

Cultural beliefs about health professionals and perceived empathy influence continuity of cancer screening following a negative encounter

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Abstract Negative health care encounters have implications for preventive medical services and continuity of health care. This study examined cultural and interpersonal psychological factors involved in health care interactions that may ameliorate the detrimental effects of negative encounters. A mixed-methods approach was implemented to examine the relations among positive cultural beliefs about health professionals, perceived professional empathy, interpersonal emotions, and continuity of cancer screening among 237 Latin American (Latino) and non-Latino White (Anglo) American women who reported a negative health care encounter. Multi-group structural equation modeling revealed that for Latino and Anglo women, positive cultural beliefs about health professionals in general were associated with higher perceptions of empathy regarding a professional involved in a negative encounter. In addition, for Latino women, perceptions of higher professional empathy and less negative emotions were associated with better continuity of cancer screening. Interventions designed to improve professionals' empathy skills and diverse patients' perceptions of professionals could improve patient–professional relations.

Keywords Empathy · Culture · Patient–professional relations · Continuity of care · Cancer screening

Introduction

Continuity of health care, broadly defined as an ongoing patient–professional relationship based on trust and responsibility, improves the delivery of preventive medical services (Saultz & Lochner, 2005). In the context of cancer screening, seeing the same health professional is associated with better adherence to breast, cervical, and colon cancer screening (O'Malley et al., 2002) in addition to a decreased likelihood of diagnostic delay (Ferrante et al., 2007). Continuity with a professional that is familiar with their patients' medical history is particularly important from the perspective of the U.S. health care system where insurance companies often require physician referrals for cancer screening exams.

While the majority of patients value continuity of care with a single health professional, research suggests that it is even more highly valued among patients from vulnerable populations (Pandhi & Saultz, 2006). For instance, low socioeconomic status (SES) and Latin American (Latino¹) women have been found to value continuity of care to a greater extent than non-Latino White (Anglo²) American and high SES women (Becker & Tsui, 2008; Nutting et al., 2003). Still, approximately one third of Latino adults under the age of 65 in the U.S. lack a usual source of health care (National Center for Health Statistics, 2014), which may

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¹ The term *Latino American* (shortened to Latino) refers to individuals or populations of the U.S. who originally came from Latin America or a region of the U.S. that was once part of Latin America (see Betancourt & Fuentes, 2001).

² The term *Anglo American* (shortened to Anglo) refers to mainstream non-Latino White populations in the U.S. who came originally from the United Kingdom or other European backgrounds, who share the English language and Anglo American cultural heritage (see Betancourt & Fuentes, 2001).

contribute to suboptimal cancer screening rates (American Cancer Society, 2009a). In fact, poor cancer screening compliance and delayed follow-up for abnormal screening results may contribute to higher mortality rates among lower SES and ethnic minority populations (American Cancer Society, 2009b). For example, Latinas are 20 % more likely to die from breast cancer and nearly 50 % more likely to die from cervical cancer as compared to Anglo American women (American Cancer Society, 2009a; Jemal et al., 2004; Reynolds, 2004).

Understanding the factors that influence whether or not a patient returns to the same health professional for subsequent cancer screening may provide important information that could be used in interventions designed to reduce the noted disparities in cancer outcomes among low SES and ethnic minority populations. Research indicates that SES, ethnicity, insurance, language, culture, and patients' perceptions of the health care encounter are associated with continuity of health care (Betancourt et al., 2011; Doescher et al., 2001; Pippins et al., 2007). For instance, patients who report negative health care encounters such as those marked by long waiting times, poor communication, and a lack of respect are more dissatisfied with their health care and less likely to have continuity of care (Abraído-Lanza et al., 2011; Betancourt et al., 2011). Despite health professionals' good intentions and efforts to provide high quality care, patients may still experience negative health care encounters. Fortunately, there are things health professionals can do to ameliorate the deleterious outcomes associated with negative encounters.

From a social psychological perspective, learning how to communicate empathy is a particularly useful tool that health professionals can use to address negative health care interactions (Back & Arnold, 2005; Halpern, 2007). Empathy consists of both cognitive and affective components (Davis, 1994) and is conceived as a trainable skill that can be taught to health professionals (Halpern, 2007). It can be communicated verbally and non-verbally from physician to patient by inviting patients to share their experiences and explicitly acknowledging them (Suchman et al., 1997). Patients, in turn, judge their health professional to be empathic based on whether or not the professional effectively communicated empathy through their behavior. From this perspective, professional empathy may play an important role in ameliorating the emotional consequences associated with negative health care encounters, as well as improve continuity of cancer screening care among culturally diverse patients.

