

The Association Between Men's Concern About Demonstrating Masculine Characteristics and Their Sexual Risk Behaviors: Findings from the Dominican Republic

Paul J. Fleming^{1,2} · Clare Barrington² · Wizdom Powell² · Ann Gottert³ · Leonel Lerebours⁴ · Yeyey Donastorg⁵ · Maximo O. Brito⁶

Received: 19 June 2015 / Revised: 8 October 2016 / Accepted: 12 October 2016 / Published online: 14 November 2016
© Springer Science+Business Media New York 2016

Abstract Quantitative analyses exploring the relationship between masculinities and men's sexual risk behaviors have most commonly used one dimension of masculinities: men's gender ideology. Examining other dimensions may enhance our understanding of and ability to intervene upon this relationship. In this article, we examined the association between gender role conflict/stress (GRC/S)—men's concern about demonstrating masculine characteristics—and three different sexual risk behaviors (having two or more sex partners in the last 30 days; never/inconsistent condom use with non-steady partners; and drinking alcohol at last sex) among a sample of heterosexual men in the Dominican Republic who were participating in an HIV prevention intervention ($n = 293$). The GRC/S Scale we used was adapted for this specific cultural context and has 17 items ($\alpha = 0.75$). We used logistic regression to assess the relationship between GRC/S and each sexual behavior, controlling for sociodemographic characteristics. In adjusted models, a higher GRC/S score was significantly associated with increased odds of having two or more sex

partners in the past 30 days (AOR 1.33, 95 % CI 1.01–1.74), never/inconsistent condom use with non-steady partners (AOR 1.45, 95 % CI 1.04–2.01), and drinking alcohol at last sex (AOR 1.56, 95 % CI 1.13–2.17). These results highlight the importance of expanding beyond gender ideology to understanding the influence of GRC/S on men's sexual risk behaviors. Interventions should address men's concern about demonstrating masculine characteristics to reduce the social and internalized pressure men feel to engage in sexual risk behaviors.

Keywords Masculinity · Condoms · Alcohol · Gender · Sexual concurrency · HIV

Introduction

In most societies throughout the world, men as a group enjoy social and institutional privileges over and above women and have greater decision-making power within heterosexual relationships (Connell, 1987; Fleming, DiClemente, & Barrington, 2016b; Gilmore, 1990; Messner, 1997; Wingood & DiClemente, 2000). In order to be perceived as masculine and thus achieve the higher social status and power afforded to “real” men, men are pressured to and rewarded for adopting certain characteristics such as aggression, virility, and risk-taking, which influence their sexual behaviors (Connell, 1995; Courtenay, 2000; Williams, 2003).

Though many researchers are interested in how masculinities influence men's sexual behaviors (Bowleg, 2004; Dworkin, Fullilove, & Peacock, 2009; Fleming et al., 2016b), there is little consensus on the best way to conceptualize and measure this in survey research. Approaches include trait measures (e.g., Bem Sex Role Inventory [Bem, 1974]); norms/ideology (e.g., the Gender Equitable Men [GEM] Scale [Pulerwitz & Barker, 2008]); gender role conflict or stress (e.g., Gender Role Conflict Scale [O'Neil, Helms, & Gable, 1986]); and gendered behavior (e.g., Gender

✉ Paul J. Fleming
pauljf@umich.edu

¹ Department of Health Behavior and Health Education, University of Michigan School of Public Health, 1415 Washington Heights, Ann Arbor, MI 48109-2029, USA

² Department of Health Behavior, Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC, USA

³ Population Council, Washington, DC, USA

⁴ Clinica de Familia, La Romana, Dominican Republic

⁵ HIV Vaccine Trials Unit, Instituto Dermatológico y Cirugía de Piel, Santo Domingo, Dominican Republic

⁶ Division of Infectious Diseases, University of Illinois at Chicago, Chicago, IL, USA

Diagnosticity [Lippa & Connelly, 1990]) (for a review, see Smiler & Epstein [2010]). Survey research on masculinity and men's sexual behaviors has been limited almost exclusively to normative/ideology measures such as the GEM Scale (Pulerwitz & Barker, 2008), the Male Role Norms Scale (Thompson & Pleck, 1986), the Male Role Norms Inventory (Levant, Hirsch, Celenzano, & Cozza, 1992), and the Hypermasculinity Scale (Archer, 2010). These measures all assess an individual's ideology about the appropriate roles and behaviors for men and women. The available evidence from cross-sectional studies demonstrates an association between having a more traditional/inequitable gender ideology and less frequent condom use and having a greater number of sexual partners (Fleming et al., 2016b).

While the norms/ideology approaches are useful for exploring the relationship between masculine norms and sexual behaviors, there are limitations. Norms/ideology measures assume that men are motivated to adhere to the attitudes they express (Thompson, Pleck, & Ferrera, 1992). But, these attitudes do not always translate into behaviors. Prominent models of human behavior (e.g., theory of planned behavior) highlight that attitudes do matter, but that the degree of social pressure one feels to conform to certain behavioral norms also are crucial (Montano & Kasprzyk, 2008). For example, a man may express support for the idea that men *should* have multiple concurrent sexual partners, but he does not feel the need to have multiple partners. In this case, the man may not have sufficient motivation to comply because he is not concerned about any possible social sanctions. The opposite example is also possible where a man thinks men *should not* have multiple partners, but he himself has multiple partners because of feeling pressure to comply with social norms among his referent group. This possible disconnect between attitude and behavior renders normative/ideology measures potentially insufficient at capturing the internalization of masculine gender norms (O'Neil, 2008). The individual attitude may be less important than the social norms and how an individual perceives that his social network might react. Thus, it is important to utilize a measure that can capture these aspects.

