-management regime. The goal in diabetes care is to manage glucose levels in order to prevent long-term complications and ensure maximum patient health and well-being (Peyrot, McMurray, & Kruger, 1999). The goals of diabetes education are to impart knowledge about diabetes pathophysiology, etiology, signs and symptoms, and management, and to motivate patients to comply with prescribed treatment regimens. Diabetes self-management education includes information on diabetes pathophysiology and management, as well as strategies for

behavior change. Clinicians must provide patients with the necessary facts to make the correct healthcare choices (Guthrie & Guthrie, 1991). Patients have an enormous responsibility for diabetes treatment and prevention of complications, and the daily tasks of diabetes management lie with the patient. Therefore, various national organizations, such as the American Medical Association and the American Nurses Association, have emphasized the importance of comprehensive patient education (Guthrie & Guthrie, 1991; Levich, 1999). Diabetes educators must educate patients on an on-going basis, so that they are self-sufficient and competent in their treatment regimens, and motivate them to comply with healthy lifestyle behaviors both initially and long-term.

When educators use the compliance-gaining tools developed for this thesis, patients will be more likely to comply with prescribed treatment regimens. Educators will be able to respond to patient educational needs with messages that address patient concerns, level of education, and personality. They can assess patient needs and develop a patient profile using the assessment criteria provided in this thesis, which will illuminate the following: patient concerns, such as health, finances, or lifestyle; patient education level; and patient personality, i.e. their emotions and motivation to succeed. Once educators have gathered this information, they can determine what factors will likely preclude patient compliance and scan the compliance-gaining chart to select the pre-figured messages most effective for each patient. Ultimately, when educators use targeted compliance-gaining messages, patients will be more likely to adhere to prescribed self-management routines. As aforementioned, diabetic patients who manage their glucose levels experience fewer problems.

Definition of Terms

The following terms are used frequently in this thesis and the definitions are specific to this work:

Assess – ascertain the health status and needs of an individual

Communication – intentional transmission of verbal information to a particular receiver and the successful reception of the message

Compliance – adherence to a request

Compliance-gaining messages – communication with the specific intent of influencing people to act in desired ways

Compliance-gaining techniques – specific methods or messages used to gain compliance from a target

Diabetes – a progressive, chronic disease that affects the body's ability to metabolize carbohydrates, protein, and fat, and that has devastating consequences if not properly managed

Direct request – simply request patients to make changes in lifestyle or treatment regimens

Disease complications – negative sequelae of a disease if allowed to progress without medical intervention

Disease process – the chronic, progressive nature of a disease leading to disability or death if not managed

Evaluate – compare an individual's current health status and needs to their status and needs prior to the intervention to determine the effectiveness of the intervention

Expertise – provide people with pertinent information to make appropriate lifestyle choices that lead to long-term health

Intervene – perform planned actions to maintain or restore a person's health

Liking – establish a rapport with patients to increase motivation and compliance

Marwell and Schmitt's compliance-gaining theory – a theory of message production based on the premise that people use a variety of techniques to get others to act in desired ways

Patient assessment criteria – guidelines to assess what prohibits people from complying with recommended management regimens in order to select appropriate compliance-gaining messages

Plan – develop an individualized strategy to maintain or restore a person's health based on their assessed needs

Pre-giving – offer supplies or resources for supplies to reduce financial fears

Self-feeling – associate positive feelings with compliance and negative feelings with non-compliance

Self-management – prevention of disease progression and management of a treatment regimen by an individual with a disease

The Nursing Process – a logical, systematic method of delivering nursing care to patients involving four sequential steps: assess, plan, intervene, and evaluate

Scope and Limitations

This thesis applies Marwell and Schmitt's compliance-gaining theory to diabetes education for the purpose of strengthening educators' communication skills and

improving the compliance of diabetic patients. I chose compliance-gaining theory because compliance with treatment principles is essential to the health of diabetic patients, and this particular theory provides techniques to motivate patients to adhere to diabetes management standards. I chose diabetes education because of my personal experience and interest in this discipline. Therefore, this theory may be applied to other patient education situations in future studies, but that venture is beyond the scope of this paper.

I acknowledge five limitations of this work:

- The study does not address cultural factors related to diabetes education, but rather offers a tool to encourage compliance of all people with diabetes, without regard to cultural background. I acknowledge the importance of cultural differences in diabetes education and the documented evidence in the literature of the success of culturally relevant educational approaches and materials (Whittemore, 2000). However, distinguishing compliance-gaining techniques based on cultural differences is beyond the scope of this thesis. Instead, I endeavor to apply communication theory to diabetes education in general, as such a connection does not exist to date. Then, future research could focus on specialized applications of this theory to specific patient populations.
- This thesis will not include testing of the compliance-gaining interventions in a clinical setting. Although the assessment criteria and compliance-gaining tool are part of a new documentation package I developed for Stillwater Medical Center in Stillwater, Oklahoma, and are thus used by the current diabetes educators, I have not tested these instruments in a controlled clinical study. I acknowledge the importance

of theoretically grounded knowledge and practices in the field of diabetes education and their subsequent testing in a clinical setting (Whittemore, 2000). Nevertheless, my intention is to make a connection between communication theory and diabetes education (specifically compliance-gaining theory because of its potential importance to improving compliance among diabetic patients), not to test the theoretical relationship. Such an analysis is a logical and advantageous follow-up to this work. I am including, however, a review of the proposed instruments by the two diabetes educators at Stillwater Medical Center who currently use them when educating diabetic patients.

- The Marwell and Schmitt taxonomy is not exhaustive, and communication researchers must observe and record what communicators are actually saying in compliance-gaining attempts, even if their messages fall outside the taxonomic boundaries of this theory. I concede that educators may use other techniques not contained in Marwell and Schmitt's theory. Taxonomies developed within particular contexts frequently define strategies in a manner specific to the situation, or the desired goal, and not to the method of gaining compliance. Researchers differentiate strategies based on intuition and not on theoretical grounds, and strategy examples are often spurious representations of these strategies (Kellermann & Cole, 1994). This qualification is noteworthy in a discourse community such as a medical context, where clinicians use specific persuasive messages.
- Compliance-gaining messages are contextual, as some messages are effective in certain situations and not in others. Boster, Stiff, and Reynolds (1985) discovered that context impacts the categorization of compliance-gaining strategies and

contextual information aids the message receiver in understanding requests. Researchers must identify the labels of compliance-gaining strategies used within a discourse community in order to describe the strategies (Roloff, 1994). Schneider and Beaubien (1996) conclude that Marwell and Schmitt's strategies are useful as a checklist or source to explore techniques used by doctors to gain patient compliance; however, this typology does not fully represent compliance-gaining in the medical care context. Medical practitioners constitute a discourse community, and as such have a specific lexicon and method of message production, based on the experience and success of previous members of the community. Therefore, they may develop their own specialized compliance-gaining strategies that are optimal for securing patient adherence to good healthcare practices. This contextual significance of compliance-gaining messages led me to select the techniques from Marwell and Schmitt's taxonomy specific to diabetes education, but other situational factors may strengthen or dilute the effectiveness of these messages.

- Marwell and Schmitt's compliance-gaining theory applies strictly to verbal, not non-verbal, messages. Nonverbal behaviors such as gaze and touch are as powerful as some verbal strategies in gaining compliance, and sometimes more powerful. These non-verbal messages may influence verbal messages. Nonverbal compliance-gaining behaviors, paired with verbal compliance-gaining attempts, are as influential in determining communication outcomes as giving supportive information (Segrin, 1993). However, the impact of non-verbal communication on verbal compliance-gaining messages is beyond the scope of this thesis. My focus is on constructing verbal information on diabetes within a compliance-gaining framework. The

interrelation of verbal and non-verbal compliance-gaining messages warrants a study of its own.

Logical Assumptions

Several assumptions are germane to this thesis relative to diabetes, communication theory, and compliance-gaining theory applied to diabetes education. First, diabetic patients must comply with self-management principles in order to live healthy lives and avoid health complications. Clear and effective communication is essential to ensure that diabetic patients understand instructions regarding self-management principles.

Second, communication theory may be applied to diabetes education. Specifically, Marwell and Schmitt's compliance-gaining theory is useful in diabetes education. However, some techniques are more useful than others are and some are not appropriate at all.

Third, an assessment and teaching tool would benefit diabetes educators when applying compliance-gaining theory to diabetes education. Marwell and Schmitt's compliance-gaining theory can be integrated into The Nursing Process when educating diabetic patients. Educators can personalize teaching plans to meet the needs of patients using the assessment and education tools presented in this thesis, and patient are more likely to comply when educators use these tools.

Outline of Work

This thesis first presents a literature review on compliance-gaining theory in general, as it relates to health communication, and as it applies to diabetes education. In the methodology section of this thesis, I first discuss the research methods for this work, namely the literature review process and the selection of Marwell and Schmitt's compliance-gaining theory. I then demonstrate how I developed the tools for compliance-gaining using patient assessment criteria and Marwell and Schmitt's taxonomy and integrated compliance-gaining theory into The Nursing Process. The result of this effort is the two aforementioned instruments: the Assessment Questions for Compliance-Gaining Message Selection and the Compliance-Gaining Techniques and Patient Assessment Criteria.

Next, this thesis offers the findings and conclusions of the research. In Chapter IV, I discuss in detail four factors I found as a result of my literature research into the feasibility of applying compliance-gaining theory to diabetes education. I present the review of the compliance-gaining instruments by two diabetes educators at Stillwater Medical Center using a review questionnaire I developed to assess the effectiveness of these educational tools. The educators completed the questionnaire based on their experience using the educational tools in a clinical setting (Figure 1, page 18). In Chapter V, I summarize diabetes, communication theory, and compliance-gaining theory. I then relate these findings to the hypotheses of this study. The conclusions include how compliance-gaining theory can be applied to diabetes education using the tools developed through this research and The Nursing Process. Finally, the thesis proposes

recommendations for the practical application and testing of the educational tools in a controlled clinical setting and using the tools in patient education settings.

Review of Diabetes Education Tools

Please answer the following questions to the best of your knowledge.

1. Do the assessment questions assist you in determining patient educational needs?

Yes_____because_____
_____
_____.

No_____because_____
_____
_____.

2. Does the compliance-gaining techniques and patient assessment criteria table help you to select the most effective compliance-gaining methods to use when educating diabetic patients?

Yes_____because_____
_____
_____.

No_____because_____
_____
_____.

3. Are you able to incorporate the compliance-gaining techniques into The Nursing Process when educating diabetic patients?

Yes_____How_____
_____
_____.

No_____Because_____
_____
_____.

