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# Culture, Emotions, and Self-Breast Examinations among Culturally Diverse Women

Patricia Flynn, PhD <sup>1</sup>, Hector Betancourt, PhD <sup>1, 2</sup>

Jennifer Tucker, M.A. <sup>1</sup>, Carlos Garberoglio, MD <sup>3</sup>, Matt Riggs, Ph.D. <sup>4</sup>

<sup>1</sup> Loma Linda University, Loma Linda, CA

<sup>2</sup> Universidad de La Frontera, Temuco, Chile

<sup>3</sup> City of Hope National Cancer Center, Duarte, CA

<sup>4</sup> California State University, San Bernardino, CA

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Contact Information: [pflynn@llu.edu](mailto:pflynn@llu.edu) [hbetancourt@llu.edu](mailto:hbetancourt@llu.edu)

# Disparities in Breast Cancer Screening

Ethnic disparities in breast cancer diagnosis and screening behaviors exist among various ethnic groups in the United States.

Data from the 2005 California Health Interview Survey, including women from San Bernardino and Riverside Counties indicates the following screening inequalities for women aged 40 and older:

- ◆ Never had a mammogram: Anglo 8.3% , Latino 17.7%
- ◆ Put off or delayed mammogram: Anglo 23.9%, Latino 55.1%

Although screening disparities have been identified among various ethnic and SES groups, little is known about the role of cultural factors and screening-related emotions as determinants of screening behaviors.

# Fatalism, Emotions, and Breast Cancer Screening

## Fatalism

Fatalism is associated with beliefs that life events are inevitable and that one's destiny is not within one's own hands (Perez-Stable et al., 1992).

- More fatalistic individuals are less likely to engage in health-promoting behaviors such as breast cancer screening (Perez-Stable et al., 1992).
- Latinos have been found to hold more fatalistic value orientations than Anglos.

## Emotions

- Emotions have been considered to be motivators of health promoting behaviors such as breast cancer screening (Consedine, Magai, & Neugut, 2004).
- Negative emotions, such as fear and anxiety, have been found to influence non-compliance with self-breast exams (Bobo, Dean, Stoval, Mendez & Caplan, 1999).

## Culture → Emotion → Health Behavior Link

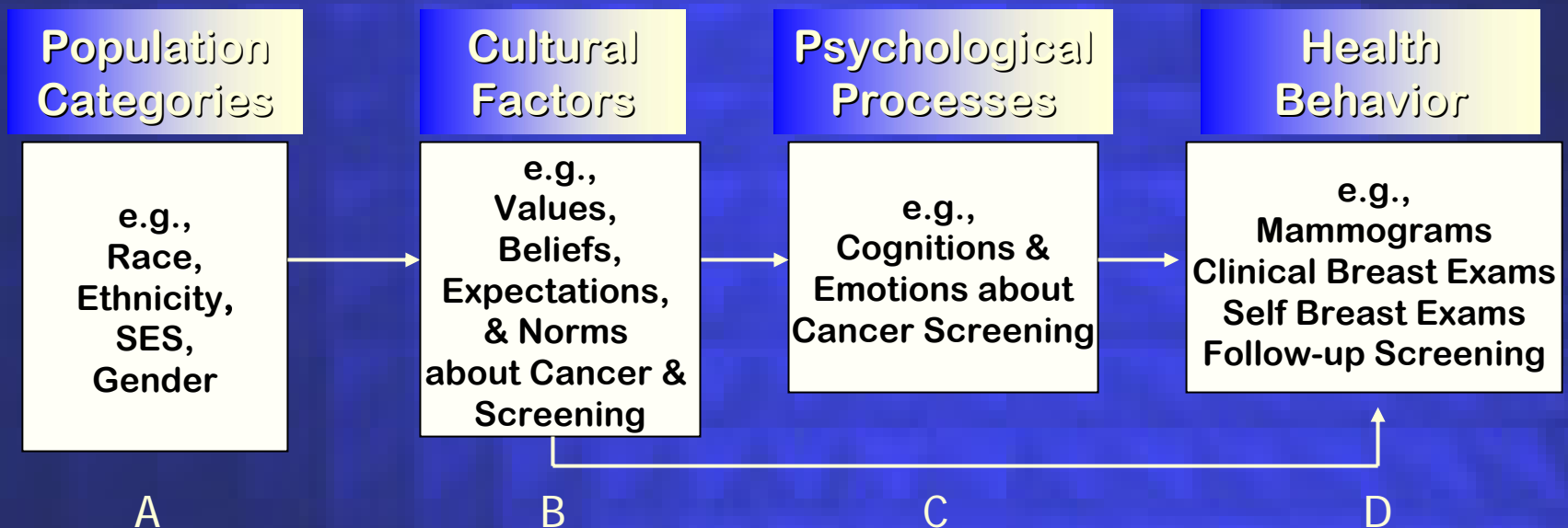
Betancourt's model for the study of culture (Betancourt & Lopez, 1993) has been applied to research on culture and health behavior (Betancourt & Flynn, 2007) and provides the conceptual foundation for the present research on culture, emotions, and breast cancer screening.