In contrast to norms/ideology measures, Gender Role Conflict or Stress Scales measure the degree to which an individual is concerned about his ability to adhere to gender norms or how he feels when acting contrary to prevailing male gender norms. On such scales, men are asked about their level of agreement with first-person statements worded to reflect conflict/stress around achieving masculine expectations or, alternately, how stressful they would find particular situations that violate traditional masculine norms. The most commonly used measures are the Gender Role Conflict Scale (O'Neil et al., 1986) and the Masculine Gender Role Stress Scale (Eisler & Skidmore, 1987). These scales draw from the theoretical concept of masculine gender role strain, which theorizes about men's concern with achieving masculine norms, including norms of sexual prowess and sexual

performance (Pleck, 1981, 1995). Pleck postulated that cultural standards for masculinity exist, socialization encourages men to attempt to live up to these norms, and pressure to conform to these norms can result in negative psychological and health outcomes for men. O'Neil (2008) described that the Gender Role Conflict Scale (GRCS) is "defined as concrete outcomes of gender role strain that can be understood and measured" (p. 364). Thus, the GRCS operationalizes gender role strain for survey research by asking men how concerned they personally are about demonstrating specific characteristics of masculinity. Since one of the hypothesized mechanisms through which norms of masculinity influence men's sexual behaviors is related to men feeling concerned about demonstrating masculine characteristics (Courtenay, 2000), Gender Role Conflict or Stress Scales can add an important dimension to assessing the relationship between masculinity and men's sexual risk behaviors.

While greater gender role conflict has been associated with men's perpetration of violence (Copenhaver, Lash, & Eisler, 2000; Jakupcak, Lisak, & Roemer, 2002) and a range of other adverse mental and physical health outcomes (O'Neil, 2008, 2015), it has rarely been examined in relation to men's sexual behaviors. To our knowledge, only two previous studies have explored the correlation between the concept of gender role conflict/stress and sexual behaviors among heterosexual men (Gottert et al., 2016; Reidy, Brookmeyer, Gentile, Berke, & Zeichner, 2016). Gottert et al. found that, among men in rural South Africa, greater gender role conflict/stress was associated with an increased odd of having multiple concurrent sexual partners. Reidy et al. created a measure of "gender role discrepancy stress" which was associated with age at first intercourse, unprotected sex, and number of partners among a convenience sample of American men interviewed on the Internet. The only other study to use gender role conflict/stress to study men's sexual behaviors was conducted with men who have sex with men in the U.S. Malebranche, Gvetadze, Millett, and Sutton (2012) found that greater gender role conflict was associated with unprotected vaginal or anal sex with women among the behaviorally bisexual men (gender role conflict was not a significant predictor of unprotected anal sex with men). While these previous studies provide important preliminary evidence, there is a need to expand the evidence base for different cultural contexts and for men whose sexual behaviors put them at high risk of HIV and sexually transmitted infections (STI).

In this study, we examined the association between gender role conflict/stress and three different sexual risk behaviors among a sample of men in the Dominican Republic (DR). We hypothesized that higher gender role conflict/stress would be associated with increased odds of engaging in sexual risk behaviors. Since the concern a man feels about demonstrating masculine characteristics is a modifiable factor (Dworkin, Treves-Kagan, & Lippman, 2013), examining this relationship has the potential to improve upon sexual health promotion strategies for men.

Study Setting

We conducted this research as part of a feasibility study of male circumcision for HIV prevention in the DR (Brito, Caso, Balbuena, & Bailey, 2009; Brito et al., 2015; Brito, Luna, & Bailey, 2010). The parent study afforded an opportunity to examine masculine gender role conflict/stress and sexual behaviors among a relatively large sample of heterosexual men who engaged in sexual behaviors that put them at risk of HIV/STI. The study was conducted in two cities on the southeastern coast of the DR—Santo Domingo and La Romana—that both have higher HIV prevalence than the national prevalence (DIGECITSS, 2014).

De Moya (2004)—a prominent Dominican scholar focused on masculine norms in the DR—wrote about how Dominican men/boys are socialized into behaving in certain ways that are deemed culturally masculine in Dominican society. He described masculinity in the DR as a “totalitarian” regime that controls the lives of Dominican boys and young men. De Moya used participant observation and interviews with men and women to identify the “rules” associated with being a “normal” boy in the DR, including “He has to fight if he is insulted... He should not sob nor cry... He should show a vivid and visible erotic interest in all females who come close to him when he is with his peers” (de Moya, 2004, pp. 73–74). These masculine ideals are instilled in young Dominican boys and enforced by others through punishment and shaming during youth and adulthood. Thus, these rules not only stifle men, but may also cause a considerable amount of stress as they attempt to meet the rigorous standards of manhood. For more on Dominican masculinities, see de Moya (2003), Barrington (2007), Padilla (2008), Fleming, Barrington, Perez, Donastorg, and Kerrigan (2014), and Fleming et al. (2016a).

