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Social Dominance Orientation Relates to Believing Men Should Dominate Sexually, Sexual Self-Efficacy, and Taking Free Female Condoms Among Undergraduate Women and Men

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Abstract

Gendered-based power affects heterosexual relationships, with beliefs in the U.S. prescribing that men dominate women sexually. We draw on social dominance theory to examine whether women's and men's level of support for group-based hierarchy (i.e., social dominance orientation; SDO) helps explain gender-based power beliefs and dynamics in heterosexual relationships. We conducted a laboratory study at a Northeastern U.S. university among 357 women and 126 men undergraduates who reported being heterosexual and sexually active, testing three sets of hypotheses. First, as hypothesized, women endorsed SDO and the belief that men should dominate sexually less than men did. Second, as hypothesized, among women and men, SDO was positively correlated with the belief that men should dominate sexually, and negatively correlated with sexual self-efficacy (confidence in sexual situations) and number of female condoms (a woman-controlled source of protection) taken. Third, structural equation modeling, controlling for age, family income, number of sexual partners in the past month, and perceived HIV/AIDS risk, supported the hypothesis that among women and men, the belief that men should dominate sexually mediates SDO's association with sexual self-efficacy. The hypothesis that the belief that men should dominate sexually mediates SDO's association with number of female condoms taken was supported for women only. The hypothesis that sexual self-efficacy mediates SDO's association with number of female condoms taken was not supported. Results suggest SDO influences power beliefs and dynamics in heterosexual relationships. Although female condoms are an important woman-controlled source of protection, power-related beliefs may pose a challenge to their use.

Keywords

Female condoms; Gender; Power; Sexual risk behavior; Sexual self-efficacy; Social dominance orientation; Women

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Introduction

Gender roles and norms play a crucial role in sexual behavior between women and men and involve a component of power, with beliefs, for example in the U.S., tending to prescribe that women be submissive while men be dominant sexually (e.g., Sanchez et al. 2006 in the U.S.). Social dominance theory (Sidanius and Pratto 1999, internationally)—a broad theory about group-based hierarchies and power inequities around the world—identifies power dynamics between women and men as a special case of group-based inequality within prevailing social hierarchies because heterosexual women and men interact intimately with each other (Pratto and Walker 2004 internationally). Social dominance orientation (SDO) is an individual difference construct from social dominance theory about people's general level of support for social power inequities and hierarchy, which has been associated with greater sexist attitudes (Pratto et al. 1994 in the U.S.; Sidanius and Pratto 1999 internationally). Drawing on the social dominance theory framework, the present investigation conducted in the U.S. examines whether women's and men's individual level of endorsement of SDO can help us to understand power-based gender beliefs and dynamics in heterosexual relationships and some of the processes involved in these relationships.

Specifically, we aimed to test a model that hypothesizes that among both women and men identifying as heterosexual, endorsement of SDO is positively associated with the belief that men should dominate sexually, and negatively associated with sexual self-efficacy (i.e., confidence in sexual situations) and interest in female condoms (a woman-controlled source of protection from pregnancy, HIV, and other sexually transmitted infections, which is inserted into the vagina before sex). Further, the model hypothesizes that the belief that men should dominate sexually is a mediator of the relationships that SDO has with sexual self-efficacy and interest in female condoms, and that sexual self-efficacy would also be a mediator of the relationship that SDO has with interest in female condoms (see Fig. 1 demonstrating hypothesized model).

We tested our hypothesized model in a laboratory study at a Northeastern U.S. university, among undergraduate women (N=357) and men (N=126) that reported being heterosexual and sexually active. While testing our hypothesized model, we controlled for the potentially confounding variables of age, family income, number of sexual partners in the past month, and perceived HIV/AIDS risk, which will be explained in greater detail below. Our model builds on theory and research in the following areas, which will each be discussed in turn: understanding gendered power dynamics with social dominance theory and social dominance orientation; the belief that men should dominate sexually; sexual self-efficacy; and female condoms.

