

THE RELATIONSHIP BETWEEN KNOWLEDGE AND SELF-EFFICACY IN THE SETTING OF CANCER SCREENINGS AMONG MEXICAN-AMERICAN WOMEN

Vanessa Carpenter
University Undergraduate Research Fellow, 1994-1995
Texas A&M University
Department of Health and Kinesiology

APPROVED

Undergraduate advisor B. C. Caldwell

Exec. Dir., Honors Program D. K. [Signature]

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CHAPTER 1

INTRODUCTION

As our world becomes more diverse, research that focuses on more than the traditional subject, the Anglo male, is needed. Researchers must expand their focuses to include women and different cultures. That realization prompted this investigation, an attempt to determine the relationship between knowledge and self-efficacy toward cancer screening among Mexican-American women.

Justification for the study.

Hispanics, most of whom are Mexican-Americans, represent one of the fastest growing ethnic groups in the United States (Amaro, Whitaker, Coffman & Heeren, 1990). While studies of cancer knowledge and behavior among African-Americans and Anglos proliferate, however, such studies pertaining to Mexican-Americans are uncommon. The few published studies that do exist have shown that misconceptions about cancer are more prevalent among Latinos than Anglos (Perez-Stable, Sabogal, Otero-Sabogal, Hiatt & McPhee, 1992) and that Hispanics are more likely seen at advanced stages of cancer than non-Hispanic whites (Vernon, Vogel, Halabi, Jackson, Lundy & Peters, 1991).

The reasons for the differences between Latinos and Anglos in knowledge and behavior are numerous; among the most influential determinants of the disparity are inadequate education, poor socioeconomic status and various cultural differences (Perez-Stable et al., 1992; Montes, 1989; Vernon et al., 1991; Rosenwaike, 1987; Marcus & Crane, 1985; Marin, Perez-Stable & Marin, 1989; Gonzalez, 1989). Cancer control interventions have not targeted specific ethnic groups as frequently as Anglos, and health education materials that address their particular needs

are insufficient. These interventions must be based on sound health behavior and education theories and research. Since little research has been done on cancer knowledge and behavior among Mexican-Americans, however, planning and developing educational materials for this ethnic group is difficult. This study investigated these aspects of cancer within the Mexican-American subgroups of the Hispanic population so that their specific concerns can be more adequately addressed.

Most studies of cancer among Mexican-Americans have examined their knowledge and attitudes toward the disease (Perez-Stable et al., 1992; Vernon et al., 1991). These studies are helpful in planning intervention programs, but more extensive research that examines the relationship between knowledge, attitudes, and the ability to take action in cancer control activities is needed. As Lawrance & McLeroy (1986) state, "a principle connection between knowledge and action is perceived self-efficacy, a judgment that individuals make about their ability to perform a behavior." Among the intervening influences of action, self-efficacy is the most pervasive because it operates on action through motivational, cognitive, and affective intervening variables (Bandura, 1989).

The construct of self-efficacy deserves more research among the Mexican-American population to test one of its basic assumptions: The belief that one can perform a behavior usually occurs before one performs it. Before a person can develop this belief, he or she must have knowledge about the behavior (Lawrance & McLeroy, 1986). In addition, for a behavior to have a high likelihood of occurrence, an individual must: a) know what to do; b) believe him or herself capable of doing it; c) know how to do it; and d) want to do it (Rhoads, 1992). While these variables are influential in determining behavior, an individual's belief about the efficacy of

certain behaviors (response-efficacy) in promoting health is most important (Norman, 1991).

Relationships between knowledge, self-efficacy and action have been tested in many studies of African-Americans and Anglos. For example, in an analysis of the 1987 National Health Interview Survey Cancer Control Supplement, Jepson and colleagues found that when comparing African-Americans and Anglos, race was not a significant factor in predicting behavior when knowledge variables were included in the models (Jepson, Kessler, Portnoy & Gibbs, 1991). The literature on the existence of these relationships among Mexican-Americans, however, is scarce. This ethnic subgroup must be studied separately from other populations because they are subjected to such factors as possible language differences, low levels of education, and entrenched beliefs that include the feeling that there is little that an individual can do to alter fate (*fatalismo*) (Perez-Stable et al., 1992).

Statement of the problem.

The problem of the study was to determine if a relationship exists between knowledge and self-efficacy in the setting of cancer screenings among Mexican-American women. Specifically, the study sought to answer the following research questions concerning knowledge and self-efficacy toward cancer in general, Pap smears, colorectal examinations, and breast self examinations (BSE's):

1. What is the relationship between knowledge variables?
2. What is the relationship between self-efficacy variables?
3. What is the relationship between knowledge and self-efficacy variables?

Purpose of the study.

The information obtained by the instrument would help in the planning and

implementation of health education programs for Mexican-American women. If knowledge and self-efficacy are related in the setting of cancer screening behaviors, more resources could be devoted to increasing knowledge and self-efficacy among this ethnic population.

Delimitations.

This study was delimited to the following:

1. One hundred twelve Hispanic women, enrolled in nutrition classes that were being administered through County Extension Agencies in South Texas. This study did not differentiate between citizens of Mexico and the United States. We assumed that the subjects were Mexican-Americans, although there is a distinct possibility that some respondents may be undocumented aliens (Gonzalez, 1989). Their responses were not, however, expected to differ from those of legal residents, so immigration/residency status was not examined.
2. Forty three test items selected for measuring knowledge about cervical, breast and colorectal cancer and self-efficacy toward performing screenings for these types of cancer. These items were adapted from a study by Perez-Stable and colleagues (1992).
3. Statistical techniques for analyzing the data included:
 - a. Forced entry multiple regressions
 - b. Structure coefficients
 - c. Bivariate correlations

Limitations.

The study was limited by the following factors:

1. The investigator was unable to personally administer the questionnaires. To insure standardization in administration, she spoke with the County Extension Agents in order to

discuss the procedures.

2. Subjects might have been unwilling to answer personal questions regarding their beliefs and self-efficacy about cancer and screenings for it.

3. The reading level and English language fluency of the subjects were very low, sometimes requiring translation by the administrators of the survey. This could have led to confusion by either the administrator or the participants as to the intent of some of the questions.

4. Questionnaires were administered in two separate towns in South Texas, which could have led to differences in answers based on differences among the regions. The two sets of answers were not differentiated from each other in the data analysis.

5. There are inherent weaknesses in this and other questionnaires which include problems in validity and reliability:

a. Possible threats to validity in this study include the social desirability effect and the selection process:

1). The social desirability effect is the situation in which subjects want to please or impress the evaluator.

2). The subjects were not randomly selected necessitating caution in generalization of the findings and conclusions to a larger Mexican-American women population.

b. Reliability could have been threatened due to several factors:

1). The questionnaire only contained five questions concerning each variable.

2). The group size was fairly small (n=112).

3). The questionnaire was only administered once and it is unknown

whether the instrument will yield stable scores over repeated administrations.

Assumptions.

The study was based upon the following assumptions:

1. The subjects cooperated.
2. The subjects were honest.
3. The subjects responses' were based on truth rather than perceived social desirability of

answers.

Hypotheses.

The study was designed to test the following null hypotheses:

1. There is no relationship between knowledge variables concerning specific types of cancer and screening behaviors.
2. There is no relationship between variables of self-efficacy toward cancer screenings.
3. There is no relationship between knowledge variables and self-efficacy variables toward cancer and screenings for it.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The literature related to cancer among Mexican-American women is reported in this chapter. For organizational purposes, the literature is presented under the following topics: (1) Knowledge about cancer among the general public and Mexican-American women; (2) Factors affecting knowledge about cancer among Mexican-American women: Poverty and educational levels; (3) Prevalence of risk factors; (4) Self-efficacy and health behavior; (5) Response efficacy and health behavior; (6) Confounding factors: *Fatalismo* and *marianismo*; (7) Conclusions of similar studies; (8) Implications for health education and (9) Summary.