Previous research on men’s sexual risk behaviors in the DR has highlighted that their behaviors are shaped, in part, by their male peers (Barrington & Kerrigan, 2014; Barrington et al., 2009; Fleming et al., 2014). For example, Barrington et al. found that going out to sex establishments is a highly social activity and that men’s condom use with female sex workers was strongly associated with perceptions of their peers’ condom use. Fleming et al. found that male peer groups encouraged condom use, helped each other find sexual partners, and seeking sex workers was a key bonding activity for the group. Taken together, these findings provide some qualitative evidence that concern about adhering to masculine norms influences Dominican men’s sexual behaviors.

Method

Participants

The parent study used referrals and community outreach to find men who were 18–40 years old and were willing to undergo a circumcision. To reach a sample at heightened risk of HIV, female

sex workers in both sites were asked to refer their sexual partners, and in La Romana, one recruiter was dedicated to recruiting men from nearby *bateyes* (Haitian descendent communities with a high HIV prevalence). A total of 454 men were circumcised between January 2013 and March 2014, and final follow-up occurred between July 2013 and February 2015. We conducted one survey at baseline (prior to being circumcised) and one during the men’s routine visit 6–12 months after their circumcision. For the analyses presented in this article, we used the data from the follow-up survey. Of the 454 men enrolled, 92 men were lost to follow-up and 69 were not asked about gender role conflict/stress because the scale was added after follow-up visits were initiated. As a result, our analytic sample had 293 men. Men were reimbursed for their travel to the clinic for the visit (approximately 10 USD).

Measures

Sexual Risk Behaviors

For our dependent variables, we used three sexual behaviors that have been shown to be associated with HIV/STI transmission: (1) two or more sexual partners in the last 30 days; (2) inconsistent condom use with non-steady partners in the past 6 months; and (3) drank alcohol at last sex (Anderson, 2003; Barrington et al., 2009; Kalichman, Simbayi, Kaufman, Cain, & Jooste, 2007; Mah & Halperin, 2010). For number of partners, men were asked “How many women have you had sex with in the last 30 days?” and we dichotomized their response into “two or more” and “0 or 1.” For condom use, men were asked “How frequently do you use a condom with each of your non-steady partners in the past 6 months?” and their response options were *never, once, less than half the time, about half the time, more than half the time, and always*. We created a dichotomous variable where “inconsistent condom use” was any response other than *always*. Finally, for drinking alcohol at last sex, men were asked, “The last time you had sex, were you drinking alcohol?” with the response options of *yes* or *no*.

Gender role conflict/stress

To measure gender role conflict/stress, we used a 19-item scale adapted from O’Neil et al.’s (1986) GRCS and Eisler and Skidmore’s (1987) Masculine Gender Role Stress (MGRS) Scale. These original scales were developed with US university students. Gottert et al. (2016) merged and adapted these scales for research in a rural area of South Africa; the GRCS served as the basis for the scale format and wording as well as two domains and multiple items, and the MGRS served to add new domains deemed relevant to the South African context such as “Subordination to women.” With the data from South Africa, the final 24-item Gender Role Conflict/Stress (GRC/S) Scale had a Cronbach’s α of 0.83 (Gottert et al., 2016).

We worked with a team of local Dominican researchers and two local men to adapt the GRC/S items for the Dominican context. Specifically, we removed two items deemed to be irrelevant to the Dominican context and translated items into the colloquial Spanish used by Dominican men. Because of space constraints in our survey, we also relied on recommendations from local field staff to cut several items that had the least relevance for the local context. We also created and added three additional items related to sexual prowess because they were relevant to research questions of this study. This resulted in a scale with 19 items.

Upon conducting an exploratory factor analysis (using Stata version 13.1), we found that a single-factor structure was most suitable to our data. Solutions with two or more factors proved to have low Cronbach's alphas for sub-scales and items loaded on factors in ways that did not entirely fit with our theoretical understanding. As a result, our final unidimensional scale had 17 items, a Cronbach's alpha of 0.75, and an overall Kaiser–Meyer–Olkin measure of sampling adequacy of 0.79.

Since there were 17 items and response options were 0 = disagree, 1 = partially agree, and 2 = strongly agree, possible scores for the GRC/S Scale ranged between 0 (lowest conflict/stress) and 34 (highest conflict/stress). We standardized the GRC/S score with a mean of 0 and SD of 1 to aid in the interpretation of results.

Control Variables

Sociodemographic control variables were assessed at baseline: age, study site, education, employment status, marital status, and monthly income. Since inconsistent condom use with casual partners is associated with number of other sexual partners (Matser et al., 2014), we also controlled for number of partners in the past 6 months when conducting analyses with our inconsistent condom use dependent variable.

Procedure

All participants provided informed written consent to participate in each component of this research study. All study procedures and protocols were approved by the Institutional Review Boards at the University of Illinois at Chicago, the University of North Carolina at Chapel Hill, and the Instituto Dominicano de Dermatología y Cirugía de la Piel Dr. Heriberto Bogaert in Santo Domingo, DR.

Statistical Analyses

We present descriptive statistics for each of the sociodemographic variables, GRC/S Scale, and dependent variables. For each of the three dependent variables, we conducted bivariate logistic regression with the standardized GRC/S score as the independent variable. We report unadjusted odds ratios (ORs) and 95 % confidence intervals for those bivariate analyses. Subsequently, we conducted multivariate logistic regression for each dependent variable with

standardized GRC/S score and the full set of controls. For those analyses, we report adjusted odds ratios (AORs) and 95 % confidence intervals (CIs). All analyses reported below were conducted in SAS version 9.4.

