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A methodology for building culture and gender norms into intervention: An example from Mumbai, India

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ABSTRACT

This paper responds to the call for culturally-relevant intervention research by introducing a methodology for identifying community norms and resources in order to more effectively implement sustainable interventions strategies. Results of an analysis of community norms, specifically attitudes toward gender equity, are presented from an HIV/STI research and intervention project in a low-income community in Mumbai, India (2008–2012). Community gender norms were explored because of their relevance to sexual risk in settings characterized by high levels of gender inequity. This paper recommends approaches that interventionists and social scientists can take to incorporate cultural insights into formative assessments and project implementation These approaches include how to (1) examine modal beliefs and norms and any patterned variation within the community; (2) identify and assess variation in cultural beliefs and norms among community members (including leaders, social workers, members of civil society and the religious sector); and (3) identify differential needs among sectors of the community and key types of individuals best suited to help formulate and disseminate culturally-relevant intervention messages. Using a multi-method approach that includes the progressive translation of qualitative interviews into a quantitative survey of cultural norms, along with an analysis of community consensus, we outline a means for measuring variation in cultural expectations and beliefs about gender relations in an urban community in Mumbai. Results illustrate how intervention strategies and implementation can benefit from an organic (versus *a priori* and/or stereotypical) approach to cultural characteristics and analysis of community resources and vulnerabilities.

Introduction

Adjusting and adapting interventions to a community's cultural and social context is now a well-recognized part of behavioral change and development programs (Lyles et al., 2006; McKleroy et al., 2006). Most intervention programs are developed in the West (Europe and the United States), and while nowadays they are not simply imposed without modification, they more often than not aim for speedy implementation at the risk of overlooking critical contextual factors. Anthropologists and other social scientists who explore culture as a key variable have been critical of interventions for their oversimplification of the role of culture, but have generally not provided guidelines that can suggest how to make interventions more culturally-informed.

This paper seeks to implement a call for culturally-relevant intervention research and implementation (UNAIDS, 2008) that can assist developers and interventionists to identify existing community norms and resources available to disseminate and sustain intervention activities. We seek to present innovative approaches that can apply cultural insights into intervention research and project implementation. These approaches include how to (1) examine modal beliefs and norms, any patterned variation within the community and the strength of cultural agreement or cohesion within and among community subgroups (2) identify and assess variation in cultural beliefs and norms among different community sectors (including community and religious leaders, community-service sector, and the general population); and (3)

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identify differential needs among sectors of the community and key types of individuals best suited to help formulate and disseminate culturally-relevant intervention messages.

Results of an analysis of community norms, specifically attitudes toward gender equity, are presented from a research and intervention project on HIV/STI prevention in a low-income community in Mumbai, India. Prevention of HIV has been identified as a critical topic requiring culturally-informed and evidence-based intervention approaches (NIMH, 2007), particularly those addressing gender inequities and sexual double standards (Bermudez et al., 2010; Jewkes, 2010).

The role of culture in sustainable behavioral change

Interventions promoting behavioral change need to address relational and community-level factors (e.g., marital, social, economic, political) contributing to behaviors that negatively impact health (Becker, Bazant, & Meyers, 2008; Peterson & DiClemente, 2000). The limited long-term efficacy of behavioral, individual skills-based and informational approaches to prevention and intervention (Gillies, 1998) highlights the need to understand sociocultural contexts and to develop "health-enabling communities" (Tawil, Verster, & O'Reilly, 1995) to support and sustain behavioral change. Addressing community dynamics can lead to better absorption and institutionalization of intervention activities and principles by implementing organizations, increased capacity of community members and organizations to mobilize resources, technical assistance, researcher involvement, and public support for existing or developing programs (Jana, Basu, Rotheram-Borus, & Newman, 2004; Schensul, 2009). Programs that extend beyond the individual to peer, family, and community involvement have proven effective in a number of interventions, contributing to the reduction of cardiovascular risk (Weinehall et al., 2001), reduction in childhood obesity (Beech et al., 2003; Janicke et al., 2008), greater adolescent psychosocial health (Williams, Reinfurt, & Wells, 1996), greater treatment efficacy for co-occurring mental illness and substance abuse disorders (Holder, 2000), and reduction of sexual risk factors among substance-users (Fleming, Tumilty, Murray, & Nunes, 2005).