Improving continuity of care and cancer screening among culturally diverse populations requires a better understanding of the role of culture in relation to interpersonal psychological factors relevant to the health care encounter. However, research in this area often focuses on

the independent examination of either cultural or psychological factors (Flynn et al., 2011). For example, some studies have focused on the role of perceived professional empathy in relation to repeat cancer screening with the same health professional (Amador, 2012), while others have investigated cultural beliefs about health professionals and their association with health behavior (Betancourt et al., 2010; Bogart, 2001, 2004; Kinworthy, 2014). Research that recognizes the complexity of relations among cultural and interpersonal psychological factors involved in continuity of cancer screening care is much needed and requires the use of integrative theoretical models and multivariate research methods.

Betancourt's integrative model of culture, psychological processes, and behavior, adapted for health behavior (Betancourt & Flynn, 2009; Betancourt et al., 2010; Flynn et al., 2011) provides a theoretical framework that can be used to examine disparities in health behavior, such as continuity of cancer screening care. The model is unique in the sense that it allows for a more comprehensive and integrative examination of cultural, psychological, and behavioral phenomena. According to the model (Fig. 1), health behavior (D) is a function of psychological processes (C), as well as aspects of culture (B), which are defined as socially shared values, beliefs, norms, and practices. A key principle of the model is that these cultural elements may exert a direct and/or indirect effect on health behavior through psychological processes.

In the context of continuity of cancer screening care, cultural beliefs about health care professionals may be particularly important to consider since beliefs about members of a group are influenced by our interactions with individuals from those groups (Karasawa et al., 2007) and inform our decisions to continue these interactions (Fiske et al., 2007). Positive or negative health care interactions that are socially shared among members of low SES or ethnic minority groups may eventually become part of the group's socially shared (e.g. cultural) belief systems. Research suggests that these socially shared beliefs may in turn influence patients' perceptions, emotional reactions, and behaviors when it comes to subsequent health care encounters (Betancourt et al., 2010, 2011; Bogart, 2001). For instance, African American patients, who held beliefs about physicians such that they are competent and warm, were more likely to have a recent check-up and were more satisfied with their care (Bogart, 2001). Beliefs concerning the competence of health professionals have also been associated with increased mammography compliance for foreign-born Latino women and less anxiety and fear about breast cancer screening for Anglo women (Kinworthy, 2014). Since research suggests that socially shared beliefs impact basic cognitive processes such as perception and judgment (Bogart, 2001), positive cultural beliefs about

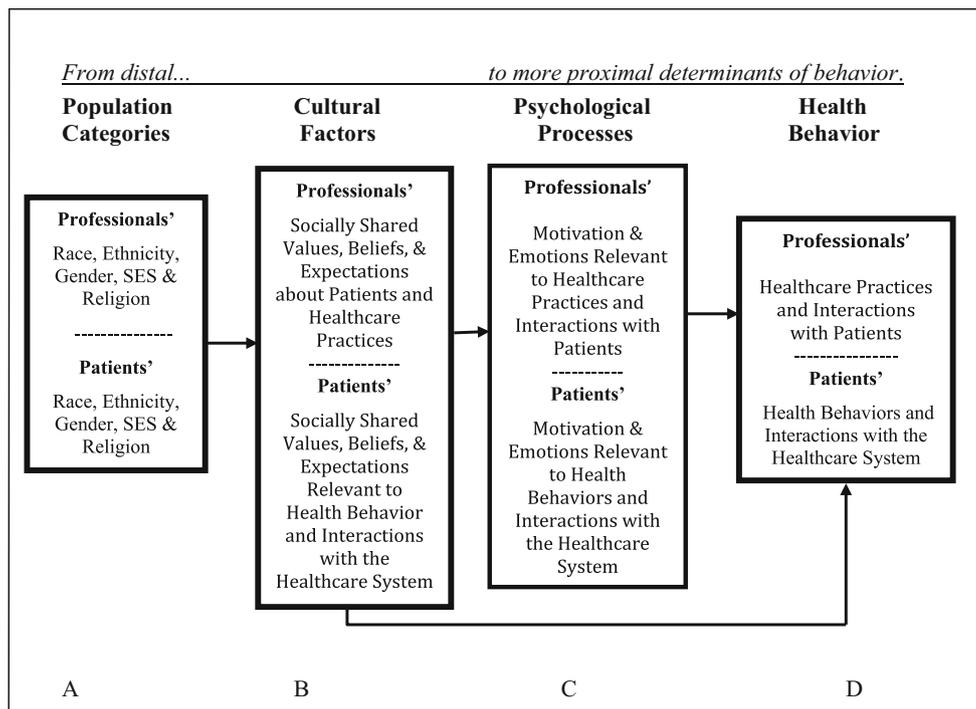


Fig. 1 Betancourt's integrative model of culture, psychological processes, and behavior adapted for health behavior (Betancourt & Flynn, 2009)

health professionals may be associated with improved continuity of care through greater perceptions of professional empathy.

