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Enculturation and Attitudes Toward Intimate Partner Violence and Gender Roles in an Asian Indian Population: Implications for Community-Based Prevention

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Abstract This study examined the relationships among enculturation, attitudes supporting intimate partner violence (IPV-supporting attitudes), and gender role attitudes among one of the largest Asian Indian population groups in the US. Data were collected via computer-assisted telephone interviews with a random sample of Gujarati men and women aged 18–64 in Metropolitan Detroit. Using structural equation modeling, we modeled the effects of three components of enculturation (behavior, values, and community participation) on gender role attitudes and IPV-supporting attitudes among married respondents ($N = 373$). Analyses also accounted for the effects of respondent age, education, religious service attendance, perceived financial difficulty, and lengths of residence in the US. The second-order, overall construct of enculturation was the strongest predictor of IPV-supporting attitudes (standardized B = 0.61), but not gender role attitudes. Patriarchal gender role attitudes were positively associated with IPV-supporting attitudes (B = 0.49). In addition to the overall effect of the enculturation construct, two of the components of enculturation had specific effects. "Enculturation-values" had a specific positive indirect association with IPV-supporting attitudes, through its relationship with patriarchal gender role attitudes. However, "enculturation-community participation" was negatively associated with IPV-supporting attitudes, suggesting the importance of community-based prevention of IPV among this immigrant population group.

Introduction

The estimated prevalence of intimate partner violence (IPV) in various Asian communities in the US ranges from 18 to 52 %, which is comparable to or slightly higher than the range of estimates found in other population groups (Yoshihama 2009). As in other population groups (Crossman et al. 1990; Kaufman Kantor et al. 1994; Riggs and O'Leary 1996), studies of Asians in the US have found a significant relationship between IPV-supporting attitudes and IPV perpetration (Jin et al. 2007; Shin 1995). Research has also documented a significant positive association between patriarchal (less egalitarian) gender role attitudes and IPV-supporting attitudes among diverse population groups (Crossman et al. 1990; Haj-Yahia 2003). These findings suggest that promoting more egalitarian gender role attitudes may help reduce IPV-supporting attitudes, which in turn can help prevent IPV perpetration.

The Asian populations in the US are growing in size, and the majority of them are immigrants. Acculturation (often measured by country of birth or length of residency in the US as proxy) has been found to be associated with a wide range of attitudes and behaviors among immigrants (Kimbro et al. 2012; Leu et al. 2011; Salant and Lauderdale 2003; Ying 1995). However, only a small number of studies have investigated the relationship between acculturation and IPV-supporting attitudes or between acculturation and gender

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role attitudes among Asians in the US (Ganguly 1997; Bhanot and Senn 2007). Virtually no research has examined enculturation—i.e., the degree to which individuals are oriented to their culture of origin. In addition, most previous studies of IPV used convenience samples of Asians. Using a community-based probability sample, we examined the relationships between enculturation, IPV-supporting attitudes and gender role attitudes among an Asian immigrant population group, Gujaratis (gü-jə-rä-tē), one of the largest Asian Indian population groups.

Enculturation Among Immigrants

As immigrants have prolonged contact with people and social systems in a host country, there will inevitably be changes in attitudes, behaviors and values. This process is referred to as acculturation (Berry 1997; Berry et al. 2006; Kim and Abreu 2001). Earlier research on acculturation tended to assume that as individuals adopt the host culture's values, attitudes and behaviors, they shake off or disengage from those of their culture of origin (Gordon 1964). However, empirical evidence accumulated over the years supports the bi-linearity of acculturation; this model acknowledges both adopting attributes of the host culture and retaining or enhancing those of the culture of origin; the latter is referred to as *enculturation* (Berry 1997; Cuellar et al. 1995; Kim and Abreu 2001; Lee et al. 2003, 2006; Miller 2007, 2010; Ryder et al. 2000; Stephenson 2000). Acculturated individuals are not necessarily low in enculturation, which points to the importance of measuring both enculturation and acculturation.

While the number and specificity of dimensions differ across researchers and measures, research suggests that enculturation is a multi-dimensional construct, which encompasses multiple domains, such as language use, social affiliation, social activities, value orientations, identity, cultural knowledge, food consumption, and media use (Abe-Kim et al. 2001; Cuellar et al. 1995; Kim and Abreu 2001; Chung et al. 2004; Mendoza 1989; Stephenson 2000; Tsai et al. 2001). Researchers have proposed broader dimension categories, such as values and behavior (Miller 2007; Szapocznik et al. 1978); and knowledge, behavior and attitudes (Stephenson 2000).

There has been a proliferation of empirical studies of acculturation and enculturation among immigrants in general, and among Asians in particular over the last decade (see Kim and Omizo 2006; Lee et al. 2006; Yoon et al. 2013). However, in the field of IPV research, explicit attention to enculturation is rare; much of the research on IPV among immigrants has focused on acculturation. This study represents an attempt to fill this gap by examining the role of enculturation in relation to gender role attitudes, attitudes toward IPV, and their correlates among immigrants.