Addressing contextual factors is particularly important in the context of HIV/STI prevention. Dworkin and Ehrhardt (2007) and others (Exner, Dworkin, Hoffman, & Ehrhardt, 2003; Gupta, 2001) argue that many commonly-used strategies to reduce HIV risk among women (e.g. abstinence, fidelity, condom use) are ineffective because they fail to address how "gendered contexts," including how cultural practices and institutions contribute to sexual double standards and gender-discriminatory practices affecting women's sexual risk and disempowerment. Findings from a variety of cultural settings, including China, India, Peru, Russia and Zimbabwe (Becker et al., 2008; Hawe, Shiell, Riley, & Gold, 2004; NIMH, 2007) suggest that to effectively impact sexual risk reduction, it is necessary to address how gender power dynamics are supported by cultural beliefs and norms. A number of studies from India (e.g. Bermudez et al., 2010; Go et al., 2003; Jewkes, 2010; Maitra & Schensul, 2002) suggest that community gender norms often sanction domestic violence and contribute to sexual double standards that interfere with women's ability to effectively adopt HIV-preventive behaviors. However, programs designed to reduce HIV risk in this context have so far been challenged by a lack of clear strategies and methodologies for changing behavioral norms and stigma associated with safe sex practices (Bhattacharya, 2004; Jana et al., 2004; Latkin & Knowlton, 2005) Furthermore, few HIV risk-related studies illustrate how to characterize contextual norms without resorting to stereotypes and how to apply information about cultural norms in practice (Grassly, Garnett, Schwartländer, Gregson, & Anderson, 2001).

Translating knowledge about cultural norms

For the purposes of this paper, norms are defined here as any expectations and proscriptions for behavior that are associated with cultural values and beliefs and have motivational influence (D'Andrade & Strauss, 1992). Because norms are likely to vary among individuals and across segments of a population (Pelto & Pelto, 1975), a challenge for interventionists is to identify not only the dominant cultural pattern(s) but also the degree and sources of intra-community variation in order to most effectively target or seek support for messages and activities. Identifying key individuals and segments of the population whose views are congruent with planned intervention messages in addition to those whose views are dissimilar helps interventionists to better understand the composition of the community and to engage with these subgroups both as sources of potential support and opposition.

Analyzing variation in a community can entail a wide range of mixed-methods. Ethnographic interviewing to explore community characteristics constitutes an important first step in getting to know a community (Schensul, Schensul, & LeCompte, 1999). Ethnography can also provide a means for describing and tracking change both qualitatively and quantitatively (Schensul, 2009) and for understanding cultural knowledge from an "emic" perspective (LeCompte and Schensul, 1999). Various techniques, including ethnographic mapping (Tripathi, Sharma, Pelto, & Tripathi, 2010), in-depth interviewing and immersion in the daily lives of community members can provide insight into links between individuals, groups and institutions. For the purposes of intervention, ethnography can help to identify social network and media-based links (e.g. television, radio, and/or internet communications) that can be constructive for dissemination of preventive messages (Buraway et al., 2000; Schensul & Tricket, 2009). Participant observation and interviews with key informants can also help to assess potentials for collaboration (Averill, 2003), particularly useful in formative stages of intervention research.

Cultural analysis contributes to one of the fundamental goals of translational research, which is the need for a better understanding of the factors affecting the reception of intervention programs and their continuity within the community (Green & Glasgow, 2006; Mendel, Meredith, Schoenbaum, Sherbourne, & Wells, 2008; Mercer, DeVinney, Fine, Green, & Dougherty, 2007). Successfully translating data about cultural norms into an intervention requires a clear sense of how intra-cultural or community differences may be interpreted and acted upon by interventionists in order to match the needs, capacities, interests, cultural perspectives and values of both implementers and recipients of the program (Castro et al., 2004; Solomon, Card, & Malow, 2006). Cultural analysis forms part of a larger pre-implementation or community "readiness" assessment (e.g. Plested, Jumper-Thurman, Edward, & Oetting, 1998; Miller & Spilker, 2003) in order to predict challenges in the implementation process, anticipate outcomes and strategize scaling up of interventions (Fuller et al., 2007; Panzano & Roth, 2006).