The present study

The aim of this research was to examine both cultural and interpersonal psychological factors involved in health care interactions that may ameliorate the detrimental effects of negative encounters among Latino and Anglo American women. Specifically, the influence of positive cultural beliefs about health professionals and perceived professional empathy on continuity of cancer screening care was investigated in the context of a negative health encounter during routine breast or cervical cancer screening. To ensure the complexity of relations among cultural, psychological, and behavioral factors were properly examined, multigroup structural equation modeling was employed to test both the direct and indirect effects of cultural beliefs on continuity of care through interpersonal psychological factors.

Consistent with the conceptual model guiding this research (see Fig. 1), it was hypothesized that positive cultural beliefs about health professionals would be associated with greater continuity of cancer screening care following a negative health care encounter, directly and/or indirectly, through patient perceived health professional empathy and negative interpersonal emotions, for both Latino and Anglo women. Specifically, higher scores on positive cultural

beliefs about health professionals were expected to be positively associated with perceived professional empathy. Higher scores on perceived health professional empathy and lower scores on negative interpersonal emotions were, in turn, expected to positively influence continuity of cancer screening care.

Method

Participants and procedures

Multi-stage stratified sampling was conducted to obtain nearly equal proportions of self-identified Mexican-origin Latino and Anglo women of varying demographic backgrounds. Based on U.S. Census tract data, demographic projections for ethnicity, education, income, and age were anticipated for a number of recruitment settings including churches, markets, universities, mobile home parks, and community settings in Southern California. Once permission was obtained from the sites, a Spanish and/or English language recruitment flyer was posted describing the study, eligibility criteria, and the time and on-site location for participation.

Approval for the study was obtained from the Institutional Review Board prior to data collection. Bilingual Spanish–English research assistants greeted the interested women at each research location, described the purpose of the study, and restated the eligibility criteria (self-identified

Mexican-origin Latino or Anglo women, ≥ 20 years old, able to read English or Spanish). After participants provided informed consent, they were administered an English or Spanish version of the instrument which took approximately 30–45 min to complete. Participants were compensated \$15 for their participation.

As a result of multi-stage stratified sampling, the sample was well balanced between Latino ($n = 164$) and Anglo ($n = 171$) women. Of the 335 participants, 237 women reported at least one negative encounter during a breast or cervical cancer screening exam.

Measures

Positive cultural beliefs about health professionals

Items were developed based on the bottom-up methodological approach to the study of culture, which utilizes mixed methodologies (see Betancourt et al., 2010). The approach begins with specific observations relevant to an area of research (e.g. patient–professional relations), which are derived through interviews from the population of interest (e.g. Latinos and Anglos), and evolves from these observations to the development of quantitative items. The item translation process was performed by Spanish–English speaking experts using the double back translation (Knight et al., 2009) and decentering (Prieto, 1992) procedures.

The resulting six items were placed on a Likert scale ranging from 1 “not at all” to 7 “very much.” A sample item includes, “Health professionals that perform cancer screening exams are knowledgeable (e.g. trustworthy, friendly, compassionate, honest, communicative).” Approximately one-half of the participants were presented with the items in relation to male health professionals first, followed by the same items in relation to female professionals. The other half of participants responded to items in relation to female professionals first, followed by the presentation of items in relation to male professionals. The items demonstrated good internal reliability (Latino $\alpha = .84$; Anglo $\alpha = .89$) and measurement equivalence was achieved.

Perceived health professional empathy

Participants were asked to respond to a psychometrically validated 24-item scale available in English and Spanish (Flynn et al., 2015) representing negative interpersonal health care encounters (e.g. lack of respect, privacy concerns, communication issues) with professionals during a cancer screening exam. After indicating if they had experienced the negative incidents, participants responded to items designed to assess the level of empathy demonstrated by the professional involved in the negative incident that

bothered them the most. Items from a newly developed and validated 6-item perceived professional empathy scale (Amador, 2012), which was adapted from Davis’ Interpersonal Reactivity Index (1980) were used to assess perspective taking and empathic concern. Sample items include “I felt the health professional saw things from my perspective” and “I felt the health professional was genuinely concerned for my well-being.” Items were placed on a Likert scale from 1 “strongly disagree” to 7 “strongly agree.” Reliabilities were excellent (Latino $\alpha = .96$; Anglo $\alpha = .96$) and measurement equivalence was achieved.