Understanding Gendered Power Dynamics with Social Dominance Theory and Social Dominance Orientation

To contribute to a fuller understanding of gendered power dynamics involved in heterosexual relationships, we draw on the broad framework of social dominance theory (Sidanius and Pratto 1999 internationally). Social dominance theory is a theory about power, group based inequalities, and social hierarchies that integrates interdisciplinary theorizing and research findings, such as from business, education, economics, history, psychology, and sociology. Social dominance theory highlights the intergroup nature of group dynamics, with a focus on the ways that groups higher and lower in the social hierarchy interact and both play vital roles in the power dynamics that can maintain or challenge inequities. The specific case of power dynamics between women and men is unique and has been given special attention in social dominance theory because despite the gender-based power differences between them, heterosexual women and men interact intimately with each other. For example, Pratto and Walker (2004 internationally) applied social dominance theory to

the specific issue of gendered power by highlighting four bases of gendered power that help to understand inequities between women and men: force, resource control, social obligations, and consensual ideologies.

Social dominance theory researchers also developed SDO, an individual difference construct about people's general level of support for social power inequities and hierarchy (Pratto et al. 1994 in the U.S.; Sidanius and Pratto 1999 internationally). As would be expected, men generally tend to endorse SDO more than women do because of their more powerful, privileged position in society, just as White Americans endorse SDO more than Black Americans do in the U.S. (Pratto et al. 1994). Specifically related to gendered power dynamics, research suggests that the more people endorse SDO, the more that they support beliefs that maintain power inequities between women and men, such as sexist beliefs (e.g., Pratto et al. 1994 in the U.S.). As examples, endorsement of SDO is associated with greater hostile sexism (Christopher and Wojda 2008 in the U.S.; Sibley et al. 2007 in New Zealand), more negative attitudes toward women's rights (Heaven 1999 in Australia), greater tolerance of sexual harassment (Russell and Trigg 2004 in the U.S.), and greater preference for traditional gender roles (Christopher and Wojda 2008 in the U.S.).

Based on this past work, L. Rosenthal and Levy (2010 internationally) proposed that social dominance theory can help to explain gendered power dynamics in the sexual relationships between women and men, and that specifically endorsement of SDO might be associated with individuals' beliefs about power and dominance in heterosexual relationships, as well as sexual behavior. Prior research on SDO suggests that SDO could be a potentially driving factor in women's and men's endorsement of the belief that men should be dominant over women in sexual relationships, which then can have other consequences for sexual beliefs and behaviors in heterosexual relationships (L. Rosenthal and Levy 2010 internationally). Thus, we predicted that greater endorsement of SDO would be associated with greater endorsement of the belief that men should dominate sexually which is the first path in our hypothesized model (see Fig. 1). We also hypothesized that because of the association of SDO with the belief that men should dominate sexually, SDO would also be associated with lower sexual self-efficacy and taking fewer female condoms, which we explain in further detail below.

Belief that Men Should Dominate Sexually

SDO, because of its association with sexism and support for traditional gender roles, may be associated with greater endorsement of the belief that men should dominate women sexually, and this belief in turn can have important implications for sexual risk-related beliefs and behaviors, including sexual self-efficacy and interest in female condoms. Around the world, ideologies or beliefs about gender roles and sexual scripts often prescribe that women be the passive acceptors of sex and men be dominant aggressors (Bowleg et al. 2004 in the U.S.; Scott et al. 2005 in the U.S.; UNAIDS 2004 internationally). Across four studies, Sanchez et al. (2006) found that women undergraduates in the U.S. implicitly associate sex with submissiveness but not with dominance, assessed with reaction times during a lexical decision task. Men, however, did not implicitly associate sex with submissiveness. Further, they found that the more women associated sex with submissiveness, the more they reported submissive sexual behavior themselves; and, the more they reported submissive behavior themselves, the less sexual arousal they reported, mediated by lower sexual autonomy. This evidence highlights the importance of women's own consensual role in beliefs that promote inequality between women and men, recognized by social dominance theory (Pratto and Walker 2004 internationally). If women believe in sexual scripts that prescribe men should dominate, this poses a challenge for women's power and ability to control their own sexual behavior, and may lead to decreased sexual self-efficacy.