Methods

The data on which this paper is based are drawn from an Indo-US, NIMH funded project (2007–2012) involving collaboration of the University of Connecticut School of Medicine, the Institute for Community Research, Tulane University, the Asia Regional Office of the International Center for Research on Women, the Tata Institute for Social Sciences, the Population Council and the National

Institute for Medical Statistics of the Indian Council for Medical Research (ICMR). Permissions to conduct this study were obtained from the Institutional Review Boards (IRBs) at all of the above institutions. The project is a part of RISHTA (Research and Intervention in Sexual Health: Theory to Action and meaning "relationship" in Hindi and Urdu) and focuses on the reduction of HIV/STI transmission risk and gender-based inequities among married women in a low-income community in Mumbai, India. The project involves a multi-level intervention (community, health care system, marital dyads and individual women) that includes a randomized controlled trial (RCT) at an urban health center in the study community. Participants in the RCT are randomly assigned to receive individual counseling, group couples' (wives and husbands) counseling, both interventions and a control group receiving standard care Individual and couples receive counseling on topics related to risky sexual behaviors, sexual relationships and intimacy, and problem-solving skills to improve negotiation, communication and trust. These sessions introduce alternative culturally-rooted views and risk-reduction narratives through negotiation and dialog. The individual and couples' interventions are facilitated by the development of a Women's Health Clinic (WHC) within the urban primary care center, which provides services exclusively for women with gynecological problems.

The RCT and the WHC are situated within a larger community-level intervention to help reduce sexual risk through the dissemination of educational messages and activities aimed at increasing marital communication, raising the priority of women's health, reducing intimate partner violence, creating positive changes in gender norms and decreasing sexual risk behavior. The analyses that are described are specifically designed to help strategize and monitor the community-level intervention. This wider community-level intervention is conducted in collaboration with the service sector and the religious sector. The goal of the community-level intervention is to develop and disseminate intervention messages concerning gender equity and sexual risk reduction that help to create a supportive context for the improvement of women's social and health status.

The study community

The study community consists of approximately 500,000 people living in dwellings varying in type, with the majority being *pucca* (permanent structures constructed of concrete, including floor, walls, and roofs) or semi-*pucca* (partly concrete, but supplemented with "found materials" such as corrugated metal sheets or wood, sometimes with a dirt floor). Almost 90% of the dwellings consist of one room with a small portion of the space for cooking and bathing. The poorest residents in the community live in houses of entirely found materials (*katccha*) close to dumps and bogs. About two-thirds of the people are migrants to Mumbai, particularly from impoverished northern Indian states. Most men are daily wage workers, small shopkeepers, vegetable/fruit vendors, tailors, hawkers, auto rickshaw (3-wheel taxi) drivers, truck drivers and low-level civil servants. Average income has remained stable over the past five years at about Rs. 3500 (US$80) per month. An increasing number of women (28% as opposed to a previous survey in 2006 of 4%) are involved in generating cash income from work at home and/or outside the home. They receive minimal wages for tasks such as embroidering, sewing, cooking or selling vegetables and fruit. The population is primarily Muslim (80%), Hindu (16%) and a small percentage of Christians and Buddhists. The Islamic religious institutions include over 40 mosques (*masjid*) with large congregations ranging up to 2500. A number of mosques have *madrassas* where students are taught the Koran as well as secular subjects, and some have schools for *Imams* and *Aalimas* (male and female religious scholars, respectively), who provide religious instruction to members of the community. Within the community-service sectors, five NGOs work to address issues related to health care, awareness and prevention of HIV/AIDS/STIs, family counseling, primary health care, prevention of tuberculosis, women's empowerment, and adolescent sexual health. In addition, a number of community health volunteers (CHVs) and female *anganwadi* workers help women in the community by providing advice and services related to reproductive health issues and day care services (*balwadis*).

Constructing a culturally-grounded measure of gender norms

We conducted research on community norms in the domain of gender equity because of its centrality to sexual risk within marriage and its relevancy to the project interventions. An iterative process was utilized for measurement in which a quantitative instrument was gradually derived from information learned through successive analyses of qualitative ethnographic data. In the first step, in-depth interviews were conducted with married women 18–40 ($n = 40$), married men, 21–40; ($n = 32$), marital couples ($n = 21$ dyads), key informants (17), community-based organization (CBO) members ($n = 18$), Imams ($n = 16$), and health service providers ($n = 31$). All qualitative interviews were one-on-one, open-ended interviews and centered on women's health issues, life situations, and marital/family dynamics affecting sexual and reproductive health and empowerment. These questions were designed to elicit open-ended personal narratives that could provide a composite picture about women's roles and expectations in relation to husband and family, and to discover more general community expectations about gender through a comparison of narratives across numerous respondents. Women were interviewed in their homes by female interviewers when husband and children were not present over three to four visits lasting about 1–1.5 h for each visit. When privacy could not be maintained, a subsequent visit was scheduled. Interviews with men were conducted by male interviewers in either private or public settings (with privacy) in the community in one or two visits lasting from 1 to 1.5 h each, with the more focused aim of identifying knowledge of and involvement in women's health issues. Interviews with healthcare providers took place within their own private or public clinics in the community, over one visit lasting about 1–1.5 h in between or over the course of meeting patients. These interviews were designed to elicit providers' diagnostic and treatment practices, as well as their explanatory models of common illnesses faced by women in the community. Interviews with husbands and providers were also intended to triangulate information about gender norms and expectations within the community. Interviewees were debriefed about the purpose of the research and written informed consent was obtained.

