

Measuring Attitudes toward Gender Norms among Young Men in Brazil

Development and Psychometric Evaluation of the GEM Scale

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This article describes the development and psychometric evaluation of a twenty-four-item scale to measure attitudes toward gender norms among young men: the Gender-Equitable Men (GEM) Scale. Scale items on gender norms related to sexual and reproductive health, sexual relations, violence, domestic work, and homophobia are designed. Items are based on previous qualitative work in the community and a literature review and administered to a household sample of 742 men, including 223 young men ages fifteen to twenty-four, in Rio de Janeiro, Brazil. The current analysis focuses on the young men, as they were the main audience for a planned intervention to promote gender equitable and HIV risk reduction behaviors. Factor analyses support two subscales, and the scale is internally consistent ($\alpha = .81$). As hypothesized, more support for equitable norms (i.e., higher GEM Scale scores) is significantly associated with less self-reported partner violence, more contraceptive use, and a higher education level.

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A discussion of gender norms—defined here as social expectations for appropriate behaviors of men as compared to women—has been at the forefront in recent years of international efforts to achieve gender equity, including, for example, the 1994

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International Conference on Population and Development. It is increasingly accepted that support for inequitable gender norms negatively influences sexual and reproductive health-related behaviors and disease prevention as well as men's use of violence against women (e.g., Amaro 1995; Campbell 1995; Cohen and Burger 2000; Worth 1989). Of note, reviews and studies with men across the globe have offered tremendous insights into how inequitable gender norms influence the way men interact with their female partners on a wide range of issues, including HIV/sexually transmitted infection (STI) prevention, contraceptive use, physical violence, domestic chores, and parenting (Barker 2000b; Kaufman 1993; Kimmel 2000; Marsiglio 1988; Rivers and Aggleton 1998). In sum, increasing evidence suggests that men's collective and individual attitudes about gender norms as well as the social reproduction of these norms in institutions and cultural practices are directly related to many of men's behaviors, with health implications for themselves and their partners.

Many programs have described gender equity as a program goal but have rarely assessed how the program interventions contributed to achieving gender equity and gender-equitable attitudes or behaviors among men (White, Greene, and Murphy 2005). Recently, a number of pilot programs that specifically promote gender-equitable norms and related behaviors have begun to be implemented in different cultural settings (see White et al. 2005 for review of programs). It is important to measure the impact of these programs on gender-related attitudes as well as on related risk and prevention behaviors. This article describes the development and psychometric evaluation of a scale, particularly intended for program evaluation use, to measure attitudes toward gender norms among young men in Brazil: the Gender-Equitable Men (GEM) Scale.

Scale development in the field, especially related to a construct called "masculine ideologies," is not new. Since the 1970s, various researchers have sought to measure masculine ideologies, defined as "beliefs about the importance of men adhering to culturally defined standards for male behavior" (Pleck, Sonenstein, and Ku 1993, 11). A number of scales have been developed and affirmed to be valid and reliable (see Thompson and Pleck 1995 for a review of these scales). These scales on the whole assess the extent to which individuals agree with a specific belief system about masculinity. Similarly, other researchers have developed scales to measure sex role egalitarianism, which measure the propensity to hold views about others independent of whether they are male or female (King, King, Carter, Surface, and Stepanski 1994). This scale addresses a number of domains, including educational roles, employment roles, parental roles, marital roles, and social roles.

Although this previous scale development informed the development of the GEM Scale, the existing scales did not entirely meet the demands for a meaningful evaluation of interventions to engage young men in questioning gender norms related to sexual and reproductive health and intimate relationships, and developing a new measure was deemed important. First, few of these scales have been tested and grounded in developing country realities and were developed with and for

U.S.-based audiences. Second, few, if any, of these scales were developed and used with the explicit purpose of program evaluation—that is, a measure that examines potential changes in attitudes toward gender norms as a result of a programmatic intervention. Third, the GEM Scale authors were especially interested in certain domains within the construct of gender norms—those related to intimate relationships, sexual and reproductive health, and disease and violence prevention, which addressed the main goals of the interventions in question. Although the sex role egalitarian scale includes a number of important domains, such as marriage, education, and work, it does not focus on some of the key domains in question for the authors, particularly those related to sexual relationships, reproductive health, disease prevention, and violence. Finally, although there is some overlap between the constructs, the authors would argue that there is a distinction between the concepts of masculine ideology and support for equitable gender norms in intimate relationships (the focus of the proposed scale). Masculine ideology scales for the most part measure how men define themselves as men. Although some of the issues addressed are relational, in that they involve comparisons between how men should be or are, as compared to women, these scales mainly do not assess how men view relationships with women and the degree of equality or inequality in those relationships.

