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Perceived Empathy and Continuity of Cancer Screening Care Among Latino and Anglo Women

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Perceived Empathy and Continuity of Cancer Screening Care among Latino and Anglo Women

by

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the requirements for the degree
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Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a thesis for the degree Master of Arts.

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ABSTRACT OF THE THESIS

Perceived Empathy and Continuity of Cancer
Screening Care among Latino and Anglo Women

by

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Masters of Arts, Graduate Program in Clinical Psychology
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Dr. Hector Betancourt, Chairperson

The purpose of this study was to examine whether patient perceived healthcare professional empathy impacts continuity of cancer screening care among non-Latino white (Anglo) and Latin American (Latino) women after perceiving health care mistreatment. A total of 225 Latino and Anglo women responded to a newly developed patient perceived healthcare professional empathy scale and a measure of continuity of cancer screening care. After controlling for covariates, empathy was found to vary significantly by ethnicity, with Latino women reporting higher patient perceived empathy than Anglo women. For both ethnic groups, higher patient perceived healthcare professional empathy was associated with greater continuity of cancer screening care. Findings are expected to guide future research and inform interventions designed to increase cancer screening and continuity of care among Anglo and Latino women.

CHAPTER ONE

INTRODUCTION

Healthcare professional empathy has been associated with positive health behaviors, such as treatment compliance (Kim, Kaplowski & Johnston, 2004). Most of the research conducted in this area assesses healthcare professionals' empathy for the patient through self-report measures on the part of the healthcare professional or via third party ratings. However, there is currently a call to explore patients' perceptions of the healthcare professional's empathy and its impact on subsequent health behaviors, such as continuity of care. Poor continuity of care may contribute to the increasing disparities in cancer screening among Latin American (Latino) and non-Latino white (Anglo) women in the United States. Guided by Betancourt's integrative model for the study of culture, psychological processes, and health behavior (Betancourt & Lopez, 1993; Betancourt & Flynn, 2009; Betancourt & Fuentes, 2001; Betancourt, Hardin & Manzi, 1992), this research examined the role of Latino and Anglo women's perceptions of healthcare professionals' empathy on breast and cervical cancer screening continuity of care.

Breast and Cervical Cancer Screening Among Latino and Anglo Women

Breast cancer is the number one cause of cancer-related deaths among Latino women in the United States as compared to Anglo women, for which it is the second cause of cancer-related death (USCS, 2012). A similar disparity exists in the rate of cervical cancer mortality among Latino and Anglo women, with women of Latino background more likely to die from cervical cancer than their Anglo counterparts (USCS,

2012). Worldwide, breast cancer is the number one cancer-related cause of death in women, affecting up to 12% of the global female population (Benson, Jatoi, Keish, Esteva, Makris & Jordan, 2009), followed by cervical cancer as the second leading cause of cancer-related deaths among women (Bloomberg, Ternestedt, Tornberg, & Tishelman, 2008).

Due to screening campaigns and early detection strategies, breast and cervical cancer mortality rates in the United States and other industrialized countries have decreased considerably (Benson, et al., 2009). The decline of cervical cancer mortality rates is primarily due to the introduction and the widespread use of the Papanicolaou (Pap) exams (Lawson, Henson, Bobo & Kaesar., 2000). Screening and early detection has been found to be a strong predictor of low cancer mortality rates (Andersen, Remington, Trenthan-Dietz, Robert, 2004; Gorini, et al, 2004). As such, the American Cancer Society recommends that women obtain regular breast and cervical cancer screenings to ensure early detection of the disease (American Cancer Society, 2008). However, despite these screening recommendations, barriers to breast and cervical cancer screening still exist (De Alba, Ngo-Metzger, Sweningson & Hubbell, 2005).

Researchers have recognized a number of barriers to breast and cervical cancer screening, including population categories such as race, ethnicity (Goel, Wee, McCarthy, Davis, Ngo-Metzge & Phillips, 2003) and social economic status (SES) (McAlearney, Reeves, Tatum, & Paskett, 2007). Other factors include immigration status, cancer knowledge, English proficiency and acculturation (De Alba, Hubbell, McMullin, Sweningson & Saitz, 2004). Two of the most commonly studied barriers to cancer screening are income (Haynes & Smedley, 1999) and lack of insurance (Adams, Breen &

Joski, 2007). Cervical cancer incidence and mortality rates are higher among low-income women (Ell et al., 2002) most likely due to the fact that cancer screening is less common among this group (Haynes & Smedley, 1999). Regardless of income, having insurance increases the chance that a woman will obtain adequate cancer screening (Adams, Breen & Joski, 2007). Research indicates that Anglo women are more likely than Latino women to have private health insurance coverage, which is associated with an increased likelihood of screening (Selvin & Brett, 2003). However, even among women with insurance, such as Medicaid, screening rates are below optimal, particularly among Latino women (Bazergan, Bazergan, Farooq & Baker, 2004). Therefore, research with this subpopulation remains particularly important.