Results

Demographic characteristics are shown in Table 1. Most men were under the age of 30 (median, 26; range, 18–41), and a majority (69 %) had at least a high school education. Seventy-three percent of men were employed (either formal or informal labor market), 11 % were unemployed, and 16 % were students. Only 8 % earned more than 25,000 Dominican Pesos (DOP) in the past

Table 1 Sample demographic characteristics and HIV risk behaviors

	Total analytic sample (<i>n</i> = 293)	
	<i>n</i>	%
Study Site		
Santo Domingo	157	54
La Romana	136	46
Age (in years)		
18–24	127	44
25–29	72	25
30–34	51	17
35–41	42	14
Education		
Primary or less	48	16
Secondary	232	69
University	44	15
Employment status		
Employed	212	73
Unemployed	33	11
Student	47	16
Income in the past month ^a		
None	53	18
Less than 1000 Dominican Pesos (DOP)	4	1
1000–4999 DOP	45	16
5000–9999 DOP	65	22
10,000–25,000 DOP	100	34
More than 25,000 DOP	23	8
Marital status		
Married	41	14
Single, with a partner	148	51
Single, without a partner	103	35
2+ partners, 30 days	90	31
Inconsistent condom use with non-steady partner	103	43
Drank alcohol at last sex	57	21

^a During baseline data collection, the value of 1 US Dollar (USD) ranged between 39.92 DOP and 43.33 DOP. Thus, 1000 DOP is approximately 25 USD and 10,000 DOP is approximately 250 USD

month, about 625 US dollars. Nineteen percent earned less than 1000 DOP (25 USD), and the rest of the men (72 %) earned between 1000 DOP and 25,000 DOP. Half of the men reported being unmarried but had a partner, 14 % were married, and 35 % were single with no regular partner.

We measured three sexual risk behaviors (Table 1). Thirty-one percent of men reported having two or more partners within the past 30 days. Of men that reported having a non-steady partner within the previous 6 months ($n = 194$), 43 % reported inconsistent condom use with non-steady partners in the past 6 months. When men reported on the last time they had sex, 21 % said that they were drinking alcohol.

Before standardizing, the GRC/S measure had a mean of 18.2 (range 3–34) and a SD of 5.7 (Table 2). See Table 2 for all scale items.

When testing the bivariate associations between each sexual risk behavior and men's GRC/S scores, we found relationships in the expected direction (Table 3). Specifically, men who had a higher GRC/S score had higher odds of reporting each sexual behavior. Two of the sexual behaviors—having two or more partners in the past 30 days, and drinking alcohol at last sex—were significantly associated with having a greater GRC/S. The bivariate relationship between inconsistent use of condoms with non-steady partners and GRC/S was not significant.

After controlling for sociodemographic characteristics (Table 3), higher GRC/S was significantly associated with increased odds of having two or more partners in the past 30 days [AOR 1.33, 95 % confidence interval (CI) 1.01–1.74], inconsistent condom use with non-steady partners (AOR 1.45, 95 % CI 1.04–2.01), and drinking alcohol at last sex (AOR 1.56, 95 % CI 1.13–2.17).

Table 2 Gender Role Conflict/Stress (GRC/S) Scale ($n = 293$)

	<i>M</i>		<i>SD</i>		<i>Range</i>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Overall Gender Role Conflict/Stress Scale	18.2		5.7		3–34	
Items						
	Disagree		Somewhat agree		Strongly agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1. Being good in bed is part of being a successful man	25	9	43	15	225	77
2. I'd worry if a sexual partner said that she wasn't satisfied	20	7	37	13	236	81
3. I feel like I need to be in control and be responsible for others	34	12	88	30	171	58
4. I worry how others will evaluate my ability to provide for my family	106	36	63	22	124	42
5. I have value as a person depending on whether I can earn money or find work	125	43	48	16	120	41
6. Being able to function sexually is important to me as a man	7	2	23	8	263	90
7. I think that I should always be ready to have sex with my partner, even if I'm tired	70	24	68	23	155	53
8. I worry about not being able to get aroused sexually when I want to	43	15	53	18	195	67
9. I'd worry if my friends knew that I lived with a woman and I did the housework	241	82	25	9	27	9
10. I don't like to let a woman take control of a situation	115	39	99	34	79	27
11. I have difficulty finding the words that describe how I'm feeling	184	63	58	20	51	17
12. I don't like to show my emotions and my feelings to others	128	44	68	23	97	33
13. It would be difficult for me if someone saw my crying	140	48	55	19	98	33
14. Showing affection or love to other men makes me feel uncomfortable	171	58	43	15	79	27
15. Being physically stronger than other men is important to me	148	51	55	19	90	31
16. It is important for me to know that I can drink as much or more alcohol than others	263	90	21	7	9	3
17. Having a girlfriend or wife is part of my idea of a successful man	53	18	44	15	196	67

Table 3 Association between men's GRC/S score and sexual risk behaviors

Risk behaviors at follow-up	OR	95 % CI	<i>p</i>	AOR ^a	95 % CI	<i>p</i>
2 + Partners in past 30 days	1.36	1.06–1.76	.02	1.33	1.01–1.74	.04
Inconsistent condom use, non-steady partner ^b	1.20	0.91–1.59	.20	1.45	1.04–2.01	.03
Drank alcohol at last sex	1.53	1.14–2.06	.01	1.56	1.13–2.17	.01

^a Controlling for age, study site, education, employment status, income, and civil status

^b Also controlled for number of partners in the past 6 months

Discussion

Our study provided support for the association between GRC/S and men's sexual risk behaviors, including number of sexual partners, inconsistent condom use with non-steady partners, and drinking alcohol at last sex.