In the second step, transcripts from in-depth interviews were analyzed inductively, using a grounded approach involving the progressive abstraction of themes from raw data (Strauss & Corbin, 1990). Interview notes were transcribed by interviewers into English from notes written in Hindi. These translated notes were then entered into the Atlas.ti qualitative data analysis software program (Muhr, 2004). The data were coded independently and cross-checked by the authors and other collaborators. The goal of this analysis, from the perspective of instrument development, was to identify expectations related to gender embedded in women's personal narratives and life histories. For example, women's accounts of having an argument with her husband over making a trip to the clinic without seeking permission generated the statement: "A woman should seek permission from her husband before seeking treatment for a health problem."

A list of 150 proscriptive statements about gender norms was generated from all interviews, structured around the phrase: "A woman or man should (or should not)…" Statements covered issues related to marital communication, women's and men's roles and expectations regarding sex, health and health-access issues related to beliefs about sex, gender expectations governing women's mobility and decision-making about personal and family concerns, gender issues in food acquisition and distribution, expectations about women's work within and outside the home, and beliefs about and experiences of spousal violence. The list of statements was reduced by eliminating redundant statements, resulting in 81 proscriptive items that were pilot tested with 101 respondents in the community who reported their agreement with each statement on a four-point Likert scale. The data were analyzed using SPSS v. 18.0 (SPSS, Inc, 2010).

Results from the pilot survey were used to further reduce the questionnaire by eliminating items with little variation across respondents, items with a significant positive skew (thereby leaving no room for positive change), items contributing to lower scale reliability using Cronbach's alpha analysis, and also those items that interviewers in the field reported were confusing to respondents. The resulting 29-items of the Gender Equity Scale (GES) are listed in Appendix 1. All in-depth interviews and the Gender Equity survey were conducted in Hindi by RISHTA field staff.

The instrument was then administered to a stratified random sample of men and women ($n = 946$, aged 21–60), with 795 from the study community and 151 from a nearby control community. This sample was gathered by selecting every fifth household within geographical sub-areas of the community, taking into account population density and greater or lesser coverage by CBO/NGOs and mosques. In addition, individuals from the community-service and religious sectors were selected because of their potential to contribute to intra-cultural variation. From the service sector, we included members of CBOs/NGOs in the study communities ($n = 35$), community health volunteers (CHVs; $n = 24$), *Anganwadi* workers ($n = 42$); and from the religious sector, *Imams* ($n = 48$) and *Aalimas* ($n = 19$).

Cultural consensus and intra-cultural variation analysis

A consensus analysis (Romney, Weller, & Batchelder, 1986) of the Gender Equity Scale data was conducted to assess the extent to which respondents have similar views regarding gender norms, roles and responsibilities. In this analysis, individuals in the community (between and across subgroups) are correlated with other individuals based on their responses to the GES items, resulting in a respondent-by-respondent correlation matrix. Cultural consensus analysis (CCA) not only identifies variation within a community but also has the unique feature of gauging and comparing cohesion within and among segments of a community with regard to beliefs and norms. CCA performs an ordinary least-squares (OLS) factor analysis of the matrix to look for patterns of agreement, or shared knowledge, among the respondent sample. Rather than examining correlations between and among question items (as do traditional Item Response Theory models), CCA examines correlations between and among *individuals*. The resulting underlying "construct" is assumed to be the most prominent cultural model upon which a majority of individuals in the sample agree. To ensure a more conservative analysis of the data, we adapted CCA to perform a varimax (rather than OLS) rotated factor analysis. The resulting eigenvalues show whether one or more cultural model(s) exist between and/or across subgroups, with the strength of agreement measured in the ratio between eigenvalues assigned to each factor. Though levels of "agreement" (cultural consensus) are best represented along a continuum, significant cultural sharing is traditionally represented by a first-to-second eigenvalue ratio of at least 3:1, and all positive, high factor loadings on the first factor. Two or more cultural models may be present if the second-to-third or third-to-fourth eigenvalue ratios are at least 3:1. Agreement was assessed and respondents were ordered both within and between groups on the basis of Gender Equity Scale scores, representing community members holding beliefs along a continuum from "equitable" to "inequitable" with regard to gender norms. Within-group individual variation was examined using mean scores and distribution.