The GEM Scale described in this article is intended to have a few key characteristics. It is intended to (a) be multifaceted and measure multiple domains within the construct of gender norms, with a focus on support for equitable or inequitable gender norms; (b) address program goals related to sexual and intimate relationships and sexual and reproductive health and disease prevention; (c) be broadly applicable yet culturally sensitive, so indicators can be applied in and compared across varied settings and be sufficiently relevant for specific cultural contexts; and (d) be easily administered, so that a number of actors—including the organizations that are implementing interventions—can take on this type of evaluation.

Conceptual Framework

The GEM Scale emerges out of a social constructionist perspective of gender identity (e.g., Connell 1987, 1995; Kimmel 2000). According to this overarching conceptual framework, any given cultural setting provides a version, or multiple versions, of appropriate behaviors for men and women. These gender norms, which are passed on to boys and young men by their families, peer groups, and social institutions among others, are interpreted and internalized by individual men. Individuals also “reconstruct” these norms, by in essence putting their own “subjective spin” on the gender norms around them (Barker 2001), and as members of society, these individuals also influence the broader norms. This conceptual framework highlights that certain models of manhood or masculinity are promoted in specific cultural settings but that individual men will vary according to how much they adhere to these norms

and that norms can evolve or change over time as individuals and groups reconstruct them. Furthermore, this conceptual framework also recognizes gender as based in power relations and as relational or created and reinforced through ongoing interactions between men and women.

Literature Summary

A literature review was conducted to explore existing evidence related to associations between gender norms and key issues to be included in the planned program, such as HIV/STIs, sexual behavior and relationships, domestic life and child care, and partner violence. As more exhaustive reviews have been described elsewhere in the literature (e.g., Rivers and Aggleton 1998 on gender and HIV), only a few of the most salient points for this discussion are highlighted here. Various publications describe how attitudes and behaviors stemming from inequitable gender norms play an important role in sexual relationships and sexual and reproductive health and risk, such as risk of HIV/STIs and violence. As one example of a specific norm or expectation, young men can view sexual initiation and having regular sexual relations as a way to affirm their identity as men (Marsiglio 1988), and therefore early sexual initiation and maintaining multiple sexual partnerships are potential risk behaviors that are normatively encouraged. As another example, women often feel that they “cannot” buy or carry condoms, as if they were to do so, this would suggest that they intended to have sex and they could be labeled, very negatively, as “promiscuous” women (Childhope 1997). Turning to risk of violence, more than thirty studies from different cultural contexts have shown that between one-fifth and one-half of women interviewed have been subject to physical violence by a male partner (Heise 1994). The causes and factors associated with men’s use of physical and sexual violence against women are complex but among them, various authors posit, are aspects of the social construction of masculinity (e.g., Kaufman 1993). The literature also describes how boys are socialized into an environment with norms about household roles and childrearing. For example, studies across the globe find that fathers tend to contribute about one-third to one-fourth of the time that mothers do in direct child care (Population Council 2001). In sum, existing literature supports the notion that boys and young men are socialized around a constellation of gender norms related to sexual and reproductive health and risk, sexuality, fatherhood, use or acceptability of violence against women, and participation in domestic chores.

Formative Research: Operationalizing Gender-Equitable Norms

The development of the GEM Scale is grounded in formative, qualitative research carried out by one of the authors with young men in low income settings in Rio de

Janeiro (Barker 2000a, 2001) and with colleagues in a second study with both younger and older men (Instituto Promundo and Instituto Noos 2003). These studies explored (a) the norms that men perceived about male-female relationships and interactions (almost all of the men self-identified as heterosexual); (b) phrases and expressions they used to describe those norms, and in some cases used to justify or describe their own behavior; and (c) the dimensions or domains of male-female interactions in this setting.

