Mexican American Women in a Rural Area and Barriers to Their Ability to Enact Protective Behaviors Against Breast Cancer

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Mexican American women in rural areas have less chance of surviving breast cancer than women in other ethnic populations (Boughton, 2000; Herman, 1996). This research sought to determine why such women do or do not enact behaviors to help them protect themselves from breast cancer. The extended parallel process model (Witte, 1994) provided a guiding theoretical basis for understanding perceptions, and 48 women, in discussion groups and surveys, were asked about self-exams, physician exams, and mammograms. Findings demonstrated that the women had high perceived self-efficacy and susceptibility regarding breast cancer but did not perceive it as severe (i.e., that it could cause death). These perceptions were positively and negatively related to behaviors that protect against breast cancer. Also, several barriers, such as lack of transportation, lack of access to health care, and lack of knowledge regarding breast self-exams, were found.

My ex-daughter-in-law died of breast cancer at the age of 35 years old. She was told that she had it for 10 years or so. If she had detected it earlier, she may have lived.

—Participant in this study

In the United States, breast cancer research among all ethnic groups has been of primary importance, but special emphasis has been placed on Hispanic women because they tend to be diagnosed with more advanced tumors than non-Hispanic White women (Bundek, Marks, & Richardson, 1993; Herman, 1996; New Mexico Tumor Registry, 1995). Although Hispanic women demonstrate a lower incidence of breast cancer, they are more likely than non-Hispanic White women to die from it (Oetzel, 2002; O’Malley, Kerner, Johnson, & Mandelblatt, 1999).

The National Institutes of Health have taken a particular interest in the U.S. population of Hispanics because of the lack of information regarding them and because of their lack of representation in clinical trials (Boughton, 2000). This increased interest has led to research taking place with various Hispanic and Latino populations in large urban centers like New York (Granados, 2000; O’Malley et al., 1999); San Francisco; San Diego; San Antonio, Texas; Chicago; and Miami (Granados, 2000). Such research has demonstrated significant advances in the understanding of breast cancer among Hispanic populations, yet it ignores the largest population of Hispanics—Mexican Americans. Mexican Americans represent approximately 63.7% (Delgado, Metzger, & Falcon, 1995) of the Hispanic population in the United States, and they live predominantly in the rural Southwestern portion of the United States. The limited research that has been done has shown that women from rural areas are less likely to participate in breast cancer screenings (e.g., mammograms and clinical breast exams; Boughton, 2000). Together, the lack of screening and other issues pertinent to rural areas (e.g., availability of health care and transportation to clinics and treatment centers) put Mexican American women in rural areas at greater risk of dying from breast cancer than their urban counterparts.

The purpose of this research project is to increase understanding of one rural population of Mexican American women and their use or nonuse of behaviors that would help
of the illegally subdivided plots of land. According to the director Colonias Las Colonias mile (U.S. Census Bureau, 2003). Compared with the U.S. average of 79.6 people per square rural state, with only 15 people on average per square mile, as U.S. Census Bureau, 2003). New Mexico is also a primarily low the poverty level (compared to a 12.4% U.S. average; U.S. average of $21,587), and 18.4% of the population is be-

monthly income in 1999 being $17,261 (compared to the another major issue in New Mexico, with the average of cancer, as well as self-efficacy or ability to fight cancer. Psychological variables are examined through the lens of the extended parallel process model (EPPM, Witte, 1994). To understand the potential influence of psychological and physical barriers, background on the population and geographical area is essential.

BACKGROUND ON THE RESEARCH POPULATION

Of the 1,829,146 individuals in New Mexico, 42.1% are of Hispanic origin, totaling approximately 770,071 individuals (U.S. Census Bureau, 2003). Also, New Mexico has a large percentage of individuals who do not speak English in their homes (36.5%) as compared to the U.S. population as a whole (17.9%; U.S. Census Bureau, 2003). The language most often spoken, other than English, is Spanish. Poverty is another major issue in New Mexico, with the average monthly income in 1999 being $17,261 (compared to the U.S. average of $21,587), and 18.4% of the population is below the poverty level (compared to a 12.4% U.S. average; U.S. Census Bureau, 2003). New Mexico is also a primarily rural state, with only 15 people on average per square mile, as compared with the U.S. average of 79.6 people per square mile (U.S. Census Bureau, 2003).