Previous research has generally found a positive relationship between acculturation and more egalitarian (less patriarchal) gender role attitudes, which in turn was negatively associated with IPV-supporting attitudes among various population groups (Crossman et al. 1990; Haj-Yahia 2003). In general, women are found to hold lower levels of patriarchal gender role attitudes and IPV-supporting attitudes than men (Bolzendahl and Myers 2004; Ganguly 1997; Nelson 1988; Shin 1995; Simon et al. 2001). Other correlates of gender role attitudes and IPV-supporting attitudes include age, education, socioeconomic status, and religiosity (Bolzendahl and Myers 2004; Brinkerhoff and MacKie 1984; Haj-Yahia 2003; Harris and Firestone 1998; Simon et al. 2001).

Another notable research finding is the significant variation in the degree of IPV-supporting attitudes across ethnic groups among Asians and Latinos (Kaufman Kantor et al. 1994; Yoshioka et al. 2001). This finding warns against aggregation (e.g., lumping various Indian ethnic groups into Indians or lumping Indians and other Asian groups together into Asians; see Uehara et al. 1994; Yoshihama 2001) and point to the need to study disaggregated Asian or Latino groups in examining IPV-supporting attitudes. Thus, we focused on a specific ethnic group of Asian Indians and examined within-group variation.

The Study Population: Gujaratis

The Asian population is one of the fastest-growing minority groups in the US (US Census Bureau 2013). Although often aggregated to a single group, Asians are enormously diverse in migratory history, socioeconomic status, language and faith/religion, among other things. The Asian Indian population represents the second-largest Asian group in the US, and the largest in Metro Detroit, where this study was conducted, totaling over 61,900 and making up 1–2 % of the area's general population (US Census Bureau 2006–2008). Despite population increase (e.g., 41 % increase between 2000 and 2006 (US Census Bureau 2006–2008), Asian Indians are underrepresented in research on IPV. Previous studies aggregated various Indian ethnic groups or aggregate Indians with other South Asian groups, whereas this study uses a sample of a specific ethnic group of Asian Indians, the Gujarati.

Gujaratis are one of the largest ethnic groups of the Asian Indian population in the US. Gujaratis are an ethnic group from the state of Gujarat, one of the 28 states of India, located in the western region, and have their own language (Gujarati). While socioeconomic diversity exists among Gujaratis in the US, many hold professional and/or managerial positions (e.g., physicians, engineers, corporate executives) or own businesses, most notably hotels and motels (Dholakia-Dave 2006). Socioeconomic success may

provide increased opportunities for Gujaratis to interact with individuals of other racial/ethnic backgrounds at their workplace as corporate employees/executives and small business owners/employees, for example. Such increased intercultural contact by Gujarati immigrants is likely to influence their enculturation processes.

This study examines the relationship between enculturation and attitudes toward IPV and gender roles among adult Gujarati men and women residing in Metro Detroit. As found in previous studies of various ethnic groups in the US, individuals who retain a strong orientation toward their culture of origin tend to support traditional cultural values, including more patriarchal (less egalitarian) gender role attitudes (Bhanot and Senn 2007; Ganguly 1997). Traditional gender role attitudes may be differentially associated with various dimensions of enculturation—behavioral aspects such as retaining the diet, dress, and language of the culture of origin; community aspects such as participating in cultural or religious groups; and valuing traditional features of lifestyle and family. In addition, patriarchal gender role attitudes have been found to be positively related to IPV-supporting attitudes (Crossman et al. 1990; Haj-Yahia 2003). The relationship between IPV-supporting attitudes and the specific dimensions of enculturation—behavioral, community participation, and values—remains to be examined. Therefore, our specific hypotheses include: (1) enculturation is expected to be positively associated with both IPV-supporting attitudes and patriarchal gender role attitudes. We also hypothesize that this association may vary for specific dimensions of enculturation, consistent with the multi-dimensional construct of enculturation (Abe-Kim et al. 2001; Cuellar et al. 1995; Kim and Abreu 2001; Chung et al. 2004; Mendoza 1989; Stephenson 2000; Tsai et al. 2001). We hypothesize that participation in community cultural activities and holding traditional cultural values may be particularly salient in patriarchal gender role attitudes and IPV-supporting attitudes.

Methods

Sampling and Procedures

The eligibility criteria for study participation included: being of Gujarati decent, aged 18–64, and residing in the four counties of Metro Detroit. We used an ethnic surname-based list to draw a random sample. This surname-based method has been tested for use with various minority population groups, including Asians and South Asians, and is considered a suitable method for drawing a probability sample when an area sampling or alternative method is not tenable (Elliott et al. 2009; Shah et al. 2010; Taylor et al.

2011; Wong et al. 2010); because the Gujarati population comprises a small proportion of the general population, an area sampling method (e.g., compiling all the households in specific geographic areas to draw a sample) would not have been effective. Survey sampling companies compile surname-based lists by multiple sources, including Census records, telephone and voter information. We compared the lists of households with Gujarati surnames compiled by two major survey sampling companies, chose a list with broader coverage, and selected a systematic random sample of households from the list (selecting x-th household following a random start value).