Research methods for the 1999-2000 study included observation and life history interviews with twenty-five young men ages fifteen to twenty-one for one year, interviews with family members of some of the young men, focus group discussions, and key informant interviews. Based on results from this qualitative research with the study population (and the literature review), the term *gender-equitable* young man has been operationalized here as a man who:

- Seeks relationships with women based on equality, respect, and intimacy rather than sexual conquest. This includes believing that men and women have equal rights and that women have as much “right” to sexual agency as do men.
- Seeks to be involved in household chores and child care, meaning that they support taking both financial and care-giving responsibility for their children and household.
- Assumes some responsibility for sexually transmitted infection prevention and reproductive health in their relationships. This includes taking the initiative to discuss reproductive health concerns with their partner, using condoms, or assisting their partner in acquiring or using a contraceptive method.
- Is opposed to violence against women under all circumstances, even those that are commonly used to justify violence (e.g., sexual infidelity).
- Is opposed to homophobia and violence against homosexuals. (Although not directly related to male-female interactions, in the formative research, men often included “nonhomosexual” in their definition of what it was to be a “real” man, and homophobic comments were reportedly frequently used as a way to pressure or ridicule any man seen as being too “soft” on women (e.g., nonviolent). Thus, this domain was considered part of the locally defined notion of gender-equitable.)

Method

Scale Item Development

The qualitative research and literature review (described earlier) guided the selection of key domains within the construct of gender-equitability as well as the development of specific items for the scale. This was intended to maximize construct validity. To maximize content validity, the authors also drew on methodological research addressing similar issues in other settings and adapted relevant items from previous measures related to “masculinity ideology” (Ku, Sonenstein, and Pleck 1992; Pleck, Sonenstein, and Ku 1993) and “power in sexual relationships” (Pulerwitz,

Gortmaker, and DeJong 2000; Pulerwitz, Amaro, DeJong, Gortmaker, and Rudd 2002). An original pool of thirty-five items was generated, including equitable and inequitable attitudes toward gender norms in five domains: (a) domestic work and caring for children, (b) sexuality and sexual relationships, (c) reproductive health and disease prevention, (d) intimate partner violence, and (e) homosexuality and close relationships with other men. English- and Portuguese-language versions of each item were developed. As recommended by Rosenthal and Rosnow (1991), all items were written in one language by a bilingual person and then tested through back-translation by a second individual. Double negatives were avoided (Doak, Doak, and Root 1995), and items were worded both positively and negatively (DeVellis 1991).

Administration of Scale Items

The complete pool of thirty-five items was applied in a community-based survey, and data from this sample were used to test the usefulness of the items and create the final scale. Answer choices included the following: *agree* (3), *partially agree* (2), *do not agree* (1), and *do not know* (4). The study was carried out in three communities in Rio de Janeiro: (a) a *favela* (slum neighborhood), (b) a mixed low income and lower-middle income area; and (c) a middle income and higher income neighborhood.

The research team—consisting entirely of male interviewers—applied the questionnaire to a total of 742 men aged fifteen to sixty. The age range of fifteen to twenty-four was oversampled to allow additional statistical analysis on young men, as they were the main audience for a planned future intervention to promote gender equity and HIV risk reduction. The questionnaire was administered via a household survey to a random sample of men in each of the three neighborhoods. The households were selected using census tract data, and one man was interviewed per household. When more than one man was present in the household, the interviewee was selected based on age, including which age range was needed to meet the various age quotas. Interviewers applied the questionnaire to men in their homes or, when necessary to ensure privacy, in spaces near their homes. The refusal rate was less than 2 percent.

The survey also included questions addressing a number of variables that were theoretically related to gender norms, including sociodemographic status, relationship history of physical violence, and current safer sex behaviors. Questions were adapted from several sources, including World Health Organization instruments on violence against women (see www.who.int/en), the Demographic and Health Surveys developed by MACRO, Inc. (see www.measuredhs.com), and instruments developed by the Horizons Program/Population Council (see www.popcouncil.org/Horizons/AIDSquest). The questionnaire was pretested during focus groups with eighteen men from the communities, with additional items included or revised based on focus group results.