Negative interpersonal emotions

To assess the degree to which participants experienced negative emotions as a result of the negative incident, they were first presented with the question, “How much did you feel the following emotions towards the health professional, as a result of the incident?” Then they were asked to rate the degree to which they experienced three emotions (i.e. anger, rage, irritation) on a 7-point Likert scale anchored at the extremes from “not at all” to “very much”. The scale demonstrated good reliability for each ethnic group (Latino, $\alpha = .79$; Anglo, $\alpha = .81$) as well as measurement equivalence.

Continuity of cancer screening care

Based on previous research (Betancourt et al., 2011; Flynn et al., 2015), participants indicated if as a result of the negative health care encounter they returned to the same health professional for future cancer screenings.

Covariates

Health disparities are a function of patient, professional, and health care system factors (Smedley et al., 2003). Therefore, patient-level covariates included age, income, education, country of birth, instrument language, and social desirability, as assessed by the 13-item Marlow Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Professional factors included ethnicity and gender. Health care system factors included insurance, usual source of care, and prior contact with the professional.

Results

Preliminary analyses

Of the 335 participants recruited for this study, a total of 237 women reported at least one negative health care in-

cident (Table 1). Latino women were less likely to have a consistent source of health care (80.1 % vs. 89.4 %; $\chi^2(1) = 5.17, p = .02$) than Anglo women. Anglo women who reported a negative interpersonal encounter were younger ($M = 47.48, SD = 16.20$) than those who did not ($M = 56.40, SD = 19.90$), $t(166) = 3.46, p = .001$. Latino women who reported a negative interpersonal encounter were more likely to have completed the instrument in English as compared to Latino women who did not (57.1 % vs. 35.3 %; $\chi^2(1) = 6.10, p = .02$).

A total of 32 participants were missing data on more than half of the items from one of the noted multi-item scales or key covariates such as the gender of the health professional and were eliminated from subsequent analysis, as they could not be reliably imputed. A missing value analysis and a Little’s Missing Completely at Random test did not indicate statistical deviation from randomness for Latino ($p = .42$) and Anglo ($p = .61$) samples. The expectation–maximization method was used to impute scores for 20 participants, resulting in a final sample of 205 participants (Latino $n = 98$; Anglo $n = 107$). There were no statistically significant differences between the omitted and retained sample in terms of age, income, education, or insurance.

An examination of the demographic variables for the retained sample revealed equal distribution across ethnicity for age, income, and insurance (Table 1). Still, Latino women reported fewer years of education compared to Anglo women, $t(165.54) = 5.21, p = .00$. As expected, Latino women were more likely to be born outside of the U.S. ($\chi^2(1) = 75.62, p = .00$) and to have completed the instrument in Spanish ($\chi^2(1) = 56.18, p = .00$). Approximately 50 % of Latino women and 60 % of Anglo women reported that a male health professional was involved in the negative health care encounter (Female: 50 % of Latino; 40 % of Anglo).

Prior to testing the study hypotheses using structural equation modeling, an examination of potential covariates was conducted. Results revealed that insurance, frequency of prior contact with the health professional, social desirability, and gender of the health professional were associated with the study variables. For Latino women, greater social desirability was associated with lower scores on negative interpersonal emotions ($r = -.25, p = .01$). Latino women that reported a female as compared to a male health professional was involved in the negative interpersonal encounter reported higher scores on positive cultural beliefs about health professionals ($r = .35,$

Table 1 Sample demographics based on ethnicity

Demographic	Negative healthcare encounter		No negative healthcare encounter	
	Latino ($n = 98$)	Anglo ($n = 107$)	Latino ($n = 51$)	Anglo ($n = 47$)
Age $M (SD)^{a,d}$	46.48 (13.88)	47.48 (16.20)	43.67 (15.56)	56.40 (19.90)
Education $M (SD)^{c,d}$	11.30 (3.96)	14.03 (2.52)	10.88 (4.50)	13.26 (2.28)
Income (%)				
\leq \$14,999	23.5	26.2	29.4	44.7
\$15-24,999	19.4	15.9	25.5	23.4
\$25-39,999	15.3	15.0	13.7	4.3
\$40-59,999	14.3	14.0	15.7	10.6
\$60-79,999	7.1	13.1	2.0	6.4
\$80-100,000	8.2	2.8	3.9	2.1
$>$ \$100,000	6.1	8.4	5.9	4.3
Not Specified	6.1	4.7	3.9	4.3
Place of birth (%) ^{c,d}				
Mexico	58.2	0.0	54.9	0.0
USA	41.8	97.2	45.1	100.0
Spanish instrument (%) ^{b,c,d}	42.9	0.0	64.7	0.0
Health insurance ^d	73.5	82.2	62.5	91.3
Usual source of healthcare ^d	76.5	82.2	72.9	91.1

^a Refers to significant differences between Anglos who had versus did not have a negative healthcare encounter

^b Refers to significant differences between Latinos who had versus did not have a negative healthcare encounter

^c Refers to significant differences between Latinos and Anglos who had a negative healthcare encounter

^d Refers to significant differences between Latinos and Anglos who did not have a negative healthcare encounter

$p = .00$) and greater continuity of care ($r = .27, p = .01$). Greater prior frequency of contact with the professional involved in the negative interpersonal encounter was associated with better continuity of care ($r = .28, p = .01$), and having insurance was associated with better continuity of care for Latino women ($r = .30, p = .00$).