Community-based cancer screening initiatives have encouraged breast and cervical cancer screenings among Latino women (Larkey, 2006). This has served to address the continued underuse of breast and cervical cancer screening services among United States and foreign-born Latinos (Goel et al., 2007). However, later stages of breast cancer diagnosis and higher incidences of cervical cancer, as compared to Anglos, are indicative of suboptimal screening rates among Latino women (Rodriguez, Ward & Perez-Stable, 2005). These disparities may be lessened with increased continuity of care (O'Malley, Mandelblatt, Gold, Cagney & Kerner, 1997).

Continuity of Care

Having a usual source of care has been positively associated with a number of positive health outcomes. Patients with a usual healthcare professional are more likely to have had a preventive medical visit in the past year (Ettner, 1999). This suggests that an

important factor in cancer screening behaviors is continuity of care. In fact, continuity of care, defined as having a usual site, and clinician at the site, for sick and routine care (O'Malley et al, 1997) has been consistently found to be a predictor of cancer screening behaviors among women of different ethnicities and SES (O'Malley, Forrest & Mandelblatt, 2002). For women, having a usual source of care is correlated with earlier receipts of breast and cervical cancer screenings, such as mammograms, pap smears and clinical breast exams (Ettner, 1996; O'Malley et al., 1997*).* There is also a relationship between continuity of care and increased patient communication (Cabana & Jee, 2004) and trust (Mainous, Baker, Love, Gray & Gill, 2001), both important aspects in helping relationships (see Pistrang & Barker, 1995).

Perception of Healthcare Professional Empathy

Research suggests that empathy is an important part of all forms of helping relationships (Reynolds & Scott, 1999). The study of empathy and related health outcomes began primarily in the field of mental health (Morse et al, 1992). The role of empathy has long been studied as a factor important in successful client-therapist relationships. Empathy strengthens the therapeutic alliance (Feller & Cottone, 2003) and increases client compliance (Diallo &Weiss, 2009). Furthermore, therapists who have higher empathy ratings are better able to retain their clients in the therapeutic process (Savva, 2004). These findings suggest that empathy may play a similar role in outcomes related to the medical field (Mercer & Reynolds, 2002).

Developmental theorists have attributed individual differences in empathy to such things as gender (Hoffman, 1977) and socialization (Eisenberg et al., 1993). However, for

physicians, empathy also includes a set of skills and competencies (Mercer & Reynolds, 2002), which are considered to be a crucial part of the professional development of the medical student (Marcus, 1999). Furthermore, these skills can be successfully taught in medical school (Baker, Shapiro & Morisson 2004).

Empathy within the realm of healthcare has typically been assessed from the perspective of the healthcare professional or third-party observations. The use of both methodologies in research has found relationships between healthcare professional empathy and positive outcomes. For example, self-report of medical student's own empathy is related to higher clinical competence (Hojat, Gonella, Nasca, Mangione, Vegare & Magee, 2002). Also, observer ratings of healthcare professionals' empathy for their patients are correlated with patient report of satisfaction (Comstock, Hooper, Goodwin & Goodwin, 1982). However, research indicates differing levels of healthcare professional empathy based on patients' race or ethnicity. Minority patients may receive less empathy from their healthcare professionals (Ferguson & Candib, 2002). Observer ratings indicate that healthcare professionals are more emotionally expressive with their white patients as compared to nonwhite patients (Siminoff, Graham & Gordon, 2006). Similarly, healthcare professionals were rated by observers as having higher empathy with Anglo patients, than with Latino patients (Hooper, Comstock, Goodwin & Goodwin, 1982). Therefore, examining healthcare professional empathy from the perception of the patient is important to address these differences.

There is a need to study the role of patients' perceptions of their healthcare professional's level of empathy and its impact on patient outcomes (Kim, Kaplowski & Johnston, 2004). Those that use this methodology have found positive effects of patient

perception of healthcare professional empathy on a number of outcomes (eg. Kim et al, 2004; Rakel Hoeft, Barrett, Chewning, Craig & Niu, 2009) using measures intended to assess patient's perception of healthcare professional empathy immediately following a consultation (Mercer & Reynolds, 2002). The success of this measure of empathy brings forth the question of measuring patients' perspective of healthcare professional empathy using more theoretically-based definitions of the construct.

The study of empathy has strong theoretical foundations in the field of social psychology. Social psychology literature on empathy can be used to inform health psychology research and practices. Empathy is important in healthcare, however, people are less likely to show empathy for persons who are dissimilar to them (Krebs, 1975). Empathy from a healthcare professional may be particularly important among minority groups. Research indicates that inducing empathy towards stigmatized groups improved positive feelings and attitudes towards members of these groups (Batson, Sager, Garst, Kang, Rubchinsky & Dawson 1997). Furthermore, perspective taking improves attitudes towards negatively stereotyped groups, despite information confirming those stereotypes (Vescio, Snyder & Butz., 2003).