Results

The distribution of Gender Equity scores across all respondent groups (Fig. 1) reflects a skew (.88) toward less equitable views about gender, with a mean score of 2.01 ($n = 1114$; sd = .49) on a 4-point Likert scale (higher scores indicate more equitable views). For example, in response to the five statements concerning mobility, an average of 58% of the respondent sample agree that women's mobility should be restricted (primarily by husband) in comparison to men's mobility. With regard to women's work (measured by 5 statements), an average of 77% of respondents agree that women should be discouraged from pursuing work outside the home and that managing the household and preserving family honor are centrally defining features of womanhood. In response to four statements regarding women's health and treatment-seeking, almost three-fourths (71%) of respondents endorse the view that women's health is secondary to her husband's and children's, and that women are not free to discuss or seek treatment for their health problems without their husband's permission. With regard to women's communication with men (two statements), over half (55%) of all respondents report that women's communication with men should be restricted to her husband, and that topics of conversation should be limited to household and childcare issues. In response to six statements related to women's submission to men (particularly husband), 69% of respondents support the view that women should be obedient and subservient to men, that a woman's husband should be her primary source of pride, and that a woman's needs are secondary to those of her husband and family. An average of 65% of respondents hold the view that women should be ready whenever their husbands desire sex and that women should engage in sex primarily for men's satisfaction. Finally, responses to four statements related to spousal violence indicate that almost three-fourths (70%) of respondents believe that men have a right to beat their wives in response to perceived

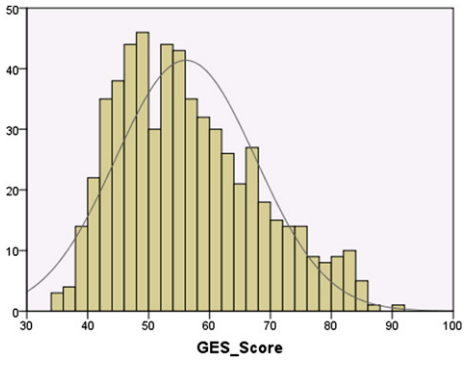

Fig. 1. Distribution of gender equity scores.

transgressions and that women should not respond to violence by reporting it to others or by fighting back.

Cultural consensus and intra-cultural variation analysis

The results of the Consensus Analysis reveal significant intra-cultural variation within the community. The ratio of the first-to-second factor eigenvalues was found to be 2.8:1 and does not meet the 3:1 ratio criteria suggested by Romney et al. (1986) for a single, highly-shared cultural model among community members. This finding demonstrates a substantial amount of intra-cultural variation. Consensus was greater within groups than between groups split by gender, with ratio of first-to-second eigenvalues of 4.1:1 for men and 4.3:1 for women indicating a substantial difference between men and women with regard to views about gender norms. An independent samples *t*-test confirmed that men have significant less equitable views about gender than women ($t = -4.32$, df $= 595$, $p < .001$).

While a single cultural model of gender norms did not emerge among the total sample, a further analysis allowed us to explore which individuals are representative of the most commonly held views in the community. Individual respondents were also ordered on the basis of their "cultural representativeness," using their factor loadings on the first factor derived from a factor analysis across community subgroups. Drawing from basic principles of factor analysis, factor 1 represents the cultural construct or model that accounts for the greatest degree of variance in the total respondent sample. Thus, individuals with the highest loadings on factor 1 are most representative of those beliefs about gender expectations within the community that are the most prevalent (relatively great gender inequity). Likewise, individuals with the lowest factor loadings can be said to be in the minority with regard to their beliefs in the measured domain. Factor 1 loadings are referred to here as "cultural representativeness" scores, ranging from −1 to 1, with scores representing the degree of each respondent's correlation with the most prevalent cultural belief model (represented by the first factor accounting for the greatest variance). In this case, the most culturally representative model represents more inequitable views about gender.

Using linear regression, the most significant predictor of cultural representativeness (see Table 1) was found to be individuals with Lower Education, followed by being male and being of Muslim faith. Other demographic factors, such as age, income and marital status were not significant predictors of cultural representativeness. This analysis of cultural representativeness led us to further explore sources of variation in the community with regard to gender equity. A separate multiple linear regression analysis showed that the same demographic variables that predict cultural representativeness were also found to be significant predictors of gender equity, as measured by the GES (see Table 1). While cultural representativeness can be best conceptualized as a measure of how much an individual correlates with the cultural "average," gender equity is instead a more direct measure of where an individual's views toward gender and women's empowerment fall on a continuum from more to less equitable. The distinguishing feature between the two dependent variables is that the former is a measure of similarity to other cultural members while the latter is an attitudinal measure regarding gender norms.