Figure 1. Review of Diabetes Education Tools

CHAPTER II

LITERATURE REVIEW

This chapter contains a literature review on compliance-gaining theory in general, as it relates to health communication, and as it applies to diabetes education.

Compliance-Gaining Theory

In 1967, Marwell and Schmitt developed and tested a theory of message production known as compliance-gaining based on the premise that people use a variety of techniques to get others to act in desired ways. They sought to explore the range of compliance-gaining behaviors and elaborate the factors involved in their enactment by reducing the multitude of possible compliance-gaining behaviors to meaningful groups or strategies. With this approach they endeavored to predict the group of compliance-gaining techniques that people tend to select regularly. Marwell and Schmitt composed a set of 16 possible compliance-gaining techniques (see Chapter I, Table 1) and then, using a questionnaire, asked a group of college students to rate the likelihood of using these techniques in four different situations (Marwell & Schmitt, 1967). When analyzing the responses to the questionnaire, they searched for propensities among respondents toward similar compliance-gaining techniques, and they clustered these like responses into five major categories (Table 2, page 20). These five clusters of techniques are similar in nature and quality of societal sanctioning, and some techniques are cross-referenced under more than one category (Marwell & Schmitt, 1967).

I. Rewarding Activity	II. Punishing Activity	III. Expertise	IV. Activation of Impersonal Commitments	V. Activation of Personal Commitments
Pre-giving	Threat	Expertise (Positive)	Self-Feeling (Positive)	Altruism
Liking	Aversive Stimulation	Expertise (Negative)	Self-Feeling (Negative)	Esteem (Negative)
Promise			Altercasting (Positive)	Debt
			Altercasting (Negative)	Altercasting (Negative)
			Esteem (Positive)	
			Esteem (Negative)	
			Moral Appeal	

Table 2. Five Categories of Compliance-Gaining Techniques

The first category, *rewarding activity*, includes activities that manipulate the target's environment in a positive way. The second category, *punishing activity*, involves behaviors that negatively manipulate the target's environment. *Expertise*, the third category, includes the dissemination of factual information regarding the positive effects of compliance and the negative effects of non-compliance. The fourth and fifth categories involve the activation of commitments, either within an individual (*activation of impersonal commitments*) or interpersonally (*activation of personal commitments*).

Compliance-gaining strategies reflect the extent of power resources people possess and their willingness to use them. This exchange theory, whereby the target grants compliance in exchange for something desired from the compliance-seeker, is inherently power-oriented. The compliance-seeker must have sufficient resources to gain compliance (Marwell & Schmitt, 1967). For example, punishing activities, such as threats or aversive stimulation, carry a threat of social ostracism for both the actor and the

target. Although the actor may have the power to punish the target, the potential negative consequences of this compliance-gaining method may motivate the actor to choose a more socially acceptable technique. This observation led Marwell and Schmitt to conclude that people may eschew certain compliance-gaining techniques because they either lack the requisite power or they wish to avoid the undesirable consequences of the act. Marwell and Schmitt describe strategies in the first, third, and fourth categories in their typology as more sociably acceptable and techniques in the second and fifth categories as more unacceptable (Marwell & Schmitt, 1967).

Since Marwell and Schmitt presented their research, other communication theorists and researchers have discussed compliance-gaining theory and applied it to various situations and disciplines. Garko (1990) acknowledges the prevalence of compliance-gaining behaviors in society, but emphasizes that communication researchers should conceptualize this behavior in terms of communication, not of reward/cost and power principles. Schneider and Beaubien (1996) have analyzed compliance-gaining behaviors in a medical setting and have observed clinicians using several of Marwell and Schmitt's strategies, as well as others not included in their taxonomy. Lu (1997) studied compliance-gaining behaviors in classroom settings to observe cultural differences and concluded that in China, teachers use behavior-alteration techniques more frequently than U.S. teachers. The two groups of teachers also differ in the type of behavior-alteration techniques they choose; U.S. teachers prefer reward-based messages whereas Chinese teachers are more apt to use punishment-oriented messages. As these studies illustrate, compliance-gaining theory is applicable to communication in various disciplines.

Several communication researchers have studied Marwell and Schmitt's typology, and based on their reports, I have identified three factors or deficiencies that may affect a communicator's choice of compliance-gaining strategies and the response to these messages:

1. Compliance-gaining messages are contextual; some messages are effective in certain situations and not in others. Boster et al. (1985) discovered that a social desirability bias does not affect a person's response to Marwell and Schmitt's strategies. Rather, context impacts the categorization of compliance-gaining strategies, and contextual information aids the message receiver in understanding requests. The relative power between the speaker and the receiver affects the interpretation of the speech act; for example, a power figure may induce feelings of being threatened more so than a peer. Researchers must identify the labels of compliance-gaining strategies used within a discourse community in order to describe the strategies (Roloff, 1994).

   According to Schneider and Beaubien (1996), in a medical context, clinicians use some of Marwell and Schmitt's strategies, such as direct request, as well as other compliance-gaining messages not included in their typology. Also, contextual information assists the message receiver, or patients in this situation, in understanding requests. For example, a patient will likely comply with a request to "breathe deeply" in a doctor's office, but this request may be inappropriate in a social context. Schneider and Beaubien's study records actual behaviors of doctors during patient encounters. They explored the correlation of self-reported data to observed compliance-gaining techniques and the possibility of additional strategies not studied in previous research. Schneider and Beaubien conclude that Marwell and Schmitt's

strategies are useful as a checklist or source to explore techniques used by doctors to gain patient compliance; however, this typology does not fully represent compliance-gaining in the medical care context. Medical practitioners constitute a discourse community, and as such have a specific lexicon and method of message production, based on the experience and success of previous members of the community. Therefore, they may develop their own specialized compliance-gaining strategies that are optimal for securing patient adherence to good healthcare practices. Schneider and Beaubien have indeed discovered three previously unidentified compliance-gaining techniques used in a medical context – legitimacy, intermediaries, and procrastination – and they suggest further research of these strategies to determine how prevalent they actually are in health communication.

2. The Marwell and Schmitt taxonomy is not exhaustive, and communication researchers must observe and record what communicators are actually saying in compliance-gaining attempts, even if their messages fall outside the taxonomic boundaries of this theory. Previously, compliance-gaining research has described strategy use and not regularities in message behavior. No one taxonomy can classify all compliance-gaining tactics or cover the full range of strategies in a particular situation because of the contextual feature of this communication technique and the difficulty in identifying all types of messages used in society; thus many tactics are unclassified. Taxonomies developed within particular contexts frequently define strategies in a manner specific to the situation, or the desired goal, and not to the method of gaining compliance. Researchers differentiate strategies based on intuition and not on theoretical grounds, and strategy examples are often spurious

representations of these strategies. This qualification is noteworthy in a discourse community such as a medical context, where clinicians may use specific persuasive messages (Kellerman & Cole, 1994; O'Keefe, 1994; Schneider & Beaubien, 1996).

3. Factors other than verbal message structures may impact compliance, namely emotions and nonverbal behavior. Boster et al. (1999) hypothesize that guilt produces in people an unpleasant affective state that they wish to relieve and that the effect of guilt on compliance is contingent upon the type of compliance-gaining message used. When a speaker induces guilt in a target, the speaker is more likely to secure compliance with a positive, self-feeling message vis-à-vis a direct request. Conversely, when the target feels no guilt, a positive self-feeling message makes no sense and a direct request is more effective. Compliance increases if the compliance-gaining message associates compliance with relief of a negative mood. In the study by Boster et al. (1999), study participants who felt guilty complied more when they were solicited with positive self-feeling messages than with direct request messages. These researchers have expanded the compliance-gaining corpus developed by Marwell and Schmitt by demonstrating that the type of compliance-gaining message affects the magnitude of compliance. When messages disrupt a person's psychological equilibrium, a positive self-feeling message restores equilibrium. Conversely, if interactions do not disrupt this equilibrium, a message that implies disruption is nonsensical.

Additionally, nonverbal behaviors such as gaze and touch are as powerful as some verbal strategies in gaining compliance, and sometimes more powerful. Segrin (1993) studied the effects of nonverbal behaviors on the outcomes of compliance-gaining

attempts and found that behaviors such as gaze, touch, proxemics, and apparel have a consistently positive impact on compliance outcomes. Additionally, he discovered that nonverbal compliance-gaining behaviors, paired with verbal compliance-gaining attempts, are as influential in determining communication outcomes as giving supportive information.

Compliance-Gaining Theory Applied to Health Communication

Communication researchers have applied various compliance-gaining theories to healthcare communication to develop ideal models of interaction and describe actual practice. Two of these models, namely Reinforcement Expectancy Theory (RET) and the Identity Negotiation Model, may be compared to compliance-gaining theory. Although the taxonomies in the theories are different, the described behaviors are similar. Renee Storm Klingle bases RET theory on the premise that humans need to gain rewarding stimuli and avoid aversive stimuli. RET applies reinforcement principles to predict the most effective communication messages for improving initial and long-term compliance, and these reinforcement principles are analogous to Marwell and Schmitt's positive and negative self-feeling strategies. Specifically, reinforcement principles include two strategies: 1) positive regard strategies, or communication requests that are supportive and signal approval of a subject; and 2) negative regard strategies, or communication requests that criticize a subject's past behaviors or potential future behavior (Klingle & Burgoon, 1995). RET focuses on the longevity of compliance, whereas Marwell and Schmitt observed immediate compliance-gaining behaviors. RET theory proposes that varying positive and negative regard message strategies with occasional non-rewarding

communication increases long-term treatment adherence because patients believe the clinician's behavior is linked to theirs, and they develop motivating reinforcement expectations (Klingle, 1996). Neutral messages, such as a simple request to comply, do not reinforce behavior nor reward compliance, but they do increase the value of a previously used reward when the reward is withheld occasionally. Conversely, if neutral messages follow negative regard strategies, they become reinforcing because they signal the removal of an aversive stimuli (Klingle & Burgoon, 1995).

According to RET, the patient's perception of the cultural appropriateness of the communication message influences the message reception. Male doctors are persuasive when using either positive or negative regard strategies, whereas female doctors are persuasive only when using positive regard messages. Klingle and Burgoon (1995) assert that this situation reflects the societal notion that men are allowed to use more aggressive behaviors than are women. Occasionally, however, non-rewarding communication is effective in compliance-gaining for both male and female doctors in long-term doctor-patient relationships. Varying positive and negative regard message strategies with occasional non-rewarding communication increases long-term treatment adherence. Finally, a combination of positive, negative, and neutral messages is more effective than one single type used repetitively by either male or female doctors (Klingle & Burgoon, 1995).