Anglo women that reported a female as compared to male professional was involved in the negative interpersonal encounter reported higher scores on positive cultural beliefs about professionals ($r = .23, p = .02$), higher scores on perceived empathy ($r = .25, p = .01$), lower scores on negative interpersonal emotions ($r = -.36, p = .00$) and greater continuity of care ($r = .27, p = .01$). Greater prior frequency of contact with the professional involved in the negative interpersonal encounter was associated with higher scores on perceived empathy ($r = .28, p = .00$), lower levels of rage ($r = -.23, p = .02$) and better continuity of care ($r = .35, p = .00$).

Table 2 includes the frequency, means, standard deviations and correlations for the study variables after accounting for the noted covariates. Concerning ethnic group differences, Latino women reported lower levels of negative interpersonal emotions, particularly in the case of irritation. Fisher’s r -to- z test of differences also revealed some significantly different bivariate correlations based on ethnicity. The relations between perceived professional empathy and negative interpersonal emotions were stronger for Anglo than for Latino women. These findings suggested the need for a multi-group test of structural invariance.

Structural equation modeling

Bentler’s structural equation modeling program (EQS. 6.1; Bentler, 2005) with the maximum likelihood (ML) method of estimation was employed to test the study hypothesis

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. Positive cultural beliefs	–												
2. Parcel 1	.80*** (.86***)	–											
3. Parcel 2	.86*** (.86***)	.54*** (.61***)	–										
4. Parcel 3	.85*** (.82***)	.52*** (.62***)	.62*** (.51***)	–									
5. Perceived empathy	.28** (.43***)	.23* (.35***)	.26** (.45***)	.20* (.26**)	–								
6. Parcel 1	.29** (.46***)	.25* (.38**)	.27** (.48***)	.20* (.29**)	.97*** (.94***)	–							
7. Parcel 2	.23* (.37*)	.16 (.28**)	.24* (.40***)	.16 (.24*)	.96*** (.89***)	.91*** (.85***)	–						
8. Parcel 3	.28** (.43***)	.25* (.37**)	.24* (.42***)	.22* (.30**)	.95*** (.94***)	.89*** (.89***)	.85*** (.85***)	–					
9. Negative emotions	-.13 (-.25**)	-.10 (-.24*)	-.12 (-.29**)	-.10 (-.10)	-.18 (-.54***)	-.20 (-.54***)	-.16 (-.50***)	-.16 (-.56***)	–				
10. Anger	-.09 (-.19)	-.09 (-.17)	-.08 (-.23*)	-.05 (-.06)	-.14 (-.48***)	-.17 (-.50***)	-.13 (-.45***)	-.11 (-.51***)	.88*** (.89***)	–			
11. Rage	-.18 (-.22**)	-.13 (-.25**)	-.18 (-.24*)	-.14 (-.06)	-.23* (-.38***)	-.23* (-.38***)	-.23* (-.33***)	-.21* (-.39***)	.78*** (.79***)	.54*** (.56***)	–		
12. Irritation	-.05 (-.23**)	-.04 (-.20*)	-.05 (-.25**)	-.05 (-.12)	-.08 (-.49***)	-.09 (-.47***)	-.05 (-.47***)	-.10 (-.50***)	.85*** (.82***)	.68*** (.63***)	.44*** (.44***)	–	
13. Continuity of care	.14 (.34***)	.18 (.26**)	.14 (.29**)	.03 (.33***)	.37*** (.40***)	.36*** (.43***)	.32** (.33**)	.38*** (.39***)	-.32*** (-.34***)	-.35** (-.28**)	-.14 (-.25**)	-.30** (-.33***)	–
<i>M</i>	5.48 (5.45)	5.72 (5.63)	5.24 (5.16)	5.47 (5.55)	4.00 (3.76)	4.05 (4.05)	3.91 (3.54)	4.03 (3.65)	3.41 (4.39)	3.83 (3.85)	2.46 (2.44)	3.95 (4.78)	1.46 (1.47)
<i>SD</i>	1.04 (0.99)	1.18 (1.06)	1.31 (1.35)	1.21 (1.11)	1.86 (1.69)	1.89 (1.89)	1.94 (1.77)	1.86 (1.99)	1.81 (2.13)	2.15 (1.69)	2.15 (1.96)	2.22 (1.97)	0.50 (.50)