Knowledge about cancer among the general public and Mexican-American women.

Cancer is the second leading cause of death in the United States. That is a grim statistic, but fortunately the disease is largely preventable through lifestyle changes and is often curable when detected early. Much of the public, however, is inadequately informed about cancer, and convincing people that they are susceptible to the disease and that they can modify their lifestyle to prevent it are challenges to health professionals. For example, according to Wave II of the Cancer Prevention Awareness Survey, about half of the respondents felt that everything causes cancer and that there is not much a person can do to prevent the disease (National Institutes of Health, 1987).

Hispanics are even less informed; they are less familiar with the warning signs of cancer, less aware of available cancer screening tests, and are much less convinced of the effectiveness of cancer treatments than the general public (Villejo, 1989). This leads to underutilization of early-detection programs and as Gonzalez (1989) reports, the successful treatment of all cancer

lies in its early detection. However, there are large numbers of Hispanic women who are not being reached by screening programs because of the lack of information and education about them and because of the lack of appropriate screening facilities. The difference in knowledge between Mexican-Americans and the general public is a result of many factors, including a low socioeconomic status which is a barrier to information; language barriers and a fatalistic perception that individuals have no control over their chances of getting cancer (Yancey & Walden, 1994; Perez-Stable et al., 1992).

Factors affecting knowledge about cancer among Mexican-American women: Poverty and education levels.

Previous research has shown that poor health, inappropriate health behavior, low levels of health knowledge, and little use of preventive health services cluster in the lowest socioeconomic groups (Freimuth & Mettger, 1990). In fact, poverty and low educational level, the major components of socioeconomic status, go hand in hand with high cancer mortality (Gonzalez, 1989). This is especially important to consider among Mexican-American women, because many of them are of poor socioeconomic status and struggle to meet basic needs. For instance, many Hispanics, the majority of whom are Mexican-Americans, are undereducated. The median number of school years completed by Mexican-Americans is 10.2 years, compared with 12.7 for non-Hispanics. In addition, 17.1% of Mexican-Americans have completed fewer than five years of school while only 2% of non-Hispanics have completed less than five years. This lack of education is a tremendous problem, especially in relation to economic factors. In fact, a large portion of the Hispanic population lives below the poverty line; in 1985, 11.6% of the total population lived in poverty compared with 25.2% for Hispanics (Montes, 1989). In the South

Texas Valley, where most of the data for this study were collected, the unemployment rate is greater than 20%, and the area also has the highest percentage of people living below the poverty line in the state and the highest in the country as a whole (Gonzalez, 1989).

Prevalence of risk factors.

To many Hispanics, health is merely the absence of disease and is not a state of well-being that should be maintained (Montes, 1989). This results largely from a lack of information and education about health maintenance which leaves the Mexican-American population with fewer defenses against advertisements. This ethnic group consequently becomes "sold" on the implied ability of drugs to combat sicknesses and diseases rather effectively and easily once they have been contracted. The attitude is also partially attributable to the low income level of Mexican-Americans, which does not allow them to have health insurance or pay for preventive maintenance (Quesada, 1976).

Risk factors for cancer proliferate among the Mexican-American population. As Mexican-American women acculturate into the mainstream culture of the United States, they adopt the norms and patterns of their American counterparts (Black & Markides, 1993). As a result, many of these women smoke cigarettes, drink alcohol, and have poor nutrition habits, all of which are major risk factors for developing cancer. Ideally, people who engage in these health risk behaviors should use preventive health care services often in order to monitor their health status. However, Mexican-American women actually use these services less often than non-Hispanic Whites, and when they do present with an illness, it is often at a later stage (Marks, Garcia, & Solis, 1990). Findings from the 1982-1984 Hispanic Health and Nutrition Evaluation Survey (HHANES), indicate that among the Mexican-Americans, smokers were less recent users

of the health services than were the nonsmokers (Marks, Garcia, & Solis, 1990). Smoking rates for Mexican-American women are 24%, up from 18.3% in the National Health Interview Survey (NHIS) data for 1979-1980 (Montes, 1989). Alcohol consumption rates are also increasing; as Mexican-American women acculturate, they are more likely to become drinkers and drink with greater frequency (Black & Markides, 1993). In addition, many Mexican-American have poor dietary practices. Montes (1989) reports that about 30% of the Mexican-American population, mainly women, are overweight, a proportion two to four times higher than in the Anglo population. The data suggest that these risk behaviors and reduced utilization behaviors tend to co-occur and probably have a common factor that relates them, such as one's attitude toward health promotion and disease prevention (Marks, Garcia, & Solis, 1990).

There are several explanations for the prevalence of these risk factors and the infrequent use of preventive health services. One such explanation is a lack of information and general knowledge about cancer. Many Americans are misinformed about cancer and lack sufficient information about the disease. For instance, according to a study by Weinberg and colleagues (1982), the general public is often surprised that many cancers can be prevented by lifestyle changes and that cancer deaths can be prevented by early detection and treatment. In addition, the public fears cancer, underestimates its incidence, and overestimates mortality from the disease (Weinberg, Spiker, Ingersoll & Hoersting, 1982). Mexican-Americans have even less knowledge, which partially explains the high prevalence of risk factors and underutilization of health services among this population. According to evidence from the HHANES, reasons for the differential include language and cultural differences, lack of transportation, geographic inaccessibility, financial constraints and isolation from the mainstream culture. Mexican-

Americans with low socioeconomic status experience more problems than others in accessing health care, and these are often the people with the greatest health care needs because they have a poor perceived health status and functional limitations (Estrada, Trevino, & Ray, 1990).

Misconceptions about cancer's causes, symptoms, and signs are often at the root of these barriers. In a study to assess the magnitude of those misconceptions, Perez-Stable and colleagues (1992) found that Hispanics were significantly more likely than Anglos to believe that sugar substitutes, bruises, microwave ovens, antibiotics, eating pork, drinking coffee, eating spicy foods, and breast-feeding could cause cancer. They were also less likely to know that involuntary weight loss and a change in bowel habits were possible symptoms of cancer.

Self-efficacy and health behavior.

Primary prevention is commonly perceived in terms of direct prevention such as avoiding alcohol misuse, refraining from smoking, and practicing proper and healthy nutrition. Secondary prevention is avoiding a disease once a risk factor is present, and tertiary prevention is curative; it involves preventing loss of independent function once a disease is present (Holman & Lorig, 1992). This research focuses on secondary prevention through three types of cancer screenings: Pap smears and pelvic examinations, colorectal examinations, and breast self-examinations. Currently, Mexican-American women are often seen at a more advanced stage of many cancers, which is often the result of their failure to seek out and perform these types of screenings (Vernon, Vogel, Halabi, Jackson, Lundy, & Peters, 1991). An important factor in these women's ability and willingness to perform cancer screenings is the concept of self-efficacy, or a judgment that individuals make about their ability to perform a behavior (Lawrance & McLeroy, 1986). Perceived self-efficacy has been shown to play a significant role in the adherence to preventive

health programs (O'Leary, 1985); evidence indicates that among the general population, the concept is essential in developing self-management capabilities. In addition, perceived self-efficacy has been shown to be rapidly increased by appropriate learning experiences (Holman & Lorig, 1992).

The concept of self-efficacy can be applied to many health behaviors. In fact, people's beliefs in their efficacy to exercise some control over conditions which affect their lives largely determines the extent of prevention that they will exercise (Bandura, 1986). A study by Perez-Stable & colleagues (1992) showed that many Mexican-American women believe that cancer is God's punishment and that there is very little a person can do to prevent getting the disease. This type of cultural information is pertinent to the discussion of self-efficacy and its effect on cancer survival, because if self-efficacy toward a particular behavior is low, the behavior is often not performed.