The belief that men should dominate sexually would likely affect men as well as women. If men believe that men should dominate sexually, this may prevent them from feeling open or comfortable discussing sexual behavior and protection with their partners or asking questions about things they may not know, leading to decreased sexual self-efficacy. For both women and men, the belief that men should dominate sexually could reduce interest in female condoms because female condoms are meant to be a woman-centered source of protection and may be seen as violating the norm or belief that men should be in control of sexual situations. Thus, we hypothesized that for both women and men, greater endorsement of the belief that men should dominate sexually would be associated with lower sexual self-efficacy and less interest in female condoms. And, taken together, we hypothesized that the belief that men should dominate sexually would mediate the relationships that SDO has with sexual self-efficacy and number of female condoms taken for both women and men (see Fig. 1).

Sexual Self-Efficacy

In work focusing on psychological factors involved in heterosexual relationships, many researchers have focused on the important construct of sexual self-efficacy, which is generally individuals' level of confidence in sexual situations, and which tends to incorporate power-related issues. For example, D. Rosenthal et al. (1991 in Australia) captured this key construct in a scale that can be used as a whole to understand overall sexual self-efficacy, and which includes items about an individual's level of certainty in being able to refuse sex, assertiveness in getting sexual satisfaction from a partner, knowledge of how to use condoms, and confidence in taking precautions to have safer sex. Research has demonstrated the association between the construct of sexual self-efficacy and actual sexual behavior. For instance, in a study using the same scale of sexual self-efficacy, D. Rosenthal et al. (1991) found that among Australian college students, certainty in being able to refuse sex was significantly associated with safer sexual behavior with both casual and regular sexual partners for both women and men, and assertiveness in getting sexual satisfaction was significantly associated with more risky sexual behavior for both women and men. Other researchers have found confidence in taking precautions to have safer sex as a particularly important indicator of risk (e.g., Schooler and Ward 2006 in the U.S.; Walsch and Ward 2010 in the U.S.), and there is evidence that greater confidence in taking precautions to have safer sex is associated with less risky sexual behaviors (e.g., Schooler et al. 2005 in the U.S.).

Women's sexual self-efficacy can potentially be influenced by SDO through the mechanism of endorsement of the belief that men should dominate sexually. This could be because having less power in heterosexual relationships may make it difficult for women to refuse sex from male partners, be assertive in sexual encounters, and to have control over taking precautions, such as using condoms. And, drawing on the insights from social dominance theory, which highlights the intergroup nature of power dynamics, gender inequalities may potentially pose challenges to men's sexual self-efficacy as well (L. Rosenthal and Levy 2010 internationally). As examples, living up to a particular image of dominant masculinity may hinder men's ability to ever refuse sex (e.g., men are expected to always be ready and want to have sex with any woman), talk openly about inexperience or uncertainty related to protecting oneself (e.g., men are expected to be more experienced sexually so should not admit to their partner if they do not know how to use a condom), or take precautions (e.g., men are expected to enjoy unprotected sex more and to try to have unprotected sex whenever possible). For these reasons, we hypothesized that greater endorsement of SDO would be associated with lower sexual self-efficacy for both women and men, and that greater endorsement of the belief that men should dominate would mediate that relationship. Additionally, because as discussed earlier, sexual self-efficacy has been associated with

actual sexual risk behaviors and incorporates confidence in carrying and using condoms, we hypothesized that lower sexual self-efficacy would be associated with taking fewer female condoms. More specifically, we hypothesized that sexual self-efficacy would be a mediator of the relationship between SDO and interest in female condoms for both women and men (see Fig. 1).

Female Condoms

Female condoms are a woman-controlled source of protection from pregnancy, HIV, and other sexually transmitted infections (STIs), and thus are relevant to our understanding of power dynamics in heterosexual relationships. The female condom is a 6.5 in. long prelubricated sheath or pouch made of synthetic nitrile (previously made of polyurethane) that is worn by a woman insider her vagina during sex, with a ring at each end to help with insertion (before sex) and staying in place. It has been approved by the U.S. Food and Drug Administration as well as the World Health Organization, and is used by women around the world with distributions from many health organizations. (See www.fc2.us.com for more information about the female condom.)