Values for Latino participants are presented in upper portion of cell. Values in parentheses represent Anglo participants. Boldface indicates that groups differ significantly at $p < .05$

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

concerning the direct and/or indirect influence of cultural beliefs about health professionals on continuity of care through perceived professional empathy and interpersonal emotions. To maintain a parsimonious model without using up model degrees of freedom, the variance from covariates found to significantly influence the research variables (i.e. insurance, frequency of health professional contact, gender of professional, social desirability) was partitioned from each study variable prior to testing the study hypothesis (Kammeyer-Mueller & Wanberg, 2003). To determine whether the cultural belief items relevant to male or female health professionals should be used in the structural equation model, each participants' data was reviewed to identify the gender of the professional involved in the negative health care encounter. Cultural beliefs about male professionals were used for participants who indicated a male professional was involved in the negative encounter whereas beliefs about female health professionals were used in the case of a negative incident with a female professional. For the purpose of structural equation modeling, three parcels of two items were created to represent the latent factor for cultural beliefs about health professionals and perceived health professional empathy.

Screening of the data revealed a violation of multivariate normality for both samples. Therefore, the ML robust statistics, which corrects for such violations are reported.

The adequacy of model fit was determined by using a nonsignificant χ^2 goodness of fit statistic, a ratio of less than 2.0 for the χ^2/df (Tabachnick & Fidell, 2001), a Comparative Fit Index (CFI) of .95 or greater (Bentler, 2005), the Yuan-Bentler F statistic for small sample sizes (Bentler, 1999), and a Root Mean Square Error of Approximation (RMSEA) of less than .08 (MacCallum et al., 1996), with the 90 % confidence interval (Kline, 2011).

The structural equation model based on the hypothesized theory-based relations among positive cultural beliefs about health professionals, perceived professional empathy, negative interpersonal emotions, and continuity of cancer screening care fit the data well for both Latino and Anglo women (see Fig. 2). The study variables accounted for approximately 24 % of the variance in continuity of cancer screening care for Latinos and 23 % of the variance for Anglos.

The main study hypothesis concerning the direct and/or indirect influence of positive cultural beliefs about health professionals on continuity of care through interpersonal psychological phenomenon was confirmed for both Latino and Anglo women. Results revealed that positive cultural beliefs about health professionals indirectly influenced continuity of care through perceived professional empathy and negative interpersonal emotions for Latino ($\beta_{indirect} = .117, p = .02$) and Anglo ($\beta_{indirect} = .155, p = .05$)