There are four main sources of information through which individuals derive their self-efficacy: 1) previous performance accomplishments; 2) vicarious experiences; 3) verbal cues and persuasion; and 4) physiological states of arousal of the individual (Rhoads, 1992). These information sources often decrease self-efficacy among Mexican-American women toward preventive screenings. Each of the four sources will be discussed as they apply to this population group in the setting of cancer screenings:

Previous performance accomplishments and vicarious experiences.

Prior performance accomplishments are the most powerful predictors of an individual's future self-efficacy. Successful accomplishments usually increase self-efficacy, while repeated failures tend to decrease it. Self-efficacy is also influenced by vicarious experiences, or watching

others perform a task (Rhoads, 1992). Many Mexican-American women underutilize early cancer detection programs (Yancey & Walden, 1994). They often avoid any type of health care, and consequently have no experience on which to base possible future uses. Therefore, not only are individuals lacking in their own experience toward these settings, they often do not know anyone else who has used the screenings. Many of these women distrust the health care system and feel that health care professionals are obstacles to receiving help (Freimuth & Mettger, 1990). The result is that they continue to fail to utilize these services, which often leads to later detection of cancers among this population.

Verbal cues and persuasion.

These information sources can have a large impact on an individual's self-efficacy, especially if the source is highly respected (Rhoads, 1992). For most people, advice from a nurse, doctor, or other health care professional is respected and followed. However, these are poor sources of self-efficacy for Mexican-American women because these professionals often communicate inadequately with the women. There is a language and cultural barrier, and many Mexican-American women do not even know certain services are available or are necessary as a result of these barriers. Many Mexican-American women only go to the doctor if they are extremely ill; they have a lack of concern for many medically significant symptoms and do not feel the need to go for regular checkups (Quesada, 1976). Many researchers have noted that language skill alone among practitioners is not even enough. Health professionals must be knowledgeable about the Mexican-American culture as well. Since this is often not the case, these women distrust the system and will not participate fully in it in order to receive all the benefits that they could.

Physiological states of arousal.

According to Rhoads (1992), "individuals learn to respond to the cues that are derived from their physiological responses to the environment." Perceptions of self-efficacy can be affected by circumstances that produce emotional arousal such as anxiety and happiness. These emotions are often interpreted as indicators of the ability to perform behaviors (Lawrance & McLeroy, 1986).

Response-efficacy and health behavior.

Response efficacy is another important variable to consider in studying cancer screenings among Mexican-American women. Response efficacy is the belief that a given behavior will lead to a desired outcome. It is not enough to believe oneself capable of performing a behavior; individuals must also feel that performing that behavior will lead to a desired outcome.

Confounding factors: *Fatalismo* and *marianismo*.

Many Mexican-Americans have attitudes that may be detrimental to cancer control efforts. *Fatalismo*, the perception that there is little an individual can do to prevent a disease or sickness, may lead Mexican-American women to assume that there is little that they can do to alter their "fate" of developing cancer (Perez-Stable et al., 1992). Mexican-Americans tend to emphasize luck and living for the present, an outlook that does not lead to utilizing preventive health screenings. *Fatalismo* is a common cultural theme among Hispanics. It is confounded when Mexican-American women encounter the health care system because their experiences have led them to feel that health care professionals are obstacles to receiving help. As a result, they mistakenly believe that there is no hope of surviving cancer and subsequently avoid seeking medical care (Freimuth & Mettger, 1990). Additionally, *marianismo* is a strong moral code in

which honor and shame are basic concepts. This ideology regulates the relationship between Mexican-American men and women and contributes toward maintaining a dominance of men over women. Suffering is very important in both of these codes because for Mexican-American women, suffering gives strength. According to Melhuus, (1990), "it is a power or a force which gives life its vitality or its sustainability." As a result of these attitudes, Mexican-American women may be less likely to change behaviors that increase their risk for cancer or perform preventive cancer screenings. In fact, a study by Perez-Stable and colleagues (1994) found that in a study of 844 Latinas (Hispanic women) and 510 white, non-Latinas, the Latinas felt less vulnerable to cancer. Once diagnosed with cancer, however, many of the participants in the study did not feel that having detected the cancer earlier could make a difference in their survival. In addition, Latinas were less likely than white women to have ever had a Pap smear or screening mammogram. Reasons cited for the differential largely included attitudinal and personal factors such as feeling well, forgetfulness, carelessness, and fear and embarrassment.

Self-efficacy is an important link between knowing what to do and actually doing it. Increasing knowledge and a person's desires to perform a particular behavior are important, but they do not often lead to behavior change alone. According to Lawrance & McLeroy (1986), "individuals need to feel they are capable of performing a task before they are likely to attempt it." Forces such as *fatalismo* and *marianismo*, however, could dampen and possibly even nullify the relationship among Mexican-American women.

Conclusions of similar studies.

Incidence rates of cancer differ among the Hispanic population and the Anglo population in the United States. A paradox seems to be present, because although Mexican-American

women use cancer screenings less often than the general population, their rates of colorectal and breast cancer are lower (American Cancer Society, 1985; Montes, 1989). However, colorectal cancers are increasing in the Hispanic population, probably as a result of increasing smoking prevalence and other life-style changes (Montes, 1989). Incidence of cervical cancer is highest among this group, probably because of early age at first marriage, promiscuity in the husband or boyfriend, multiparity, fewer hysterectomies, lack of access to medical care, and low utilization of cervical cancer screenings (Gonzalez, 1989; Montes, 1989).

It is not certain why Mexican-American women present the paradox of underutilizing screenings while maintaining a generally low rate of cancer. What is certain, however, is that development and implementation of effective cancer control interventions are necessary to maintain or decrease those low levels (Perez-Stable et al., 1992). Interventions have not typically been specifically targeted toward Mexican-American women and it is imperative that this ethnic population is reached and educated about the importance of preventive cancer screenings. The education has to be specialized for this population because as Perez-Stable et al. (1992) found, even after adjusting for differences in years of formal education and other confounding variables between Anglos and Hispanics, the Hispanics were still more likely to have more misconceptions about causes of cancer and to have less knowledge about symptoms of cancer. Their study also showed that Hispanics had less information about cancer because many have little education and do not know how to read either Spanish or English. A study by Horm and colleagues (1992) demonstrated that although Mexican-Americans usually use cancer screening tests with less frequency than either whites or blacks, the differential almost completely disappears when they are made aware of the tests. Therefore, it seems that increasing knowledge among this

population will increase the utilization of preventive cancer screenings, thus decreasing or at least maintaining their low levels of colorectal and breast cancers and decreasing the incidence of cervical cancer.

Implications for health education.

Knowledge should be increased by developing materials that specifically target Mexican-American women. The most effective way to increase the use of cancer screenings is to focus on service delivery aspects (cost of care, providing convenient hours for the community, etc.) and outreach aspects (education and transportation) to reach people who may not know what services are available to them and who may not be able to access the care even if they know of its availability (Estrada et al., 1990). Increasing the number of bilingual staff could lead to increased use of medical screenings (Solis, Marks, Garcia & Shelton, 1990; Chesney, Chavira, Hall & Gary, 1982), but placing bilingual personnel at any of the entry points to health care is not enough. Minority representatives who can help health care professionals better understand the Mexican-American culture are also needed. In addition, health care professionals need to be provided with programs that address language issues and patient-provider interactions in dealing with the Mexican-American population (Quesada, 1976).

Data have shown that people who have a regular provider and regular source of care are most likely to utilize health care services. Hispanics, however, often do not have a regular provider or source of care (Solis et al., 1990). In fact, it has been reported that differentials in usage of health care services among Mexican-Americans are not only a function of cultural or socioeconomic factors, but are also a function of inadequacies in the health care systems often used by this population (i.e., hospital outpatient clinics, emergency rooms, and public health

facilities) (Roberts & Lee, 1980; Solis et al., 1990). It is therefore important to either incorporate screening programs into the settings that they use or establish effective referral mechanisms that direct them to appropriate screening centers.