Male condoms are the most commonly used form of protection against HIV and other STIs, but they must be put on a man's body, and therefore are more under the control of the man. Women's lack of power relative to men makes it difficult for women to negotiate use of male condoms with their male partners, and because of this, much research and theorizing has suggested that gendered power dynamics, including the belief that men should dominate sexually, can help to explain women's increasingly disproportionate risk for HIV and other STIs from male partners (e.g., Amaro 1995 in the U.S.; UN AIDS 2010 internationally; Wingood and DiClemente 2000 in the U.S.; also see L. Rosenthal and Levy 2010 for an international review). Because of this, many have advocated for the promotion of the female condom as a woman-controlled source of protection, as women can insert the female condom themselves without having to negotiate condom use with their male partners (e.g., Gollub 2000 internationally; Hollander 2002 in the U.S.).

There is some evidence that women who have especially low or reduced power feel more able to use a female condom than negotiate the use of a male condom, suggesting its utility in empowering women in heterosexual relationships. For example, Beadnell et al. (2000) in the U.S. found that physically abused women had lower self-efficacy in getting a partner to use a male condom than did women who were not physically abused, but this difference was not significant for self-efficacy in using a female condom. This evidence in particular suggests that female condoms may be useful for women in alleviating some of the gendered power-based challenges to condom use.

On the other hand, although there has been increasing promotion, availability, and distribution of the female condom over the past few years (it is now available in over 100 countries worldwide), the female condom has still not really become widely available or popular, with some studies suggesting challenges to people using it, such as male partner objection and lack of community support for its use (e.g., Cabral et al. 2003 in the U.S.; Weeks et al. 2010 in the U.S.). And, interest in the female condom may still be influenced by the belief that men should dominate sexually and sexual self-efficacy, as the female condom gives more control to the woman and is still not commonly used. Many women do not find the female condom acceptable, and although the female condom is designed to be woman-controlled, women still report needing their partner to approve or cooperate to be able to actually use female condoms (see Hoffman et al. 2004 for a review of international findings). These findings suggest that power dynamics and beliefs may still be key in understanding interest in and use of the female condom. Research suggests that even with the female condom, condom use negotiation may still be a challenge for women (e.g., Choi

et al. 2004 in the U.S.). For instance, Cabral et al. (2003) found in a longitudinal study with over 600 women in the U.S. that use and control over use of male condoms predicted female condom use up to 6 months later when male condoms were not used. The women who had trouble with condom negotiation and use because of their male partners at baseline, were less likely to use female condoms at follow-up as well (Cabral et al. 2003), suggesting that power dynamics in relationships are still a barrier to female condom use, similar to male condom use. For these reasons, we also hypothesized that greater endorsement of SDO would be associated with taking fewer female condoms for both women and men, through the mechanisms of the belief that men should dominate sexually and sexual self-efficacy (see Fig. 1).

The Current Investigation

The current investigation was conducted at a Northeastern U.S. university with undergraduate women and men identifying as heterosexual and sexually active. First, we used a multivariate analysis of variance to test for any gender differences in study variables, and we hypothesized based on past work and theorizing that women would endorse both SDO and the belief that men should dominate sexually less than men would. Second, we used bivariate correlations to initially examine the hypothesis that for both women and men, SDO would be positively associated with the belief that men should dominate sexually, and would be negatively associated with sexual self-efficacy and number of female condoms taken. Third, we used structural equation modeling to test the full hypothesized model (see Fig. 1), and specifically the hypotheses that among women and men, endorsement of the belief that men should dominate sexually would mediate the relationships that SDO has with sexual self-efficacy and number of female condoms taken, as well as that sexual self-efficacy would mediate the relationship that SDO has with number of female condoms taken. We did not have specific hypotheses of how the model might be different for women and men; however, because of the central role of gender in the beliefs and processes being studied, we used multi-group analyses to test whether the models were different for women and men.

In the structural equation modeling analyses, we also included the potentially confounding variables of age, family income, number of sexual partners in the past month, and perceived HIV/AIDS risk as control variables. Because age and family income can influence beliefs such as those about power and inequality, as well as sexual self-efficacy and sexual behaviors (e.g., Biello et al. 2010 in the U.S.; Clark et al. 2006 across Africa and Latin America), we controlled for them while testing the hypothesized model. As well, because actual number of sexual partners and perceptions of HIV/AIDS risk can influence sexual self-efficacy and sexual behaviors (e.g., see Kowalewski et al. 1997 for a review in the U.S.), we also controlled for these while testing the hypothesized model.