The Identity Negotiation Model states that medical interactions are struggles for the power to control meaning, and tensions between patients and healthcare providers shape and are shaped by their interactions. These "identity negotiations" are dialogic processes that fuse patient and provider ideologies. (Brashers & Babrow, 1996). Marwell

and Schmitt also presuppose power-seeking as the motivation for compliance-gaining behaviors. Strategies in Marwell and Schmitt's taxonomy that could be considered power-seeking are threat, negative expertise, aversive stimulation, negative self-feeling, negative altercasting, and negative esteem.

Compliance-Gaining in Diabetes Education

As I have demonstrated thus far, some communication researchers have applied communication theory, even Marwell and Schmitt's compliance-gaining taxonomy, to health communication, thereby unequivocally demonstrating the applications of communication theory to clinical practice. Further, some experts and researchers in diabetes have discussed compliance as a necessity in diabetes management and have advanced hypotheses toward this end. But to date, no research exists that connects diabetes education with communication theory, especially such pertinent scholarship as Marwell and Schmitt's compliance-gaining theory. Whittemore (2000) asserts that diabetes education should be more theoretically grounded. Compliance-gaining in diabetes education is vital to the well-being of diabetic patients. The lifestyle choices diabetic patients make impact their health and well-being more than any medical intervention. Therefore, education on self-management techniques is prerequisite for patients to comply with recommended behaviors. Self-management education prevents or delays the progression of diabetes and subsequent costly complications and enables people with diabetes to live healthy, productive lives (AADE, 1998; Guthrie & Guthrie, 1991; Levich, 1999; NS, 1999; Rubin et al., 1999). If patients do not comply with prescribed behaviors, they may experience poor glycemic control and impede effective

healthcare (Peyrot et al., 1999; Playle & Keeley, 1998; Klingle, 1996). Research on diabetes education demonstrates that diabetes educators must synthesize pedagogical elements with behavioral modifications. Educators must instill in patients the confidence necessary to achieve requisite lifestyle changes, using strategies such as goal setting, self-monitoring, self-reward, personal feedback, and contracting. Small, incremental successes with progressive goals, along with motivational support from educators, will foster self-efficacy among people with diabetes (Whittemore, 2000). Compliance-gaining strategies are ideal to instill confidence and foster self-efficacy in patients because they include such options as liking, positive self-feeling, and positive self-esteem.

Research in diabetes education reveals concepts compatible with Marwell and Schmitt's compliance-gaining theory. Some patients have a need to be in control, and they may feel powerless when diagnosed with a non-negotiable disease such as diabetes. Similarly, patients who interact with controlling and domineering clinicians exhibit poor metabolic control. If healthcare professionals must strongly persuade patients to follow medical advice, compliance is unlikely. Rewarding compliance and goal achievement provides a future incentive for behavior changes (Marwell and Schmitt's promise technique). Patients may find that self-management provides a rewarding feeling of control (Guthrie & Guthrie, 1991; Nebergall, 1999; Street et al., 1993). Further, self-efficacy is a better predictor of behavior than knowledge and skills, and individuals with high self-efficacy are more inclined to adhere to diabetes treatment regimens. So diabetes education curricula that include self-efficacy enhancement may empower diabetic patients to succeed with self-management regimens (Whittemore, 2000).

An effective method of compliance-gaining in diabetes education is Marwell and Schmitt's positive expertise, or providing patients with pertinent information to make appropriate lifestyle choices that lead to long-term health. Patients prefer to hear the benefits of compliance not the frightening consequences of inadequate management. Doctors who provide their patients with necessary information and the latest research see the highest rates of compliance (Guthrie & Guthrie, 1991; Nebergall, 1999; Street et al., 1993). In addition, if clinicians teach patients to interpret the results of blood glucose monitoring and encourage them to discuss their feelings when they see undesirable results, the clinicians can use the negative results as feedback for behavior changes, a strategy Marwell and Schmitt refer to as negative self-feeling (Funnell & Anderson, 1999).

The Health Belief Model is a conceptual framework that relates health-promoting behaviors to personal values and beliefs and asserts that behavior change is dependent upon a person's beliefs about a perceived health threat and a particular behavior. Clinical research has demonstrated that a diabetic patient's perceived severity of diabetes is significantly associated with diabetes control. Diabetes educators can influence patients' beliefs, change their misconceptions of the seriousness of diabetes to awareness of the gravity of this disease, and promote an initiative to make lifestyle changes (Whittemore, 2000).

Conclusion

This literature review discusses the features, weaknesses, and applications of Marwell and Schmitt's compliance-gaining theory. It also reveals how communication

researchers have successfully applied communication theories to a medical context, allowing for the specialized lexicon of this discourse community. Finally, this chapter explores the relevance of compliance-gaining theory to diabetes education. Using Marwell and Schmitt's taxonomy, diabetes educators can find the most appropriate and effective methods to ensure that patients comply with diabetes self-management regimens. This literature review set the foundation for the objectives of this thesis: to develop a tool for healthcare practitioners to use in diabetes education and to integrate Marwell and Schmitt's theory with The Nursing Process. In the next chapter, I demonstrate how I used this research to select the most appropriate communication theory to apply to diabetes education and to develop the education instruments, which educators can use in all four stages of The Nursing Process.

CHAPTER III

METHODOLOGY

Research Methods

Literature Review

In order to apply a communication theory to a practical communication situation, I had to research both components thoroughly. I first researched communication theory to decide which theory would be most applicable to diabetes education. Then, I studied health communication to discover what communication theories were prevalent in a medical context. Finally, I researched pathophysiology in diabetes and compliance-gaining in diabetes education. Therefore, I divided the literature review for this thesis into the following three components:

1. communication theory – Marwell and Schmitt's compliance-gaining theory vis-à-vis other communication theories
2. health communication – communication studies in the healthcare field
3. diabetes education – compliance-gaining in diabetes education

Communication Theory. I wanted to apply a fitting communication theory to diabetes education, and I examined systems theories, theories of message reception, and theories of message production. Systems theory (such as Claude Shannon and Warren Weaver's Information Theory and Cybernetics) is very process-oriented and mechanical, describing the perfunctory course of communication between a sender and a receiver. However, systems theory does not befit the humanistic interaction of a diabetes education

session. Theories of message reception emphasize the response to health communication. In this area of communication theory, I researched Charles Osgood (Theory of Meaning), Richard Petty and John Cacioppo (Elaboration Likelihood Theory), and Muzafer Sherif (Social Judgment Theory). Theories of message reception focus on the receiver, and in a diabetes education setting, the educator has no control over the receiver. The educator should therefore concentrate on what he/she can control or change, careful message production. Theories of message production are apropos for diabetes education, as they enlighten educators on the significance of well-thought-out and well-constructed messages to the success of diabetes education. I reviewed the following theories of message production: Rhetorical Sensitivity (Roderick Hart), Accommodation (Howard Giles), Action-Assembly (John Greene), and Constructivism (Jesse Delia). I also studied three groups of compliance-gaining theorists: Schenck-Hamlin, Wiseman, and Georgacarakos; Wheeless, Barraclough, and Stewart; and Marwell and Schmitt. I believe that an emphasis on message production is most appropriate for diabetes education in order to ensure the highest level of compliance. Therefore, I focused my research on this particular genre of communication theory, particularly compliance-gaining theory. I choose Marwell and Schmitt's compliance-gaining theory because their taxonomy provides a workable and practical guide for compliance-gaining messages and is applicable to The Nursing Process.

Health Communication. Health communication theory emerges from researchers' conceptions and observations of human nature, health and illness, society, and communication. Compliance-gaining communication theory is applicable to health communication because clinicians can use effective compliance-gaining techniques to

improve patient compliance with important treatment regimens. I examined health communication research in general to ascertain effective messages in a healthcare context. I then compared other communication theories, specifically Renee Storm Klingle's Reinforcement Expectancy Theory (RET) and the Identity Negotiation Model (Geist and Gates), to compliance-gaining theory to determine the applicability of compliance-gaining theory to a healthcare context. Much research exists on health communication and patient compliance, but I found few research studies that link compliance-gaining communication theory to patient compliance. Therefore, I concentrated my research methods on compliance-gaining theory, health communication, and diabetes education in order to coalesce these three areas into a single hypothesis that states compliance-gaining theory is germane to health communication and specifically diabetes education.

Diabetes Education. I examined literature on diabetes pathophysiology, diabetes education, and compliance in diabetes. Research in diabetes pathophysiology reveals the serious nature of diabetes and the necessity of compliance with self-management principles. I examined the following sources for this area of diabetes:

- Center for Disease Control's National and Public Health Resource. National Diabetes Fact Sheet. (1998).
- Guthrie, D., & Guthrie, R. (1997). The Diabetes Sourcebook.
- Peyrot, M., McMurray, J., & Kruger, D. (1999). A Biopsychosocial Model of Glycemic Control in Diabetes: Stress, Coping, and Regimen Adherence.
- Street, R. et al. (1993). Provider-Patient Communication and Metabolic Control.

Research in diabetes education reveals concepts compatible with Marwell and Schmitt's compliance-gaining theory. For example, diabetes researchers found that techniques tantamount to Marwell and Schmitt's expertise or self-feeling are effective in gaining compliance with diabetic patients. My research in diabetes education included the following works:

- Guthrie, D., & Guthrie, R. (1991). Nursing Management of Diabetes Mellitus.
- Levich, B. (1999). Effective Diabetes Management in Home Care.
- American Association of Diabetes Educators. Scope and Standards of Diabetes Nursing. (1998).
- National Standards for Diabetes Self-Management Education Programs and American Diabetes Association Review Criteria. (1999).
- Rubin, R. et al. (1999). Report of the Task Force on the Delivery of Diabetes Self-Management Education and Medical Nutrition Therapy.
- Nebergall, P. (1999). A Plea for Better Diabetes Education.
- Funnell, M., & Anderson, R. (1999). Putting Humpty Dumpty Back Together Again: Reintegrating the Clinical and Behavioral Components in Diabetes Care and Education.

Research into compliance in diabetes specifically addresses the importance of compliance with diabetes self-management regimes to longevity and good health for people with diabetes. For this area, I reviewed these sources:

- Guthrie, D., & Guthrie, R. (1991). Nursing Management of Diabetes Mellitus.
- Playle, J., & Keeley, P. (1998). Noncompliance and Professional Power.

- Peyrot, M., McMurray, J., & Kruger, D. (1999). A Biopsychosocial Model of Glycemic Control in Diabetes: Stress, Coping, and Regimen Adherence.