There has long been disagreement among empathy researchers regarding the specific components that make up the definition of this construct (Kunyl, 2001). These disagreements have lead to a confusing body of literature (Morse et al, 1992) and an expression of the need to find a common definition (Reynolds & Scott, 1999). The components of empathy are recognized as broad (Hoffman, 1977) therefore give way to further interpretation and development of components pertinent to various situations. For example, the ability to effectively communicate empathic understanding (Omdahl &

O'Donnell, 1999) and respond to other's emotions (Kim et al, 2004) are considered by some researchers as important empathic components. However, most researchers agree that empathy is a multidimensional construct consisting of both cognitive and affective dimensions (Davis et al, 1999).

This study was based on Mark Davis' (1994) multidimensional definition of empathy, specifically perspective taking and empathic concern, to evaluate the impact of empathy on continuity of cancer screening behaviors. Perspective taking is a cognitive component of empathy, defined as taking on the psychological viewpoint of another person (Davis, 1994). Research on perspective taking indicates that this process involves activation of self-related information (Davis et al., 2004) so that one can "merge oneself with another" (Davis et al., 1999). For example, an empathic healthcare professional can understand their patient's feelings of distress because they are able to picture themselves with similar feelings**.** While empathic concern is described by some researchers as sharing or experiencing another person's emotions vicariously (Hoffman, 1977), Davis (1994) indicates that it refers to an affective response experienced by the empathic observer, rather than a mirror of the emotions of the target of empathy.

An Integrative Model for the Study of Culture,

Psychological Factors, and Health Behavior

This study used Betancourt's integrative model for the study of culture, psychological factors and health behavior (Betancourt & Lopez, 1993; Betancourt & Flynn, 2009; Betancourt & Fuentes, 2001; Betancourt, Hardin, & Manzi, 1992; see figure 1) to investigate patients' perceptions of healthcare professional empathy as a psychological process (C), which determines cancer screening behaviors (D), among Latino and Anglo women (A). Future research will involve identifying the cultural factors (B; values, beliefs, norms and expectations) that influence continuity of care, both directly and indirectly through patient's perception of healthcare professional's empathy.