Las Colonias

Colonias are communities created from what are considered illegally subdivided plots of land. According to the director of the Promotora (lay health worker) Program in Anthony, New Mexico, when farmers in the United States tire of farming, they sell plots to Mexicans and Mexican Americans who wish to own land. The selling of the land is often illegal because it is undeveloped, and the people who come to live on it sadly discover this. Often there is no road into a colonia, and if there is one, it is unnamed and difficult to travel. One colonia’s name was translated as “Get out if you can,” partly because of a resident’s unfortunate death. The person died because an ambulance could not find his home. The “roads” in this colonia all ended at people’s houses and were unnamed. The roads have since been named.

The people who come here usually first live in buses. They build homes slowly—often around the buses. An established colonia might have roads, running water, electricity, and even mailboxes, but new colonias will have few of these. The people are hard working and put all the money they can into building homes. They are proud and do what they can to raise families and fulfill the “American Dream.” In terms of breast cancer prevention, however, they may manifest several physical and perceptual barriers to their enactment of protective behaviors.

Barriers to Health of Mexican American and Hispanic Women

In a comprehensive review of literature on Hispanics and breast cancer, Oetzel (2002) found several factors that influence breast cancer screening behaviors of Mexican American women. These factors are:

1. access to health care, (2) education (both formal education and having a health care professional talk about, or demonstrate, BSE), (3) there are within-group differences among Hispanics, with Mexican women appearing to have the most barriers for screening, and (4) acculturation (and language) appears to be a critical factor in breast cancer screening. (Oetzel, 2002, p. 14)

In terms of culture, “Hispanic women (especially Mexican) appear to have strong beliefs in fatalism and relatively low self-efficacy” (p. 15). O’Malley et al. (1999) demonstrated similar findings and stated that, “socioeconomic status and having health insurance, having a usual source of care, and having a physician’s recommendation for screening all predict screening use in both non-Hispanic and Hispanic women” (p. 89). In summary, barriers for Mexican American women in urban areas are access issues, lack of education about these behaviors in school, low socioeconomic status, no health insurance, fatalism, and low self-efficacy.

Oetzel’s (2002) and O’Malley et al.’s (1999) research focused on urban populations of Mexican Americans, but, looking specifically at this population in southern New Mexico, the issues raised in these studies are even more of a problem. In these rural areas it will sometimes take hours to drive
to an institution that will give a mammogram, and these women do not have transportation or time to do this, thus, severely limiting access. They are also at risk because of language barriers and limited socioeconomic status. Many women in New Mexico do not speak English and have been found to be at greater risk for breast cancer (Herman, 1996). These non-English speakers also tend to be of lower socioeconomic status, have no insurance, lack access to mammography facilities, and cannot afford the procedure (Herman, 1996). Other barriers that have been identified are "embarrassment/modesty, fear of cancer, distrust of health care providers, and values that do not emphasize preventive health care" (Herman, 1996, p. 11). The focus of this study is to explore and expand previous research to add to the understanding of physical barriers that women in rural areas experience; emphasis is also on expanding previous findings regarding psychological variables like fear and self-efficacy.

THE EXTENDED PARALLEL PROCESS MODEL

Much of the research on why women do or do not enact protective behaviors against breast cancer has utilized Ajzen and Fishbein’s (1980) theory of reasoned action (e.g., Champion & Miller, 1992; Lierman, Young, Kasprzyk, & Benoliel, 1990), Bandura’s (1982) theory of social learning (e.g., Alagna, Morokoff, Bevett, & Reddy, 1987; Brailey, 1986; Celentano & Holtzman, 1983; Champion & Miller, 1992; Edgar, Shamian, & Patterson, 1984; Hallal, 1983; Lauver, 1987; Strecher, DeVellis, Becker, & Rosenstock, 1986), Becker’s (1974) health belief model (e.g., Bennett, Lawrence, Fleischmann, Gifford, & Slack, 1983; Calnan & Rutter, 1986; Champion, 1985, 1987, 1988; Champion & Miller, 1992; Hallal, 1982; Kelly, 1979; Massey, 1986; Rutledge, 1987), and Rogers’s (1983) protection of motivation theory (e.g., Rippetoe & Rogers, 1987). The EPPM (Witte, 1994) incorporates variables from these theories in a parsimonious manner, making it easier to bring together and apply previous research on breast cancer.