# Betancourt's Model of Culture and Behavior

## Applied to the Study of Health Behavior

(Betancourt & Flynn, 2007)

*Distal..... To more proximal determinants of behavior*



According to the model for the study of culture, culture (B) is defined in terms of values, beliefs, expectations, and norms. These aspects of culture (B) are expected to influence screening (D) both directly and indirectly through mediating psychological processes (C) such as cognitions and emotions relevant to screening.

# Research Aims & Hypotheses

## Research Aims:

1. To test the relations among fatalistic cultural values, emotions relevant to the cancer screening process, and self breast examinations among Anglo and Latino women.

## Hypotheses:

1. Higher levels of fatalistic beliefs will have a direct negative effect on having performed self-breast examinations.
2. Higher levels of fatalistic beliefs will predict higher levels of anxiety and fear related to cancer screening.
3. Higher levels of anxiety and fear will have a positive effect on having performed self-breast examinations.

# Methods

## Participants

- A total of 68, Anglo (n=36) and Latino (n=32) cancer-free women in San Bernardino and Riverside Counties†
- Participants were recruited from churches, community organizations, health clinics, and university settings
- All participants were paid \$20 for participation

## Instrument

- Items were developed based on Triandis' (1972) methods for the analysis of subjective culture.
  - First qualitative interviews with Latino (n=22) and Anglo (n=17) women were conducted to identify ethnic-specific and ethnic-general cultural elements relevant to cancer screening.
  - Based on the most frequently reported ethnic-specific and ethnic-general elements, close-ended items and response categories were developed.
  - Items were developed in English and Spanish by a group of bilingual experts of different Latin-American backgrounds.

†Due to the nature of the multivariate statistics used in this study, the initial sample consisting of (n=38) Anglos and (n=44) Latinos was screened for missing data and multivariate outliers producing the final sample in the analyses.

# Measures

## Ethnicity

Participants self identified themselves as either Anglo American or Latino American.

## Cancer Fatalism

Nine items assessed fatalistic beliefs across the cancer spectrum including cancer diagnosis, treatment, screening and outcomes. The reliability of these items was strong ( $\alpha = .79$ ).

Items were placed on a Likert scale: 1, “Strongly Disagree” to 7, “Strongly Agree”

*Example Items:*

- “It is not necessary to screen for breast cancer because it is in God’s hands anyway.”
- “It is not important to screen because everyone will eventually die anyway.”

## Screening-Specific Emotions

Two items assessed emotions relevant to self breast examinations

Items were placed on a Likert scale: 1, “Strongly Disagree” to 7, “Strongly Agree”

*Example Items:*

- “When I think about checking myself for breast cancer I get very scared.”
- “I get anxious when I think about checking myself for breast cancer.”