Institutional Review Board approval was obtained from the principal investigator's university and a Certificate of Confidentiality was obtained from the National Institutes of Health. Data were collected by a survey center of the principal investigator's university through computer-assisted telephone interviews (CATI). To augment the survey center's pool of available interviewers, interviewers who are bilingual in Gujarati and English were hired for this study. After sending an introductory letter to the randomly selected households, an interviewer called the household and enumerated a list of adult household members to identify eligible individuals. If multiple individuals met the criteria in a given household, the CATI system selected one individual randomly via the random number method. Informed consent was obtained prior to the beginning of the interview. A total of 431 individuals completed the interview, which lasted on average 66.5 min ($SD = 17.4$), and most of the interviews were conducted in English, with some conducted in Gujarati or a combination of Gujarati and English. Respondents received US$25 for participation. The response rate based on the Response Rate Method 4 of the American Association for Public Opinion Research (2008) was 64.6 %. Given the study's focus on IPV, this study analyzed the responses from those respondents who were married and cohabiting at the time of the interview ($N = 373$; 186 men, 187 women); 96.0 % of the respondents were born outside the US.

Measures

IPV-Supporting Attitudes

IPV-supporting attitudes were assessed with five items. Three items (sample item: a husband should have the right to discipline his wife) were adapted from the Endorsement of Male Privilege Subscale of the Revised Attitudes toward Wife Abuse scale (Yoshioka et al. 2001, whose items had been adopted from Briere 1987). One item was adopted from the Inventory of Beliefs about Wife Beating (Saunders et al. 1987), and was reworded based on the pilot test: "People who criticize their wife/husband too much deserve

to be hit." These items were measured on a six-point scale, ranging from 1 = *strongly disagree* to 6 = *strongly agree*. Another item was constructed for the study based on the formative study, "Domestic violence does not happen when women give into their spouses or partners," which was coded 1 = *true*, 0 = *false*.

Gender Role Attitudes

Gender role attitudes were assessed with 15 items adopted from the 15-item Attitudes toward Women Scale (AWS: Spence and Helmreich 1978) and a 22-item simplified version of AWS (Nelson 1988) with the following changes. First, if items are in both the 15- and 22-item versions, we used the wording from the 22-item version, which is simpler and more congruent with the current conditions and language usage [Example: "It sounds worse when a woman swears than when a man does (22-item version)]" versus "Swearing and obscenity are more repulsive in the speech of a woman than a man (15-item version)"]. Second, we replaced two items that did not work well in the pilot test. For example, one item ("The intellectual leadership of a community should be largely in the hands of men") was replaced by a similar item from the 22-item version, "There should be more women leaders in important jobs in public life, such as politics." Furthermore, the wording of some items was revised to make them relevant to the study sample based on the pilot test. For example, "Sons in a family should be given more encouragement to go to *college* than daughters" was changed to "Sons in a family should be given more encouragement to go to *graduate school* than daughters," given that many Indian women in the US go to college nowadays. The response scale for these 15 items ranged from 1 = *strongly disagree* to 6 = *strongly agree*. Most items were written to reflect patriarchal views toward women's roles; items that reflected egalitarian views were reverse coded. The 15-item scale was found to be unifactorial (Spence and Hahn 1997). Various versions of AWS have been used in studies of South Asians: the 22-item version by Bhanot and Senn (2007), and the 25-item version by Dasgupta (1998). In this study, internal consistency of these 15 items was .74 for women and .75 for men.

Enculturation

Consistent with Szapocznik et al. (1978) and Miller's broad domains (2007), we assessed enculturation in behavior and values. In addition, guided by the finding of our formative research that pointed to the importance of community- and faith-based organizations in shaping the lives of community members, we included a third domain, community participation. In keeping with previous studies (Miller 2007),

enculturation was conceptualized as a second order factor comprised of three latent constructs—values, behavior, and community participation.

"Enculturation-values" was assessed using three items pertaining to the extent to which the respondent agreed with statements that Gujarati in the US should maintain: (a) traditional lifestyles such as dress, food, etc.; (b) traditional values about marrying within their own castes; and (c) traditional values about women staying home. The response scale for these items ranged from 1 = *strongly disagree* to 6 = *strongly agree*.

As an indicator of "enculturation-behavior," we assessed language spoken outside the home (coded as 1 = *English only*, 2 = *English more than Gujarati*, 3 = *both Gujarati and English equally*, 4 = *Gujarati more than English*, and 5 = *Gujarati only*). In addition, we drew from a previous study of South Asians in North America (Naidoo and Davis 1988) to assess expression of culture of origin through diet and/or dress (coded as 0 = *does not express culture through diet or dress*, 1 = *expresses culture through diet or dress, but not both*, and 2 = *expresses culture through both diet and dress*); and the general cultural tone of the home (coded as 0 = *Western* or *basically Western with some traditional style*, 1 = *basically traditional with some Western style*, and 2 = *traditional*).