The EPPM contains two dimensions—a threat and the ability to fight the threat. The threat dimension of a message includes both perceived susceptibility to and severity of the threat. The more an individual perceives he or she is at risk of experiencing a threat, the greater the perceived susceptibility (i.e., “I could get breast cancer”), whereas perceived severity hinges on the belief that a threat could have serious consequences (i.e., “breast cancer could kill me”). The ability to fight a threat is called efficacy. Efficacy also contains two dimensions—self- and response efficacy. Self-efficacy is the extent to which an individual feels he or she is able to combat a threat (e.g., “I can fight breast cancer”). Response efficacy refers to a specific preferred response (e.g., breast self-exams or mammograms) that can be enacted to prevent or combat the threat.

The four components of EPPM (severity, susceptibility, self-efficacy, and response efficacy) combine to create two ways that fear appeal messages can be processed; danger control or fear control. Fear-control processes occur when individuals process a fear appeal by letting emotions, primarily fear, guide their response to a message (Witte, 1993; see also Lazarus, 1991a, 1991b; Rippetoe & Rogers, 1987). Fear-control processing leads individuals to have strong perceptions of threat but a perceived inability to fight it (low response and self-efficacy). They may react by avoiding thinking about the threat, which is called defensive avoidance (Janis & Feshbach, 1953) and be less likely to fight the threat (Witte, 1998).

In contrast, an individual enacting danger-control processing has strong perceptions of severity and susceptibility yet perceives himself or herself as able to combat the threat (high self-efficacy) with the recommended responses (high response efficacy). He or she rationally, rather than emotionally, processes information and takes the steps necessary to avert the threat. Such individuals are also less likely to enact defensive avoidance than those using fear-control processing.

The use of EPPM to guide this research is important because it aids in the understanding of preexisting perceptions of self-efficacy, susceptibility, and severity. As stated earlier, research has demonstrated that some Mexican American women have low perceptions of self-efficacy. What is unknown is their perceptions of their susceptibility to and severity of breast cancer. If self-efficacy is low, they could be enacting fear-control processing, and this could be one reason why they demonstrate an avoidance of breast cancer screening behaviors.

RESEARCH QUESTIONS

As discussed earlier, the purpose of this study is to paint a picture of a population of Mexican American women in a rural area and to compare this population’s barriers to previous research. In so doing, it would be important to know if the women in the sample are danger-control or fear-control processing. Based on this, the following research questions are posed:

RQ1: Are the women using danger-control or fear-control processing, and how does this influence enactment of protective behaviors and defensive avoidance?

RQ2: What are their beliefs about susceptibility, severity, and self-efficacy regarding breast cancer and how do perceptions of susceptibility, severity, and self-efficacy relate to protective behavior use and defensive avoidance?
Because there are several other barriers that have also been discussed, examination of them will be the focus of the following questions:

RQ3: What reasons do women give for not participating in protective behaviors (BSEs, physician exams, and mammography)?

RQ4: What reasons do women give for participating in protective behaviors (BSEs, physician exams, and mammography)?

To compare these results with previous work, the following question is posed:

RQ5: How do the reasons for participating or not participating in protective behaviors compare to previous research on barriers (i.e., Oetzel, 2002; O’Malley et al., 1999)?

It is important to note that response efficacy is not included because the purpose is to explore existing perceptions of self-efficacy, severity, and susceptibility.

METHOD

Participants
Forty-eight women in colonias in southern New Mexico were recruited to attend five discussion groups with the number of attendees varying from 3 to 18 (similar to research by O’Malley et al., 1999). They shared similar socioeconomic status, as they all lived in the colonias, they were first- or second-generation Mexican American immigrants, and most, if not all, were Catholic, as explained by the promotora director. The primary difference among the women, and one sought by the researchers, was age because this may be an area where there are differences in opinions about breast cancer, and women who are older may receive more encouragement to conduct procedures like mammography. The age of the participants ranged from 17 to 79 ($M = 41.44$, $Mdn = 40.50$), demonstrating a large range of ages.

The target number of participants for this research was 50. The target number of participants was chosen based on meetings with the promotoras. Promotoras are community health workers who are members of the community but who are trained on specific health issues. They “form relationships with the women, men, and children they serve” (Ford, Barnes, Crabtree, & Fairbanks, 1998, p. 153), assist them in filling out government documents, and teach people about health. Promotoras recruited participants with fliers in Spanish and English that were distributed throughout the target communities, and they personally invited women. The promotoras do not take records on the people they speak with; their record keeping is informal, but the director of the promotoras reported that most of the women who were invited to attend did come, and many brought friends and family members who were not personally invited.