It is also important to develop programs that address the specific health needs of the Mexican-American because, as Roberts & Lee (1980) found, "ethnic status exerts an independent effect on health and illness behavior." New materials need to be developed in simple Spanish to provide accurate information and address culture-specific concerns. However, it is not enough to develop programs aimed at the "typical" Mexican-American woman. Health planners must recognize the diversity that exists among this population and go beyond education to provide social support that will increase accessibility.

Summary.

The majority of the research reviewed on cancer among Mexican-American women indicate that this population has very little knowledge concerning cancer. They are not very familiar with the warning signs of cancer, cancer screening tests and cancer treatments. This, in part, leads to underutilization of preventive cancer screenings and presentation with the disease at a later stage.

Poverty and low educational levels are related to high cancer mortality, which is important to consider among Mexican-American women because of their generally low socioeconomic status. In addition, risk factors are numerous among this ethnic subgroup; they often smoke cigarettes, drink alcohol, and have poor dietary practices. Reasons for the aforementioned differences between Mexican-American women and Anglo women in reference to cancer can be attributed to many factors which can be grouped into a few categories including

culture.

Few studies on self-efficacy among Mexican-American women exist. The concept is of utmost importance in the setting of cancer screenings because without self-efficacy toward performing screenings, Mexican-American women are unlikely to perform the preventive measures. Factors such as *marianismo* and *fatalismo* might affect self-efficacy toward performance of cancer screenings. This study was designed to test if the cultural factors do in fact affect the positive relationship between knowledge and self-efficacy found in the Anglo population. The results of the study can be used to develop cancer education materials which are specific to the Mexican-American women population. The goal of this study, therefore, is to understand the relationship between knowledge and self-efficacy toward cancer screenings among Mexican-American women so that cancer prevention programs can be targeted directly at this population. These interventions may ultimately help to increase utilization of cancer screenings and presentation of cancer at an earlier stage.

CHAPTER 3

PROCEDURES FOR COLLECTING DATA

The problem of the study was to determine if a relationship exists between knowledge and self-efficacy in the setting of cancer screening behaviors among Mexican-American women. The conduct of the study included the following organizational steps: (a) arrangements for conducting the study; (b) selection of subjects; (c) selection of the test instruments; (d) instrumentation; (e) development of the instrument; (f) treatment of the data and (g) design of the study.

Arrangements for conducting the study.

The study was conducted in two cities in South Texas upon receipt of an institutional review board human subjects safeguard clearance from Texas A&M University (Appendix A). County Extension Agents in Alice and Rio Grande City, Texas agreed to administer the questionnaires to participants in community-based nutrition classes. The selection of these cities and the County Extension Agents was based on the following guidelines: (a) the population of each city largely consists of Hispanics; (b) a sufficient number of subjects were available through the nutrition classes; (c) the County Extension Agents were bilingual and could aid in the translation of the questionnaire to those who could not read either English or Spanish.

A questionnaire was administered to 112 Mexican-American females. The study was not limited to certain factors, but age, educational level, and family income were included as independent variables in the data analysis.

Selection of the test instruments.

Three measures were selected to assess the relationship between knowledge and self-

efficacy related to cancer screening among Mexican-American women: Pearson correlations, forced entry multiple regressions, and structure coefficients.

Selection of subjects.

All of the subjects were volunteers, and were enrolled in community-based nutrition classes which were being administered through County Extension Agencies. The main criteria for participation were that all subjects were females and were of Hispanic origin. The participants were not discriminated against based on their nationality. The cities in which the data were gathered are both close to Mexico and some participants might have been Mexican citizens. In addition, the study was not limited to certain ages or socioeconomic conditions, but these variables were included as independent variables in the data analysis.

These criteria were selected to give the study an external validity factor that would allow the results to be generalized to a larger population of Hispanic women. The particular locations were chosen because of the access to such a large concentration of Hispanic women. In addition, the bilingual County Extension Agents allowed for greater ease in the administration of the questionnaires.

Instrumentation.

The survey contained 43 items that assessed knowledge of symptoms, knowledge of causes, attitudes toward cancer in general, and knowledge and attitudes toward three types of preventive screening: Pap smears, breast self-examinations, and colorectal examinations. In addition, the questionnaire asked specific questions regarding self-efficacy in preventing cancer through the aforementioned techniques as well as selected demographic questions.

The questionnaire was divided into four sections: general cancer knowledge and general

cancer self-efficacy as well as knowledge and self-efficacy related to Pap smears, breast self-examinations, and colorectal examinations. Each section, then, had five questions related to knowledge about the specific cancer and five self-efficacy questions related to undergoing that cancer-specific screening behavior.

Development of the instrument.

The questionnaire is an adaptation of the one used by Perez-Stable and colleagues in their 1992 research concerning misconceptions about cancer Among Latinos and Anglos. In addition to the questions asked on that questionnaire, this instrument included specific questions about screening knowledge and self-efficacy in performing screening behaviors.

The instrument was translated into Spanish at an approximately sixth grade reading level by natives of South Texas to ensure the accuracy of the regional dialects of Spanish. According to Hendricson and colleagues (1989), language specialists encourage translations to the dialect most commonly spoken in the target area. The best way to accomplish this is by the use of translators who are of Hispanic ancestry and are familiar with the regional dialects. Since the majority of this population speaks only Spanish or limited English and few have an education above the eighth grade level (Gonzalez, 1989), this helped to ensure maximum understanding by the subjects.

Treatment of data.

Data from the survey were coded and hand-entered into a computer account with the Academic Computer Service at Texas A&M University. The data were analyzed with SPSS on the mainframe computers at TAMU. Reliability calculations, simple frequency distributions, bivariate correlations and multiple regressions were employed in the data analysis.

CHAPTER 4

DATA ANALYSIS

The problem of the study was to determine the relationship between knowledge and self-efficacy toward cancer screenings among Mexican-American women. The analysis of the data is presented in this chapter according to the following topics: 1) data-gathering instrument distribution; 2) reliability of data; 3) simple frequency data; 4) bivariate correlations and 5) multiple regression data.

Data-gathering instrument distribution.

The population for the study consisted of 112 Mexican-American females who were enrolled in nutrition classes at the County Extension Offices in Alice and Rio Grande City, Texas during late summer and early fall of 1994. Each female was asked to participate in the study by a County Extension Agent. Most prospective participants completed the questionnaire, but a specific response rate could not be calculated because the County Extension Agents did not keep track of refusals. Those who declined did so for several reasons (as explained by the County Extension Agents who administered the surveys): 1) they were embarrassed about their low reading level; 2) they felt like the questionnaire was an examination of some sort and 3) they felt like the surveys might be tracking their United States citizenship.

Reliability of data.

The Cronbach Alpha method of estimating reliability was employed in this study. The reliability coefficients (α) it yielded are as follows: Self-efficacy toward all variables combined received an (α) of .6010 and total knowledge about cancer received an alpha of .7288. The (α) for self-efficacy toward cancer in general was .1287; (α) for knowledge about cancer in general

was .4183. BSE self-efficacy received an (α) of .2670, and the (α) for BSE knowledge was .3985. The estimate of reliability for self-efficacy toward receiving Pap smears yielded an (α) of .3990; knowledge about Pap smears received an (α) of .5381. Finally, colorectal exam self-efficacy received an alpha of .4337 and colorectal exam knowledge received an (α) of .6712.

These reliability scores are relatively weak, so future surveys will need to be administered differently: The Cronbach Alpha correlations yielded low reliability coefficients because of the limited number of items on the questionnaire. Future surveys will be administered twice so that a test-retest measure of reliability, which is more appropriate, may be taken. More subjects will also be used to ensure a more accurate measure of reliability.