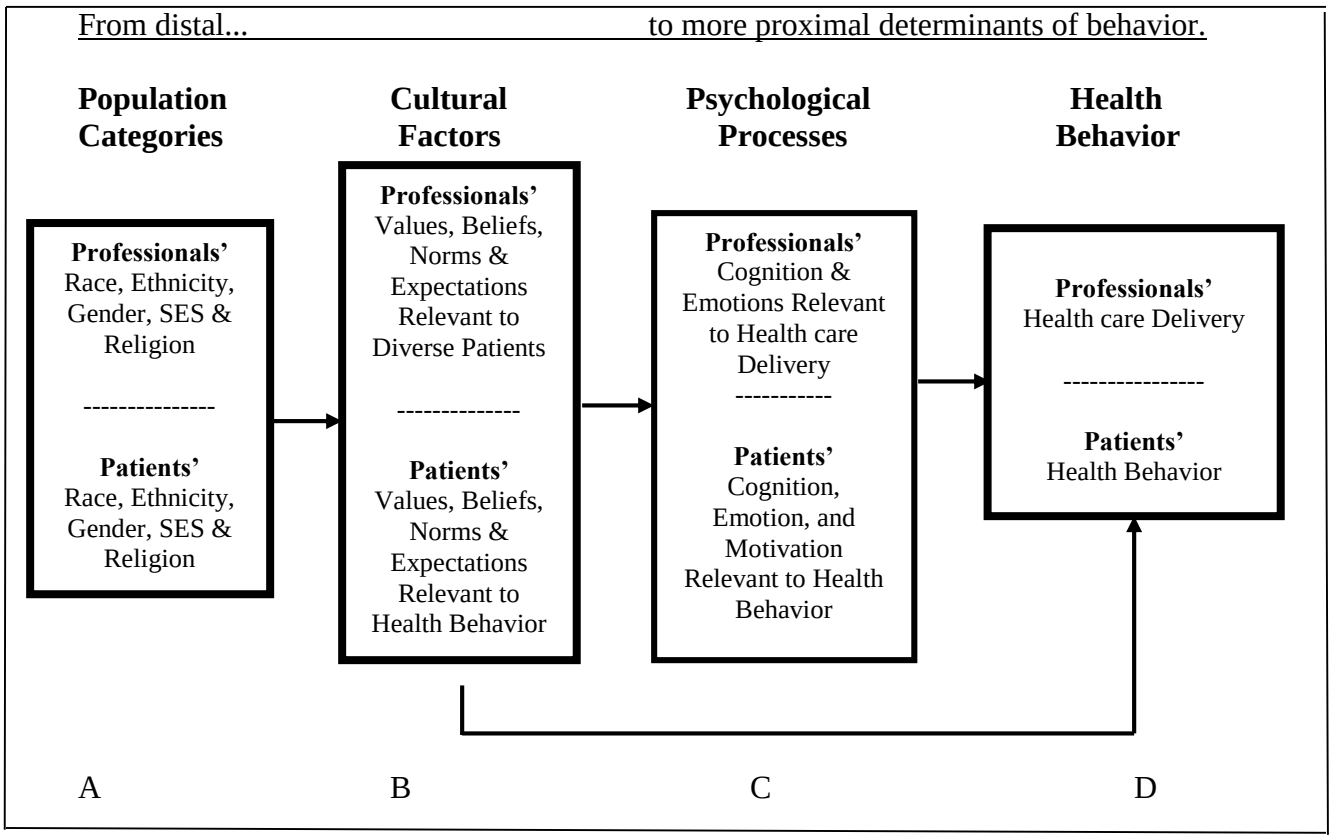

Figure 1. Betancourt's Integrative Model of Culture, Psychological Processes, & Health Behaviors.

Hypotheses

1) Latino women will report lower levels of perceived healthcare professional empathy following a negative interpersonal cancer screening experience than Anglo women, after controlling for cumulative mistreatment exposure.
2) Higher scores on patient perceived healthcare professional empathy will influence continuity of cancer screening care for Latino and Anglo women, respectively.

CHAPTER TWO

METHODS

This study was conducted as a substudy of a parent project in the Culture and Behavior Laboratory at Loma Linda University. The purpose of the larger study, which was funded by the American Cancer Society, was to examine the role of cultural beliefs and expectations about healthcare professionals and screening behaviors among Latino and Anglo women.

Participants

Multi-stage, stratified sampling was conducted in an effort to obtain nearly equal proportions of ethnicity, age, and income among participants. Recruitment sites were targeted for specific demographic characteristics prior to data collection. After data collection, participant distribution in the relevant demographic variables was reexamined and subsequent recruitment focused on collecting data from participants that were underrepresented in the sample. A total of 335 participants (171 English speaking Anglo and 164 mono- or bilingual Spanish and English speaking Latino women), of at least 20 years of age were recruited from supermarkets, churches, health care clinics, senior centers, offices, mobile home parks, community events, and a variety of other community settings.

Because of the study hypothesis, only participants who reported a negative interpersonal interaction with their healthcare professional during a breast and/or cervical cancer-screening exam were included in the analysis. Eliminating participants who had

not experienced mistreatment resulted in a sample of 118 English-speaking Anglos and 107 mono- or bilingual Spanish and English speaking Latinos (see Table 1).

Table 1.

Means, standard deviations, and frequencies of demographics and covariates by ethnicity.

	Perceived Mistreatment	
	Latino (n = 107)	Anglo (n = 118)
Age *M*(*SD*)	46.67 (13.05)	47.67 (16.59)
Education *M*(*SD*)*	11.31 (3.95)	14.03 (2.50)
Income (%)		
≤ $14,999	27.20	29.20
$15-24,999	18.80	19.50
$25-39,999	16.80	14.20
$40-59,999	14.90	14.20
>$60,000	21.70	23.10
Insured (%)	72.00	82.20
Usual Source of Care (%)	84.10	89.80
Cumulative Mistreatment Exposure *M*(*SD*)*	5.12 (1.34)	5.66 (1.71)
Social Desirability *M*(*SD*)**	8.91 (1.93)	7.07 (1.67)
Cultural Sensitivity *M*(*SD*)	4.25 (1.73)	4.73 (1.63)
Female Health Professional (%)	49.90	39.80
Ethnic Concordance (%)	19.60	42.40

*p≤.05 **p≤.01

Procedures

A research assistant contacted key personnel at each of the noted recruitment sites and obtained permission for data collection. Once permission was granted, the research

assistant was present during data collection in order to explain the purpose of the study, screen any potential participants, explain any risk and/or benefits associated with taking part in the study, and obtain consent. Participants were asked if they would like to complete the questionnaire in English or Spanish, or if they would like the questionnaire to be read aloud to them. Completion of this questionnaire took approximately 60 minutes. Participants were given $15 for their participation.

Measures

All instruments were available in English and Spanish. Instruments not available in Spanish were translated using the double back translation procedure.

Population Categories

Participants self-identified as Latino or Anglo American. They were asked to fill out a demographic form, which included questions relevant to age, income, and education. Age (Powe, 2001) and SES (Betancourt, Flynn & Ormseth, 2011) have been found to be important sources of cultural variance. Participants indicated their annual household income based on five categories $0-$14.999; $15,000-$24,999; $25,000-$39,999; $40,000-$59,999; and $60,000 and above. This measure of income has been used in past research testing Betancourt's Integrative Model for the Study of Culture, Psychological Processes and Health Behaviors (e.g., Betancourt et al, 2011; Flynn, Betancourt & Ormseth, 2011). Since insurance status is a predictor of cancer screening (Selvin & Brett, 2003), participants were also asked to indicate whether or not they had health insurance.