Procedure
Participants were asked to take part in discussion groups and surveys. The women were asked to participate first in discussion groups that took approximately 1 hr and then to fill out a survey. The research took place in community centers and health clinics where they lived.

Discussion groups. The discussion groups were led by a bilingual Mexican American woman and recorded with an audiotape machine. Another bilingual woman took notes. Participants received a $10 gift certificate to a store as incentive to attend discussion groups. The discussion group methods included open- and closed-ended questions to determine barriers the women had for not enacting protective behaviors. Before discussing each of the protective behaviors (mammograms, self-exams, and physician exams), participants received definitions of the behaviors (from O’Malley et al., 1999). The definitions were carefully constructed to be factual to indicate that the women would be not judged for their behaviors. They were created in such a way as to not imply that breast cancer was a threat nor recommend responses to any perception of threat (response efficacy). After each explanation of protective behaviors, the leader began with closed-ended questions (such as “Have you ever had a mammogram?”). The reason for beginning with a closed-ended question was to begin the discussion on each topic. The purpose was to not force responses from the women, and if they preferred to not answer they were not pressured in any way. Instead, it gave the opportunity to the discussion group leader to focus attention on each topic area before it was discussed in depth.

Open-ended questions (such as “Why or why not?”) followed the closed-ended questions to determine potential barriers. If individuals could not think of barriers, they were asked about barriers that had been discovered in previous research (e.g., lack of insurance). This allowed them opportunity to respond to other potential barriers and perhaps think of additional barriers. In this part of the discussion groups, women were encouraged to tell about their experiences, to elaborate when they wanted to, and to tell the group about friends and/or family members.

The statements (295) from discussion group transcripts were sorted into three groups: self-exams, physician exams, and mammograms. Then each group was broken into three sections: why women do enact the behavior, why women do not enact the behavior, and myths regarding the behavior. Several categories emerged within each group, creating 57 categories. Two coders placed statements into categories and demonstrated a high level of reliability ($\alpha = .99$, $r = .98$, $p \leq .05$). Because of the number of categories, however, expected
agreement between coders was low (5%); yet the actual agreement was high (96%), resulting in a favorable estimate of reliability that takes chance agreement into account (Scott’s pi = .96; see Holsti, 1969). Such results indicated that the coders had a high level of agreement on the coding of the categories.

Survey. The survey was given after the discussion groups. Each of the questions was read to participants in case any could not read and to address any misunderstandings. In the survey, the women were asked for demographic information and to answer questions assessing regularity of protective behaviors—BSEs, physician exams, and mammography. Participants were also given questions to assess defensive avoidance and perceptions of susceptibility, severity, and self-efficacy with regard to breast cancer. The perceptions were measured with a version of the survey used by Hubbell, Murray, Liu, and Witte (2001). Responses to all items were on a 5-point Likert-type scale with responses ranging from 1 (completely disagree) to 5 (completely agree).

Confirmatory factor analyses were conducted to demonstrate reliability and validity of measures (Hamilton & Hunter, 1987). Perceived severity was measured with two items (α = .79). Tests of homogeneity indicated that there were no items for which the error between the observed and expected correlations exceeded sampling error. Susceptibility was assessed with four items (α = .75). Again, tests of homogeneity indicated that there were no items for which the error between the observed and expected correlations exceeded sampling error. Self-efficacy was assessed with two items (α = .60). Although the reliability for this scale was low, tests of homogeneity indicated there were no items for which the error between the observed and expected correlations exceeded sampling error, thus showing support for internal consistency.

To empirically demonstrate that the three EPPM-based perceptual measures were distinct, tests of heterogeneity (parallelism) were conducted. Tests of heterogeneity indicated that the error between expected and observed correlations was greater than the sampling error only 5.00% of the time, suggesting the EPPM measures and the thinking about breast cancer measure should be treated as separate variables.

Protective behaviors. Protective behaviors were measured with three questions—one single-item measure for each behavior. Women were first asked how often they do BSEs, with responses ranging from “Frequently (meaning at least once every couple months)” to “Never.” According to the American Cancer Society’s 1989 screening guidelines, all women should do monthly BSEs (Herman, 1996) and with the belief that many women may forget at times, the desirable response was “Frequently.” Clinical exam guidelines for women 20 to 39 are to have an exam at least once every 3 years and, starting at age 40, they should have annual exams (Herman, 1996). Asking the women how often a physician examines their breasts, with responses ranging from “twice a year” to “never” assessed clinical exams. “Twice a year” was included in case any of the women had previous experience with breast cancer and had more numerous repeat visits. “Once a year” was the most desirable response. Mammography was assessed by again asking how often they had one and responses varied from “once a year” to “never”—with “once a year” being the more desirable response (particularly for women over 40, Herman, 1996). Age could be a contributing factor in that younger women may not be asked to have a mammogram, so age was considered when looking at mammography data.