Echoing Gottert et al. (2016) and Reidy et al. (2016), we found that men with greater concern about demonstrating masculine characteristics were more likely to engage in sexual risk behaviors. Pleck's (1995) masculine gender role strain paradigm highlights that masculine gender norms can be conflicting and inconsistent, which causes men to worry about their ability to fulfill these norms. Given the work by de Moya (2004) in the DR emphasizing that masculinity is a "totalitarian" regime in the lives of men, men in our study felt concern about meeting these masculine expectations. One interpretation of our findings is that men may be coping with these concerns by adopting sexual risk behaviors (Glanz & Schwartz, 2008). In the DR, men's sexual behaviors and risk-taking can be seen as a demonstration of masculinity (de Moya, 2003, 2004; Fleming et al., 2016a; Padilla, 2008). Indeed, sexual prowess (e.g., having multiple female sexual partners) and risk-taking (e.g., inconsistent condom use, alcohol use prior to sex) are key characteristics associated with masculinity in many parts of the world (Courtenay, 2000; Fleming et al., 2016b), and therefore, those behaviors represent opportunities for men to demonstrate their masculinity.

Future research on men's sexual risk behaviors should continue to use gender role conflict/stress measures with other populations of men to verify whether this relationship holds across cultural contexts, varying age groups, and high- versus low-risk men. Given that our sample was limited to men seeking a voluntary medical male circumcision, it will be important to replicate findings in general populations of men. Additionally, longitudinal research is needed to assess whether changes in GRC/S result in changes in sexual risk behaviors. Longitudinal studies could also help to assess *how* GRC/S influences sexual behaviors by further exploring mechanisms driving this relationship. Finally, although psychometric analyses of our scale indicated a unidimensional factor structure—likely due to including fewer items than O'Neil's GRCS or Gottert and colleagues' GRC/S Scale—future research should examine which scale sub-factors most influence men's sexual behaviors. For example, the Gottert et al. (2016) study in South Africa found that the "Subordination to Women" sub-scale was the key dimension of GRC/S that was most associated with men having multiple concurrent sexual partners. Expanding this type of research could help refine intervention strategies for reducing sexual risk behaviors and improving men's sexual health.

Given the lack of consensus regarding how to operationalize masculinities for research on men's sexual risk behaviors, research is also needed to critically compare measures of gender role conflict/stress to gender ideology measures to assess the relative influence of each on men's sexual behaviors. Gottert et al. (2016)

began this work, finding that conflict/stress measures are more strongly associated with men having multiple concurrent partners than a measure of gender ideology, while suggesting that it is advantageous for studies to include both constructs. Other research has just begun to explore other non-ideological measures of masculinity (e.g., gender typicality [Tate, Betergarcia, & Brent, 2015] or adherence to gender-typical behaviors [Fleming, Harris, & Halpern, 2016c]), and findings from this emerging research also need to be assessed relative to existing measures. These initial findings—including those from our study—need to be replicated and evaluated to determine what unique perspective each measure brings to the study of masculinity and men's sexual behaviors.

Our findings also provide further support that reducing men's sexual risk behaviors and improving their sexual health requires gender-transformative interventions (Barker, Ricardo, Nascimento, Olukoya, & Santos, 2010; Dunkle & Jewkes, 2007; Gupta, 2000). Gender-transformative interventions are focused on challenging harmful norms of masculinity and democratizing the relations between men and women (Dworkin et al., 2013; Gupta, 2000). Given that masculine norms have been shown to be influential on sexual risk behaviors, gender-transformative interventions offer a specific strategy to tackle this root cause of men's sexual behaviors that put them at risk of HIV/STI (Dworkin, Fleming, & Colvin, 2015).

Our results also suggest that gender-transformative interventions may need to expand their approach to also directly tackle men's concern about demonstrating masculine characteristics (i.e., gender role conflict/stress)—which relates more to men's experience of and emotions around internalized masculine norms. Currently, these interventions have primarily relied on the empirical evidence derived from studies using measures of gender ideology, primarily the Gender Equitable Men Scale (Pulerwitz & Barker, 2008). As a result, the focus has been on changing men's gender ideologies (Dworkin et al., 2013; Van den Berg et al., 2013) and such interventions are evaluated using measures of gender ideology (Pulerwitz & Barker, 2008; Pulerwitz, Michaelis, Verma, & Weiss, 2010; Verma et al., 2006). But, these current approaches are not addressing the internalization of masculine norms, only attitudes. Considering how to reduce men's gender role conflict/stress could enable interventionists to develop new and innovative ideas to complement existing gender-transformative approaches for HIV/STI prevention. Since men's gender role conflict/stress is related to concern about peers' responses to non-masculine behavior, interventions may need to work within male peer groups to devise strategies to respond to and cope with instances where a man's sense of masculinity is challenged.

Limitations

While our research presents some of the first empirical evidence on the association between gender role conflict/stress and men's

sexual risk behaviors, these findings should be considered in light of certain limitations. First, we used cross-sectional data and thus were unable to establish temporality between our independent variable and dependent variables. Also, our analyses did not allow us to tease apart exactly which control variables may have suppressed effects seen in the bivariate analyses. Second, we used a sample of men who were willing to undergo a voluntary medical male circumcision in settings with an HIV prevalence higher than the national average. This sample may systematically differ from the general population of men or from the population of men at risk of HIV/STI. Additionally, like most behavioral research on sex and sexuality, this analysis relied on self-reported measures of sexual behaviors. Finally, GRC/S is intended to be a multidimensional scale (Gottert et al., 2016), and thus, our findings with the unidimensional version may be obscuring important differences in the relationship between sexual behaviors and certain subtypes of gender role conflict/stress.