Selection of Communication Theory to Apply to Diabetes Education

I chose diabetes education for this project because of my 16 years experience as a Registered Nurse and six years experience in diabetes education in inpatient, outpatient, and community settings. In addition to a Bachelor's Degree in Nursing, I have had extensive and ongoing training in diabetes education. I have personally observed the negative effects of non-compliance with diabetes treatment programs in my years of educating patients. Therefore, I have a strong desire to develop an educational tool that will assist diabetes educators to build educational programs around compliance-gaining messages specific to patient needs.

I chose Marwell and Schmitt's Compliance-Gaining Theory because compliance is an important issue in diabetes management and is frequently a problem with patients. This theory offers practical suggestions for educating diabetic patients within a theoretical framework. The taxonomy generated from Marwell and Schmitt's research provides a basis from which to construct messages that will address specific patient needs with an emphasis on compliance. Marwell and Schmitt's Compliance-Gaining Theory is valuable to diabetes educators because it allows them to identify compliance-gaining behaviors they currently use, determine their effectiveness, and adopt new methods of compliance-gaining. Diabetes educators can use compliance-gaining theory when planning and implementing education programs for patients. Diabetes educators use compliance-gaining methods regularly when educating patients, but many are unaware

that they are doing so or of the importance of choosing the correct method. This lack of awareness results in random and non-purposeful communication, which may or may not relate to patients' needs. A systematized method of communication based on compliance-gaining theory and research and incorporated into The Nursing Process will assist educators in developing effective and individualized diabetes education plans that include specific and purposeful compliance-gaining messages.

Marwell and Schmitt's theory has evolved through research and clinical studies. Researchers such as Rolloff (1994), Kellerman and Cole (1994), and O'Keefe (1994) have identified the practical use of Marwell and Schmitt's taxonomy, but noted that it did not always account for the contextual aspect of messages. Communicators must account for the communication setting before using Marwell and Schmitt's taxonomy. They also discovered that the taxonomy is not exhaustive and new compliance-gaining messages may evolve over time based on changes in society and within specific disciplines. Boster et al. (1999) and Schneider and Beaubien (1996) applied Marwell and Schmitt's taxonomy to educational and medical settings respectively. Boster et al. discovered that emotions, specifically guilt, impact compliance as well as type of message. Schneider and Beaubien state that clinicians in a healthcare setting utilize Marwell and Schmitt's techniques but also use some messages specific to a medical setting that are absent from Marwell and Schmitt's strategies. This compliance-gaining theory has evolved in both its conceptualization and application within communication theory and in other disciplines that see its value to their goals and purposes.

Develop Assessment Tool

Not all of Marwell and Schmitt's compliance-gaining techniques are appropriate to a diabetes education setting. I selected the most relevant techniques from the 16 compliance-gaining methods from Marwell and Schmitt's taxonomy. I based this selection on a thorough literature review and my six years of experience as a diabetes educator (see Plan section in this chapter). Educators should assess patient needs and motivation to comply with self-management regimens to determine the best compliance-gaining plan. In order to assess patient educational needs, educators must first ask what prohibits patients from complying with recommended management regimens. Prohibiting factors fall into three general categories: lack of knowledge; anxiety over potential health problems, lifestyle changes, or increased financial expenditures; and heightened emotions, such as fear, guilt, and depression. These factors generate assessment criteria for selecting appropriate compliance-gaining messages, and from these criteria spring questions educators should ask of diabetic patients before planning educational interventions focused on compliance-gaining. The questions are as follows:

- Is the patient newly diagnosed?
- What is the patient's knowledge level?
- What are the patient's concerns?
- What emotions is the patient experiencing?
- What is the patient's motivation level?

After developing the assessment questions, I next designed a format for presenting the questions, as well as Marwell and Schmitt's compliance-gaining taxonomy and the Compliance-Gaining Techniques and Patient Assessment Criteria. I used

document design principles to ascertain the most suitable presentation format. Killingsworth and Gilbertson (1988) stress the rhetorical significance of integrating text with graphics, and they suggest using graphics that are relevant to a specific audience and task. They suggest that for a report such as this thesis, tables arrange information neatly and efficiently and provide impact. McKim (1980) notes the importance of referring to graphics in text and explaining the features and principles of visuals. Words and visuals should be mutually supporting to enhance communication. Gross (1983) states that tables are paralinguistic extensions of scientific and technical discourse. Therefore, I set off the assessment questions, as well as Marwell and Schmitt's compliance-gaining taxonomy and the Compliance-Gaining Techniques and Patient Assessment Criteria, in tabular form (see Instruments section).

Integrate Compliance-Gaining Theory into The Nursing Process

Once the assessment questions were developed and formatted, I integrated Marwell and Schmitt's theory into The Nursing Process to render a theoretical basis for communicating the import of compliance to patients within the conceptual framework of the nursing profession. I addressed each component of The Nursing Process individually, synthesizing the theory into the assessment, planning, intervention, and evaluation phases.

Assess

The assessment questions will assist educators to construct a patient profile and develop a diabetes education plan tailor-made to the patient's needs and abilities. This

information is important in order to select the appropriate compliance-gaining messages. Different compliance-gaining messages motivate newly diagnosed patients and patients who have had diabetes for several years primarily because recommended treatment regimens do not have immediate positive consequences. Patients only notice a change in their health when they do not follow prescribed behavior changes (Klingle, 1996). Therefore, newly diagnosed patients may not respond well to expertise messages about long-term complications because they have not experienced them. But patients with diabetic complications, such as visual disturbances, may attend to information on preventing further damage, i.e., blindness. People who are highly motivated to learn about diabetes and how to manage it will be receptive to positive expertise or positive self-feeling messages. A patient's emotional status also influences an educator's compliance-gaining methodology. Stress may influence regimen adherence, that is, stress and regimen non-adherence lead to worse glycemic control. However, adherence to self-management principles results in better glycemic control, even in the presence of stress (Peyrot et al., 1999). Patients who are anxious about the expense of disease management may respond better to a pre-giving message, such as offering a monitor and discussing the possibility of Medicare or insurance coverage of test strips before asking them to test their blood two times per day. The questions regarding knowledge and motivational level are subjective and do not need to be qualified because educators can estimate these items initially, re-evaluate them while teaching, and change their communication strategies accordingly.

Plan

Diabetes educators need to plan educational strategies and compliance-gaining methods according to patients' assessed needs. According to Schneider and Beaubien (1996), the most effective compliance-gaining strategies in patient education are positive and negative expertise, positive and negative self-feeling, pre-giving, liking, and direct request. Direct request is similar to altruism, but the speaker asks for compliance directly, without implying a personal favor or eliciting emotions. This term more closely reflects health communication and is the only change to Marwell and Schmitt's typology in this thesis. Educators may apply some or all of these techniques to most diabetes education situations, based on the answers to the assessment questions.

I developed a table to illustrate which of these five techniques are most appropriate vis-à-vis patient assessment criteria, and diabetes educators can use this table as a time-saving aid to planning the most effective compliance-gaining methods to use during patient teaching (see Table 3, Compliance-Gaining Techniques and Patient Assessment Criteria). The five selected techniques are described here:

- Expertise – An effective method of compliance-gaining in diabetes education is positive and negative expertise, or providing patients with pertinent information to make appropriate lifestyle choices that lead to long-term health. This technique is most effective with newly diagnosed patients with little knowledge of the disease, but is also appropriate for people who have lived with diabetes for some time, especially if they had little or no education initially. A very effective way to convince patients of the benefits of self-management is to provide them with direct information with minimal medical language. This information should alleviate patients' fears and

concerns, thereby eliminating these major obstacles to compliance. Doctors who provide necessary information and the latest research on diabetes see higher rates of compliance (Nebergall, 1999). Patients with minimal motivation respond better to other compliance-gaining messages, such as positive self-feeling.

- Self-Feeling – Emotions impact the effectiveness of compliance-gaining messages and influence message choice (Boster et al., 1999). Positive and negative self-feeling messages target patients' emotions and are most effective in motivating knowledgeable patients who have had diabetes for several years, as their non-compliance is not related to a lack of information, but rather a lack of motivation (Klingle, 1996). Positive self-feeling messages foster the high esteem and approval most people seek, and are more effective and desirable than negative self-feeling messages, which are fear-based. Fear as a motivator for behavior change works only on a short-term basis. Some patients need to be in control, and they may feel powerless when diagnosed with a non-negotiable disease such as diabetes. These people need reassurance that their problems are solvable, and self-management provides a rewarding feeling of control. Patients prefer hearing the benefits of compliance, not the frightening consequences of inadequate management (Nebergall, 1999). However, over time, an occasional negative message may be effective because patients are motivated to change their behavior to eliminate the negative stimulus (Klingle & Burgoon, 1995).

Occasionally, written contracts between the patient and clinician are effective in gaining compliance. These contracts provide patients with rewards after successful completion of a contracted goal and offer a future incentive for behavior changes. If

clinicians must strongly persuade patients to follow medical advice, compliance is unlikely (Guthrie & Guthrie, 1991).

- Pre-Giving – Some diabetes educators may find the idea of pre-giving as a compliance-gaining technique inappropriate, but this method is apropos in certain instances. For example, some newly diagnosed patients are concerned with the cost of diabetes management and are reticent to monitor their blood glucose levels every day because of the expense of the monitor and test strips. Educators could offer these patients a free monitor, some test strips or discount coupons for strips, and information on reimbursement or assistance for home monitoring products. Most blood glucose monitor manufacturers offer free or discounted monitors to patients in order to gain a new customer. Also, many insurance companies, as well as Medicare, will pay for a certain amount of maintenance supplies for monitors every month. When educators give patients these supplies and information initially, they diffuse the financial barrier, and patients are more apt to comply.
- Liking – Clinicians who are friendly and helpful encourage a positive frame of mind in patients, which promotes compliance with requests (Marwell & Schmitt, 1967). Liking promotes confidence in healthcare professionals and decreases fears, and patients respond well to this compliance-gaining technique (Schneider & Beaubien, 1996). Patients who interact with controlling and domineering clinicians exhibit poor metabolic control. Researchers have found a negative correlation between healthcare providers' dominance and patient adherence (Street et al., 1993). Therefore, clinicians who establish a rapport with patients will be more successful at increasing motivation in newly diagnosed patients or in those who have had diabetes for a while.

- Direct Request – People who are apt to respond well to direct requests may be at any stage of the disease process, have a solid knowledge base in self-management, are not overwhelmed by emotions or concerns, and are highly motivated. They do not need the psychological restorative quality of self-feeling messages (Boster et al., 1999). They want updates on new research and treatment modalities, and clinicians need only request that they make necessary changes in treatment regimens.