Patient's Perception of Healthcare Professional Empathy

Patients' perception of empathy was assessed using a newly developed scale adapted from Davis' Interpersonal Reactivity Index (IRI; 1980). For this study, 6 items, 3 from the perspective taking subscale and 3 from the empathic concern subscale of the IRI, were adapted to measure patients' perception of their healthcare professional's empathy following a negative interpersonal experience (see Appendix A). The items were placed on a likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The items were reviewed by a panel of experts from the Culture and Behavior Laboratory. Exploratory factor analysis was conducted for each sample using principle axis factoring with oblimin rotation resulting in a one-factor solution accounting for 86.2% of the variance for Anglos and 83.5% of the variance for Latinos. Factor reliabilities for each sample were as follows: Latino α= .96 and Anglo α= .97.

Continuity of Care

Continuity of care (COC) was assessed using two items "As a result of this incident, did you change healthcare professionals (or do you plan to change healthcare professionals)?" and "As a result of this incident, did you go to a new clinic to receive your care (or do you plan to go to a new clinic)? Participants were given the option of "Yes" "No" or "No, I did (do) not have the option to change." This last option was recoded into a "Yes" response because it indicated intention of discontinuing care. The scale achieved measurement equivalence for the two ethnic groups and reliability was excellent (Latino α = .86; Anglo α =.89; Overall α = .87) (Flynn et al., 2011).

Covariates

Covariates were include based on previous research (Betancourt et al., 2011). To this end, age, income, education, insurance status, healthcare professional gender, ethnic concordance, cultural sensitivity of the healthcare professional, patient social desirability, usual source of care, and cumulative mistreatment exposure were included as covariates.

CHAPTER THREEE

RESULTS

Preliminary Analyses

Data were analyzed using SPSS 19. ANOVA assumptions were evaluated for Anglos and Latinos, respectively. Data were screened for missingness, duplicate data, extreme outliers, and skew/kurtosis. Boxplots for all observed variables were visually inspected, revealing no extreme univariate outliers. Multivariate outliers were screened through the evaluation of Mahalanobis distance. All cases were within the critical χ^2 value. Histograms for all observed variables were evaluated for deviations from normality and the following corrections were applied: a log transformation of the reflect of cumulative mistreatment exposure, the sine of age and the square root of the reflect of education. For hierarchical logistic regression, assumptions were evaluated for Latino and Anglo separately. All assumptions were met except one case, which was dropped from the Latino sample because it was considered a multivariate outlier.

Of the 335 women that participated in the larger study, a total of 225 (107 Latino and 118 Anglo) women experienced at least one instance of interpersonal healthcare mistreatment during a routine breast or cervical cancer screening exam. A review of the demographics for this sample (see Table 1) revealed that multi-stage stratified sampling was effective, resulting in a balanced sample in terms of ethnicity, age, and income. However, Latino women reported fewer years of education (*M= 11.31*, *SD= 3.95*) compared to Anglo women (*M= 14.03, SD= 2.50)* ($t(179.99) = 5.99$, $p = .00$).

Correlations between Study Variables

The correlations between the covariates, perceived healthcare professional empathy, and continuity of care are reported for Latino and Anglo women in Table 2. For Latinas, greater perceived health professional empathy was associated with greater cultural sensitivity on the part of the health professional, and lower cumulative mistreatment exposure. Latinas reported greater continuity of cancer screening care with the same healthcare professional if they had insurance, and if the healthcare professional was female and if they had higher scores on health professional cultural sensitivity. Furthermore, Latinas reported greater continuity of cancer screening care at the same clinic if they had insurance and a female health professional. For Latinas, cumulative mistreatment exposure was negatively associated with continuity of cancer screening care at the same clinic.

For Anglo women, greater perceived empathy was associated with health professional cultural sensitivity, having a female health professional and lower cumulative mistreatment exposure. Anglos reported greater continuity of cancer screening care with the same health professional if they had insurance, were more educated, had a female healthcare professional, and perceived their health professional to be culturally sensitive. Cumulative mistreatment exposure was negatively associated with continuity of cancer screening care with the same healthcare professional. Also, greater cultural sensitivity and less cumulative mistreatment exposure were associated with greater continuity of cancer screening care at the same clinic.