"Enculturation-community participation" was assessed using two questions about the frequency of respondents' participation in Indian/Gujarati cultural/community organizations and faith-based organizations, respectively. Frequency of participation was assessed on a six-point scale (1 = *does not participate*, 2 = *less than once a year*, 3 = *at least once a year*, 4 = *several times a year*, 5 = *at least once a month*, and 6 = *at least once a week*).

Length of Residency in the US

Based on information on the respondent's age, country of birth, and age at immigration, we created a variable denoting the percentage of years living in the US. We used the percentage rather than the number of years to avoid confounding with respondents' chronological age. This variable served as a proxy for acculturation, based upon research that generally suggests that prolonged contact with the culture of the US is positively associated with adoption of its cultural norms (Trickett et al. 2009).

Other Variables

Additional variables included are those that have been found to be associated with gender role attitudes and IPV-supporting attitudes as reviewed previously: age, education, socioeconomic status, and religious service attendance. Respondent's age was coded in years, and educational level

was coded as 1 = *less than a bachelor's degree*, 2 = *bachelor's degree*, and 3 = *more than a bachelor's degree*. As an indicator of socioeconomic status, we assessed the respondent's perceived financial difficulty at the time of the interview. Using a question adopted from major social surveys (see Krause 2003), respondents were asked how much difficulty they were experiencing in making ends meet (e.g., paying bills) on a four-point scale ranging from 1 = *having a lot of difficulty* to 4 = *not having difficulty at all*. We dichotomized this variable (*no difficulty* vs. *some level of difficulty*) for further analysis. Religious service attendance was assessed on a five-point scale (1 = *less than once a year*, 2 = *a few times a year*, 3 = *a few times a month*, 4 = *at least once a week*, and 5 = *nearly every day*).

Analysis Plan

We used structural equation modeling (SEM) with maximum likelihood (AMOS 7 software, Arbuckle 2006) to estimate model parameters and assess model fit. Use of SEM provided several advantages, including statistical assessment of overall model fit and the ability to examine not only the influence of the general second-order enculturation factor, but also the influence of the specific components of enculturation specified by the first-order constructs—values, behaviors, and community participation (Hull et al. 1995; Newcomb et al. 2002). SEM also provided formal statistical tests of gender equivalence in the measurement models of latent constructs and in the structural model of relationships among latent constructs (Byrne 2001, 2004). All models were initially estimated as two-group models by gender; however, formal comparison of constrained versus unconstrained models revealed no significant gender differences. Final models thus, were estimated for the sample as a whole. Sample sizes exceeded 185 in each gender group and were thus adequate for multigroup SEM (Jaccard and Wan 1996). The total sample of 373 provided power of .8 or greater to test close fit (i.e., RMSEA = 0.05 vs. 0.08) of any model with at least 25 degrees of freedom (MacCallum et al. 1996).

Results

Respondents' Characteristics

As shown in Table 1, on average, respondents were 44.27 years old (*SD* = 10.58) and had lived in the US for 40.86 % of their lives (range 2–100 %); Actual years living in the US ranged from 1 to 45 years (*M* = 18.21, *SD* = 11.56). Most respondents had a bachelor's degree or higher, with men having higher education levels than women. A higher proportion of women than men reported

experiencing financial difficulties (32.0 vs. 22.3 %). Most respondents reported attending religious service at least a few times a month; there were no significant gender differences in religious service attendance.

As shown in Table 2, in general, levels of agreement with the statements pertaining to IPV-supporting attitudes are low (2.15–2.54 on a six-point scale). Similarly, levels of endorsement of patriarchal gender roles are relatively low, with all gender role attitudes items scoring lower than 4 (slightly agree); the highest scored items (both 3.80 on a six-point scale) are: "Women should worry less about being equal with men and should worry more about becoming good wives and mothers" and "there are many jobs that men can do better than women." As for the "enculturation-value," on average, respondents expressed a higher degree of agreement with the statement, "Gujaratis in the US should maintain traditional lifestyles such as dress, food etc." (4.11 on a six-point scale) than "Gujaratis in the US should maintain traditional family values about women staying home" (2.10). With respect to other dimensions of enculturation, the majority reported speaking English only or more than Gujarati outside of the home and expressing culture through diet and/or dress. On average, respondents participated in faith-based organizations at least several times a year, and cultural/community organizations slightly less frequently.

Role of Enculturation on IPV-Supporting Attitudes and Gender Role Attitudes

Measurement models were tested for two sets of latent constructs—(1) enculturation and (2) attitudes toward gender roles and IPV. Enculturation was modeled as a second-order factor with three first-order latent constructs: values, behaviors, and community participation, each of which had 2 or 3 items as observed indicators. This model was an excellent fit to the data ($\chi^2 = 26.69$, $df = 18$, $p = .085$, RMSEA = 0.036, CFI = 0.985). The measurement model of attitudes toward gender roles and IPV was also a good fit to the data ($\chi^2 = 36.77$, $df = 19$, $p = .008$, RMSEA = 0.050, CFI = 0.981). In this latter model, the 15 items from the AWS were randomly divided into three parcels that were used as indicators of the gender role attitudes construct. When the number of individual items is large, parcels, or composite scores on subsets of items, are frequently used to reduce measurement complexity and improve the distributional characteristics of observed indicators (Little et al. 2002).