Triangulation to Avoid Bias in the Discussion Groups

The “investigator triangulation” (Keyton, 2001, p. 77) approach was used to reduce bias. Such an approach decreases researcher bias by triangulating notes and perceptions of multiple researchers (Keyton, 2001). One person’s perceptions do not dominate the results. In this study, two researchers were at each audiotaped discussion group. One led the discussion group, and one took notes. The leader of each discussion group prepared a transcript from the audiotape. A third researcher then compared the transcript to the notes taken by the other researcher for accuracy and to determine if the transcript was biased in any way. Then, two of the researchers coded the transcripts to avoid having only one researcher determining their meaning. Together, the use of three researchers prevented the opinion of any one researcher from biasing these data.
RESULTS

Participants’ Use of Protective Behaviors

Before answering the research questions, it is important to examine participants’ reported use of protective behaviors. The mean response for BSEs was 2.31 (N = 48, SD = 1.06), which represents a point between “sometimes” and “rarely,” indicating that women did not regularly participate in this behavior. The mean response for physician exams was 2.79 (N = 47, SD = .69), which represents a point between “once a year” and “rarely,” with once a year being a more common answer. Regarding mammography, women over 40 were first examined (because it was prescribed for them). Twenty-six women self-identified as over 40, and their mean response for mammography use was 3.12, which falls between the responses of “once every 2 years” and “once a year.” When looking at women over 50 (n = 16), the mean response was 3.24. These means may indicate that the women enact some protective behaviors, especially mammography, even if not to the degree prescribed by the American Cancer Society (Herman, 1996).

Research Questions

RQ1. This question asked if the women were using danger-control or fear-control processing and what influence this may have on the enactment of protective behaviors and avoidance of thinking about breast cancer. To better understand the influence of danger- and fear-control processing and to include two emergent groups, four categories were created: (a) fear control (low self-efficacy and high susceptibility and severity); (b) danger control (high self-efficacy, susceptibility, and severity); (c) low threat (low susceptibility and severity) and high efficacy; and (d) low threat and low efficacy. The two emergent groups were added because most of the women did not fit the parameters set for danger-control or fear-control processing, and their combined perceptions of self-efficacy, severity, and susceptibility did not match what was needed to be considered using one of these forms of processing.

The four groups were created by splitting each of the perceptual variables from the EPPM at their median: self-efficacy (Mdn = 4.50, SD = .82); susceptibility (Mdn = 3.88, SD = 1.06); and severity (Mdn = 2.00; SD = 1.30), creating a dichotomous way to observe each variable—as exhibiting a high or low level of it. After each of the perceptual scales were split into high and low perceptions, individuals were placed into one of the four categories based on their combined perceptions. A person with low self-efficacy but high perceptions of susceptibility and severity would thus be placed in the fear-control group. Descriptive analyses (see Table 1) were then used to determine means for each category and demonstrate when women were more likely to enact protective behaviors and avoid thinking about breast cancer.

To better understand enactment of protective behaviors of women in all four of the categories, the three protective categories (BSEs, physician exams, and mammography) and defensive avoidance were collapsed into a mean score (see Table 1). The mean score was based on the likelihood of enactment of protective behaviors such that a high mean means a positive health profile (more likely to enact protective behaviors and less likely to enact defensive avoidance). The mean score was the highest for the high efficacy/low threat group. However, t-test analysis between the mean of this group (M = 2.65) and next highest group mean score (low efficacy/low threat group, M = 2.61) demonstrated no significant difference and an effect size, as measured by Cohen’s d, of .04, t(27) = –.22, p > .05. As illustrated on Table 1, however, these two groups significantly differed from the danger-control and fear-control groups, with the danger- and fear-control groups not being significantly different from each other (high efficacy/low threat vs. danger-control, t(19) = –4.79, p < .05, d = .34; high/low vs. fear control, t(24) = –3.01, p < .05, d = .37; low efficacy/low threat vs. danger control, t(21) = –4.56, p < .05, d = .55; low efficacy/low threat vs. fear control, t(26) = –2.80, p < .05, d = .37; danger-control vs. fear-control, t(18) = –1.39, p > .05, d = .31).