Table 2

Correlations, means, and standard deviations of study variables as a function of ethnicity.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-												
2. Income	-.042 (.043)	-											
3. Education	-.139 (-.278**)	.585** (.355**)	-										
4. Cumulative Mistreatment Exposure	.147 (.183)	-.033 (-.140)	.038 (-.129)	-									
5. Insurance Status	.223* (.126)	.413** (.241**)	.382** (.271**)	.005 (-.087)	-								
6. Health Professional Gender	-.050 (-.068)	.090 (.044)	.128 (.127)	.013 (-.266**)	.115 (.221*)	-							
7. Usual Source of Care	.008 (.149)	.165 (.051)	.236* (.121)	-.005 (-.070)	.254* (.438)	.023 (.094)	-						
8. Social Desirability	.214* (.218*)	.097 (-.020)	.043 (.018)	-.164 (-.029)	.058 (.072)	-.182 (-.066)	-.123 (.025)	-					
9. Cultural Sensitivity	-.065 (.150)	-.001 (.218*)	.027 (.043)	-.244* (-.348**)	.049 (.014)	.223* (.178)	-.010 (-030)	-.16 (-.041*)	-				
10. Ethnic Concordance	.066 (.149)	-.114 (.131)	-.180 (.010)	.240 (.039)	-.132 (.069)	-.168 (-.048)	.022 (-.099)	.044 (.003)	-.008 (.002)	-			
11. Health Professional Continuity of Care	-.008 (-.114)	.037 (.155)	.074 (.203*)	-.163 (-.542**)	.335** (.188*)	.204* (.189*)	.055 (.086)	.060 (-.122)	.296** (.235*)	-.012 (.143)	-		
12. Clinic Continuity of care	-.009 (-.113)	.034 (.092)	.044 (.152)	-.281* (-.552**)	.409* (.178)	.223* (.151)	.010 (.057)	-.067 (-.062)	.200 (.347**)	-.019 (.012)	.774** (.749**)		
13. Perceived Empathy	-.046 (.046)	-.070 (.072)	-.022 (.057)	-.414** (-.526**)	.059 (.130)	.140 (.239*)	-.106 (.079)	.085 (-.112)	.553** (.490**)	-.061 (-.046)	.382** (.529**)	.342** (.556**)	-
M	46.67 (47.67)	3.00 (3.00)	11.31 (14.03)	5.12 (1.86)	1.28 (1.18)	1.53 (1.41)	1.83 (1.89)	8.91 (7.07)	4.25 (4.73)	1.17 (4.66)	1.46 (1.45)	1.48 (1.49)	4.24 (3.74)
SD	13.05 (16.53)	1.82 (1.84)	3.95 (2.50)	1.34 (1.71)	.454 (.384)	.522 (.511)	.382 (.316)	1.93 (1.67)	1.73 (1.63)	.380 (1.63)	.500 (.499)	.502 (.502)	1.98 (1.89)

*=$p \leq .05$, **=$p \leq .01$. Correlations, M, and SD for Latinos (n = 107) are in upper portion of cell and values in parentheses are Anglo participants (n = 118).

Analysis of Covariance

To test the first hypothesis, which predicted that Latino women will score lower on perceptions of healthcare professional empathy following a negative interpersonal cancer screening experience than Anglo women, an analysis of covariance was conducted. Covariates included age, income, education, insurance status, usual source of care, healthcare professional gender, ethnic concordance, cumulative mistreatment exposure, cultural sensitivity of the healthcare professional and patient social desirability.

Table 3.

Analysis of covariance comparing perception of empathy means by ethnicity.

Source	***SS***	***df***	***MS***	***F***	***p***
Corrected Model	351.71	11	31.97	13.66	.00
Intercept	.01	1	.01	.00	.95
Age	4.31	1	4.31	1.84	.18
Income	.38	1	.38	.16	.69
Education	.22	1	.22	.09	.76
Cumulative Mistreatment Exposure	69.51	1	69.51	29.70	.00
Insurance Status	2.00	1	2.00	.85	.36
Health Professional Gender	14.87	1	14.87	6.35	.01
Ethnic Concordance	1.22	1	1.22	.52	.47
Usual Source of Care	3.88	1	3.88	1.66	.20
Social Desirability	2.33	1	2.33	1.00	.32
Cultural Sensitivity	178.44	1	178.44	76.42	.00
Ethnicity	11.38	1	11.38	4.86	.03
Error	496.13	212	2.34		
Total	4284.00	224			

N=225 R^2=.42

After adjustment for covariates, perception of healthcare professional empathy varied significantly based on ethnicity $F(1, 212) = 4.86$, $p = 0.03$. Latino women ($M = 4.24$, $SD = 1.98$) perceived significantly higher levels of health professional empathy than Anglo women ($M=3.74$, $SD = 1.89$) following an instance of healthcare professional mistreatment. Therefore, the first hypothesis was not confirmed.

Logistic Regression

To test the second hypothesis, which predicted that higher levels of perceived healthcare professional empathy would be associated with continuity of cancer screening, four sequential logistic regression analyses were performed. The sequential logistic regression analyses assessed the prediction of membership in one of two categories (continue care, discontinue care) based on two definitions of continuity of care: continuity with the same healthcare professional and continuity with the same clinic for subsequent breast and/or cervical cancer screening.

Latino Sample

A sequential logistic regression analysis was performed to predict group membership and determine whether Latino women would continue or discontinue care with the same health professional. Regression results indicated the overall model fit of the predictors in the first step was high (-2 Log Likelihood=119.33) but statistically reliable χ^2 (10)=28.25, p=0.00. The model classified 69.2% of cases. The inclusion of

patient perceived health professional empathy in the model showed statistically significant improvement χ^2 (11)= 11.25, p=0.00. In this second step, the model successfully classified 74.8% of cases.