Data Analysis

Because of particular interest in determining the role of gender norms in the lives of young men and the usefulness of the scale as an evaluation tool for future programs with young men, analysis for the GEM Scale was conducted on the subsample of young men aged fifteen to twenty-four ($N = 223$). Factor analyses were conducted to clarify scale domains. An oblique rotation was used in the factor analysis to permit some correlation among the factors, which, it has been argued, more accurately represents domains that are related to one underlying construct (Nunnally and Bernstein 1994). Originally, a percentage of the 223 respondents ($n = 40$, or 18 percent) were dropped from the factor analysis because answers were missing or the response was “do not know” for one or more of the thirty-five scale items. The great majority of cases that were dropped had missing data or responded “do not know” to only one of the thirty-five possible scale items; no cases were missing more than one-third of the items, a common cutoff point for dropping cases. Therefore, it was deemed appropriate not to drop any of the cases. To capture data from all respondents and compare the factor analysis results, the factor analysis was run again with all 223 young men, by replacing the mean for the items that were missing or had the “do not know” response (i.e., imputing the mean). Both before and after imputing, the distribution of items into factors was quite similar, and this confirmed that the imputed version appropriately represented the responses. Further analyses were conducted with the full sample of 223 young men.

Internal consistency reliability analyses were conducted by calculating Cronbach's alphas. The scale was scored so that a greater number was equivalent to more support for gender-equitable norms. All items that were originally facing in the opposite direction (e.g., “A man should have the final word about decisions in his home”) were switched for the analysis. Responses to the items were summed. Items for two subscales were summed and then the two subscales were combined. Associations between the GEM Scale and each subscale, and other key variables, were tested with logistic regression and chi-square tests. Scores on the scale and its two subscales were either trichotomized into three separate and equal categories—low, medium, and high support for gender-equitable norms—for ease of interpretability or the continuous scale was used to permit the full range of variation. All statistical analyses were conducted with SPSS computer software (SPSS 2002).

Additional Measures

As part of the validation process, in particular to test predictive validity and contribute to construct validation, the associations between the GEM Scale and theoretically relevant variables such as partner violence and condom use were assessed. Intimate partner violence was measured by a combined response to the following

five items: "Have you ever done the following to your current or last partner: (1) punched your partner, (2) slapped your partner, (3) kicked your partner, (4) pushed your partner, or (5) pulled your partner's hair?" Condom use with a primary partner was defined as using a condom during last sex with a main partner. Condom use with a secondary partner was defined as using a condom during last sex with an occasional partner. Contraceptive use was defined as currently using a method to prevent pregnancy. Education level was coded as primary school or less compared with secondary school or higher.

Results

Sample

Participants in the validation study were 223 young men aged fifteen to twenty-four (mean age twenty). Twenty-two percent reported being married or living with a partner, and an additional 47 percent reported that they were dating someone. Approximately half of the young men had completed six or fewer years of formal education (52 percent). A little more than half of the young men (54 percent) were currently engaged in paid work. Fifty-three percent of the young men reported condom use during last sex with their primary partner, whereas 78 percent of the young men reported condom use during last sex with a secondary partner. Thirty-one percent of the young men reported that they had ever been physically violent with their current or most recent primary partner.

Factor Analysis

A factor analysis was conducted with the thirty-five original items to test whether separate domains exist within the construct of gender-equitable norms. It had been postulated that "attitudes toward gender norms" consists of multiple domains. The scree plot indicated that the "elbow" in the curve could be found at three factors, that is, there were three separate factors with substantial explanatory value. A semiconfirmatory factor analysis was then run, restricting the distribution to three factors. As described previously, the factor analysis was run with and without replacing the missing or "do not know" items with the mean score for the variable (i.e., imputing the mean scores), and the results of both analyses were quite similar (see Table 1 for factor loadings).

Items with a factor loading of less than .35, or negative loadings, are typically dropped from further analysis. As almost all of the items in the third factor had factor loadings less than .35, the entire factor was dropped from further analysis. A few of the items in the other two factors received factor loadings of less than .35 ($n = 3$) or negative loadings ($n = 3$) and were also dropped from further analysis. A final factor analysis was conducted with the twenty-four items retained. The factor structure