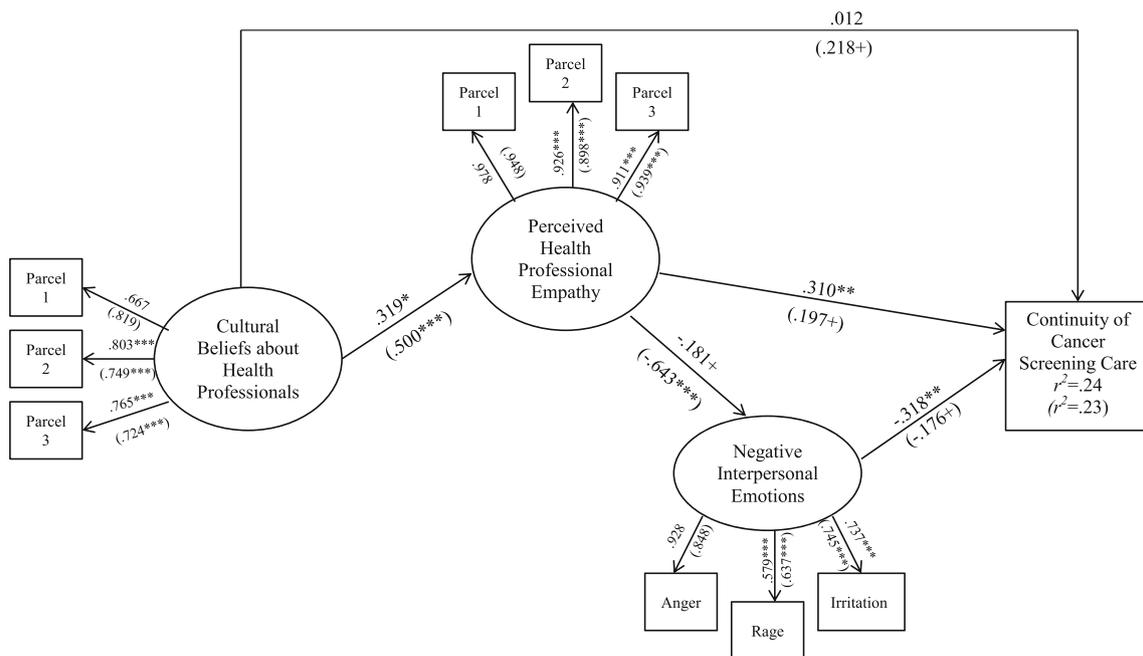


Fig. 2 Cultural beliefs about health professionals, perceived professional empathy, negative emotions, and continuity of cancer screening care for Latino and Anglo women. Paths for Anglo participants are represented in parentheses. + $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Latino Fit Indices: CFI = 1.00, S-B χ^2 (31,

$n = 98$) = 25.82 $p = .73$, $\chi^2/df = 0.83$, Y-B $F(31,67) = 1.03$, $p = 0.45$, RMSEA = .000, 90% CI (.000, 0.057). Anglo Fit Indices: CFI = 1.00, S-B χ^2 (31, $n = 107$) = 27.56, $p = .64$, $\chi^2/df = 0.89$, Y-B $F(3,76) = 1.04$, $p = 0.43$, RMSEA = .000, 90% CI (.000, 0.061)

women. For Anglo women, there was also a direct and positive trend concerning the influence of cultural beliefs about health professionals on continuity of cancer screening care. For both Latino and Anglo women, higher scores on positive cultural beliefs about health professionals positively influenced perceived professional empathy. In turn, higher scores on perceived professional empathy and lower scores on negative interpersonal emotions positively influenced continuity of care for Latino women. A similar trend was also apparent for Anglo women.

Because preliminary analyses revealed that ethnicity moderated the relations among perceived professional empathy and negative interpersonal emotions, a test of structural invariance was conducted. A review of the Lagrange multiplier test ($LM \chi^2(1) = 8.23, p = .004$) also suggested significant between-ethnic group differences in these paths. The magnitude of this effect was stronger for Anglo as compared to Latino women.

Discussion

Findings from this study revealed that Latino and Anglo American women had better continuity of cancer screening care following a negative health care encounter when they perceived that their professional was being empathic during the encounter. Moreover, patients were more likely to perceive that the health professional involved in the negative encounter was being empathic when they held more positive cultural beliefs about professionals in general. These findings highlight both cultural and interpersonal psychological factors involved in interactions that may ameliorate the detrimental effects of negative health care encounters such as disruptions in continuity of care. Intervention efforts designed to improve culturally diverse patients' perceptions of health professionals and professionals' empathy skills could have important implications for improving patient–professional relations, avoiding some of the deleterious consequences of negative experiences with the health care system, and reducing cancer screening health disparities among low SES and ethnic minority populations.

This research moved beyond the independent examination of either cultural or psychological factors relevant to continuity of care by recognizing the complexity of interrelations among the multiple determinants of health behavior. Consistent with the postulates of the integrative model guiding this research (see Fig. 1), findings revealed that for both Latino and Anglo women, positive cultural beliefs about health professionals were associated with better continuity of cancer screening care through interpersonal psychological factors. If data from this study were not analyzed to take into account the multivariate indirect

effect of culture on health behavior through psychological factors, one might conclude that cultural beliefs do not play an important role in continuity of care as indicated by the bivariate correlations for Latino women (see Table 2). From a theoretical and methodological perspective, these results confirm the importance of integrative theoretical models that can guide research and the use of multivariate statistical procedures to better understand the role of cultural, psychological, and behavioral determinants of health disparities (Flynn et al., 2011; Gallo et al., 2006).

Consistent with previous research (Amador, 2012), Latino and to some extent Anglo patients who perceived greater professional empathy had better continuity of care than those who perceived lower empathy. In addition, this research demonstrated that perceiving empathy on the part of a professional reduced the likelihood of experiencing negative interpersonal emotions. These findings are encouraging from an intervention perspective considering that empathy skills are trainable (Halpern, 2007). In fact, research suggests that empathy-skills training is an effective means for improving professionals' empathic communication (Back & Arnold, 2005; Satterfield & Hughes, 2007). Educational interventions could focus on training professionals to recognize situations or circumstances surrounding a health care encounter that may not be viewed positively by their culturally diverse patients and provide them with the tools to communicate empathic understanding in a culturally sensitive manner. Take into consideration the scenario in which a health professional is feeling rushed because of the limited time she can spend with her patient during an appointment. The training program could provide sample statements to address these types of circumstances, which professionals can practice through role-play (e.g. "I understand that you must have additional questions and it's important to me that I can answer those for you. Let's schedule another appointment so we have more time to focus on your concerns."). Professionals that learn to master these skills may in turn have patients who view the health encounter more favorably, experience more positive interpersonal emotions, and subsequently return to that professional for future health care.