The estimated structural model is presented in Fig. 1; although all paths from exogenous variables to each latent construct were estimated, only paths significant at $p < .05$ are illustrated. Similarly, all correlations among exogenous variables were estimated; correlation coefficients are

Table 1 Respondents' characteristics by gender

	Total N = 373		Women N = 187		Men N = 186		Statistical test
	M (SD)	95 % CI	M (SD)	95 % CI	M (SD)	95 % CI	
Age	44.27 (10.58)	[43.20, 45.34]	44.08 (10.97)	[42.51, 45.65]	44.46 (10.21)	[42.99, 45.93]	$t(371) = -.34$
Percentage of years lived in the US	40.86 (24.83)	[38.34, 43.38]	39.56 (24.75)	[36.01, 43.11]	42.17 (24.91)	[38.59, 45.75]	$t(370) = -1.01$
	n	%	n	%	n	%	
Educational levels							
Less than bachelor's degree	72	19.3	48	25.7	24	12.9	
Bachelor's degree	144	38.6	95	50.8	49	26.3	
Graduate degree	157	42.1	44	23.5	113	60.8	$\chi^2(2,373) = 53.02^{***}$
Perceived financial difficulty							
No difficulty	266	72.9	123	68.0	143	77.7	
Some level of difficulty	99	27.1	58	32.0	41	22.3	$\chi^2(1,365) = 4.40^*$
Religious service attendance							
Less than once a year	22	6.0	9	4.9	13	7.1	
A few times a year	107	29.0	55	29.7	52	28.3	
A few times a month	112	30.4	56	30.3	56	30.4	
At least once a week	117	31.7	60	32.4	57	31.0	
Nearly every day	11	3.0	5	2.7	6	3.3	$\chi^2(4,369) = 0.98$

$* p < .05$; $*** p < .001$

presented in Table 3. The model was an adequate fit to the data ($\chi^2 = 377.411$, $df = 175$, $p < .001$; RMSEA = 0.056, CFI = 0.911).

The second-order, overall construct of enculturation had a significant, positive direct association with IPV-supporting attitudes (standardized B = 0.61), but not with gender role attitudes. Gender role attitudes were positively associated with IPV-supporting attitudes (B = 0.49). In addition to the overall effect of the enculturation construct, two of the component constructs of enculturation had specific effects. "Enculturation-values" had a significant, positive association with gender role attitudes (B = 0.47) and, through this construct, a significant indirect effect on attitudes supportive of IPV (indirect B = 0.23). In contrast, "enculturation-community participation" had a significant negative association with attitudes supportive of IPV (B = -.16).

Percentage of years lived in the US and education were negatively associated with the overall level of enculturation. Age and religious service attendance were positively associated with overall enculturation. In the presence of a strong significant association between overall enculturation and IPV-supporting attitudes, residency in the US and these socio-demographic variables were not directly associated with IPV-supporting attitudes. Two exogenous variables, however, were significantly associated with IPV-supporting attitudes. Specifically, perceived financial difficulty

was associated with higher levels of endorsement of IPV-supporting attitudes (B = 0.14), and religious service attendance was associated with lower levels of endorsement of these attitudes (B = -.18). Age and education were significantly associated (in opposite directions) with gender role attitudes: the older the respondents, the more patriarchal in their gender role orientation, and the higher their educational level, the less patriarchal. Although men tended to hold more patriarchal gender role attitudes, the relationship between gender and gender role attitudes was not significant at a conventional $p < .05$ level (B = 0.09, $p < .10$).

Discussion

The results of the present study indicate that individuals with higher levels of overall enculturation (e.g., endorsing traditional cultural values, expressing one's culture through diet and/or dress, using a native tongue, and participating in cultural and faith-based organizations) were more likely to condone IPV. Of all the factors in the model, overall enculturation was the strongest predictor of IPV-supporting attitudes. Factors that have been found to be associated with IPV-supporting attitudes in previous studies, such as education and the length of residency in the US, were not directly associated with IPV-supporting attitudes in this study. These

Table 2 Descriptive statistics and latent construct loadings (N = 373)