Table 1
Preliminary Factor Loadings (x 100) for Gender Norm Items (N = 223)^a

Items ^b	Factor 1	Factor 2	Factor 3
2	62.0*	-16.0	-3.0
1	61.0*	0.5	-3.0
4	58.0*	-6.0	8.0
5	57.0*	0.3	-2.0
3	55.0*	-5.0	-3.0
8	54.0*	-6.0	18.0
10	52.0*	-17.0	3.0
7	51.0*	-11.0	-47.0
9	50.0*	-10.0	-7.0
6	49.0*	-9.0	-23.0
11	49.0*	-23.0	4.0
12	48.0*	3.0	-9.0
13	46.0*	-2.0	-43.0
15	45.0*	0.2	7.0
14	44.0*	-18.0	-23.0
16	38.0*	0.9	-9.0
17	38.0*	-8.0	14.0
25	34.0	-15.0	1.0
26	22.0	-3.0	21.0
27	-21.0	5.0	18.0
18	-18.0	79.0*	2.0
20	-13.0	73.0*	6.0
19	-5.0	70.0*	6.0
28	27.0	-69.0*	-2.0
22	-11.0	61.0*	-8.0
21	-2.0	60.0*	3.0
29	29.0	-60.0*	-10.0
30	25.0	-53.0*	11.0
23	-12.0	41.0*	-14.0
24	4.0	36.0*	-0.8
31	20.0	34.0	10.0
32	7.0	32.0	-6.0
33	24.0	-29.0	-3.0
34	4.0	21.0	-35.0*
35	5.0	3.0	26.0

Note: Answer choices for items on a 3-point Likert-type scale and include *agree*, *partially agree*, and *do not agree*. Items with a loading greater than .35 are starred. Factor loadings are presented for analysis after imputation for missing values.

a. See the appendix for full list of items.

b. All items are listed in order of factor loadings.

Table 2
Final Factor Loadings (x 100) for Items Contained
in the Gender-Equitable Men Scale (N = 223)^a

Items ^b	Inequitable Gender Norms Factor 1	Equitable Gender Norms Factor 2
1	63.0*	-0.1
2	60.0*	-15.0
3	57.0*	-6.0
4	57.0*	-6.0
5	56.0*	2.0
6	52.0*	-8.0
7	52.0*	-11.0
8	52.0*	-6.0
9	50.0*	-10.0
10	50.0*	-16.0
11	48.0*	-21.0
12	47.0*	0.4
13	47.0*	-2.0
14	46.0*	-18.0
15	44.0*	-1.0
16	39.0*	0.4
17	34.0*	-7.0
18	-19.0	79.0*
19	-6.0	74.0*
20	-15.0	73.0*
21	-4.0	63.0*
22	-12.0	60.0*
23	-11.0	40.0*
24	3.0	37.0*

Note: Answer choices for items on a 3-point Likert-type scale and include *agree*, *partially agree*, and *do not agree*. Items with a loading greater than .34 are starred. Factor loadings are presented for analysis after imputation for missing values.

a. See the appendix for full list of items. Items 25 to 35 were dropped for this analysis.

b. All items are listed in order of their final factor loadings.

remained the same, and the twenty-four items therefore remained for the final scale (see Table 2 for factor loadings).

The two final factors each contained items addressing the range of domains that were originally postulated, such as gender norms related to sexual relationships, violence, and homosexuality. One of the two factors addressed items that were originally hypothesized to reflect inequitable norms (e.g., "Men are always ready to have sex"; "A woman's most important role is to take care of her home and cook for her family"; "There are times when a woman deserves to be beaten"). The second factor included items that reflected equitable norms (e.g., "A man and a woman should decide together what type of contraceptive to use"; "It is important that a father is

present in the lives of his children, even if he is no longer with the mother”). The two factors were labeled as “Inequitable Gender Norms” (Factor 1) and “Equitable Gender Norms” (Factor 2). The items explained more than 35 percent of the variation in responses: 22 percent with the Inequitable and 13 percent with the Equitable Gender Norm Factors, respectively.

The twenty-four-item GEM Scale combines the two factors, termed subscales from this point forward, into one overall scale. The Inequitable Gender Norms subscale consists of seventeen items, and the Equitable Gender Norms subscale has seven.

Internal Consistency Reliability

Internal consistency reliability of the two factors was ascertained using Cronbach’s alpha. The two factors, Inequitable Gender Norms and Equitable Gender Norms, achieved alphas of .85 and .77, respectively. Given the two factors easily surpassed the minimum standard of reliability (Cronbach’s alpha = .60), both were deemed reliable (Nunnally and Bernstein 1994). The internal consistency reliability of the overall scale is .81.

Associations between GEM Scale Scores and Related Variables

Construct validity for the measure was further assessed by testing the association between the GEM Scale scores—trichotomized into low, medium, and high support for equitable gender norms—and a set of variables hypothesized to be related to gender norms (Cronbach and Meehl 1955). These included (a) a history of physical violence with an intimate partner; (b) reproductive health and safer sex behaviors, particularly condom use and use of contraception in general; and (c) education level achieved.