Table 4.

Empathy predicting health professional continuity, Latino Sample.

		β	S.E.	Wald	*df*	*p*	OR
Step 1	Age	-.02	.02	.52	1	.47	.99
	Income	-.12	.18	.45	1	.50	.89
	Education	-.07	.08	.77	1	.38	.93
	Cumulative Mistreatment Exposure	.01	.14	.01	1	.93	1.01
	Insurance Status	-1.90	.68	7.87	1	.01	.15
	Health Professional Gender[a]	-.83	.49	2.92	1	.09	.44
	Ethnic Concordance	-.22	.62	.12	1	.73	.80
	Usual Source of Care	-.59	.69	.73	1	.40	.56
	Social Desirability	-.11	.09	1.50	1	.22	.89
	Cultural Sensitivity	.09	.17	.26	1	.61	1.09
Step 2	Empathy	.50	.16	9.85	1	.00	1.66

N=106

[a]*Male health professional are coded as 1. Female Health Professional are coded as 2.*

Similarly, a sequential logistic regression analysis was performed to determine whether Latino women would continue or discontinue care at the same clinic, first on the basis of covariates then on the basis of patient perceived health professional empathy. Regression results indicated the overall model fit of the predictors in the first step was high (-2 Log Likelihood=117.40) but statistically reliable χ^2(10)= 30.92, p=-.001. The

model classified 71% of cases. Comparison of the log-likelihood ratios for models with and without empathy showed a statistically significant improvement with the addition of patient perceived health professional empathy $\chi^2(11)= 40.27$, $p=0.00$. In this second step, the model successfully predicted 78.5% of cases. Thus, the second hypothesis was confirmed.

Table 5.

Empathy predicting location continuity, Latino Sample.

		β	***S.E.***	***Wald***	***df***	***p***	***OR***
Step 1	Age	-.02	.02	.56	1	.45	.98
	Income	-.16	.18	.81	1	.37	.85
	Education	-.07	.08	.70	1	.40	.93
	Cumulative Mistreatment Exposure	.00	.14	.00	1	.97	1.00
	Insurance Status	-.2.48	.68	12.16	1	.00	.08
	Health Professional Gender[a]	-.92	.49	3.56	1	.06	.40
	Ethnic Concordance	-.20	.64	.10	1	.75	.82
	Usual Source of Care	-.30	.70	.18	1	.67	.74
	Social Desirability	-.14	.09	2.16	1	.14	.87
	Cultural Sensitivity	-.08	.17	.21	1	.65	.92
Step 2	Empathy	.46	.16	8.39	1	.00	1.59

N=106

[a]*Male health professional are coded as 1. Female Health Professional are coded as 2.*

Anglo Sample

A sequential logistic regression analysis was performed to predict group membership and determine whether Anglo women would continue or discontinue care with the same health professional. Regression results indicated the overall model fit of

the predictors in the first step was high (-2 Log Likelihood=129.40) but statistically reliable $\chi^2(10)= 32.96$, $p=0.00$. The model classified 71.2% of cases. Comparison of the log-likelihood ratios for the model with and without empathy showed a statistically significant improvement with the addition of patient perceived health professional empathy $\chi^2(11)=51.63$, $p=0.00$. In this second step, the model successfully predicted 79.7% of cases.

Table 6.

Empathy predicting health professional continuity, Anglo Sample.

	β	***S.E.***	***Wald***	***df***	***p***	***OR***
Age	-.02	.02	1.38	1	.24	.98
Income	.08	.15	.26	1	.61	1.08
Education	.16	.12	1.79	1	.18	1.17
Cumulative Mistreatment Exposure	-.31	.16	3.56	1	.06	.74
Insurance Status	-.68	.77	.79	1	.38	.51
Health Professional Gender[a]	-.04	.52	.01	1	.94	.96
Ethnic Concordance	-1.10	.55	4.04	1	.04	.33
Usual Source of Care	-.31	.86	.13	1	.72	.73
Social Desirability	.04	.20	.15	1	.68	1.04
Cultural Sensitivity	.01	.20	.00	1	.94	1.01
Empathy	.69	.18	14.34	1	.00	1.99

N=118

[a]Male health professional are coded as 1. Female Health Professional are coded as 2.

Similarly, sequential logistic regression analysis was performed to determine whether Anglo women would continue or discontinue care with the same clinic, first on the basis of covariates, then on the basis of patient perceived health professional empathy. Regression results indicated the overall model fit of the predictors in the first

step was high (-2 Log Likelihood=120.47) but statistically reliable χ^2 (10)= 43.08, *p*=0.00. The model classified 75.4% of cases. Comparison of the log-likelihood ratios for models with and without empathy showed statistically significant improvement with the addition of patient perceived empathy χ^2 (11)= 57.57, *p*=0.00. In this second step, the model successfully predicted 78.8% of cases.