Findings from this study also revealed that positive cultural beliefs about health professionals in general were associated with greater perceptions of empathy regarding a professional involved in a negative health care encounter. Considering that socially shared beliefs about groups (e.g. health professionals) are influenced by our interactions with those groups (Karasawa et al., 2007) and inform our decisions to continue these interactions (e.g. continuity of care), intervention efforts that focus on improving the health care experiences of low SES and ethnic minority patients could help reduce disparities. When these patient

populations collectively experience more positive health care encounters, there is also likely to be a more positive shift in their socially shared beliefs about professionals, which in turn may influence their general perceptions of health care encounters.

Research suggests that when individuals experience feelings of similarity and perceive their goals to be in harmony, they tend to have more positive beliefs of one another (Fiske et al., 2002) and report more empathy and pro-social motivation (Krebs, 1975). A recent intervention by Penner et al. (2013) provides an excellent example of how to intervene at both the patient and professional level to improve patients' beliefs about their professionals and treatment adherence. The intervention, which recruited low SES Black patients and their non-Black physicians to be "on the same team" demonstrates how a sense of commonality can be fostered among different others, which may in turn enhance empathy. Although differences based on SES, race, ethnicity, or culture are likely to exist among patients and their health professionals, Penner's findings suggest that the extent to which they are barriers can be minimized as patients and their professionals work on a common goal together. This is particularly important in the context of patient–professional relations, as the cultural divide between professionals and their low SES and ethnic minority patients may contribute to greater health disparities (Betancourt et al., 2011). In fact, perceiving another to be culturally dissimilar to oneself is associated with reduced empathic concern (Nelson & Baumgarte, 2004). Future interventions that induce empathic feelings and perspective taking on the part of dissimilar patients and their professionals could result in more favorable cultural beliefs and improved continuity of cancer screening care.

The analysis of invariance revealed some interesting ethnic differences concerning the association between perceived professional empathy and anger, which was weaker for Latino than Anglo women. These findings may be associated with *simpatía*, which is a Latino cultural script characterized by the tendency to emphasize the positive while minimizing the negative in social settings (Triandis et al., 1984). It may be culturally inconsistent for patients high in *simpatía* to bring up negative aspects of the health care encounter, which may cause them to report less anger than they may actually experience. Consistent with *simpatía*, Latino women from this study may have overemphasized the positive aspects of the medical encounter such as their health professionals' level of empathy. The potential underreporting of anger and overreporting of empathy by Latinos may have resulted in a weaker association between perceived empathy and anger. Another potential explanation may have to do with the collectivistic value orientation, which has been associated with greater empathy (Heinke & Louis, 2009). It could be

that Latino women, who may be more collectivistic compared to Anglo women, are more empathic and thus forgiving of their professionals involved in the negative encounter.

Despite the significance of the study findings, some limitations should be considered. For instance, since flyers were used to recruit participants there was no way of assessing a response rate for the study. As such, there may be an unaccounted for bias among individuals who did not respond versus those that participated in the research. In addition, the Latina sample from this study reflected the demographic reality of Southern California, which is predominantly of Mexican cultural background. Therefore, it is unclear whether the results would be the same with Latinas from other regions of the U.S. that represent different Latin American origins. Future research could include Latinas from different national origins and levels of acculturation. The generalizability of the study findings to Anglo women from other regions of the U.S. should also be viewed with caution. In addition, although the Yuan-Bentler test statistic for smaller sample sizes was employed, the relatively small sample size used for the separate analysis of each ethnic group, may have limited the potential for detecting some significant paths. This may be particularly true for Anglo women considering that there were paths approaching significance. Subsequent research may also benefit from a review of medical charts to determine continuity of care, rather than rely on a single self-report item. Finally, while the tested propositions are solidly grounded in theory, the cross-sectional design limits the test of temporal relations. Future work could employ longitudinal data to examine such relations in a more definitive manner.

Overall, the present results, which are consistent with the theoretical foundation guiding this research, could have important implications for the delivery of health care services and patients' health outcomes. For instance, interventions for health professionals that are informed by these results could contribute to positive patient–professional relations. Enhancing the quality of interactions among health care professionals and their low SES and ethnic minority patients could effectively improve cancer screening rates among underserved women in the U.S. and contribute to the reduction of health disparities.

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Conflict of Interest Jael A. Amador, Patricia M. Flynn and Hector Betancourt declare they have no conflict of interest.

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2000. Informed consent was obtained from all participants for being included in the study.

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