## Breast Cancer Screening Behavior

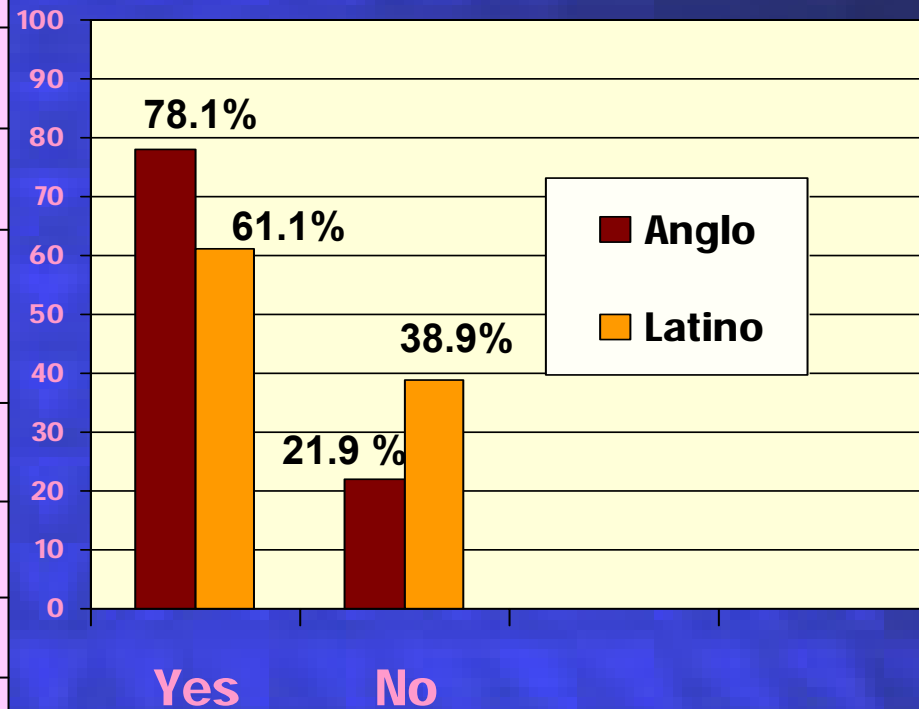
“Have you ever performed a self-breast exam?” (Yes/No)

# Results

## Demographic Background & SBE Screening

	<i>Latino</i>	<i>Anglo</i>	<i>Total</i>
	<b>N=36</b>	<b>N= 32</b>	<b>N= 68</b>
Age ( <i>M</i> )	<b>37.5</b>	<b>39.7</b>	<b>38.5</b>
Education ( <i>M</i> )	<b>10.15</b>	<b>14.58</b>	<b>12.26</b>
<b>Income</b> (% of total sample)			
\$0-14,999	<b>29.0</b>	<b>11.3</b>	<b>40.3</b>
\$15,000-24,999	<b>4.8</b>	<b>11.3</b>	<b>16.1</b>
\$25,000-39,000	<b>8.1</b>	<b>11.3</b>	<b>19.4</b>
More than \$40,000	<b>9.7</b>	<b>14.5</b>	<b>24.2</b>

### "Ever performed an SBE ?"



Latinos more frequently reported not ever having performed an SBE as compared to Anglos.

# Means (sd) of Measured Items

		<i>Latino</i> (N=38)	<i>Anglo</i> (N= 34)	<i>Total</i> (N=72)
<b>Culture</b>	<b>Fatalism scale*</b>	3.96 (1.18)	2.50 (1.11)	3.32 (1.37)
	<b>P1*</b>	3.59 (1.83)	2.28 (1.46)	2.97 (1.78)
	<b>P2*</b>	2.97 (1.65)	1.92 (1.06)	2.48 (1.49)
	<b>P3*</b>	5.32 (1.33)	3.30 (1.50)	4.37 (1.73)
<b>Screening Specific Emotions</b>	<b>Anxious<sup>†</sup></b>	2.58 (2.19)	1.75 (1.39)	2.19 (1.89)
	<b>Scared</b>	2.44 (2.28)	1.90 (1.65)	2.19 (2.01)
<b>Screening Behavior</b>	<b>Self-breast examination performance (%)</b>	61.1	78.1	69.1

Although the focus of this study was to identify specific elements of culture *across ethnic groups*, the assessment of means indicates significant differences between ethnic groups on some of the measured variables.