Individuals holding less equitable views about gender were found to be nearly four times more likely to be less educated, two and a half times more likely to be men, and almost two times more likely to be Muslim. These combined regression analyses suggest that the more culturally representative members of the community are also those who hold more patriarchical views about gender norms.

Table 1
Predictors of cultural representativeness and gender conservatism.[a]

Predictors	Beta[b] (with *t* in parentheses)		Sig.
	Gender conservatism	Cultural representativeness	
Less Education	.379 (9.822)	.302 (7.559)	<.001
Male Gender	.214 (5.816)	.162 (4.245)	<.001
Muslim Religion	.186 (4.857)	.218 (5.515)	<.001
(Constant for unstandardized coeff.)	1.058 (13.748)	.696 (11.097)	

[a] For Model Predicting Cultural Representativeness: $R = .44$; Adj. $R^2 = .19$; S.E. = .34, $p < .001$; For Model Predicting Gender Conservativism: $R = .52$; Adj. $R^2 = .26$; S.E. = .42, $p < .001$.

[b] Standardized Regressions Coefficients (Beta) are presented.

Analysis of variation in gender equity scores among community sectors

Intra-cultural variation in Gender Equity was also explored among community residents, including those in the community-service (community-based organizations and health volunteers, *anganwadi* workers) and in the religious sectors (*Imams* and *Aalimas*), because of the key role of these sectors in health and change programs and as partners with RISHTA in disseminating intervention messages at the community level. An analysis of variance (ANOVA) in average GES scores revealed significant similarities and differences across community subgroups (see Table 2). A Student-Newman-Keuls analysis was performed in order to explore whether any of the identified subgroups in particular account for significant differences among groups discovered by the ANOVA. A general distinction among subgroups was found on the basis of equitable versus inequitable views about gender, with community staff of NGOs community-based organizations, community health volunteers (CHVs), and *anganwadi* workers (involved in conducting day care or *balwadis*) forming a set of subgroups with more equitable views about gender, and *Imams*, *Aalimas*, general community members forming another set of subgroups with less equitable views about gender. These results indicate that the majority of members from the general community, hold views similar to leaders in the religious sector; and members of the community-service sector form another distinct subset with more equitable views.

This analysis revealed higher levels of cultural consensus within the special subgroups than across the total sample (see Fig. 2). Members of the religious sector (i.e. *Imams* and *Aalimas*) demonstrated the highest levels of within-group agreement (ratio of 1:2 eigenvalues = 6.6 and 6.8, respectively), reaching twice the criteria for a shared belief model that accounts for over half of the variance. Lower levels of within-group agreement were found among members of the general community (1:2 ratio = 3.3) and among women participants in the intervention (1:2 ratio = 3.4). The lowest levels of agreement were found among members of the community-service sector, including CBO/NGOs (1:2 ratio = 4.1), *anganwadi* workers (1:2 ratio = 3.4), and Community Health Volunteers (1:2 ratio = 3.3). Greater average loadings on the first factor and smaller standard deviations provide convergent evidence for these levels of agreement found within and across groups. Overall, levels of cultural consensus are higher within subgroups than across the total community sample.

Identification of key community members

A further analysis of individual variation was conducted in order to better involve specific individuals within the community with

Table 2
Group similarities and differences in gender equity scores. Student-Newman-Keuls[a,b]

Subgroup	N	Subset for alpha = 0.05			Std. Deviation	Skewness	95% Confidence Interval for Mean	
		MEANS					Lower Bound	Upper Bound
		1	2	3				
Community Sample	601	1.8770			.486	.642	1.8380	1.9160
Imams	48	1.9472			.284	.510	1.8645	2.0298
Women Participants in Intervention	345	1.9549			.505	.284	1.9014	2.0084
Aalimas	19	1.9964			.253	.072	1.8743	2.1185
Community-based Organiz. Members	35		3.0325		.284	−.680	1.8645	2.0298
Anganwadi Workers	42			3.2545	.339	−.475	3.1485	3.3604
Community Health Volunteers	24			3.4389	.256	−3.280	3.3304	3.5474
Sig.		.663	1.000	.078				
TOTAL	1114			2.0281	.485	.768	1.9794	2.0503

[a] Uses Harmonic Mean Sample Size = 40.680.
[b] Sum of squares between: 162.143; sum of squares within: 245.882; $F = 121.66$; df = 6; $p < .001$.