What this appears to produce is two categories, one that includes the high efficacy/low threat and low efficacy/low threat

| TABLE 1 | Descriptive Analysis of Women’s Perceptions and Their Influence on Dependent Variables |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | Dependents’ Use | Fear Control a  | High Efficacy/  | Low Efficacy/  |
|                |                 |                 | Low Threat a    | Low Threat a    |
| Dependent variables | M    | SD | M    | SD | M    | SD | M    | SD |
| Self exam      | 2.14 | .90 | 2.33 | .99 | 2.00 | 1.00 | 2.40 | 1.18 |
| Physician exam | 2.33 | .82 | 2.50 | .67 | 3.08 | .76 | 2.87 | .52 |
| Mammography    | 2.00 | 1.29 | 2.33 | 1.37 | 2.15 | 1.28 | 1.73 | 1.10 |
| Defensive avoidance | 1.75 | .29 | 1.71 | .60 | 3.48 | .88 | 3.39 | .88 |
| Composite score | 2.05* | .33 | 2.22* | .50 | 2.65* | .58 | 2.62* | .51 |

a n = 7. b n = 12. c n = 13. d n = 15.
*p < .05, two-tailed.
groups and another that includes the fear-control and danger-control groups. By looking at what differs between these two categories, it is perceptions of threat (measured as the combination of susceptibility and severity) that appears to be the most influential. In the first category, threat is low in both groups, and efficacy varies from high to low levels, but no difference is found between the groups. In the second category, however, threat is high in both groups and, again, efficacy varies from high to low levels with no difference found between the groups. Because differing levels of efficacy were not associated with changes in the mean scores, but differing threat levels were, it may be that threat was more strongly related to the use of protective behaviors and defensive avoidance.

**RQ2.** RQ2 asked for the women’s beliefs about susceptibility, severity, and self-efficacy regarding breast cancer and how each of these perceptions relate to protective behaviors and defensive avoidance. To answer this question, frequency analyses were conducted. The mean for efficacy was 4.16 (SD = .82), and it was significantly different from the neutral midpoint, t(44) = 9.48, p ≤ .05, d = .70. The mean for severity was 2.28 (SD = 1.30), and it was significantly different from the neutral midpoint, t(44) = –3.73, p ≤ .05, d = .37. The susceptibility mean was 3.59 (SD = 1.06), and it was also significantly different from the neutral midpoint, t(43) = 3.67, p ≤ .05, d = .37. These data demonstrate the women perceived themselves as high in self-efficacy and susceptibility but believed that breast cancer was not a severe threat; it would not kill them if they contracted it.

Correlational analyses assessed relations between perceptions of efficacy, severity, and susceptibility on the protective behaviors and defensive avoidance. Only defensive avoidance was related to perceptual variables, yet both severity (r = –.32, p ≤ .05) and susceptibility (r = –.79, p ≤ .05) were significantly negatively related to defensive avoidance. High scores on defensive avoidance indicate not using it; they indicate that an individual is processing information on a threat and not avoiding information. A significant negative correlation indicates that as susceptibility and severity increased, so did defensive avoidance.

**RQ3 and RQ4.** RQ3 and RQ4 focused on the women’s perceived barriers to enactment of protective behaviors. Findings (see Table 2) indicated that women avoid doing breast exams primarily because they do not think about them and do not know how to do them. When exams were done, either husbands or the woman herself did them. For physician exams, the most common reason for not getting them was a lack of insurance and inability to pay. The second reason was fear of what the doctor might find. When breast exams were done, most statements focused on getting a breast exam with a gynecological exam. The second reason for an exam was the availability of physicians through local clinics (e.g., free and/or sliding-scale clinics). Regarding mammography, the majority of statements emphasized location problems. Many women had to travel long distances for mammograms. This problem was followed by a lack of insurance and an inability to afford mammograms. When mammograms were done, it was due to a previous diagnosis of breast cancer. In addition, several women asked for more information about breast cancer (16.5 statements).

From these findings the major barriers appeared to be (a) a deficiency of accurate information on breast cancer and the importance of BSEs, (b) lack of understanding on how to do self-exams, (c) lack of insurance, and (d) transportation problems.