Table 7.

Empathy predicting location continuity, Anglo Sample.

		β	***S.E.***	***Wald***	***df***	***p***	***OR***
Step 1	Age	-.04	.02	4.85	1	.03	.96
	Income	-.00	.16	.00	1	1.00	1.00
	Education	.08	.12	.50	1	.48	1.09
	Cumulative Mistreatment Exposure	-.37	.17	4.75	1	.03	.69
	Insurance Status	-1.22	.80	2.32	1	.13	.30
	Health Professional Gender[a]	.05	.53	.01	1	.93	1.05
	Ethnic Concordance	-.75	.55	1.83	1	.18	.47
	Usual Source of Care	.03	.89	.00	1	.98	1.03
	Social Desirability	.12	.10	1.48	1	.22	1.12
	Cultural Sensitivity	.36	.20	3.30	1	.07	1.44
Step 2	Empathy	.61	.18	11.65	1	.00	1.83

N=118

[a]*Male health professional are coded as 1. Female Health Professional are coded as 2.*

CHAPTER FOUR

DISCUSSION

The results from the present study provide empirical support for the hypothesis that healthcare professional empathy influences positive health behavior outcomes, specifically continuity of cancer screening care. For both Anglo and Latino women, higher levels of perceived healthcare professional empathy were associated with better continuity of care. Furthermore, this research studied empathy from the perspective of the patient. Physician attempts at conveying empathy only function if the patient is able to perceive those attempts (Mercer & Reynolds, 2002), therefore is it important to study this particular psychological process from the patient's point of view.

This study also found that patient perceived healthcare professional empathy was associated with continuity of care even after an incident of mistreatment. Social psychological research has consistently found a connection between empathy, particularly the cognitive component, and conflict resolution. Perceiving empathy from an aggressor (i.e. the healthcare professional associated with mistreatment) may impact the behavior of the injured party (i.e. continuity of cancer screening in patients) (Richardson, Hammock, Smith, Gardner & Signo, 1994). Furthermore, it may be argued that asking participants to evaluate their healthcare professionals emotional reactions to them is a form of inducing empathy. In this case, empathy may have functioned as an inhibitor of the effects of mistreatment or interpersonal aggression (Richardson, et al, 1994), which influenced cancer screening behavior.

Despite suggestions that minority patients elicit less empathy from their health professionals (Ferguson & Candib, 2002), the current study found that Latinos perceived

more empathy from their healthcare professionals than Anglos. One reason for this discrepancy may be methodological. The studies on which this assertion was based (see Hooper et al, 1982 & Sleath, Rubin & Arrey-Wastavino, 2000) measured empathy from third party observations. While third party observations of physician empathy have contributed greatly to empathy research, the findings of this study suggest that a more complete assessment of the construct is warranted. Specifically, measuring empathy from the perspective of the patient, in combination with other methodologies, may provide a more complete picture of the impact that physicians' empathy has on patient behavior.

Sampling strategies may also play a role in the finding that Latino women perceived more empathy from their healthcare professionals than Anglo women. Given the theoretical background of this research (Betancourt & Lopez, 1993; Betancourt & Fuentes, 2001; Betancourt, Hardin, & Manzi, 1992), which holds that population categories (i.e. ethnicity, ses, etc) contribute to variations in culture, multi-stage stratified sampling was deemed necessary. Therefore, when population categories are experimentally controlled, the construct in question, in this case perceived empathy, can be measured more fully thus reducing the possibility of attributing findings merely to race or ethnicity. As a result such research is more likely to correctly attribute findings to the actual source of variation (Helms, Jernigan, & Mascher, 2005).

Despite careful study design, this study is not without limitations. Given the geographical location in which the study was conducted, only Mexican/Mexican American women were recruited for the Latino sample. This study should be replicated with other Latino subpopulations, as well as other minority groups, such as African

Americans and Asian Americans. Furthermore, multi-stage stratified sampling may limit the generalizability of the study findings. However, this sampling strategy is consistent with the theoretical foundations of the study and allows for testing the study hypotheses properly.

The results of this study are expected to influence future research and the development of interventions. Specifically, research is needed to identify the cultural factors, such as cultural stereotypes, that affect continuity of cancer screening care both directly and indirectly through empathy. Moreover, results from this study can help to inform interventions at the healthcare professional level as well as on the patient level. For example, healthcare professionals should be trained to communicate empathy in such a way that patients are able to perceive. Furthermore, these findings could be used in patient interventions to increase continuity of cancer screening, thus continuing to close the disparity gap for this vulnerable population.

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APPENDIX A

PATIENT'S PERCEPTION OF HEALTHCARE

PROFESSIONAL EMPATHY SCALE

During the screening exam, I felt the health professional…

1. Showed compassion

2. Saw things from my perspective

3. Understood my concerns

4. Was interested in what I was going through

5. Was genuinely concerned for my well-being

6. Tried to understand how I was feeling before proceeding with the screening exam