Simple frequency data.

Self-efficacy toward cancer in general.

65.7% of subjects agreed or strongly agreed with the statement, "I feel that I have no control over getting cancer." Only 12.4% agreed (none strongly agreed) that most cancers can be cured if they are detected early; 31.4% strongly disagreed with that statement. 82.8% disagreed or strongly disagreed that cancer is a punishment from God and there is nothing that they can do to change their chances of getting it. 69.2% agreed or strongly agreed that if they had cancer, they would not be able to take care of themselves or their family. Finally, 81.6% of the respondents disagreed or strongly disagreed with the statement, "There is no point to being screened for cancer because I know that I could not survive it."

Knowledge about cancer in general.

94.4% of the respondents were aware that cancer can not be caught from someone else who has it; the other 5.6% did not know the answer to the question. 46.7% did not know that

about one out of every three Texans will get cancer. 26.2% thought that statement was true and 27.1% felt that it was false. 86% of the subjects knew that cigarettes and chewing tobacco can cause cancer. An almost equal number of people answered true and false to the statement, "Cancer can be caused by bruises from being hit" (38.5% true answers and 37.5% false answers). 54.3% did not know if dizziness and joint pain are symptoms of cancer, but more people (36.2%) stated that this statement is false than true (9.5%).

Self-efficacy toward breast self-examinations and breast cancer.

75% of the respondents agreed or strongly agreed with the statement, "I do not think that I could perform a breast self-examination." 48.1% either agreed or strongly agreed that they felt confident that they knew how to perform breast self-exams well enough to find a lump, but 14.4% strongly disagreed with that statement. 57.3% disagreed or strongly disagreed that they were comfortable examining their own breasts for lumps; 70.2% felt that only a doctor or nurse could tell if they had a lump in their breast. 54% of the subjects felt that they did not have any control over getting breast cancer.

Knowledge about breast self-examinations and breast cancer.

82.8% of the respondents answered false to the statement, "Breast self-examinations are not important." 76.2% did not feel that a person's chance of surviving breast cancer is very low, even if it is detected early. 82.4% knew that breast cancer can not be caused by breast feeding, but 14.7% did not know the correct answer to that question. 39% thought that breast cancer kills more women than does lung cancer; 44% did not know. 77% knew that breast cancer can be found by breast self-examinations and mammograms.

Self-efficacy toward pelvic examinations, Pap smears and cancer of the uterus and cervix.

42% of the subjects agreed or strongly agreed that it is embarrassing to have a pelvic exam and Pap smear but 67.7% either disagreed or strongly disagreed that they would be too uncomfortable and embarrassed to have a pelvic exam and Pap smear if the doctor or nurse was a man. 24.2% felt that they did not have the money to have a pelvic exam and Pap smear, but only a small percentage (11.9%) agreed with the statement, "If it were available, I would be able to get a pelvic exam and Pap smear once a year." Only 14.1% agreed or strongly agreed that even if a Pap smear found cancer, they could not be cured.

Knowledge about pelvic examinations, Pap smears and cancer of the uterus and cervix.

37.1% of the respondents knew that having many sex partners increases the risk for cervical cancer. 79.4% felt that cancer of the uterus and cervix can easily be found with a Pap smear. 57.6% of the subjects disagreed with the statement, "Cancer of the uterus and cervix can not usually be cured, even if found early by a Pap smear," but 27.3% did not know the answer. 41.2% knew that a symptom of cancer of the uterus and cervix is bleeding when a woman is not having her period, but an equal number (41.2%) did not know whether this was true. Finally, only 4% of the respondents agreed that they did not need a pelvic exam and Pap smear because they were in good health.

Self-efficacy toward colorectal examinations and colorectal cancer.

31.1% of the respondents reported that they would never have a rectal exam because they would be too embarrassed. Only 26.2% felt confident that they could change their lifestyle to avoid getting cancer of the bowel. 77.3% of the subjects disagreed with the statement, "I would not want to know if I had colon or rectal cancer because I could not survive it anyway," but

68.9% disagreed that their chances would be good if a doctor told them they had early signs of the colon or rectal cancer. 47.5% either agreed or strongly agreed that they have no control over getting colon or rectal cancer.

Knowledge about colorectal examinations and colorectal cancer.

69.2% knew that eating fruits and vegetables can help prevent colon or rectal cancer. 86.1% disagreed with the statement, "I do not need to worry about getting colon or rectal cancer because only men get that type of cancer." 34.6% thought that it is important to have a colon or rectal examination once every ten years; 32.7% answered false and 32.7% did not know. 55.5% did not know if colon or rectal cancer can be caused by drinking caffeine such as colas and coffee, and 47.2% knew that the statement, "The chances of surviving colon or rectal cancer are very small" is false.

Bivariate correlation data. Table I presents the correlations between the variables of interest.

Knowledge and self-efficacy toward cancer in general.

Self-efficacy toward cancer in general was correlated with self-efficacy toward breast self examinations ($r = .2394$, $p < .01$) and self-efficacy toward receiving a colorectal examination ($r = .2320$, $p < .05$). Knowledge toward cancer in general was correlated with BSE self-efficacy ($r = .3051$, $p < .01$), knowledge about BSE ($r = .4078$, $p < .01$), knowledge about Pap smears ($r = .2751$, $p < .01$), colorectal exam self-efficacy ($r = .3043$, $p < .01$), and knowledge about colorectal exams ($r = .4032$, $p < .01$)

Table I
CORRELATION COEFFICIENTS

	GENTOT	BSESE	BSETOT	PAPSE	PAPTOT	CRCSE	CRCTOT
GENSE	-.0641	.2394*	.1333	.0992	-.0381	.2320*	-.1804
GENTOT		.3051**	.3615**	.0264	.2751**	.3043**	.4032**
BSESE			.4078**	.1044	.1419	.3584**	.1938*
BSETOT				.2503*	.5405**	.2226*	.4007**
PAPSE					-.0088	.2827**	.0666
PAPTOT						.1066	.2140*
CRCSE							.2152*

* = $p < .05$

** = $p < .01$

GENSE = General cancer self-efficacy

GENTOT = General cancer knowledge

BSESE = Breast self-examination self-efficacy

BSETOT = Breast self-examination knowledge

PAPSE = Pap smear and pelvic examination self-efficacy

PAPTOT = Pap smear and pelvic examination knowledge

CRCSE = Colorectal exam self-efficacy

CRCTOT = Colorectal exam knowledge

Knowledge and self-efficacy toward breast self-examinations and breast cancer.

BSE self-efficacy was correlated with BSE knowledge ($r = .4078$, $p < .01$), colorectal exam self-efficacy ($r = .3584$, $p < .01$), and colorectal exam knowledge ($r = .1938$, $p < .05$). BSE knowledge was correlated with Pap smear self-efficacy ($r = .2503$, $p < .05$), knowledge about Pap smears ($r = .5405$, $p < .01$), colorectal exam self-efficacy ($r = .2226$, $p < .05$), and colorectal exam knowledge ($r = .4007$, $p < .01$).

Knowledge and self-efficacy toward Pap smears and cancers of the uterus and cervix.

Pap smear self-efficacy was correlated with colorectal exam self-efficacy ($r = .2827$, $p < .01$). Knowledge about Pap smears was correlated with colorectal exam knowledge ($r = .2140$, $p < .05$).

Knowledge and self-efficacy toward colorectal examinations and colorectal cancer.

Colorectal exam self-efficacy was correlated with general cancer self-efficacy ($r = .2320$, $p < .05$), knowledge about cancer in general ($r = .3043$, $p < .01$), BSE self-efficacy ($r = .3584$, $p < .01$), BSE knowledge ($r = .2226$, $p < .05$) and Pap smear self-efficacy ($r = .2827$, $p < .01$). The correlation between colorectal exam self-efficacy and colorectal knowledge was $.2152$ ($p < .05$).