	M	SD	95 % CI	Item/parcel loading
IPV-supporting attitudes				
A husband is entitled to have sex with his wife whenever he wants it[a]	2.15	1.18	[2.03, 2.27]	0.66
A husband is the ruler of his home[a]	2.32	1.34	[2.18, 2.46]	0.79
A husband should have the right to discipline his wife[a]	2.54	1.52	[2.39, 2.69]	0.74
People who criticize their (own) wife/husband too much deserve to be hit[a]	2.24	1.32	[2.11, 2.37]	0.51
Domestic violence does not happen when women give into their spouses or partners[b]	0.35	0.48	[0.30, 0.40]	0.50
True (35.1 %, n = 126)				
False (64.9 %, n = 223)				
Gender role attitudes[a,c]				
Parcel 1				0.74
It sounds worse when a woman swears than when a man does	3.52	1.66	[3.35, 3.69]	
A woman should be able to go everywhere a man does, or do everything a man does, such as going into bars alone (reverse coded)	3.18	1.66	[3.01, 3.35]	
Women are better off having their own jobs and freedom to do as they please rather than being treated like a lady in the old-fashioned way (reverse coded)	2.68	1.49	[2.53, 2.83]	
Sons in a family should be given more encouragement to go to graduate school than daughters	2.02	1.31	[1.89, 2.15]	
Women should worry less about being equal with men and should worry more about becoming good wives and mothers	3.80	1.66	[3.63, 3.97]	
Parcel 2				0.76
There should be more women leaders in important jobs in public life, such as politics (reverse coded)	2.49	1.32	[2.36, 2.62]	
Women should not be bosses in important jobs in business and industry	2.15	1.23	[2.03, 2.27]	
There are many jobs that men can do better than women	3.80	1.55	[3.64, 3.96]	
Women should be given equal opportunity with men in all professions (reverse coded)	1.87	0.87	[1.78, 1.96]	
On the whole, men make better political leaders than women do	2.63	1.44	[2.48, 2.78]	
Parcel 3				0.68
If a women goes out to work, her husband should share in the housework, such as washing dishes, cleaning and cooking (reverse coded)	1.75	0.85	[1.66, 1.84]	
It is ridiculous for a man to stay at home to raise children	2.73	1.50	[2.58, 2.88]	
In general, the father should have more authority than the mother in bringing up children	2.08	1.03	[1.98, 2.18]	
A woman should be as free as a man to propose marriage (reverse coded)	1.79	0.83	[1.71, 1.87]	
Women earning as much as their dates should pay for themselves when going out with them (reverse coded)	3.32	1.50	[3.17, 3.47]	
Enculturation—values[a]				
Gujaratis in the US should maintain traditional lifestyle such as dress, food, etc.	4.11	1.34	[3.97, 4.25]	0.63
Gujaratis in the US should maintain traditional family values about marrying within their own castes	3.62	1.55	[3.46, 3.78]	0.75
Gujaratis in the US should maintain traditional family values about women staying home	2.10	1.29	[1.97, 2.23]	0.55
Enculturation—behaviors				
Language spoken outside home[d]	1.93	0.93	[1.84, 2.02]	0.63
English only [1] (35.6 %, n = 130)				
English more than Gujarati [2] (45.2 %, n = 165)				
Gujarati and English about equally [3] (11.5 %, n = 42)				
Gujarati more than English [4] (6.0 %, n = 22)				

Table 2 continued

	M	SD	95 % CI	Item/parcel loading
Gujarati only [5] (1.6 %, n = 6)				
Culture expressed through diet and/or dress[d]	1.12	0.84	[1.03,1.21]	0.40
Neither diet nor dress [0] (29.5 %, n = 110)				
Diet or dress, but not both [1] (29.0 %, n = 108)				
Both diet and dress [2] (41.6 %, n = 155)				
Cultural tone of home[e]	0.88	0.65	[0.81, 0.95]	0.64
Western or basically Western with some traditional style [0] (28.2 %, n = 104)				
Basically traditional with some Western style [1] (55.8 %, n = 206)				
Traditional [2] (16.0 %, n = 59)				
Enculturation—community participation[e]				
Participation in faith-based organizations	4.44	1.42	[4.30, 4.58]	0.98
Participation in cultural organizations	3.85	1.28	[3.72, 3.98]	0.56

[a] Scored on a six-point scale: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree

[b] Scored 1 = true, 0 = false [true (35.1 %, n = 126), false (64.9 %, n = 223)]

[c] Mean scores on random parcels of items from the Attitudes toward Women scale were used as indicators of the latent construct in order to simplify the model

[d] Values are presented in [] after each response option

[e] Scored on a six-point scale: 1 = does not participate, 2 = less than once a year, 3 = at least once a year, 4 = several times a year, 5 = at least once a month, 6 = at least once a week

factors, however, were indirectly associated with IPV-supporting attitudes via overall enculturation. Indirectly, religious service attendance was positively associated with higher levels of IPV-supporting attitudes via overall enculturation; however, a direct, negative association between religious service attendance and IPV-supporting attitudes indicates that those who attend religious services more frequently tended to condone IPV less. Similarly, those who participate in various activities of cultural/community and faith-based organizations were less likely to condone IPV.