\* T-tests revealed significant differences between ethnic groups, \*  $p < .05$ ; †  $p = .06$

# Statistical Analysis: Structural Equation Modeling (SEM)

- A model based on the approach to the study of culture guiding this research, including ethnicity, culture, and emotions as determinants of breast cancer screening was tested using Bentler's (1995) statistical package for the analysis of structural equation modeling (SEM).
  - Ethnicity was included as a manifest variable with Anglo women coded as 1 and Latino women coded as 2
  - Fatalism was measured as a latent variable by parceling items into 3 groups comprised of 3 items
  - Screening Emotions were measured as a latent variable modeled by 2 items assessing anxiety and fear
  - Self Breast Examination Behavior was measured as a manifest variable based on 1 item to assess ever/never screening
- According to the model, self-breast examination behavior is predicted by negative emotions and cancer fatalism both directly and indirectly through mediating negative emotions. Moreover, cancer fatalism is predicted by ethnicity.

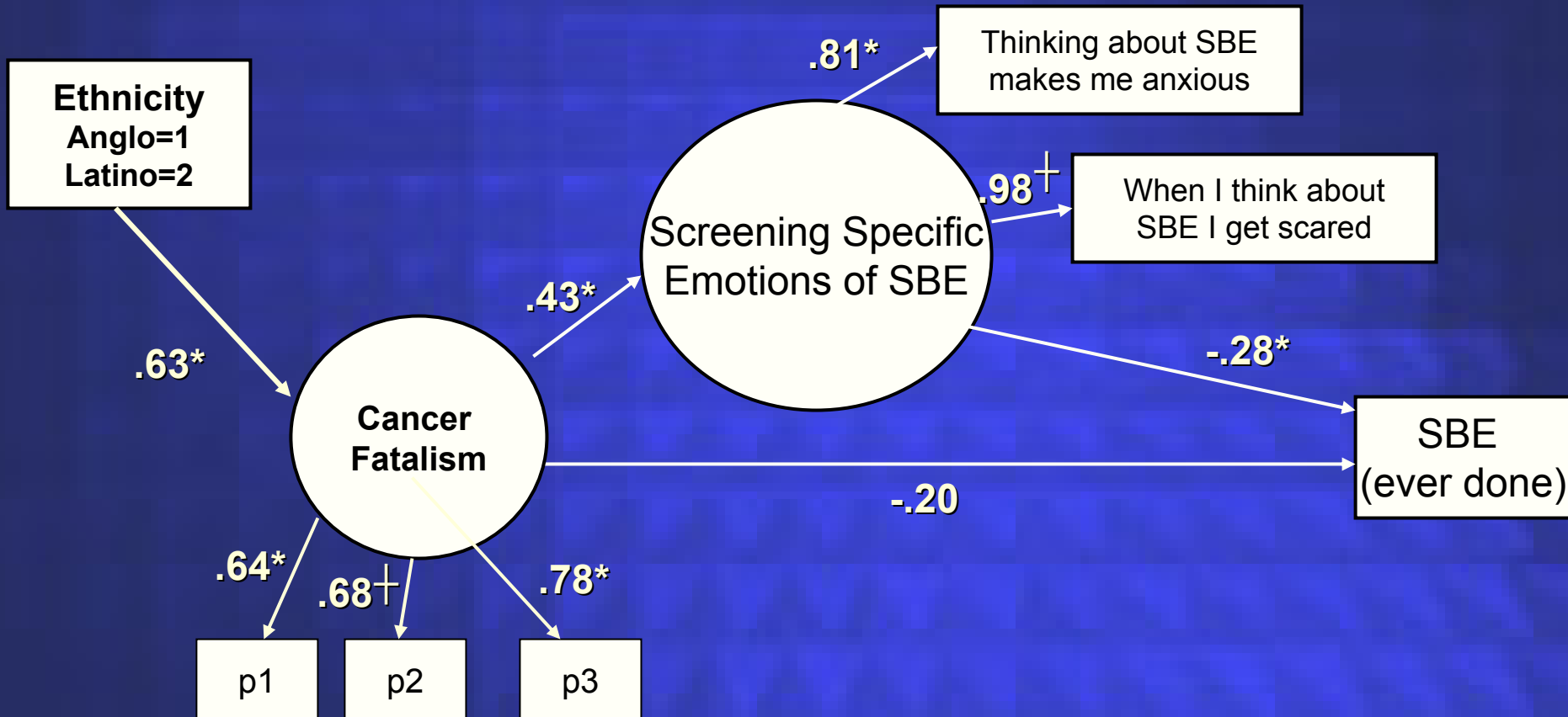
# Ethnicity, Fatalism, Emotions, & Screening