Conclusion

Gender is an important social determinant of health, and the field of sexual health has led the way in developing research and interventions to ameliorate the negative effects of masculinity on men's health (Bowleg et al., 2011; Dunkle & Jewkes, 2007; Dworkin et al., 2013; Gupta, 2000; Jewkes, Sikweyiya, Morrell, & Dunkle, 2011). Despite the progress to date, our limited ability to empirically assess constructs related to masculinity and the effect they have on men's health behaviors is stifling additional progress. Incorporating new measures, such as the GRC/S Scale, is one example of how researchers can continue to push the field forward. To improve our sexual health promotion efforts with men, we need to continue developing tools and resources to expand understanding of masculinity's influence on sexual health.

Acknowledgments We would like to thank Martha Perez, Miriam Nova, Riqui Rosario, and Nicolas González for their assistance in recruitment and data collection. This project was supported by the National Center for Advancing Translational Sciences, National Institutes of Health, through Grant UL1 TR000050. We are grateful to the Carolina Population Center for training support (T32 HD007168) and for general support (R24 HD050924). P.J. Fleming was supported by the UNC STD/HIV training Grant (T32AI007001) and subsequently by a NIDA training Grant (T32DA023356). Fieldwork was generously supported by the Explorations in Global Health Award from the UNC Institute for Global Health and Infectious Disease, UNC Carolina Population Center's Research Residency Award, the Mellon Dissertation Fellowship from UNC's Institute for the Study of the Americas, and the Koch Travel Award from the Gillings School of Global Public Health at UNC.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

References

- Anderson, J. E. (2003). Condom use and HIV risk among US adults. *American Journal of Public Health, 93*, 912–914. doi:10.2105/AJPH.93.6.912.
- Archer, J. (2010). Derivation and assessment of a hypermasculine values questionnaire. *British Journal of Social Psychology, 49*, 525–551. doi:10.1348/014466609x471525.
- Barker, G., Ricardo, C., Nascimento, M., Olukoya, A., & Santos, C. (2010). Questioning gender norms with men to improve health outcomes: Evidence of impact. *Global Public Health, 5*, 539–553. doi:10.1080/17441690902942464.
- Barrington, C. (2007). *Social networks, norms, and the HIV-related behaviors among the male partners of female sex workers in La Romana, Dominican Republic*. Unpublished doctoral dissertation, Johns Hopkins University, Baltimore, MD.
- Barrington, C., & Kerrigan, D. (2014). Debe cuidarse en la calle: normative influences on condom use among the steady male partners of female sex workers in the Dominican Republic. *Culture, Health & Sexuality, 16*, 273–287. doi:10.1080/13691058.2013.875222.
- Barrington, C., Latkin, C., Sweat, M. D., Moreno, L., Ellen, J., & Kerrigan, D. (2009). Talking the talk, walking the walk: Social network norms, communication patterns, and condom use among the male partners of female sex workers in La Romana, Dominican Republic. *Social Science and Medicine, 68*, 2037–2044. doi:10.1016/j.socscimed.2009.03.009.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*(2), 155–162. doi:10.1037/h0036215.
- Bowleg, L. (2004). Love, sex, and masculinity in sociocultural context: HIV concerns and condom use among African American men in heterosexual relationships. *Men and Masculinities, 7*, 166–186. doi:10.1177/1097184X03257523.
- Bowleg, L., Teti, M., Massie, J. S., Patel, A., Malebranche, D. J., & Tschann, J. M. (2011). 'What does it take to be a man? What is a real man?': Ideologies of masculinity and HIV sexual risk among Black heterosexual men. *Culture, Health & Sexuality, 13*, 545–559. doi:10.1080/13691058.2011.556201.
- Brito, M. O., Caso, L. M., Balbuena, H., & Bailey, R. C. (2009). Acceptability of male circumcision for the prevention of HIV/AIDS in the Dominican Republic. *PLoS ONE, 4*(11), e7687. doi:10.1371/journal.pone.0007687.
- Brito, M. O., Lerebours, L., Volquez, C., Basora, E., Khosla, S., Lantigua, F., ... Bailey, R. C. (2015). A clinical trial to introduce voluntary medical male circumcision for HIV prevention in areas of high prevalence in the Dominican Republic. *PLoS ONE, 10*(9), e0137376. doi:10.1371/journal.pone.0137376.
- Brito, M. O., Luna, M., & Bailey, R. C. (2010). The feasibility and acceptability of male circumcision among men, women, and health providers of the Altigracia Province, Dominican Republic. *AIDS Care, 22*, 1530–1535. doi:10.1080/09540121.2010.484455.
- Connell, R. W. (1987). *Gender and power*. Stanford, CA: Stanford University Press.
- Connell, R. W. (1995). *Masculinities*. Berkeley: University of California Press.
- Copenhaver, M. M., Lash, S. J., & Eisler, R. M. (2000). Masculine gender role stress, anger and male intimate abusiveness: Implications for men's relationships. *Sex Roles, 42*, 405–414. doi:10.1023/A:1007050305387.
- Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science and Medicine, 50*, 1385–1401. doi:10.1016/S0277-9536(99)00390-1.
- de Moya, E. A. (2003). Versiones y subversiones de la masculinidad en la cultura dominicana. *Perspectivas Psicológicas, 3*, 184–190.
- de Moya, E. A. (2004). Power games and totalitarian masculinity in the Dominican Republic. In R. Reddock (Ed.), *Interrogating Caribbean masculinities: Theoretical and empirical analyses* (pp. 68–102). Kingston: University of West Indies Press.