Multiple regression data.

Forced entry multiple regressions were run on the self-efficacy variables using the knowledge scores and age as predictor variables. Because of the presence of multicollinearity, structure coefficients - the correlation between each of the predictor variables and the predicted dependent variable - were created and analyzed.

The only variable to be significantly related to BSE self-efficacy was knowledge of cervical cancer ($R^2 = .1791$, $\beta = .0044$, $p < .05$). (See Tables II and V for results). A somewhat different picture emerged upon analysis of the structure coefficients, however. All of the knowledge variables were significantly related to predicted BSE self-efficacy, with structure coefficients ranging from $.4118$ to $.9068$ ($p < .01$ for all). Age was not significantly related to predicted BSE self-efficacy.

TABLE II

Variable	Beta	t
General Cancer Knowledge	.1280	1.130
Age	-.0803	-.748
Pap Smear/Cervical Cancer Knowledge	.0044	.0380
Colorectal Cancer Knowledge	.1051	.910
BSE and Breast Cancer Knowledge	.3129	2.654**

$R^2 = .1792$

** $p < .01$

None of the knowledge variables were significantly related to efficacy for Pap smears, as indicated by a total R^2 of only .0299. Since only 3% of the variance in Pap smear self-efficacy was predicted, the structure coefficients were essentially meaningless.

TABLE III

Variable	Beta	t
General Cancer Knowledge	-.0729	-.581
Age	-.0912	-.762
Pap Smear/Cervical Cancer Knowledge	.0838	.674
Colorectal Cancer Knowledge	.0683	.537
BSE and Breast Cancer Knowledge	.0792	.605

$R^2 = .0299$

A similar situation occurred when the knowledge variables were regressed on self-efficacy for obtaining colorectal exams. None of the knowledge variables entered was related to colorectal exam self-efficacy at the .05 level and the total variance predicted was only 4.05%. While all of the knowledge variables were significantly related to colorectal exam self-efficacy at the .01 level, these correlations must be viewed with skepticism due to the low R^2 value.

TABLE IV

Variable	Beta	t
General Cancer Knowledge	.2157	1.84
Age	.0677	.610
Pap Smear/Cervical Cancer Knowledge	.0177	.143
Colorectal Cancer Knowledge	.1100	.929
BSE and Breast Cancer Knowledge	.0549	.434

$R^2 = .0976$

Multiple regressions were run and structure coefficients were calculated with each of the self-efficacy variables dependent and age as predictors. Only BSE knowledge was significantly related to BSE self-efficacy, and this variable predicted nearly one-quarter of the variance in BSE self-efficacy ($R^2 = .2174$, $p < .05$, $\beta = .2697$). When structure coefficients were examined, BSE knowledge, colorectal exam self-efficacy and general self-efficacy were all significantly related to predicted BSE self-efficacy.

TABLE V
STRUCTURE COEFFICIENTS FOR DEPENDENT VARIABLES

	BSE SE	BSE TOT	PAP TOT	CRC TOT	AGE	GENTOT
P BSE SE	.4232**	.9068**	.4118**	.4711**	- .1984	.5382**
P PAP SE		.7476**	.5872**	.2711*	- .4559**	- .0683
P CRC SE		.4195**	.3099**	.6779**	.2911**	.8791**

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

P = Predicted
 GENTOT = General cancer knowledge
 BSESE = Breast self-examination self-efficacy
 BSETOT = Breast self-examination knowledge
 PAPSE = Pap smear self-efficacy
 PAPTOT = Pap smear knowledge
 CRCSE = Colorectal exam self-efficacy
 CRCTOT = Colorectal exam knowledge

When the predictor variables were regressed on Pap smear self-efficacy, none were significantly related at the .05 level and the total variance in the dependent variable was only 5.9%. Of this 5.9% which was predicted, cervical cancer knowledge, colorectal exam self-efficacy, general self-efficacy and age were all significantly related. As previously mentioned, however, these results must be viewed with extreme caution due to the very low total variance predicted.

None of the variables was a significant predictor of self-efficacy to obtain

colorectal exams even though total variance in the variable predicted was 17.3%. BSE self-efficacy, Pap smear self-efficacy, general self-efficacy and knowledge of colorectal cancer were all significantly related to the predicted values of self-efficacy to obtain colorectal exams, with structure coefficients ranging from .4189 to .6749 ($p < .01$).

CHAPTER 5

SUMMARY, FINDINGS, CONCLUSIONS, IMPLEMENTATIONS AND RECOMMENDATIONS

Summary.

The problem of the study was to determine the relationship between knowledge and self-efficacy related to cancer screening among Mexican-American women. The subjects of the study were 112 Hispanic females who had enrolled in nutrition classes at County Extension Agencies in Alice and Rio Grande City, Texas during the fall of 1994. All subjects completed a survey instrument consisting of the knowledge scale, the self-efficacy scale, and three questions designed to determine demographic data. The data for the study were collected during the months of September, October, and November of 1994.

The data were analyzed using simple frequencies, Pearson correlations and forced entry multiple regressions.

Findings.

The analysis of the data revealed the following significant findings:

1. A strong relationship exists between most cancer knowledge variables studied. Knowledge toward cancer in general was correlated with BSE knowledge ($r = .4078$, $p < .01$), Pap smear knowledge ($r = .2751$, $p < .01$) and colorectal exam knowledge ($r = .4032$, $p < .01$). BSE knowledge was correlated with Pap smear total knowledge ($r = .5405$, $p < .01$), colorectal exam knowledge ($r = .4007$, $p < .01$) and knowledge about cancer in general ($r = .4078$, $p < .01$). Pap smear knowledge was correlated with general cancer knowledge ($r = .2751$, $p < .01$), BSE knowledge ($r = .54058$, $p < .01$) and knowledge about colorectal exams ($r = .2140$,

$p < .05$). Colorectal total knowledge was correlated with knowledge about cancer in general ($r = .3043, p < .01$), BSE knowledge ($r = .2226, p < .05$) and Pap smear knowledge ($r = .2140, p < .05$). The strongest relationships were those found between BSE knowledge and the other knowledge variables.

2. There is a strong relationship between self-efficacy related to almost all types of cancer screening activities studied. General cancer self-efficacy was correlated with BSE self-efficacy ($r = .2394, p < .01$) and colorectal exam self-efficacy ($r = .2320, p < .05$). BSE self-efficacy was correlated with self-efficacy toward colorectal exams ($r = .3584, p < .01$) and self-efficacy toward cancer in general ($r = .2394, p < .01$). Pap smear self-efficacy was correlated with colorectal exam self-efficacy ($r = .2827, p < .01$) and colorectal exam self-efficacy was correlated with self-efficacy toward cancer in general ($r = .2827, p < .01$). Correlations between self-efficacy variables were not as numerous as those found between knowledge variables. General cancer self-efficacy and BSE self-efficacy were found to be more correlated with other self-efficacy variables than were Pap smear self-efficacy and colorectal exam self-efficacy. Pap smear self-efficacy and colorectal exam self-efficacy were not related to as many site-specific cancer screenings as were general cancer self-efficacy and BSE self-efficacy.

3. A relationship exists between knowledge and self-efficacy related to screening activities, but the magnitude of the relationships between the variables is rather weak. In general, knowledge contributed little to the variance in self-efficacy in the regression equations. General cancer knowledge was correlated with BSE self-efficacy ($r = .3051, p < .01$) and colorectal exam self-efficacy ($r = .3043, p < .01$). BSE self-efficacy was correlated with BSE knowledge ($r = .4078, p < .01$) and colorectal exam knowledge ($r = .1938, p < .05$). BSE

knowledge was correlated with Pap smear self-efficacy ($r = .2503$, $p < .05$) and colorectal exam self-efficacy ($r = .2226$, $p < .05$).