the resources and influence to help with dissemination. While a majority of individuals in the community hold beliefs similar to those of the Islamic religious leaders, a substantial number of community members hold alternative and more equitable views about gender. Even subgroups with highly inequitable views on average (e.g. *Imams*) include individuals with more equitable views, contributing to a significant degree of heterogeneity both within and across all community subgroups. For example, although the *Imams* as a group have a high degree of cultural consensus, and represent what we are labeling "inequitable" views regarding gender roles and relations, there is nonetheless a range of variation, and two of these Muslim leaders have scores (2.69; 2.45) more closely resembling some of the more equitable members of the community-service sector. Examination of individual scores within special subgroups allowed us to identify individuals who are more likely to be supportive or less supportive of gender equity messages that RISHTA partners disseminated in the community. We found that Imams with greater GES scores were more likely to attend community meetings and gatherings to discuss women's social and health issues and found more time in their schedules to help disseminate information and handbills to members of their congregations. While all Imams were exposed to community messages, it was helpful to recognize those Imams who could provide leadership for gender equity issues and those with lower scores who required additional discussion by RISHTA interventionists. Our ability to identify these key individuals using both quantitative and qualitative methods contributed directly to intervention goals.

Discussion

This paper describes a methodology to characterize gender norms relevant to the implementation and sustainability of health interventions. Specifically we sought to demonstrate how examining intra-cultural variation and cohesion with regard to gender norms helps to identify the range of variation in the community and in the special sectors, identifying both individuals and groups that can help to facilitate the dissemination of intervention messages. Using a multi-method approach that included the progressive translation of qualitative interviews into a quantitative survey, we were able to assess the range of variation in cultural expectations and beliefs about gender relations across community sectors, and to use this understanding of variation as basis for planning and targeting messages to those sectors demonstrating greater need of intervention.

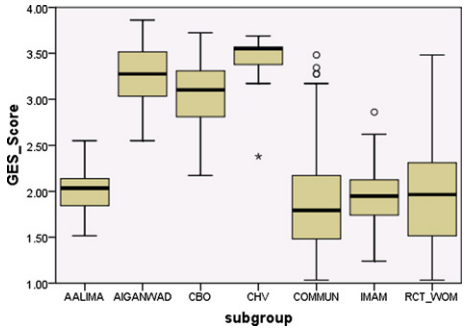

Fig. 2. Distribution of gender equity scores by group.

Applying findings from community norms analysis

We found that the mean (or stereotypical) members of the study community hold generally inequitable views about gender roles and relations. However, we also found significant intra-cultural variation among individuals and sectors with regard to gender expectations. Demographically, one subgroup characterized as being male, Muslim and having relatively lower education is significantly more likely to have less equitable beliefs about gender. Further, the consistency of beliefs within certain sectors of the population introduced an additional degree of complexity, as some subgroups have more or less internal consensus than others. These levels of consensus within sectors, along with their degree of influence and exposure, affect the strength of their respective "voices" within the community. *Imams* and *Aalimas* within the religious sector, in particular, were found to have the highest levels of internal agreement in less equitable norms, and may thus send a strong and more consistent signal to others in the community. Religious leaders are highly influential within this community and likely contribute to greater endorsement of inequitable gender roles. On the other end of the spectrum, we found that individuals working within community-service entities (many of which promote women's well-being) have much more equitable views, but within these groups there is a significant range of variation in their beliefs about gender norms. While the central tendency among those in the community-service sector is to have significantly more equitable views about gender than do members of the religious sector, they have lower overall levels of internal group agreement, and thus the content of their messages and activities within the community are likely to be more variable and less consistent in relation to their stated goals of women's development. Members of the general community were found to exhibit cultural expectations more closely resembling the religious leaders than individuals in the community-service sector,

indicating an overall skew in the community toward less equitable views about gender.

Equipped with a clearer understanding of community variation, we were better able to focus intervention activities and capacity-building by utilizing strengths in the community (in this case, existing sectors of the community with more equitable views about gender) and expanding capacities for dissemination of positive messages related to gender equity, particularly among community-based organizations and among key leaders in the religious community who demonstrated greater endorsement of gender equity. We initially approached community-service workers to assess their interest and capacity to collaborate with the RISHTA program. We then invited them to participate in RISHTA training sessions and meetings designed to develop joint messages surrounding gender equity, and to provide educational workshops focusing on issues of marital communication, health and sexuality, prevention of STIs, sexual risk and violence. An important aspect of these meetings was to identify aims, agendas and preferences of both the community-service and religious sectors for delivering messages to the community through their own habitual interactions with community members. Information from these meetings was used to develop educational messages which were pre-tested and then disseminated through posters, street-performances, and other activities organized in the community, including assisted lectures, speeches and other public and religious events. Handbills describing the aims and available services were provided by the community and religious sectors to members of the general community and to key leaders for further dissemination. Banners containing gender equitable messages and information about services offered at the WHC were also put at the entry of mosques, inside of NGO offices and in day care centers where women drop off and pick up their children. Messages developed jointly by members of the religious sector and RISHTA staff have in turn been integrated into teachings (*takreer*) delivered by *Imams* at religious assemblies, including the largest assembly, the Friday prayer (*Jumma namaz*) and daily during Ramadan, and also among female-only religious gatherings led by *Aalimas*.