- DIGECITSS. (2014). *El Estado Epidemico del VIH en Republica Dominicana* [The state of the HIV epidemic in the Dominican Republic]. Santo Domingo: DIGECITSS.
- Dunkle, K. L., & Jewkes, R. (2007). Effective HIV prevention requires gender-transformative work with men. *Sexually Transmitted Infections*, 83, 173–174. doi:10.1136/sti.2007.024950.
- Dworkin, S. L., Fleming, P. J., & Colvin, C. J. (2015). The promises and limitations of gender-transformative health programming with men: Critical reflections from the field. *Culture, Health & Sexuality*, 17 (Suppl. 2), S128–S143. doi:10.1080/13691058.2015.1035751.
- Dworkin, S. L., Fullilove, R. E., & Peacock, D. (2009). Are HIV/AIDS prevention interventions for heterosexually active men in the United States gender-specific? *American Journal of Public Health*, 99(6), 981–984. doi:10.2105/AJPH.2008.149625.
- Dworkin, S. L., Treves-Kagan, S., & Lippman, S. A. (2013). Gender-transformative interventions to reduce HIV risks and violence with heterosexually-active men: A review of the global evidence. *AIDS and Behavior*, 17, 2845–2863. doi:10.1007/s10461-013-0565-2.
- Eisler, R. M., & Skidmore, J. R. (1987). Masculine gender role stress: Scale development and component factors in the appraisal of stressful situations. *Behavior Modification*, 11, 123–136.
- Fleming, P. J., Barrington, C., Pearce, L. D., Lerebours, L., Donastorg, Y., & Brito, M. O. (2016a). “I feel like more of a man”: A mixed methods study of masculinity, sexual performance, and circumcision for HIV prevention. *Journal of Sex Research*. doi:10.1080/00224499.2015.1137539.
- Fleming, P. J., Barrington, C., Perez, M., Donastorg, Y., & Kerrigan, D. (2014). Amigos and amistades: The role of men’s social network ties in shaping HIV vulnerability in the Dominican Republic. *Culture, Health & Sexuality*, 16, 883–897. doi:10.1080/13691058.2014.919028.
- Fleming, P. J., DiClemente, R. J., & Barrington, C. (2016b). Masculinity and HIV: Dimensions of masculine norms that contribute to men’s HIV-related sexual behaviors. *AIDS and Behavior*, 20(4), 788–798. doi:10.1007/s10461-015-1264-y.
- Fleming, P. J., Harris, K. M., Halpern, C. T. (2016c). Description and evaluation of a measurement technique for assessment of performing gender. *Sex Roles*. doi:10.1007/s11199-016-0657-3.
- Gilmore, D. D. (1990). *Manhood in the making: Cultural concepts of masculinity*. New Haven, CT: Yale University Press.
- Glanz, K., & Schwartz, M. D. (2008). Stress, coping, and health behavior. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 211–236). San Francisco, CA: Jossey-Bass.
- Gottert, A., Barrington, C., Pettifor, A., McNaughton-Reyes, H. L., Maman, S., MacPhail, C., ... Lippman, S. A. (2016). Measuring men’s gender norms and Gender Role Conflict/Stress in a high HIV-prevalence South African setting. *AIDS and Behavior*, 20(8), 1785–1795. doi:10.1007/s10461-016-1374-1.
- Gupta, G. R. (2000). *HIV/AIDS: The what, the why and the how*. Paper presented at the International AIDS Conference, Durban, South Africa. Retrieved from http://siteresources.worldbank.org/EXTAFRREGTOP/GENDER/Resources/durban_speech.pdf
- Jakupcak, M., Lisak, D., & Roemer, L. (2002). The role of masculine ideology and masculine gender role stress in men’s perpetration of relationship violence. *Psychology of Men & Masculinity*, 3, 97–106. doi:10.1037/1524-9220.3.2.97.
- Jewkes, R., Sikweyiya, Y., Morrell, R., & Dunkle, K. (2011). Gender inequitable masculinity and sexual entitlement in rape perpetration South Africa: Findings of a cross-sectional study. *PLoS ONE*, 6(12), e29590. doi:10.1371/journal.pone.0029590.
- Kalichman, S. C., Simbayi, L. C., Kaufman, M., Cain, D., & Jooste, S. (2007). Alcohol use and sexual risks for HIV/AIDS in sub-Saharan Africa: Systematic review of empirical findings. *Prevention Science*, 8, 141–151. doi:10.1007/s11121-006-0061-2.
- Levant, R. F., Hirsch, L. S., Celentano, E., & Cozza, T. M. (1992). The male role: An investigation of contemporary norms. *Journal of Mental Health Counseling*, 14, 325–337.
- Lippa, R. A., & Connelly, S. (1990). Gender diagnosticity: A new Bayesian approach to gender-related individual differences. *Journal of Personality and Social Psychology*, 59, 1051–1063. doi:10.1037/0022-3514.59.5.1051.
- Mah, T. L., & Halperin, D. T. (2010). Concurrent sexual partnerships and the HIV epidemics in Africa: Evidence to move forward. *AIDS and Behavior*, 14, 11–16. doi:10.1007/s10461-008-9433-x.
- Malebranche, D. J., Gvetadze, R., Millett, G. A., & Sutton, M. Y. (2012). The relationship between gender role conflict and condom use among Black MSM. *AIDS and Behavior*, 16, 2051–2061. doi:10.1007/s10461-011-0055-3.
- Matser, A., Heiligenberg, M., Geskus, R., Heijman, T., Low, N., Kretzschmar, M., & van der Loeff, M. S. (2014). The importance of partnership factors and individual factors associated with absent or inconsistent condom use in heterosexuals: A cross-sectional study. *Sexually Transmitted Infections*, 90(4), 325–331. doi:10.1136/sextrans-2013-051087.
- Messner, M. A. (1997). *Politics of masculinities: Men in movements*. Lanham, MD: Altamira Press.
- Montano, D. E., & Kasprzyk, D. (2008). Theory of reasoned action, theory of planned behavior, and the integrated behavioral model. In K. Glanz, B. Rimer, & K. Viswanath (Eds.), *Health behavior: Theory, research and practice* (4th ed., pp. 67–96). San Francisco, CA: Jossey-Bass.
- O’Neil, J. M. (2008). Summarizing 25 years of research on men’s gender role conflict using the Gender Role Conflict Scale: New research paradigms and clinical implications. *The Counseling Psychologist*, 36, 358–445. doi:10.1177/0011000008317057.
- O’Neil, J. M. (2015). *Men’s gender role conflict: Psychological costs, consequences, and an agenda for change*. Washington, DC: American Psychological Association.
- O’Neil, J. M., Helms, B. J., & Gable, R. K. (1986). Gender-Role Conflict Scale: College men’s fear of femininity. *Sex Roles*, 14, 335–350. doi:10.1007/BF00287583.
- Padilla, M. (2008). *Caribbean pleasure industry: Tourism, sexuality, and AIDS in the Dominican Republic*. Chicago, IL: University of Chicago Press.
- Pleck, J. H. (1981). *The myth of masculinity*. Cambridge, MA: MIT Press.
- Pleck, J. H. (1995). The gender role strain paradigm: An update. In R. F. Levant & W. S. Pollack (Eds.), *A new psychology of men* (pp. 11–32). New York, NY: Basic Books.
- Pulerwitz, J., & Barker, G. (2008). Measuring attitudes toward gender norms among young men in Brazil: Development and psychometric evaluation of the GEM Scale. *Men and Masculinities*, 10, 322–338. doi:10.1177/1097184X06298778.
- Pulerwitz, J., Michaelis, A., Verma, R., & Weiss, E. (2010). Addressing gender dynamics and engaging men in HIV programs: Lessons learned from Horizons research. *Public Health Reports*, 125, 282–292. doi:10.2307/41434782.
- Reidy, D. E., Brookmeyer, K. A., Gentile, B., Berke, D. S., & Zeichner, A. (2016). Gender role discrepancy stress, high-risk sexual behavior, and sexually transmitted disease. *Archives of Sexual Behavior*, 45, 459–465. doi:10.1007/s10508-014-0413-0.
- Smiler, A. P., & Epstein, M. (2010). Measuring gender: Options and issues. In J. C. Chrisler & D. R. McCreary (Eds.), *Handbook of gender research in psychology: Gender research in general and experimental psychology* (Vol. 1, pp. 133–157). New York: Springer.
- Tate, C. C., Betergarcia, J. N., & Brent, L. M. (2015). Re-assessing the role of gender-related cognitions for self-esteem: The importance