Conclusions.

Within the limitations of the study the following conclusions are warranted:

1. In general, knowledge in one area appears to be highly predictive of knowledge in other areas of cancer.
2. Perceived ability to engage in appropriate early detection activities in one area of cancer prevention is predictive of perceived ability to engage in other types of screening.
3. Among the subjects studied, self-efficacy related to performing BSE is highly related to knowledge of breast cancer and self-efficacy related to receiving colorectal cancer screening is highly related to knowledge of colorectal cancer. This relationship did not appear to exist in this sample between self-efficacy related to receiving Pap smears and knowledge of cervical cancer. Therefore, it can not be assumed that self-efficacy toward receiving a specific cancer screening is always related to knowledge of that specific cancer.

Implementations.

The findings of the study may be implemented into either a professional practice situation or a research setting in the following ways:

1. If self-efficacy is a major predictor of an individual's performance of a behavior, the enhancement of one's self-efficacy toward performing cancer screenings should be a major concern to health education programmers.
2. This research should be used as a guide for future research. It should be expanded upon because continued research into the relationship between knowledge and self-

efficacy in this and other ethnic subpopulations is a critical component to efforts to reduce their mortality due to cancer.

Recommendations for further study.

The following recommendations are made for further research in the area of knowledge and self-efficacy toward cancer screening among Mexican-American women:

1. The present study should be replicated using a greater number of participants to improve instrument validation and generalizability of results.
2. Paraprofessionals who are trusted by the participants should be used to administer the questionnaires.
3. A study should be conducted to compare Mexican-American females' responses to those of Anglo women and possibly women of other subpopulations.
4. Additional studies identifying other psychological variables which could be related to performance of cancer screening activities among this group should be conducted.
5. The present investigation should be replicated in other communities with different concentrations of Hispanic women to gain a larger cross-section of the adult population from which data can be obtained.
6. The concepts of *fatalismo* and *marianismo* need to be studied further in relationship to self-efficacy. These concepts could intervene in an individual's belief about his or her ability to perform a behavior and could thus be an influential determinant of behavior.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL FORM

Appendix VI (Continued)

Texas A&M University

TAMU # EA-210

Form I

Scott & White # _____

Summary Cover Sheet

Other # _____

Protocol for Human Subjects in Research

Please check off or provide details on the following (enter N/A if not applicable):

Principal Investigator Vanessa Carpenter Faculty ___ Graduate Student* Undergraduate Honors Student

College/Dept HLKN Phone 5-1756 (Dr. Colwell's)

Project Title The Relationship Between Self-efficacy, Knowledge and Cancer Detection Activities

PI's Subjective Estimate of Risk to Subject: Low Moderate ___ High ___

Gender of subjects: ___ Male XX Female Both ___ Age(s): 18-65 Total Participants (est.) 350

APPROVED

Source of Subjects:

- Psychology Subject Pool
- Other TAMU Students
- XX Community
- Public Schools
- Hospitals/Nursing Homes
- Prisons
- Other (Please specify) _____

Subject Recruitment:

- Direct Person-to person contact
 - Telephone Solicitation
 - Newspaper Ad**
 - Letter**
 - Posted Notices**
 - Other (Please describe) _____
- Compensation*** Yes ___ No XX
 Deception Yes ___ No XX
 Debriefing Form* Yes ___ No XX
 (If yes attach a debriefing form)

Location of Experiment _____

Invasive or Sensitive Procedures

- Blood Samples
- Physical Measurements (electrodes, etc.)
- Depression Inventory
- Urine Samples
- Stress Exercise
- Review of Medical Records
- Other (Specify) _____

Sensitive Subject Matter Yes ___ No XX

- Alcohol, Drugs, Sex
- Depression/Suicide
- Learning Disability
- Other (Specify) _____

Use of Video/Audio Tapes

- Retained Yes ___ No ___
- Length of Time _____
- Destroy/Erase Yes ___ No ___
- Other (explain) _____
- Use specified in consent form? Yes ___ No ___
- Use/Access to tapes

Provisions for Confidentiality

- Replies Coded
- Secure Storage
- XX Anonymous Response

Exact Location Where Signed Consent Forms Will be Filed All materials will be stored in Dr. Colwell's office.

* Must include signature of committee chair on protocol.

** Please attach

*** Please attach conditions, schedule of payment.

Vanessa Carpenter
Principal Investigator
Date 6/16/94

Eric Colwell
~~Graduate~~ Committee Chair
Date 6/16/94

[Signature]
Department Head
Date 6/16/94

Date Approved:

[Signature]
Institutional Review Board
Date 22 June 94

Form IV

Exempt Protocol for Research Involving Human Subjects Texas A&M University

(Please Type)

Project Title The Relationship Between Self-efficacy, Knowledge and Cancer Detection Activities

Principal Investigator(s) Vanessa Carpenter (UG Honors), Brian Colwell (HLKN)

Faculty XX Graduate ___ Undergraduate XX

College/Department HLKN

Address MS 4243

Source to Support for Study: Departmental Funds

Basis for Exemption [Please refer to attached "Categories Exempt From Full IRB Review."]

- Established Educational Settings / Normal Educational Practices
Use of educational anonymous tests (cognitive, diagnostic, aptitude, advancement)
XX Survey or interview procedures, (unless subject might be identified, put at legal or personal risk, and deal with sensitive matters of personal behavior)
Observations of public behavior (unless subjects might be identified, put at legal or personal risk, and deal with sensitive matters of personal behavior)
Anonymous collection or study of existing documents, records, pathological or diagnostic specimens
Taste and food quality evolution and consumer acceptance studies.

Concise, non-technical statement about scientific purpose of study, including anticipated benefits to subjects. This project will examine the relationship between knowledge of cancer & self-efficacy related to obtaining appropriate screening. Specifically, does increased knowledge increase self-efficacy? The population to be examined is Mexican-American women, who have distinct socio-cultural influences on their health behaviors compared to other women. Results may improve programming directed at this population. Concise statement about human subjects in study. Please specify number, age(s), gender, source of subjects, location of experiment and what will be required from subjects.

Approximately three hundred-fifty subjects will be recruited from classes taught by Extension Homemakers in Starr County, Texas. Subjects will be requested to complete the anonymous survey.

This project is part of data collection for completion of an Honors Thesis. Consent Form Attached ___ yes XX no

I have read and am familiar with the ethical principles and standards of the Declaration of Helsinki, and unreservedly subscribe to these principles.

Vanessa Carpenter
Principal Investigator
Date 6/16/94

Brian Colwell
Graduate Committee Chair
Date 6/16/94

Blanchard
Department Head
Date 6/16/94

Chair
Institutional Review Board
Date 22 June 94

Date Approved:

APPENDIX B

The purpose of this survey is to find out what you think about cancer and tests for it. Please answer truthfully and to the best of your ability. We will not be able to tell who answered this, so you cannot be identified. This information may help us to improve education and services to women in South Texas and Northern Mexico. Thank you for your help.

La intencion de este examen es para saber que es lo que usted piensa acerca del cancer y pruebas para ello. Por favor contestan verdaderamente y a la mejor de su habilidad. No namas a saber quien a contestado cada examen, de manera que usted no va hacer identificada. Esta informacion nor ayudara a mejorar la educacion y servicior a las mujirer del Sur de Tejas y el Norte de Mejico. Gracias por su ayuda.

This research study has been reviewed and approved by the Institutional Review Board-Human Subjects in Research, Texas A&M University. For research related problems or questions regarding subjects' rights, the Institutional Review Board may be contacted through Dr. Richard Miller, IRB Coordinator, Office of University Research, (409)845-1812.