These collaborative educational planning meetings with different sectors helped to ensure that our community-level intervention was relevant to common community interests while also creating opportunities to mobilize positive changes in existing norms. Messages disseminated through our collaborations with key community sectors also sought to convey to the general population that the responsibilities associated with societal norm change need to be the result of cooperation and shared effort by husbands and wives and the community at large.

Evaluation of community-level intervention

In addition to being a useful tool for understanding variation in existing perspectives, a measure of community norms also provides an important means for monitoring the overall efficacy of an intervention over time and at multiple levels. RISHTA is now in the process of conducting its first annual follow-up GES administration and will continue the annual follow-up throughout the course of the project. The GES is also being used as one measure of the impact of RCT individual and couples' intervention so that it also becomes a useful tool in monitoring change among individuals and marital couples. In this way, the GES – and any other questionnaire constructed according to the principles of Cultural Consensus Analysis – can provide a mechanism for exploration and assessment of shared beliefs and norms, as well as a structured tool for evaluation pre- and post-intervention. The methodology outlined in this paper can be replicated to tailor assessments of a diverse number of topics in different cultural settings.

The success of intervention projects depends not only on their ability to mobilize change at the individual level but also to affect broader contextual factors. If individual behavioral change is expected to be acceptable and sustainable, prevention/intervention strategies must be responsive to and impact on existing modal cultural norms. This paper provides an example of how HIV-related and other interventions can enhance their cultural relevance and effectiveness by first assessing normative variation and collaborating with key sectors of community influence to generate education to the general community. Our assessment of intra-cultural variation in gender norms in what is stereotypically seen as a male-dominant community suggests that while modal norms may be generally at odds with intervention messages, communities are likely to contain subgroups that support the norms and behaviors advocated by the intervention. Collaboration with these subgroups will be important in implementing intervention strategies that affect not only individuals but larger cultural and community dynamics. A better understanding of the scope of community beliefs, and available infrastructure provides a basis for adapting and translating interventions from short-term provisional solutions into self-sustaining and durable community innovations.

Appendix 1. Gender equity scale

	Norm Statement	+ Less Equitable / − More Equitable
1.	A wife should eat after her husband and children have had their food.	+
2.	A woman should always be ready whenever her husband wants to have sex.	+
3.	A woman should obtain permission to seek medical treatment from her husband for any kind of health problems.	+
4.	A wife should manage the household with whatever money the husband gives.	+
5.	A woman is responsible for her own poor health.	+
6.	A man should have control over his wife.	+
7.	A woman should work only with other women outside of the house.	+
8.	If a wife disobeys her husband, she should be sent to her maternal home (as punishment).	+
9.	A woman can beat/hit her husband whenever her husband beats her.	−
10.	Only a man is responsible for household finances.	+
11.	A woman can get spoiled if she goes out of her home too often.	+
12.	A wife should take permission from the husband when she goes any where out of house.	+
13.	A wife should think about her husband and children's health before her own.	+
14.	Women engage in sex only for men's satisfaction.	+
15.	The status of women is lower than that of men.	+
16.	If a husband is angry he can yell at his wife.	+
17.	A wife should feel free to criticize husband's bad behavior.	−
18.	A woman should talk about her health problems only with other women.	+
19.	A woman should always cover their head/wear burkha/dupatta before stepping out of the house.	+
20.	A husband should only talk about household work and childcare issues with his wife.	+
21.	If a husband beats his wife, she should not share it with anyone.	+
22.	Only the wife is responsible for all household work.	+
23.	A man can spend any amount of time with his friends, as he wishes.	+
24.	A woman should finish all the household work before taking rest.	+
25.	A husband is a woman's primary sense of self pride.	+
26.	A woman is responsible for the reputation, honor and respect of the family.	+
27.	A woman can participate in community activity as per her wish.	−
28.	A woman can talk to men other than her husband	−
29.	A wife can be beaten up if she does not listen to (obey) her husband.	+

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