- of gender-typicality for cisgender adults. *Sex Roles*, 72, 221–236. doi:[10.1007/s11199-015-0458-0](https://doi.org/10.1007/s11199-015-0458-0).
- Thompson, E. H., & Pleck, J. H. (1986). The structure of male role norms. *American Behavioral Scientist*, 29, 531–543. doi:[10.1177/000276486029005003](https://doi.org/10.1177/000276486029005003).
- Thompson, E. H., Pleck, J. H., & Ferrera, D. L. (1992). Men and masculinities: Scales for masculinity ideology and masculinity-related constructs. *Sex Roles*, 27, 573–607. doi:[10.1007/BF02651094](https://doi.org/10.1007/BF02651094).
- Van den Berg, W., Hendricks, L., Hatcher, A., Peacock, D., Godana, P., & Dworkin, S. (2013). ‘One man can’: Shifts in fatherhood beliefs and parenting practices following a gender-transformative programme in Eastern Cape, South Africa. *Gender & Development*, 21, 111–125. doi:[10.1080/13552074.2013.769775](https://doi.org/10.1080/13552074.2013.769775).
- Verma, R. K., Pulerwitz, J., Mahendra, V., Khandekar, S., Barker, G., Fulpagare, P., & Singh, S. K. (2006). Challenging and changing gender attitudes among young men in Mumbai. *India. Reproductive Health Matters*, 14(28), 135–143.
- Williams, D. R. (2003). The health of men: Structured inequalities and opportunities. *American Journal of Public Health*, 93, 724–731. doi:[10.2105/AJPH.93.5.724](https://doi.org/10.2105/AJPH.93.5.724).
- Wingood, G. M., & DiClemente, R. J. (2000). Application of the theory of gender and power to examine HIV-related exposures, risk factors, and effective interventions for women. *Health Education & Behavior*, 27, 539–565. doi:[10.1177/109019810002700502](https://doi.org/10.1177/109019810002700502).