Intervene

Once educators have determined the pertinent patient characteristics and needs and have chosen the suitable compliance-gaining techniques, they may implement their plan. Diabetes self-management education includes educational interventions directed toward helping individuals achieve identified self-management goals. Diabetes education is not merely providing information, but helping patients to be self-sufficient (Rubin et al., 1999). Expertise messages are indicated in nearly every diabetes education situation and will likely encompass most of the educational interventions. Information on the benefits of glycemic control, such as the DCCT report, is a good example of an expertise message. Both positive and negative self-feeling messages are also important in diabetes education because feelings greatly influence behavior. The need for approval and respect is strong in humans, so positive self-feeling messages will usually be more effective than negative reinforcement (Klingle & Burgoon, 1995). However, undesirable blood glucose test results can serve as feedback for behavior change. Educators should teach patients to interpret the results of blood and urine testing and to discuss their feelings when they see

undesirable results. Patients are more likely to comply with information that is relevant to them and that decreases their fears (Funnell & Anderson, 1999).

Pre-giving, liking, and direct request are also pertinent interventions. Diabetes educators should research courtesy services and indigent programs available in their areas and nation-wide in order to use the pre-giving technique effectively. Patients need long-term financial solutions and plans for long-term self-management and, with a modicum of effort, educators can keep abreast of potential solutions to the financial burdens incurred with chronic illness. Liking alone may not be suitable for every patient characteristic, but in combination with other techniques, such as expertise, it is very effective. Schneider and Beaubien (1996) discovered that doctors rely heavily on expertise and liking when attempting to gain patient compliance. Direct requests are preferable for people who do not need a lot of information, but rather simple directions on aspects of self-management with which they are already familiar, e.g., increasing morning NPH insulin 2 units.

Evaluate

Educators must evaluate the effectiveness of their educational efforts both initially and long-term. Acquiring knowledge and skills does not mean a patient's behavior has changed (Guthrie & Guthrie, 1991). Educators can evaluate compliance initially by asking patients to repeat instructions or to recite their recommended daily routine. On follow-up sessions, educators can assess patient blood glucose readings and diet journals to determine compliance with self-management activities, as these items render concrete evidence on whether or not diabetes is controlled. Diabetes is a chronic disorder

requiring a lifetime of self-management, and ongoing education is necessary. Therefore, periodic evaluations of patient compliance are also necessary, either in-person during follow-up health assessments or by phone. Calling patients one week after their initial diabetes education is desirable to answer questions, check compliance, and offer assistance as needed. Ideally, patients should visit a diabetes healthcare team, including an educator, for diabetes maintenance two to four times a year depending on their needs and health status. Educators should evaluate patient compliance during these sessions, re-assess patient characteristics, and formulate a new teaching plan. When patients do not comply, educators should not assume that they are not motivated, but should look for obstacles such as a lack of education or misunderstanding, and develop a communication plan accordingly (Klingle, 1996). By using the instruments I developed for this thesis on a continuous basis, educators can evaluate patients' changing needs and respond appropriately with compliance-gaining messages.

Instruments

I developed two instruments for this thesis, the Assessment Questions for Compliance-Gaining Message Selection, and the Compliance-Gaining Techniques and Patient Assessment Criteria. Educators must ask the assessment questions first in order to use the compliance-gaining table.

Assessment Questions for Compliance-Gaining Message Selection Table

Figure 2 (page 46) outlines the assessment questions educators must ask patients to ascertain the most effective compliance-gaining messages.

Is the patient newly diagnosed?	Yes____ No____
What is the patient's knowledge level?	Minimal____ Moderate____ High____
What are the patient's concerns?	Health____ Lifestyle____ Financial____
What emotions is the patient experiencing?	Fear____ Guilt____ Depression____
What is the patient's motivation level?	Minimal____ Moderate____ High____

Figure 2. Assessment Questions for Compliance-Gaining Message Selection

These questions will assist educators to develop a diabetes education plan tailor-made to patient needs and envision a patient profile that will respond to specific compliance-gaining messages. The next step is to transfer the patient profile into the Compliance-Gaining Techniques and Patient Assessment Criteria table, which will reveal the most appropriate compliance-gaining messages to use for each patient.

Compliance-Gaining Techniques and Patient Assessment Criteria Table

Table 3 (page 47) illustrates which of the five compliance-gaining techniques are most appropriate vis-à-vis patient assessment criteria, and diabetes educators can use this table as a time-saving aid to planning the most effective compliance-gaining methods to use during patient teaching.

Characteristics	Expertise	Self-Feeling	Pre-Giving	Liking	Direct Request
New Diagnosis	+		+	+	+
Existing Diagnosis	+	+		+	+
Minimal Knowledge	+				
Moderate Knowledge	+				
High Knowledge		+			+
Health Concerns	+				
Lifestyle Concerns	+				
Financial Concerns	+		+		
Fear	+	+	+	+	
Guilt	+	+			
Depression		+			
Minimal Motivation		+	+	+	
Moderate Motivation	+		+	+	
High Motivation	+				+

Table 3. Compliance-Gaining Techniques and Patient Assessment Criteria
(+ = Most Appropriate)

Diabetes educators may use Table 3 to plan effective patient education methods by selecting the correct patient profile from the first column and noting the corresponding compliance-gaining strategies. They should employ those strategies appearing most frequently first, but not discount the others, and they should individualize each education plan to match patient characteristics. Table 4 (page 48) provides a sample patient for analysis, Mr. Jones; the highlighting on the farthest left column denotes hypothetical patient characteristics, and the highlighting in the other five columns illuminates the appropriate compliance-gaining messages.

Characteristics	Expertise	Self-Feeling	Pre-Giving	Liking	Direct Request
New Diagnosis	+		+	+	+
Existing Diagnosis	+	+		+	+
Minimal Knowledge	+				
Moderate Knowledge	+				
High Knowledge		+			+
Health Concerns	+				
Lifestyle Concerns	+				
Financial Concerns	+		+		
Fear	+	+	+	+	
Guilt	+	+			
Depression		+			
Minimal Motivation		+	+	+	
Moderate Motivation	+		+	+	
High Motivation	+				+

Table 4. Sample Patient Analysis (Mr. Jones' Characteristics)

As the example illustrates, Mr. Jones should respond to all five of the strategies, but educators will most likely gain compliance with self-feeling messages, as they are the most frequently appearing technique that matches the patient characteristics. However, each educator must decide which patient characteristics are most pronounced. For example, if Mr. Jones is obsessed with financial concerns and refuses to purchase a newly prescribed oral hypoglycemic, educators will not achieve compliance with this treatment change using self-feeling messages. His financial concerns must take priority in educational interventions. Educators could use the pre-giving technique and offer him medication samples to evaluate the efficacy of the drug before he invests in this new treatment. They could also use the expertise technique and inform Mr. Jones of industry, community, or government services for medication assistance, such as those offered by some pharmaceutical companies. When educators meet Mr. Jones' financial needs, they can then address his other needs with self-feeling messages. In summary, educators must individualize compliance-gaining strategies in diabetes education depending on patient

needs and goals; the above table is merely a communication tool to assist educators in formulating a workable plan.

Review of Diabetes Education Tools

I designed a review questionnaire to assess the effectiveness of the compliance-gaining instruments presented in this thesis, which were completed by two diabetes educators at Stillwater Medical Center. The educators completed the questionnaire based on their experience using the educational tools in a clinical setting (see Chapter I, Figure 1). I instructed them in the concept of compliance-gaining and thoroughly explained the compliance-gaining techniques used in these tools, providing them with sample statements for each technique. I also provided a brief written description of each technique on the patient documentation record, which includes the compliance-gaining techniques table they use when education patients. I will summarize and discuss the answers to this survey in Chapter IV.

Design Summary

The methodology for this thesis consists of the following steps:

- literature review
- application of the selected communication theory to diabetes education
- development of tools for educators to use when instructing diabetic patients
- integration of the theory and tools into The Nursing Process

The literature review encompassed communication theory, health communication, and diabetes education. All three components were necessary to arrive at the best application

of communication theory to diabetes education. Once I selected the most appropriate theory for diabetes education, I extracted the most salient points from the theory to apply to this specialized communication situation. I compiled a list of five pertinent compliance-gaining techniques and then developed tools for diabetes educators to use when educating patients. I decided to utilize an avenue familiar to nurses, The Nursing Process, to present this theory in a practical application. Using the tools presented in this chapter, I converged communication theory into medical practice in order to offer a means to increase compliance of diabetic patients.

Chapter IV

Findings

General

In this chapter, I discuss in detail the four factors I found as a result of my literature search and as I developed and used the compliance-gaining tools. During this process, in order to determine the extent to which compliance-gaining theory is applicable to diabetes education, I considered the following questions:

1. Can this theory serve as a vehicle to transmit critical information on diabetes pathophysiology and self-management to people with diabetes?
2. Can this vehicle be better than any existing strategies?
3. Can diabetes educators benefit from using this theory when educating patients via The Nursing Process?
4. Can patients benefit from receiving information on diabetes within a compliance-gaining framework?

The preceding questions guided my research as I examined literature on diabetes pathophysiology and complications, communication theory, and Marwell and Schmitt's compliance-gaining theory. As a result of my literature research into the feasibility of applying compliance-gaining theory to diabetes education, I found the following:

- When diabetic patients comply with self-management regimens, they have a decreased incidence of morbidity and mortality.
- No clinical research exists to date that applies Marwell and Schmitt's compliance-gaining theory to diabetes education.

- The results of the survey completed by two diabetes educators indicate that the instruments I developed for this thesis help them better understand the importance of communicating information on diabetes to patients in a manner that motivates patients to comply with self-management.
- Based on my six years experience as a diabetes educator, I believe that the tools presented in Chapter III (see Figure 2 and Table 3) can assist educators to assess patient education needs, plan and execute effectual instructional curricula, and evaluate the results of their educational efforts by assessing patient compliance with suggested treatment regimens.

Decreased Morbidity and Mortality in Diabetic Patients

The foundation of the research for this thesis and the impetus behind exploring the application of compliance-gaining theory to diabetes education is the well-researched and widely recognized premise that when diabetic individuals comply with measures to keep their blood glucose within normal limits, they increase their longevity and decrease their chances of disease complications. The CDC's National Diabetes Fact Sheet (1998) delineates the devastating consequences of poor glycemic control, such as cardiovascular, neurological, kidney, and eye disease. Guthrie and Guthrie (1997) discuss the significance and results of the Diabetes Control and Complications Trial (DCCT), a ten-year study by the National Institutes of Health that clearly demonstrates a reduction in the risk of cardiovascular, neurological, kidney, and eye disease in patients who obtain and maintain control of diabetes. In response to this study, researchers in diabetes management have endeavored to discover new and improved methods to sustain blood

glucose within normal limits as much of the time as possible. One technique to accomplish this goal is educating patients by a trained clinical team in all aspects of diabetes self-management so that they will be empowered to achieve disease control (Guthrie & Guthrie, 1997).