Population Characteristics

Culture

Psychological Processes

Health Behavior



CFI = 1.00,  $\chi^2$  (N=68, 13) = 17.57,  $p = .17$ ,  $\chi^2 / df = 1.35$

Yuan-Bentler  $F$  statistic = 1.53,  $p = .134$

\* Denotes significant path ( $p < .05$ ); + indicates fixed path

# SEM Results

The model testing the relations among ethnicity, culture, screening-related emotions, and cancer screening showed a good fit of the data. Moreover, the Yuan-Bentler test statistic confirmed the adequacy of fit when adjusting for a small sample size.

- Cancer fatalism negatively influenced SBEs both directly and indirectly through mediating emotions:
  - Greater cancer fatalism directly related to less cancer screening behavior ( $\beta = -.20, p > .05$ ) and greater negative emotions relevant to screening ( $\beta = .43, p < .05$ ).
  - Negative emotions about the process of doing the SBE negatively influenced performing SBEs ( $\beta = -.28, p < .05$ ).
  - Furthermore, cancer fatalism was predicted by ethnicity, with Latino women reporting more cancer fatalism beliefs ( $\beta = .63, p < .05$ ).

# Conclusions

Data was found to support the relations among ethnicity, culture, emotions, and self-screening suggesting that the model for the study of culture can be used to better understand motivated health behaviors.

Study findings move beyond the comparative analysis of group difference

- Regardless of ethnic group, data revealed that assessing cultural factors as well as negative emotions relevant to the screening process can help to explain disparities in reported screening behaviors.

Intervention

- Efforts should be made to target fears about the screening process which stem from fatalistic views of breast cancer for both Anglo and Latino women.
  - Intervention efforts could benefit from properly teaching women how to perform a self-breast exam in order to reduce some of the anxiety related emotions associated with the process of screening.

Future Research

- This research assesses one particular aspect of culture (fatalism) and one psychological process (emotions), therefore future research should assess other aspects of culture and psychological processes which may influence cancer screening in order to provide a more comprehensive understanding of health disparities.
- Research could benefit from testing structural equation models of invariance in order to examine whether relations among the study variables vary based on ethnicity or any other grouping factor such as income or education.

# References

- Betancourt, H. & Flynn, P. (2007). *Culture and behavior in the delivery of services and health disparities*. Manuscript submitted for publication.
- Betancourt, H. & Lopez, S. (1993). The study of culture, ethnicity, and race in American psychology. *American Psychologist, 48*, 6, 629-637.
- Bobo, J. K., Dean, D., Stovall, C., Mendez, M. & Caplan, L. (1999). Factors that may discourage annual mammography among low-income women with access to free mammograms: A study using multi-ethnic multiracial focus groups. *Psychological Reports, 85*, 405-416.
- California Health Interview Survey (2005). From "Ask CHIS" database at:  
<http://www.chis.ucla.edu/main/DQ2/output.asp?page=bar>
- Consedine, N. S., Magai, C., Krivoshekova, Y.S., Ryzewicz, L. & Neugut, A. I. (2004). Fear, Anxiety, Worry, and Breast Cancer Screening Behavior: A Critical Review. *Cancer, Epidemiology, Biomarkers & Prevention, 13*, 501-510.
- Consedine, N. S., Magai, C., & Neugut, A. I. (2004). The contribution of emotional characteristics to breast cancer screening among women from six ethnic groups. *Preventive Medicine, 38*, 64-77.
- Perez-Stable, E., Sabogal, F., Otero-Sabogal, R. Hiatt, R., & McPhee, S. (1992). Misconceptions about cancer among Latinos and Anglos. *Journal of the American Medical Association, 268*, 22 3219-3223.
- Triandis, H. C. (1972). *The analysis of subjective culture*. New York: Wiley.
- Triandis, H. C. (1984). A theoretical framework for the more efficient construction of cultural assimilators. *International Journal of Intercultural Relations, 8*, 301-330.