On the surface, the significant positive relationship between enculturation and IPV-supporting attitudes suggests that in order to reduce IPV-supportive attitudes, efforts must be made to reduce the overall levels of enculturation. However, benefits of enculturation on individuals' well-being have been documented in studies of immigrants, including Asians (Kimbro et al. 2012; Mossakowski 2003; Ying 1995; also see Salant and Lauderdale 2003; Yoon et al. 2013 for review). Similarly, individuals who identify highly with both the host culture and culture of origin tend to exhibit higher levels of well-being than those who are low on identification with the culture of origin (Krishnan and Berry 1992). Additionally, decreased enculturation may mean distancing oneself from family and other individuals of the same/similar cultural orientation. This could lead to diminished social support, which in turn may be associated with lower well-being. Thus, in developing IPV prevention programs, instead of attempting to reduce the overall enculturation, it is

important to identify and target domains of enculturation that are linked to IPV-supporting attitudes and their correlates, while promoting those domains that are likely to enhance individuals' well-being. Such a domain-specific approach is consistent with previous studies that documented domain-specific effects of acculturation/enculturation on well-being (Leu et al. 2011; Ying 1995).

As hypothesized, various dimensions of enculturation were differently associated with IPV-supporting attitudes. The significant indirect association found between "enculturation-values" and IPV-supporting attitudes via patriarchal gender role attitudes suggests that values endorsing traditional cultural practices (e.g., gendered role divisions) must be challenged in order to lessen IPV-supporting attitudes. As noted previously, in addition to the two broad dimensions of enculturation conventionally examined—behavior and value (Miller 2007), this study also explored the possible role of another dimension, involvement in one's ethnic community. While this dimension loaded together with the behavior and value dimensions on the overall enculturation, it had a direct negative relationship with IPV-supporting attitudes. Along with the significant negative association between religious service attendance and IPV-supporting attitudes, these findings suggest that involvement in one's own cultural/community- and faith-based activities can offset the strong effect of enculturation on IPV-supporting attitudes. A promising approach to IPV prevention may be promoting participation in community affairs. Discussion at such ethno-culturally
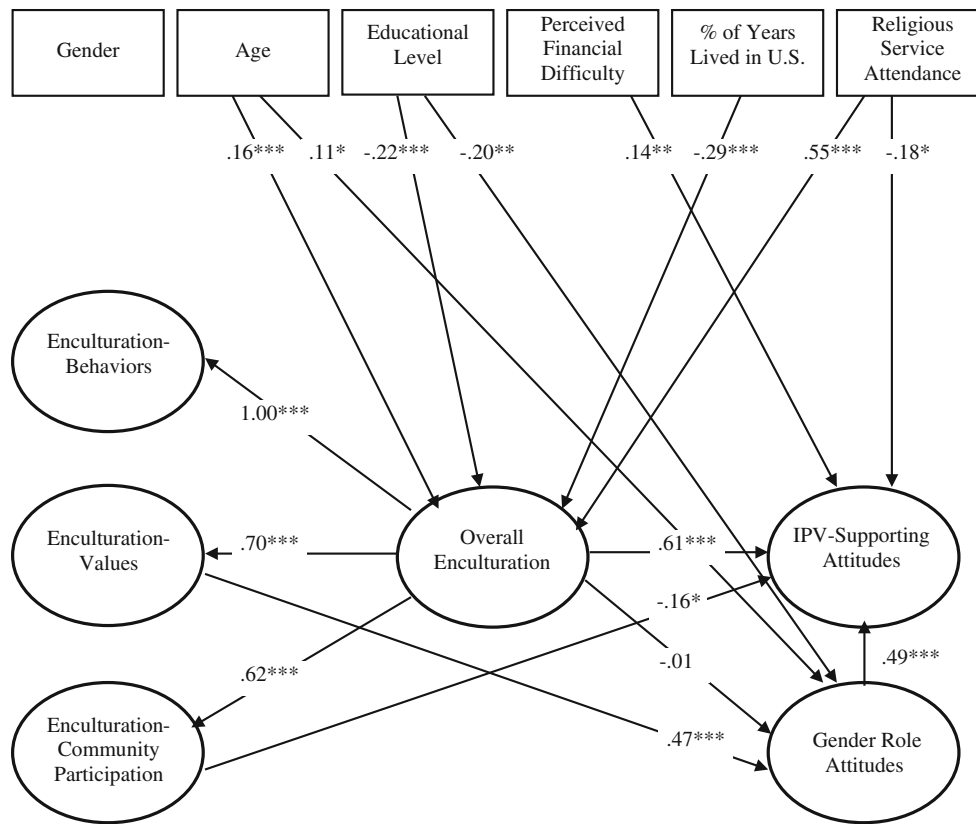
Fig. 1 Estimated structural equation model ($\chi^2 = 377.411$, $df = 175$, $p = .000$; RMSEA = 0.056; CFI = 0.911). All coefficients are standardized. *$p < .05$; **$p < .01$; ***$p < .001$

Table 3 Correlations among exogenous variables in the structural equation model ($N = 373$)		1	2	3	4	5
	1. Gender	–				
	2. Age	0.02	–			
	3. Education level	0.33***	−0.06	–		
	4. Perceived financial difficulty	−0.11*	0.06	−0.14**	–	
	5. Percentage of years lived in US	0.05	0.04	0.33***	−0.08	–
* $p < .05$; ** $p < .01$; *** $p < .001$	6. Religious service attendance	−0.01	0.13*	−0.11*	−0.01	−0.30***

familiar venues may be particularly conducive to candid and critical discussion of the benefits and costs of traditional values and practices among community members; engaging community and religious leaders and developing their capacity in IPV prevention may also be effective (see Full-wood 2002; Simbandumwe et al. 2008; Yoshihama et al. 2012).