As predicted, these variables were associated with attitudes toward gender norms. A relationship history of physical violence ($p < .001$) was inversely associated with the GEM Scale score. Young men who least supported gender-equitable norms were most likely to report violence, followed by young men with a moderate level of support, and then by young men with high levels of support. The GEM Scale score was positively related to education level ($p < .001$), with young men achieving higher levels of education reporting more support for equitable norms. Trends in the expected directions were found in the relationship with reproductive and sexual health behaviors, where young men expressing the least support for gender-equitable norms reported the least condom use with secondary partners ($p = .13$), and young men reporting lower levels of support for gender-equitable norms reported less use of any contraceptive ($p = .05$).

The same associations were tested for each of the two subscales separately. Similar to the full GEM Scale, the Inequitable Gender Norms subscale score was significantly related to partner violence, education level, and use of contraception ($p < .05$), and a nonsignificant trend in the expected direction was found with

condom use ($p = .19$). Nonsignificant trend associations in the expected direction were found between the Equitable Gender Norms subscale score and certain variables, including partner violence ($p = .09$).

Discussion

The GEM Scale was designed based on a multistage process, including a literature and theoretical review, qualitative research with the local population, and quantitative analyses with a representative sample of young men in three neighborhoods in Rio de Janeiro. The scale demonstrates predictive validity and possesses good internal consistency reliability. The twenty-four-item scale comprises two subscales that measure support for inequitable gender norms and equitable gender norms. It focuses on key issues within sexual and intimate relationships, including sexual and reproductive health, disease prevention, and violence, and was designed to be used in an evaluation of program interventions to promote gender equity and reduce HIV/STI and violence risk. The subscales are sufficiently reliable to use independently or in conjunction with one another.

The significant associations found between the GEM Scale scores and health outcomes such as partner violence and contraceptive use support assertions that the scale is measuring a key construct and that inequitable gender norms are important factors in reproductive and sexual health decision making. Findings suggest that attitudes toward gender norms should be explicitly addressed when designing and implementing programs to prevent HIV/STI and violence and promote sexual and reproductive health.

An association between higher levels of education and support for more equitable norms was also found. In the case of educational attainment, it follows that young men who have more formal education and spend more time in the school setting may have more exposure to peers or teachers who espouse more equitable beliefs. It may also be true that the critical thinking skills that likely develop in school are useful for questioning inequitable or more traditional norms.

There was substantial variability in the responses on specific GEM scale items, and the fact that young men from the same social context can report such a range of attitudes provides insight into opportunities to promote change. In the same neighborhoods, in the same households, in the same schools, there are some young men with more gender-equitable and other young men with less gender-equitable attitudes. Further exploration into differences between these young men, and into incorporating key factors with potential for change into programmatic strategies, is part of the authors' ongoing work. In addition, variation in responses has a methodological implication and indicates that the items are successful in capturing differences and that the young men do not all merely repeat agreement with commonly heard and socially accepted statements.

At the same time, this research also highlights the similarities in young men's definitions of what it means to be a man. The formative research and literature review indicated that there were certain norms that were particularly salient across groups of men (e.g., when violence against an intimate partner is justified; having multiple sexual partners as an important expression of "manhood"). The associations found between the GEM Scale scores and key health outcomes, such as violence, both support the study hypotheses and show a consistency between the qualitative and quantitative findings. Finally, the scale itself is quite internally consistent and reliable.

Certain limitations of this study should be highlighted, however. This article reports on an initial attempt to develop and validate a scale that both capably measures support for equitable gender norms, particularly those related to intimate relationships between men and women, and can capture potential change because of an intervention. It remains unclear how well the scale will work in the long term. Additional research to evaluate the validity and reliability of the scale with different populations and in varied contexts would contribute useful information. Including strategies such as a test-retest component to measure reliability would also be useful. Second, even though the current scale responds well in a number of ways, it does not "explain" a substantial amount of the variation in responses given by the young men. This indicates that there are additional relevant factors, beyond what is captured by the items in the scale, which would explain the young men's responses more completely. Adding other items to the measure may turn out to be a helpful strategy in the future. Furthermore, the two groups of scale items were distributed by the factor analysis into factors largely addressing similar issues (e.g., contraceptive use), but they were positively and negatively worded—factors that the authors named "inequitable" and "equitable" norms. It is possible that these two groupings were artificially separated because of characteristics of the data, and in fact the scale is unidimensional. There is an ongoing debate in the field of psychometrics about the substantive meaningfulness of separating items into different factors when positively and negatively worded (Marsh 1996).