**RQ5.** The final RQ focused on comparing this research to research on Mexican American women in urban centers. In this research, each barrier identified by Oetzel (2002) and O’Malley et al. (1999) was also an issue; yet the strength of

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**TABLE 2**

Reasons Why Women Do and Do Not Protect Themselves and Myths Regarding Procedures

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Reason</th>
<th>1st Reason</th>
<th>%</th>
<th>2nd Reason</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast self-exam</td>
<td>Why they do not do it</td>
<td>Do not care or think about</td>
<td>41</td>
<td>Do not know what to look for</td>
<td>14</td>
</tr>
<tr>
<td>Why they do</td>
<td>Husband does exam</td>
<td></td>
<td>24</td>
<td>Used to doing/habit</td>
<td>24</td>
</tr>
<tr>
<td>Myths regarding</td>
<td>If nipples stay in there is no problem</td>
<td>100b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician breast exam</td>
<td>Why they do not do it</td>
<td>Cannot afford/no insurance</td>
<td>22</td>
<td>Fear of what he/she might find</td>
<td>17</td>
</tr>
<tr>
<td>Why they do</td>
<td>Get with gynecological exam</td>
<td></td>
<td>33</td>
<td>Clinic makes it easy; very available to them</td>
<td>21</td>
</tr>
<tr>
<td>Myths regarding</td>
<td>God will not let me get cancer</td>
<td>100b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mammography</td>
<td>Why they do not do it</td>
<td>Location is a problem; have to travel to get to clinic/hospital</td>
<td>43</td>
<td>Cannot afford/no insurance</td>
<td>24</td>
</tr>
<tr>
<td>Why they do</td>
<td>Previous breast cancer</td>
<td>100b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myths regarding</td>
<td>Mammograms are painful</td>
<td>75c</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Only the two most common reasons are listed, so the percentages do not always add up to 100%.

*aPercentage responses for each section (e.g., 41% of all responses regarding why women do not do breast self-exams). b1 statement. c3 of 4 statements.*
the barriers may be magnified in this sample. This is ex-
ounded on in the discussion section.

DISCUSSION

This research sought to use the EPPM as a guide to un-
derstanding perceptual and physical barriers Mexican American women in a rural area have regarding their ability to fight the threat of breast cancer. The EPPM predicts an interaction between four variables that combine to influence how we think about a threat and the use of protective behaviors to fight it. Here, three of these variables were assessed, and the combination of susceptibility and severity was more strongly related to the behaviors and thought processes of the women than their perceived self-efficacy.

This is not as the EPPM would predict, but the EPPM still applies. It is still appropriate because in this population, perhaps the perceptual variables have differing effects. Perhaps in this specific population, targeted campaigns should include response and self-efficacy but focus more on susceptibility and severity of breast cancer. It may also be that because of the already high levels of self-efficacy in this population, there was not enough variance in the variable to demonstrate an influence on the dependent variables.

Looking at the results from the discussion groups and survey, not only does a picture of the women in the colonias emerge, but also areas that need to be addressed to increase their enactment of protective behaviors against breast cancer. To do this, first we must examine the perceptual variables. According to the analyses, the combination of susceptibility and severity, or threat, was negatively related to defensive avoidance and positively related to protective behaviors. Also, in this population the women tend to have high perceptions of self-efficacy and susceptibility, but perceptions of severity are low; they believe that they could get breast cancer and that they can fight it, that it will not kill them. This may be telling us that the women are in a perfect position to receive information on how to avert the threat of breast cancer or that they need to learn that breast cancer is a severe threat, that it can kill them.

This is still a confusing picture, however, making it important to add the last piece to the puzzle, the reasons for not enacting protective behaviors as found in the discussion group data. According to Oetzel (2002) and O’Malley et al. (1999), the primary reasons why Mexican American women in cities do not enact protective behaviors are (a) lack of access to/ no usual source for health care, (b) lack of education (both formal education and learning how to do BSEs), (c) low socioeconomic status and lack of health insurance, and (d) acculturation in terms of a high level of fatalism and low self-efficacy. As stated earlier, each of these exist as barriers in this sample, perhaps even to a greater degree than in urban populations.

Applying these issues to this study, first, access to health care is the biggest obstacle and is a much larger issue than it is for an urban population. For the women in this research to get care, they have to travel for miles, hours, and in some cases, days to be treated. Also, when the women travel, even those who are legal, they are often stopped for hours at border patrol check points.