Whittemore (2000) notes that the chronicity of diabetes leads to severe complications that greatly disrupt a person's lifestyle and require a major psychosocial adjustment. She suggests that the only way people can arrest the progression of this debilitating disease is to comply with self-management routines that include intensive glycemic control. She cites findings from the United Kingdom Prospective Diabetes Study (1996) that demonstrate that glycemic control in patients with non-insulin dependent diabetes mellitus significantly reduces morbidity and mortality. She also presents the position of the American Diabetes Association that control of diabetes decreases the rate of disease complications, and the associated costs, and improves the quality of life among people with diabetes. Peyrot et al. (1999) note that people with diabetes must constantly balance glucose intake, insulin levels, and energy expenditure in order to maintain normal blood glucose levels and prevent long-term disease complications. Diabetes educators must communicate to diabetic patients the means to achieve this balance.

The fact that compliance with diabetes treatment regimens results in good health and prevents or postpones morbidity and mortality is well-established and documented with clinical research. This fact is not a new finding, but rather a very significant prerequisite for this study that I highlighted to set a foundation for merging compliance-gaining theory with diabetes education. I had the responsibility of extrapolating salient

(existing) data to support the need for patients to comply with diabetes self-management regimens because I strove to discover and present a better method for educators to communicate such compliance to patients than is currently available to them.

Marwell and Schmitt's Compliance-Gaining Theory Applied to Diabetes Education

In the literature review of this thesis (Chapter II), I found studies of communication and communication theory in a healthcare context, but none that apply compliance-gaining theory to diabetes education. I examined the following studies that analyze communication style or communication theory in a healthcare environment:

- Klingle and Burgoon (1995) employed a health communication theory, Reinforcement Expectancy Theory, to assess communication strategies used to achieve short-term and long-term medical adherence in patients in several clinics and hospitals. They did not concentrate on any particular class of patient or on any specific disease (although some participants were diabetic patients). The researchers observed the differences in the effectiveness of compliance-gaining attempts between male and female physicians and the potency of their influence over time.
- Street et al. (1993) studied the communication styles of nurses and diabetic patients to determine whether these styles impacted diabetes control and to ascertain what factors influence communication patterns during diabetes education. They did not incorporate any communication theory in this work, but rather only observed communication style, labeling it controlling, directive, or patient-centered, and noted the success of patients with treatment adherence after interacting with nurses using these various communication methods.

- Schneider and Beaubien (1996) endeavored to understand message selection better in doctor-patient communication and they used Marwell and Schmitt's taxonomy to identify compliance-gaining attempts by these doctors in an Emergency Room setting.

I was unable to find any research that specifically applies Marwell and Schmitt's (or any other theorists') compliance-gaining theory to a diabetes education setting. Whittemore (2000) emphasizes the necessity of grounding diabetes education in theory, but she emphasizes the need to test any theory used in educating diabetic patients in a clinical setting. Clearly, diabetes educators lack knowledge regarding effective communication of diabetes self-management principles

Survey Results

I surveyed the two diabetes educators at Stillwater Medical Center in Stillwater, Oklahoma who currently use the educational tools I developed for this thesis. Although I have not tested these tools and this theory in a controlled setting and I present only two evaluations of the tools, the responses of these educators supply meaningful and useful evaluation data for this research, and this information indicates that the tools are useful in planning communication strategies and meeting patient needs. Both educators are objective users of the tools, to which they are unaccustomed, and they have no prior knowledge of compliance-gaining theory; hence they tried new and unfamiliar skills when educating patients. Respondent #1 has been a diabetes educator for nine years and Respondent #2 has been educating diabetic patients for eight years. I present the survey

questions and their answers verbatim here (see Chapter I, Figure 1 for the complete survey form):

1. Do the assessment questions assist you in determining patient educational needs?

   Respondent #1: *Yes because it helps to identify the type/style of education presentation needed to more effectively meet patients' needs.*

   Respondent #2: *Yes because it helps me focus on individual needs and personalities to better focus my teaching.*

2. Does the Compliance-Gaining Techniques and Patient Assessment Criteria table help you to select the most effective compliance-gaining methods to use when educating diabetic patients?

   Respondent #1: *Yes because I am able to develop a teaching style that will meet patients' needs, therefore being more attractive to patients so that information will be utilized.*

   Respondent #2: *Yes because I am more able to identify techniques to help teaching be more specific and worthwhile to the patients.*

3. Are you able to incorporate the compliance-gaining techniques into The Nursing Process when educating diabetic patients?

   Respondent #1: *Yes. The compliance-gaining techniques make the teaching approach individualized to the patient's needs. It allows a planned approach in the assessment, the planning, and the intervention stages.*

   Respondent #2: *Yes. I can keep in mind where the patient is coming from and his/her viewpoint. The compliance-gaining techniques help me organize my teaching to best meet the patients' needs.*

Both these two educators agree that the tools I developed from compliance-gaining theory focus their attention on communication style and meeting individual patient needs. They further indicate that the tools assist them and the patients they serve; the educators can more effectively plan and execute diabetes teaching, and patients receive individualized instructions.

My Experience as a Diabetes Educator

In the six years I spent educating diabetic patients, I observed the results of patient compliance versus noncompliance with treatment regimens. Diabetic patients who keep their blood glucose within normal limits most of the time experience good health and well-being. They are exhilarated when they see that their diligence with self-management leads to normal blood glucose readings, more energy than they have had previously, and the absence of diabetes symptoms. When patients make such a correlation, they see the positive, short-term results of compliance, and they can better conceptualize the significance of compliance to preventing long-term complications of diabetes. Conversely, patients who do not comply with self-management principles, for whatever reason, are symptomatic, exhausted, and sickly. Further, they frequently experience serious cardiovascular, neurological, kidney, and/or eye complications as soon as one year after diagnosis with diabetes. Compliance with diabetes self-management routines is vital to the well-being of people with this disease (Guthrie & Guthrie, 1997).

Because compliance is so important to the health and welfare of diabetic patients, any tool, especially a theoretically grounded tool, that will increase patient compliance is worthy of attention and trial. As a result of my research into diabetes and Marwell and

Schmitt's compliance-gaining theory, I believe that the tools I developed for this thesis can assist diabetes educators to assess patient education needs, plan and execute effectual instructional curricula, and evaluate the results of their educational efforts by assessing patient compliance with suggested treatment regimens. I used these tools in my work as a diabetes educator at Stillwater Medical Center for four months with 50 patients; 34 patients were newly diagnosed and 16 had diabetes for one year or more. I here present my findings of compliance-gaining theory and these compliance-gaining tools integrated into each stage of The Nursing Process based on my diabetes education experience.

Assess. Assessment of patient learning needs is tantamount to the technical communication concept of audience analysis. Diabetes educators must analyze the knowledge, experience, and learning needs of their audience as they prepare education plans. This information is critical to developing relevant instructional curricula for individual patients. By conceptualizing audience analysis in diabetes education in a context of compliance-gaining (that is, thinking about what compliance-gaining measures I will use based on patient needs and characteristics), I can better assess the specific patient characteristics I must know to target patient learning deficits. The Assessment Questions for Compliance-Gaining Message Selection (see Chapter III, Figure 2) represent the issues I observed that are most significant to patient compliance. Every patient I instructed was contending with all or most of these issues, namely lack of knowledge, health problems, lifestyle changes, finances, and heightened emotions. I found the Assessment Questions to be a succinct manner in which to assess patient education needs, prompting me to extrapolate all the necessary information to create a compliance-gaining strategy for educating each diabetic patient.

Plan and Execute. In order to educate people with diabetes successfully, I must have a sound and comprehensive knowledge base in diabetes pathophysiology and disease management. However, this knowledge is useful only if I can communicate it to the people who need it. I need a vehicle to transmit this critical information to patients in order to empower them to manage diabetes and to influence their lifestyle decisions. The Compliance-Gaining Techniques and Patient Assessment Criteria table (see Chapter III, Table 3) can serve as this vehicle. I used this table when educating patients, and I found it focused my attention on gaining patient compliance and structuring the necessary information within a compliance-gaining framework. Also, I was able to spend more time instructing patients because I did not have to consider the meaning and relevance of each potential compliance-gaining technique and then decide which ones to use with each patient, but rather I just selected the appropriate techniques from the table and then planned and executed the instructional curricula. With a modicum of orientation to compliance-gaining theory and the tools presented here, other diabetes educators can experience similar benefits.

Evaluate. I followed-up with 20 of the 50 patients (via telephone) with whom I used the compliance-gaining tools two weeks after the initial education session, and I evaluated their status and their compliance with my prescribed treatment regimens. All 20 patients were newly diagnosed with diabetes. As discussed in Chapter III, to evaluate compliance, I asked these patients to repeat their prescribed treatment regimens, and I evaluated their blood glucose readings and diet journals. I found the following results:

- Eighteen patients were able to recall all instructions.

- Fifteen patients kept diet journals and all of those 15 people demonstrated some degree of compliance with a diabetic diet. Two other patients verbalized compliance with a diabetic diet, but did not keep journals.
- Sixteen patients had a significant improvement in their blood glucose readings, from above normal limits upon initial diagnosis with diabetes to within normal limits two weeks later (all showed a gradual decrease in blood glucose readings).

I used the education tools in this thesis as a guide to re-evaluate their characteristics and needs and to determine which compliance-gaining measures would then apply. The 20 patients I worked with needed less expertise and more self-feeling because they had more information on diabetes than before our first encounter. The 16 patients who had improved glucose readings needed positive reinforcement of their behaviors that led to this positive outcome. I also used the direct request technique with these 16 patients to ask them to continue their present course of action. With the four patients who did not show improved glucose readings, I used negative self-feeling to reiterate the negative consequences of hyperglycemia on their health and well-being.

The educational tools presented here, borne out of a comprehensive literature search of diabetes and communication theory, have assisted me to concentrate on obtaining and maintaining compliance with diabetic patients as well as imparting critical scientific information. They have also streamlined my work to develop communication strategies and integrate compliance-gaining methods into The Nursing Process more efficiently.