Este estudio de investigacion ha sido repasado y aprobado por la Mesa de Revista Institucional-Sujetos Humanos en Investigacion, Universidad Texas A&M. Para problemas o preguntas con relacion a los derechos de sujetos, la Mesa de Revista Institucional puede contactarse por medio del Dr. Richard Miller, Coordinador MRI, Oficina de Investigacion Universitarias, (409) 845-1812.

What is your age? ___
Que es su edad? ___

What is the highest grade you have achieved in school? (Circle one).
Grado de escuela? (Circulo uno).

1 2 3 4 5 6 7 8 9 10 11 12 College
Colegio

Please estimate your family's yearly income. (Circle one).
Impuesto sobre los ingresos annual de su familia. (Circulo uno).

\$0-\$5000	\$5001-\$10,000	\$10,001-\$15,000
\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000
Over \$30,000		

SECTION 1: GENERAL CANCER KNOWLEDGE
SECCION 1: GENERAL CONOCIMIENTO DE CANCER

1. I feel that I have no control over getting cancer.
Yo pienso que yo no tengo control al que se me descubra cancer.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

2. I feel that most cancers can be cured if they are detected early.
Yo pienso que todos los mas de los conceres pueden ser curados si son descubiertos del principio.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

3. I think that cancer is a punishment from God and there is nothing that I can do to change my chances of getting it.

Yo pienso que el cancer es un castigo de Dios y que no hay nada que yo pueda hacer para cambiar mis riesgos para llegar a tenerlo.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

4. If I had cancer, I would not be able to take care of myself or my family.

Si yo tuviera cancer, yo no podria poder cuidarme ni a mi familia.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

5. There is no point to being screened for cancer because I know that I could not survive it.

No hay punto alguno para ser examinada para cancer se que no lo voy a sobre vivir.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

6. Cancer can be caught from someone else who has it.

El cancer se puede ser contraido de alguna persona que lo tenga.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

7. About one out of every three Texans will get cancer.

Entre una de tres Tejanos podran llegar a tener cancer.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

8. Cigarettes and chewing tobacco can cause cancer.
Los cigarros y chupando tabaco pueden causar cancer.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

9. Cancer can be caused by bruises from being hit.
El cancer puede ser causado por golpes que uno se a dado.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

10. Dizziness and joint pain are symptoms of cancer.
Las borracheras y dolores de coyunturas so sintomas de cancer.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

SECTION 2: BREAST SELF-EXAMINATIONS
SECCION 2: EXAMENES DE PECHO SOLA

11. I do not think that I could perform a breast self-examination.
Yo no creo que you pueda hacer un examen de pecho sola.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente No</i>

12. I feel confident that I know how to perform breast self-exams well enough to find a lump.
Yo pienso estar segura que yo se como hacer sola los examenes de pecho y hallar una bolita.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente No</i>

13. I am comfortable examining my own breasts for lumps.
Yo estoy comoda al examinar mis propios pechos para bolita.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

14. I feel that only a doctor or nurse could tell if I had a lump in my breast.
Yo pienso que solo un doctor o una enfermera podria decir si yo tengo una bolar en mi pecho.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

15. I do not have any control over getting breast cancer.
Yo no tengo ningun control al tener cancer de pecho.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

16. Breast self-examinations are not important.
Exámenes de pecho por una miama no son importantes.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

17. A person's chance of surviving breast cancer is very low, even if it is detected early.
La suerte de una persona que sobreviva cancer de pecho es muy baja.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

18. Breast cancer can be caused by breast feeding.
Cancer de pecho puede ser causado por dar pecho a nino.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

19. Breast cancer kills more women than lung cancer.
Cancer de pecho mata a mas mujeres que cancer de pulmon.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

20. Breast cancer can be found by breast self-examinations and mammograms.
Cancer de pecho se puede hallar con los examenes propios de pecho y mammograms.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

SECTION 3: PELVIC EXAMINATIONS AND PAP SMEARS
SECCION 3: EXAMENES PELVICOR Y PAP SMEARS

21. It is embarassing to have a pelvic exam and Pap smear.
Es vergonzoso que se hagan examenes del pelvico y Pap smear.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i>
			<i>No</i>

22. I would be too uncomfortable and embarrassed to have a pelvic exam and Pap smear if the doctor or nurse was a man.

Yo me siento incomoda y avergonzada que me hagan exámenes del pelvico y Pap smear por un doctor o enfermero hombre.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

23. I do not have the time or money to have a pelvic exam and Pap smear.

Yo no tengo al tiempo ni dinero para el examen pelvico o Pap smear.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

24. Even if a Pap smear found cancer, I could not be cured.

Aun cuando un Pap smear revele cancer, yo no podre ser curada.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

25. If it were available, I would be able to get a pelvic exam and Pap smear once a year.

Si fuera disponible, yo podria hacerme un examen pelvico y Pap smear una vez al ano.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

26. Having many sex partners increases the risk for cervical cancer.
El tener muchos companeros de sexo eumenta el peligro de cancer cervical.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

27. Cancer of the uterus and cervix can easily be found with a Pap smear.
El cancer de la matriz o del cerviz puede muy facil ser encontrado con un examen del Pap smear.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

28. Cancer of the uterus and cervix can not usually be cured, even if found early by a Pap smear.

El cancer de la matriz o del cerviz no muy facil se puede curar, aun cuando se encuentar al principio por un examen Pap smear.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

29. A symptom of cancer of the uterus and cervix is bleeding when a women is not having her period.

Un sintoma de cancer en la matriz o del cerviz es sangrando cuando una mujer no esta en periodo.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

30. I do not need a pelvic exam and Pap smear because I am in good health.
Yo no necesito el examen pelvico ni el Pap smear porque yo me encuentro en buena salud.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

SECTION 4: COLORECTAL EXAMINATIONS
SECCION 4: EXAMENES COLORECTAL

31. I would never have a rectal exam because I would be too embarrassed.
Yo nunca me baria un examen rectal porque a mi me daria much vergenza.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

32. I am confident that I could change my lifestyle to avoid getting cancer of the bowel.
Yo estoy segura que yo podria cambiar el modo de vida que llevo para evitar el cancer en las entranas.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

33. I would not want to know if I had colon or rectal cancer because I could not survive it anyway.
Yo no quisiera saber si yo tuviera cancer del colon o el recto porque no lo sobreviviria de ninguna manera.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente</i> <i>No</i>

34. If a doctor told me that I had early signs of colon or rectal cancer, my chances of being cured would be very good.

Si algun doctor me dijiera que yo tuviera senales de principio de cancer del colon o rectal, mis riesgos de ser curada serian muy buenas.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente No</i>

35. I have no control over getting colon or rectal cancer.

Yo no tengo ningun control de tener cancer del colon o recto.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree
<i>Muy de acuerdo</i>	<i>De acuerdo</i>	<i>No de acuerdo</i>	<i>Determinadamente No</i>

36. Eating fruits and vegetables can help prevent colon or rectal cancer.

Comiendo frutas y vegetales pueden ayudar a prevenir cancer del colon o rectal.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

37. I do not need to worry about getting colon or rectal cancer because only men get that type of cancer.

Yo no necesito mortificarme de llegar a tener cancer del colon o rectal porque solamenta los hombres tienen ese tipo de cancer.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

38. It is important to have a colon or rectal examination once every ten years.
Es muy importante hacerse un examen de colon o rectal una vez cada diez años.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

39. Colon or rectal cancer can be caused by drinking caffeine such as colas and coffee.
Cancer del colon o rectal puede ser causado por beber cafeina como colas y cafe.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>

40. The chances of surviving colon or rectal cancer are very small.
Las riesgos de sobrevivir cancer del colon o rectal son muy pequenos.

1	2	3
True	False	Don't know
<i>Sierto</i>	<i>Falso</i>	<i>No lo se</i>