Although having a quantitative measure is useful for many reasons, the challenging nature of developing a quantitative scale that explains all, or even most, of the variation in gender-related attitudes should be acknowledged. It is particularly difficult to design measures that are appropriate for multiple cultural contexts. To supplement results from this quantitative measure, the authors recommend the use of qualitative methods to "triangulate" findings related to the complex notion of gender norms.

The GEM Scale was developed to be used as part of a subsequent impact evaluation study with Brazilian young men aged fourteen to twenty-five, promote gender-equitable norms and behaviors, measure this change, and test any subsequent impact on HIV/STI risk and partner violence (key results are reported in Pulerwitz, Barker, Segundo, and Nascimento 2006). Program activities were based on a manual and video series developed in Brazil and called Program H—Working with Young Men

to Promote Health and Gender Equity. Many of the activities focus on helping young men perceive the costs or negative consequences to themselves and those around them of supporting and acting on inequitable gender norms, as well as the potential positive impact of acting in more gender-equitable ways. In the evaluation study, one community combined the group educational activities described above with a “lifestyle” social marketing campaign that used billboards, community radio, drama groups, posters, and peer promoters to reinforce support for more equitable gender norms. In addition, the GEM Scale is currently being used to assess the impact of programs in India, Mexico, Kenya, the United States, and elsewhere.

In sum, given the substantive role of behaviors that reflect inequitable gender norms in various negative health outcomes, including HIV/STI and violence, programs to promote support for gender equity are needed, as are impact evaluations of these programs. An important part of this process is ensuring the use of adequate indicators and measures. Using an easily administered, quantitative measure that addresses key gender norms, such as those related to sexual relationships and partner violence, provides a replicable way to determine the relative success of programs that attempt to influence these norms. For decision makers who are looking for evidence that gender norms can be influenced and that doing so makes a difference for men’s and women’s sexual and reproductive health and disease prevention, a quantitative measure such as the GEM Scale helps provide it.

Appendix

Items for the Gender-Equitable Men Scale

Note: Answer choices include *agree*, *partially agree*, and *do not agree*. Items are available in English, Portuguese, Spanish, and Hindi. English is provided below.

Factor 1: Inequitable Gender Norms

It is the man who decides what type of sex to have.

A woman’s most important role is to take care of her home and cook for her family.

Men need sex more than women do.

You don’t talk about sex, you just do it.

Women who carry condoms on them are “easy.”

A man needs other women, even if things with his wife are fine.

There are times when a woman deserves to be beaten.

Changing diapers, giving the kids a bath, and feeding the kids are the mother’s responsibility.

It is a woman’s responsibility to avoid getting pregnant.

A man should have the final word about decisions in his home.

Men are always ready to have sex.

(continued)

Appendix (continued)

A woman should tolerate violence in order to keep her family together.
If a woman cheats on a man, it is okay for him to hit her.
If someone insults me, I will defend my reputation, with force if I have to.
I would be outraged if my wife asked me to use a condom.
It is okay for a man to hit his wife if she won't have sex with him.
I would never have a gay friend.

Factor 2: Equitable Gender Norms

A couple should decide together if they want to have children.
In my opinion, a woman can suggest using condoms just like a man can.
If a guy gets a woman pregnant, the child is the responsibility of both.
A man should know what his partner likes during sex.
It is important that a father is present in the lives of his children, even if he is no longer with the mother.
A man and a woman should decide together what type of contraceptive to use.
It is important to have a male friend that you can talk about your problems with.

Items that were dropped (but may still be relevant in other circumstances)

It disgusts me when I see a man acting like a woman.
Women should be virgins until they get married.
If a man cheats on a woman, it is okay for her to hit him.
A man always deserves the respect of his wife and children.
Above all, a man needs respect.
Real men only have sex with women.
Men can take care of children just as well as women can.
Women have the same right as men to study and to work outside of the house.
I think it is ridiculous for a boy to play with dolls.
If a man sees another man beating a woman, he should stop it.
If she wants, a woman can have more than one sexual partner.

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