Chapter Conclusions

The results I achieved from my research and experience show that Marwell and Schmitt's compliance-gaining theory can serve as a vehicle to transmit critical information on diabetes pathophysiology and self-management to people with diabetes. A comparison of existing strategies with this vehicle was not possible because I found no such strategies to exist in the literature specifically for diabetes education. However, when other researchers test this theory and the educational tools presented in this thesis in a controlled study, they will be able to measure its true value to diabetic patients. Based on the survey results and my own experience, I find the tools to be helpful communication aids for diabetes educators.

Diabetes educators can benefit from using this theory when educating patients via The Nursing Process. The two respondents to the survey of the compliance-gaining tools found them to be useful in assessing patient needs, planning individualized instructions, and communicating more effectively. I found the tools to be effective and time-saving communication aids.

Patients can benefit from receiving information on diabetes within a compliance-gaining framework. A well researched and accepted fact in diabetology is that when patients comply with self-management regimens, they decrease their chances of morbidity and mortality. This fact motivated me to find a communication theory that would simultaneously guide diabetes educators to consider how they transmit information to patients and motivate patients to comply with self-management routines, and I thereby proposed a theoretical foundation for communication in diabetes education. Any communication techniques, especially techniques rooted in theory, that center on helping

patients to comply with treatment regimens will benefit these patients. These results support my contention that diabetes educators must communicate the importance of compliance with self-management regimens to diabetic individuals, and educators can benefit from communication theory to meet this responsibility.

Chapter V

Summary, Conclusions, and Recommendations

Summary

Diabetes

Diabetes is a serious disease with devastating consequences if unmanaged. Much information and research illuminates the consequences of unmanaged diabetes and the certain course of the disease without proper treatment and management. These consequences include, but are not limited to, blindness, amputations, heart disease, kidney failure, and premature death. The AADE (1998) and the NS (1999) delineate the adverse effects of unmanaged diabetes. Conversely, people who manage diabetes live healthy, productive lives. The goal in diabetes self-care is to manage glucose levels in order to prevent long-term, injurious complications and ensure maximum health and well-being. With minimal self-management activities, people with diabetes can achieve this goal.

Thorough education is vital to patient self-management of diabetes. The goals of diabetes education are to impart knowledge about diabetes pathophysiology, etiology, signs and symptoms, and management, and to motivate patients to comply with prescribed treatment regimens. Diabetes self-management education includes information on diabetes pathophysiology and management, as well as strategies for behavior change. Clinicians must provide patients with the necessary facts to make the correct healthcare choices. Patients, through the guidance of diabetes educators, are

responsible for daily diabetes management and prevention of complications. Therefore, various national organizations, such as the American Medical Association and the American Nurses Association, have emphasized the importance of comprehensive patient education. Diabetes educators must educate patients on an on-going basis, so that they are self-sufficient and competent in their treatment regimens, and motivate them to comply with healthy lifestyle behaviors both initially and long-term.

Communication Theory

Communication theory is useful to healthcare clinicians because it prompts their awareness of the impact of messages on patients and assists them to select effective messages and evaluate outcomes. As Schneider and Beaubien (1996) noted in their study, healthcare professionals use certain compliance-gaining messages when interacting with patients, but they are unaware that they use these techniques or they do not understand why they use them. This situation leads to haphazard and non-purposeful communication, which, in a healthcare setting, can be misleading at best and have devastating consequences to patients' health at worst. Patients must have clear instructions in order to comply with health management and disease prevention. Researchers such as Klingle and Burgoon (1995) and Whittemore (2000) have stressed the value of communication theory to healthcare. This specialized discipline will eventually develop their own relevant communication taxonomy, but they must start with current research in both general communication theory and health communication theory. Klingle and Burgoon (1995) and Schneider and Beaubien (1996) demonstrate through their research that healthcare professionals need and already use a specific compliance-

gaining lexicon. These professionals should study the tenets of communication theory so that they become aware of the power of their messages and choose their words accordingly. Then, communication in the healthcare field will be purposeful and direct, which will result in better patient comprehension and increase the chances of patient compliance with instructions.

Attention to communication theory will enable healthcare professionals to select effective messages and evaluate outcomes. If these professionals are aware of their choices in message construction and of how patients may receive messages, they are empowered to streamline their words into powerful and relevant messages. These messages will be specific to patient needs and to the communication context. Clinicians may also evaluate the outcomes of their communication attempts when they know that their messages were goal-directed and focused on particular outcomes. For example, if a clinician uses a compliance-gaining message such as expertise when asking a patient to start a new medication regimen, the clinician could evaluate the effectiveness of his/her request by asking the patient to repeat the benefits of the medication and inquiring if the patient did indeed experience the benefits on a follow-up appointment. This evaluation of communication efficacy is necessary for clinicians to decide whether or not their messages were appropriate and how they will construct future messages.

Compliance-Gaining Theory

Compliance-gaining theory describes the way people manipulate others and satisfy desires. Marwell and Schmitt's compliance-gaining theory, developed and tested in 1967, is a theory of message production based on the premise that people use a variety

of techniques to get others to act in desired ways. They identified 16 different compliance-gaining strategies that reflect the extent of power resources people possess and their willingness to use them. The recipient grants compliance in exchange for something desired from the compliance-seeker. Therefore, the compliance-seeker must have sufficient resources to gain compliance. Marwell and Schmitt strove to discover how people go about gaining compliance, and their observations led to a taxonomy of 16 compliance-gaining messages that their study participants most frequently used. These messages represent clear attempts to manipulate a target into behaving in a manner desired by the messenger, some attempts being more socially palatable and others more socially unacceptable. People must choose the method of compliance-gaining based on the receiver, the communication context, and their willingness to violate social norms.

Marwell and Schmitt's compliance-gaining theory is applicable to diabetes educators because compliance is frequently a problem with diabetic patients. Compliance is important in self-management of diabetes in order for people to prevent complications and live healthy, productive lives. Therefore, diabetes educators should focus instructions to diabetic patients not only on accurate clinical information, but also on patient adherence to treatment regimens. Marwell and Schmitt have developed a taxonomy of compliance-gaining messages that may be readily adapted to diabetes education. This taxonomy is the result of research into how people attempt to gain compliance and is a convenient starting point at which to apply compliance-gaining theory to diabetes education. Certain messages therein are most relevant to diabetes educators as they plan education strategies. Diabetes educators have the clinical knowledge to impart to patients, but because compliance is a major goal for diabetes

education, educators should frame their clinical information in a compliance-gaining context. Marwell and Schmitt's taxonomy provides this framework, specifically the expertise, self-feeling, pre-giving, liking, and direct requests techniques. I believe these five techniques are the most fitting for a diabetes education setting, based on my experience as a diabetes educator and on diabetes education research, and they provide opportunities for educators to enhance compliance with every patient and in every situation.

Diabetes educators may incorporate compliance-gaining theory into The Nursing Process to develop thorough and effective patient education plans. They should first assess patient needs and characteristics to produce a patient profile that will determine the most appropriate compliance-gaining methods to use, with the assistance of the Assessment Questions for Compliance-Gaining Message Selection (see Chapter III, Figure 2). They can then develop an education plan using the Compliance-Gaining Techniques and Patient Assessment Criteria (see Chapter III, Table 3) to select the correct compliance-gaining techniques and incorporate them into their education plan. They will use this plan in the intervention phase by constructing information on the disease process and self-management principles within a compliance-gaining framework. More specifically, the five compliance-gaining methods in Table 3 serve as vehicles to deliver the clinical message. Finally, educators must evaluate the results of their compliance-gaining attempts by judging whether patients have indeed adhered to instructions and suggestions for lifestyle changes, and they should maintain or alter their future education plans accordingly. In this manner, educators will integrate Marwell and

Schmitt's compliance-gaining theory and The Nursing Process to help patients comply with diabetes self-management principles.

Discussion of Findings

I researched the feasibility of merging compliance-gaining theory with diabetes education and I discovered the following:

- When diabetic patients comply with self-management regimens, they have a decreased incidence of morbidity and mortality. This well-established and accepted fact is the basis for my research. I endeavored to find a means to improve the communication skills of diabetes educators and focus their attention on helping patients obtain and maintain compliance. How educators structure messages determines to a large extent how patients interpret the important information they receive. Therefore, educators can convey clinical information in a compliance-gaining context and emphasize the importance of compliance with treatment regimens.
- No clinical research exists to date that applies Marwell and Schmitt's compliance-gaining theory to diabetes education. Relevant studies examine communication styles in a healthcare context and apply a specific communication theory to physician-patient relationships. I also explored a study that observed physician compliance-gaining strategies vis-à-vis Marwell and Schmitt's compliance-gaining taxonomy. None of these studies (nor any other that I found) applied any communication theory directly to diabetes education. Therefore, a deficit exists in the diabetes education knowledge base regarding effective communication techniques.

- The results of the survey completed by two diabetes educators indicate that the instruments I developed for this thesis help educators better understand the importance of communicating information on diabetes to patients in a manner that motivates patients to comply with self-management. These experienced diabetes educators used the educational tools and found them to be useful in assessing patient needs, planning individualized instructions, and communicating more effectively. For example, both educators said that the assessment questions helped them to focus on individual patient needs and the compliance-gaining table helped them to design teaching plans to meet these patient needs. Even though only two educators are currently using these tools, and they are not collecting data on patient outcomes as a result of using the tools, their opinions on the quality and utility of the tools are valuable and suggest the legitimacy of testing them in a clinical study.
- Based on my own personal experience as a diabetes educator, I believe that the tools presented in Chapter III (see Figure 2 and Table 3) can assist educators assess patient education needs, plan and execute effectual instructional curricula, and evaluate the results of their educational efforts by assessing patient compliance with suggested treatment regimens. I found the tools helpful in selecting the appropriate compliance-gaining techniques for each patient based on his/her individual profile, as well as an efficient means of assessing patient needs and planning, executing, and evaluating educational curricula.

Discussion of Hypotheses

Hypotheses

1. *Diabetes educators must effectively communicate to patients the importance of compliance with self-management regimens.*

Educated patients are more likely to live healthy lives and to prevent complications such as blindness, amputations, heart disease, kidney failure, and premature death. Most doctors and nurses in hospitals, clinics, and offices who do not specialize in diabetes treatment have neither the time nor the expertise to educate diabetic patients sufficiently. Hopefully, they will refer their patients to diabetes educators, and it is incumbent upon these educators to give patients with diabetes all the requisite information they need to manage their disease independently. Educators must deliver this information in a manner that conveys the import of compliance with suggested treatment regimens, not just indiscriminately spout scientific facts and instructions. They must communicate the gravity of diabetes and the course of this disease if unmanaged. Self-management of diabetes is critical to the control of symptoms. For example, as Guthrie and Guthrie (1997) illustrate, if insulin-dependent diabetic patients allow their blood sugar to rise above 300 mg/dl blood, they can experience a potentially fatal complication known as diabetic ketoacidosis. Additionally, as the Diabetes Control and Complications Trial demonstrated (see Chapter I for more details), people with diabetes who followed a diabetic diet, exercised regularly, and complied with a strict insulin regimen had a reduced risk for eye, nerve, and kidney damage, as well as reduced LDL

cholesterol (which can lead to blood vessel damage), compared to those people who did not follow such strict self-management protocols.