Second, regarding education, the women in this research often stated that they lacked the knowledge needed to fight breast cancer but expressed a desire to learn. This is related to the third issue: socioeconomic status and health. As illustrated earlier with census data, New Mexico is an underprivileged state with many people below poverty. Many also do not speak English and even with access to education are already behind their fellow students. Further, as found in this research, health insurance appears to be virtually nonexistent in the colonias. This all paints a picture of a population that desires knowledge but does not have access to it.

Fourth, and finally, some women in this study expressed issues relative to fatalism and demonstrated a high level of self-efficacy. They stated that if God wants them to have breast cancer, they will, and that God will protect them. These statements indicate a strong faith that could limit action to prevent dying from diseases like breast cancer. Their high level of self-efficacy, although differing from that of their urban counterparts, may be their “saving grace.” Building on this in a targeted campaign may be crucial to a successful campaign against breast cancer.

Therefore, it appears that previous research by Oetzel (2002) and O’Malley et al. (1999) well represents most of the issues faced by women in this rural area, with two exceptions. First, the issues that women in this rural population face are magnified in comparison to those of their urban counterparts, and second, they may have a higher level of self-efficacy than these counterparts.

Bringing this all together, we know that (a) as perceptions of their threat (severity and susceptibility) increase, healthy profiles regarding breast cancer increase, (b) the women have high levels of self-efficacy and may feel able to fight the threat, (c) these women suffer physical barriers to protecting themselves from breast cancer similar to those of their urban counterparts but to a greater degree, and, perhaps most important, (d) they want to know how to protect themselves against breast cancer. From this picture, a potential targeted campaign could be created.

Implications and Recommendations

From This Research

Oetzel (2002) recommended that targeted approaches be used with Mexican American women when trying to address an issue like breast cancer. This is the major recommendation of this research. Communication scholars have a unique opportunity to apply theory to an issue and from this application to better understand the issue and how to address it. In creat-
Although this research serves to draw a picture of this population, there are several limitations that warrant discussion. The first, and perhaps primary limitation is the number of research participants—48. This creates problems for data analysis because of reduced power. For example, for confirmatory factor analyses, conventional standards require 10 cases per item. With eight variables and multiple items, this is problematic in this study. Further, because there are no census data on colonias, there is no objective way to know if the women who participated were representative of the population. However, the promotoras made every effort to invite women from different age groups and to invite as many women as possible. Based on this, one cannot assume that all the women were representative; however, access to the target population is extremely limited, so this can be considered a first step in gaining access and learning about what this population needs to better protect itself from breast cancer. Future research could compare the findings of this study to other rural populations of Hispanic (particularly Mexican American) women. The goal here is not generalizability but description. Yet because generalizability aids in the creation of health campaigns, such comparisons may demonstrate similar findings and aid in the development of better-targeted campaigns.

Another limitation is in not measuring response efficacy. Although a central part of the EPPM, the purpose here is to not tell the women how they should fight breast cancer but instead to measure if they perceive that they have the ability to do so (self-efficacy). Response efficacy could and should be measured before and after a targeted communication campaign to determine if a campaign changes perceptions and/or behaviors.

A final limitation was the collection of data. Because of the difficulty accessing the population, the survey and discussion groups had to be conducted in the same meeting. Because the researchers knew of the limitation and because the discussion group data were more exploratory than the survey data (and the survey might have encouraged women to think about how often they enact protective behaviors or might have given them several perceptions of barriers to the use of protective behaviors to list in discussion groups), it was decided that the survey would follow each discussion. Although this is an important limitation, the survey data indicate that the women still did not enact protective behaviors as much as they should, and that they felt breast cancer was not a severe threat. If the discussion groups completely biased their answers to the survey, they would have reported more use of protective behaviors and would have believed it was a threat.

Summary

This research seeks to better understand perceptual and physical barriers to protective behaviors in one population of Mexican American women in a rural area. The women in this population live in what are called colonias. In colonias, people try to help each other and make their lives better. They have a dream, much like the immigrants who came to this country hundreds of years ago. Yet many of them live in conditions not much improved from those times. They have strong families, and women are the center of the family. The purpose of this research is to understand why women do not enact behaviors that may keep them alive and keep families together. Future research can improve on or disprove the findings, but if this study encourages any further research, its major goal will have been accomplished: bringing to light a forgotten population by painting a picture of Mexican American women in a rural area.
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