A notable finding was that the length of residency in the US was not associated with gender role attitudes, contrary to previous studies, which tended to find more acculturated individuals to be more egalitarian in their gender role attitudes (Bhanot and Senn 2007; Ganguly 1997; Harris et al. 2005). This may be in part because of the significant association between the length of residency in the US and

education, and the latter was significantly associated with gender role attitudes. The length of residency in the US was not directly associated with IPV-supporting attitudes either. Indirectly, the length of residency in the US was negatively associated with IPV-supporting attitudes via overall enculturation, and positively associated with IPV-supporting attitudes via religious service attendance. Thus, among this study population, variation in gender role attitudes or IPV-supporting attitudes was not explained by the mere length of residency in the US.

The significant negative association between education and patriarchal gender role attitudes suggests that education may promote liberal gender role attitudes. While this study measured formal education, future research should

examine the types of education (e.g., formal education or community/popular education or both) that are conducive to changes in gender role attitudes and attitudes towards IPV. For individuals with limited formal education, community-based education programs may be effective in altering gender role attitudes, which may in turn help reduce IPV-supporting attitudes.

The non-significant association between gender and gender role attitudes was different from a quite consistent finding of previous studies that men tend to be less egalitarian in gender role attitudes (Berkel et al. 2004; Harris and Firestone 1998). Among this study's sample, educational levels differed significantly by gender, with men having significantly higher education, which was associated with more egalitarian gender role attitudes. Thus, it is possible that the effect of higher education, which is associated with more egalitarian gender role orientations, has offset the effect of being a male among this sample of highly educated men. More research is needed to disentangle the effect of gender and education in other population groups.

Although the results provided intriguing insight into the relationships among enculturation and attitudes toward IPV and gender roles, the study has a number of limitations. Measures of enculturation used in this study, albeit much more extensive than most other studies of IPV, did not capture a full range of dimensions. Additionally, the use of the length of residence in the US as a proxy for acculturation, while often used in research (Bhanot and Senn 2007; Champion 1996), is limited in both breadth and depth (see Carter-Pokras et al. 2008). More comprehensive measures of enculturation (and acculturation) in future research of IPV are needed. Although frequently used and found to be effective in research with various Asian population groups (Taylor et al. 2011; Wong et al. 2010), use of surname-based list to draw a sample undoubtedly results in some undercoverage, missing some individuals of Gujarati descent who have non-Gujarati surnames. Data were obtained from respondents' self-report, which is subjected to social desirability. This study's inquiry into socially undesirable attitudes, such as those condoning IPV, may have affected the validity of response to an unknown degree. The cross-sectional design limits the causal conclusions that can be drawn. For example, immigrants whose views on gender roles and IPV differ from those of the mainstream (or those that are socially acceptable/desirable) may tend to idealize their culture of origin (see Flores-Ortiz 1993; Yoshihama 2009). Thus, the significant association between enculturation and IPV-supporting attitudes may reflect the tendency of those who condone IPV to report being enculturated. This possibility must be further investigated. In addition, because of the use of a sample of married adults, study findings are not generalizable to those in other relationship statuses. The response rate was relatively high; however, the effect of self-selection remains unknown. In the

absence of Census or other population-based data on the Gujaratis in Metro Detroit, the degree of sample representativeness cannot be assessed.

The strength of this study is that it focused on a previously under-studied population group and avoided a commonly-done aggregation (e.g., studying Asian, South Asians, or Asian Indians) by studying a single ethnic group, Gujaratis. Yet, it is this study design of focusing on a single ethnic group that limits the generalizability of the study findings. More research with other population groups is needed to enhance our understanding of the interrelationships among enculturation, acculturation, gender role attitudes, and attitudes toward IPV. Despite these limitations, this study makes an important contribution to research on IPV in general, and among immigrants in particular by documenting the correlates of IPV-supporting attitudes, including previously under-studied enculturation. Assessments of multiple domains of enculturation allowed for elucidating the complexities of associations with the specific domains of enculturation as well as relationships with the overall construct. Given the finding that various dimensions of enculturation were associated differently with patriarchal gender role attitudes and IPV-supporting attitudes, assessments of multi-dimensions of enculturation appear to be critical.

The findings of this study suggest that community-based prevention programs designed to promote individuals' participation in community- and faith-based activities may be a promising approach to preventing IPV by altering IPV-supporting attitudes. In addition to prevention programs directly addressing IPV, incorporating messages and discussions designed to facilitate reexamination of gender role expectations in naturally occurring cultural, faith-based, and other community events and gatherings may help lower IPV-supporting attitudes.

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