2. *These educators can benefit from communication theory in order to meet this responsibility.*

Communication theory can enhance educators' ability to educate patients effectively and thoroughly, making them aware of the impact of their words. The two educators surveyed for this thesis state that the compliance-gaining tools presented in this thesis helped them plan their instructions to best meet individual patient needs. For example, they both remark that the compliance-gaining table helped them develop a teaching style or plan particular teaching techniques specific to each patient. The educational tools offer diabetes educators a means to communicate vital information to patients. One educator surveyed for this thesis says that individualized teaching plans, developed from the compliance-gaining table, make the facts she is communicating to patients more attractive to them, thereby increasing the probability they will use the important information she conveys. In my own experience, I found the practical application of compliance-gaining theory, manifested in the tools presented in this thesis, to facilitate my educational efforts and decrease the time I spent planning educational strategies. After I assessed a patient's characteristics and learning needs using the assessment questions, I used the compliance-gaining table to immediately select the most appropriate compliance-gaining strategies to employ when communicating essential information on diabetes pathophysiology and self-management to this patient.

Marwell and Schmitt's compliance-gaining theory is particularly useful to diabetes educators in improving their communication skills and ultimately ensuring that

patients adhere to vital lifestyle changes. Certain compliance-gaining messages proposed in this theory are appropriate to diabetes education, as they target the specific needs of diabetic patients. As indicated in the survey results, the educational tools developed from compliance-gaining theory assist diabetes educators to assess patient needs and plan targeted instructions that ultimately help patients comply with treatment regimens. For example, one survey respondent says the compliance-gaining tools reveal the patient's background and viewpoint and this knowledge helped her organize her teaching to best meet the patient's needs.

Conclusions

Compliance-gaining theory can help diabetes educators communicate to patients the necessity of their adherence to self-management regimens. Since Marwell and Schmitt presented their compliance-gaining theory, other researchers and scholars have critiqued their work and applied it to various settings to determine its suitability. Some researchers, such as Schneider and Beaubien (1996), have found that Marwell and Schmitt's taxonomy is useful, but not entirely appropriate, for studying compliance-gaining strategies in a healthcare context. Boster et al. (1999) suggest that this taxonomy is contextual; some messages are effective in certain situations and not in others. Contextual information assists the message receiver in understanding requests. I have found no clinical research that applies Marwell and Schmitt's compliance-gaining theory directly to diabetes education. Healthcare practitioners who instruct diabetic patients require tools to convey information on diabetes in a manner that encourages patients to

comply with this information. Therefore, compliance-gaining theory logically unites with diabetes education to provide educators with these tools.

Diabetes educators can conceive of compliance-gaining theory vis-à-vis diabetes education metaphorically. First, the compliance-gaining taxonomy is a vehicle that delivers clinical information to patients. Diabetes educators must communicate scientific knowledge to patients, but they need a vehicle to effectively transport this knowledge to patients, lest it be lost. Compliance-gaining techniques can serve as these vehicles; they are not the actual scientific knowledge, but rather the machinery that will ensure the clinical messages reach the patient. Second, compliance-gaining strategies compose a framework in which educators may encompass self-management information. Again, the compliance-gaining strategies are not tantamount to scientific information, but they frame this important information in a compliance-gaining context that allows patients to focus on the import of the message, as a picture frame focuses the eye on the picture within. These metaphors illustrate the power of applying compliance-gaining theory to diabetes education. By using this humanistic theory, educators can transmit scientific information to patients while considering their emotions and needs, which determine to a large degree whether they will accept or reject the information. Compliance-gaining strategies will increase the likelihood that patients will attend to the information because they inherently offer something patients want or need, such as good health or positive self-esteem.

Diabetes educators can use compliance-gaining techniques to develop effective patient education plans. As mentioned above, compliance-gaining strategies will help diabetes educators convey scientific information to diabetic patients while stressing the benefits of compliance to treatment regimens. I have developed a means for educators to

incorporate Marwell and Schmitt's compliance-gaining theory into patient education plans. From their taxonomy, I have extrapolated the five most relevant compliance-gaining messages for a diabetes education setting. Educators can use these five strategies to plan how they will attempt to gain patient compliance. In other words, educators should use one or more of the five techniques identified in Table 3 (see Chapter III) when instructing patients in diabetes self-management, framing the relevant information in a compliance-gaining context.

Educators can incorporate compliance-gaining theory into The Nursing Process when educating diabetic patients. The Nursing Process consists of four steps to providing healthcare to patients: assessment, planning, intervention, and evaluation. Educators should assess patient characteristics and needs to determine which compliance-gaining messages will be most effective with each patient using the assessment criteria questions (see Chapter III, Figure 2). Then, they can compare the patient profiles they have developed to the Compliance-Gaining Techniques and Patient Assessment Criteria (see Chapter III, Table 3), select the appropriate techniques, and design a teaching plan. Educators should use this plan to intervene in patients' knowledge deficits of diabetes self-management in order to empower patients to manage diabetes independently. After educators have completed implementing their education plans, they must evaluate the effectiveness of their efforts both during the initial education session and in future encounters. They should observe whether patients are complying with recommended treatment prescriptions and the results of patients' self-management applications by asking patients to repeat instructions and clinical principles and by assessing lab values and diet journals. I have thus incorporated Marwell and Schmitt's theory into all phases

of The Nursing Process to assist educators to communicate to patients more effectively and to increase the possibility of patient compliance. Two diabetes educators who are using the materials I developed for this thesis completed a survey evaluating their effectiveness. They indicate that the educational tools work well in The Nursing Process and assist them to construct clinical messages in a manner that targets individualized patient needs and enhances the opportunity for patients to comply with diabetes self-management.

Recommendations

Testing of Educational Tools

The most important recommendation I propose from this thesis is that clinicians test the educational tools and outcomes on a group of patients in a controlled study. This work is theoretical, and I focused on merging Marwell and Schmitt's compliance-gaining theory with The Nursing Process to develop tools for diabetes education. My goal was to create a system to promote more purposeful and effective communication among diabetes educators and to increase the opportunity for patient compliance with critical treatment regimens. I have completed the prerequisite work for a controlled study by doing the preliminary research and formulating practicable tools to test my hypotheses: 1. *Diabetes educators must effectively communicate to patients the importance of compliance with self-management regimens; and* 2. *These educators can benefit from communication theory in order to meet this responsibility.* I have set the foundation for a clinical trial. Although the two diabetes educators at Stillwater Medical Center are using the educational tools and have found them personally helpful and favorable to patients,

medical researchers must test the hypothesis and tools in a controlled clinical study in order to validate them and determine if they should be used widespread in diabetes education settings. I am confident, however, that I have laid sufficient groundwork for a valuable and worthwhile clinical study.

Using the Educational Tools

Diabetes educators should use the Assessment Questions for Compliance-Gaining Message Selection (see Chapter III, Figure 2) and the Compliance-Gaining Techniques and Patient Assessment Criteria (see Chapter III, Table 3) in patient education settings. I developed these tools for diabetes educators to use in a clinical setting to help them communicate more effectively and promote patient compliance. When clinicians are cognizant that the way they communicate information determines to a great extent how patients receive and use the information, they are able to make conscious choices about message construction. They can select one or more of the five pertinent compliance-gaining strategies to convey clinical knowledge to patients. The patients, as receivers, will learn self-management techniques to help them manage diabetes independently via an individualized plan that focuses on their specific, personal needs. These patients will be more apt to listen to personalized instructions, rather than standardized textbook jargon, and they will be more likely to comply with treatment regimens because the compliance-gaining messages that transmit the information offer rewards for adherence.

The educational tools will facilitate patient education. By incorporating these tools into The Nursing Process, educators will be able to plan and execute diabetes education more efficiently and effortlessly. Because the tools streamline the assessment

and planning steps of the process, educators may spend more time intervening with patients and employing the compliance-gaining strategies. The more time they spend in this activity, the more proficient they will become. Educators should study the tools and conceptualize their practical implementation before using them with patients. With such study and practice, educators can make maximum use of these innovative diabetes education materials.

Concluding Comment

I have demonstrated in this thesis how a technical writer can analyze a specific communication theory, Marwell and Schmitt's compliance-gaining theory, for its value and application to a practical, clinical setting such as diabetes education, and then extrapolate the relevant pieces of this theory and create educational tools for use in this setting. I have demonstrated the importance of compliance with diabetes self-management principles and the potential effectiveness of five of Marwell and Schmitt's strategies to compliance-gaining in diabetes education. Educators may use these five strategies to promote compliance in patients in an individualized and focused manner. Even though I have selected the five most applicable strategies from Marwell and Schmitt's taxonomy, educators must further refine their selection from this small list of strategies depending on patients' needs and characteristics, which they assess before they consider which strategies to use. Thus educators will target patient knowledge deficits with specific compliance-gaining messages.

This research can stimulate educators to think about the impact of their communication on patient compliance and well-being and to make their statements

purposeful, based on communication research. If educators have a wealth of scientific and practical knowledge concerning diabetes but are unable to transmit this information to patients because they lack communication knowledge and skills, all their knowledge is useless. However, if educators absorb the information contained in this thesis and use the tools presented here, they will possess the requisite knowledge and skills to make proper communication choices. Communicating to patients about diabetes self-management must involve educators making proper word choices. Marwell and Schmitt's theory of message production will allow educators to focus on what they can control – their choice of message style or the vehicle to convey scientific knowledge.

Patients can ultimately benefit from improved communication methods by receiving comprehensive and individualized self-management training. The most important beneficiaries of my research are patients with diabetes. During my years as a diabetes educator, I developed a deep respect and fondness for people who must be constantly vigilant with their lifestyle choices, and I believe they deserve the very best training that diabetes educators can give them. They deserve comprehensive and up-to-date information on diabetes and self-management, individualized instructional plans, and the tools necessary to succeed with self-care. If diabetes educators stay educated and informed about diabetes and also strive to improve their communication skills by studying and practicing compliance-gaining methods, they can deliver these necessary components of good health to patients with diabetes.

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