Method

Participants

Participants were 483 (357 women, 126 men) undergraduates aged 18 to 29 (nine participants who were 30 years or older were excluded) at a public university in the Northeastern U.S. who identified as heterosexual and who reported having sex at least once in the past month. The mean age of the women was 19.87 (*SD*=2.12), and the mean age of the men was 20.18 (2.50). The students were racially and ethnically diverse (43.2 % White/European American, 21.9 % Asian American, 13.2 % Black/African American, 11.9 % Latino American, 9.8 % Mixed or Other for women; 44.2 % White/European American, 32.1 % Asian American, 10.0% Black/African American, 5.8 % Latino American, 7.9 % Mixed or Other for men). Participants were also socioeconomically diverse (i.e., family

income: 7.0 % below $20,000, 25.8 % $20,001–$50,000, 40.6 % $50,001–$100,000, 26.6 % over $100,000 for women; 11.1 % below $20,000, 20.6 % $20,001–$50,000, 36.5 % $50,001–$100,000, 31.7 % over $100,000 for men).

Procedure

Participants 18 years or older were recruited for the study, which was called "Heterosexual Relationships," via the Psychology department's subject pool online system. Participants came into a laboratory to participate in the study in exchange for course credit, and they were simply told that the study was about heterosexual relationships. After participants read, signed, and handed the consent form to the experimenter, participants were directed to a private cubicle. The door was closed to give privacy, and participants followed instructions on a computer screen to complete the study measures. On the computer desk right next to the computer screen was a bowl full of female condoms. There was a sign on the bowl to let participants know they could take the female condoms that read, "Protect yourself and your partner. Please take some! FREE FEMALE CONDOMS." Next to the bowl of condoms, there were small leaflet packets with information about and instructions for using female condoms that participants could read and/or take. After completing the study, participants were thoroughly debriefed about the purpose of the study and thanked for their participation. All procedures were approved the university's Institutional Review Board.

Measures

Social Dominance Orientation—Participants completed the established 16-item measure of SDO (Pratto et al. 1994). Participants answered questions on a scale of–3 (Very Negative) to 3 (Very Positive), such as "It's OK if some groups have more of a chance in life than others." The mean of all items was calculated (half reverse-scored) to create a composite score. The scale demonstrated good internal reliability (Cronbach's Alpha=.91).

Belief that Men Should Dominate Sexually—Participants answered on a scale of 0 (Disagree Strongly) to 3 (Agree Strongly) the question, "The man should be the one who dictates what happens during sex" (Jones and Muehlenhard 1990).

Sexual Self-Efficacy—Participants completed an established 20-item measure of sexual self-efficacy, which assesses certainty in being able to refuse sex, being assertive in getting sexual satisfaction from a partner, using a condom, and taking precautions to have safer sex, including discussing condoms with a partner and carrying condoms (D. Rosenthal et al. 1991). Participants answered questions on a scale of 1 (Very Uncertain) to 5 (Absolutely Certain), such as "As of right now, how certain or uncertain do you feel about being able to discuss using condoms and/or other contraceptives with a potential partner?" One item from the original measure was removed ("control your sex urges while under the influence of alcohol or drugs") and another one was added to assess certainty in using a female condom ("insert a female condom into a vagina," which was based on one of the questions from the original scale: "put a male condom on an erect penis"). All other 19 items were identical to the original scale. The mean of all 20 items was calculated to create a composite overall score. The scale demonstrated good internal reliability (Cronbach's Alpha=.78).

Number of Free Female Condoms Taken—As noted earlier, participants could take as many female condoms as they wished from the bowl, in the private cubicle. After each participant finished the study, was debriefed, and left the study room, the experimenter counted the number of female condoms left in the bowl in the cubicle to determine how many the participant had taken.

Number of Sexual Partners in Past Month—Participants answered the question, "In the last month, how many sexual partners have you had?" (Cupitt 1998).

Perceived HIV/AIDS Risk—Participants answered on a scale of 1 (Not At All) to 5 (A Great Deal) the question, "How much at risk do you consider yourself from HIV/AIDS?" (Cupitt 1998).

Participants also answered several demographic questions, including their age, gender, race/ethnicity, sexual orientation, and family income (on a scale of 1 to 4, using categories described above).

Results

Means and standard deviations of all study variables for women and men separately can be found in Table 1.

Multivariate Analysis of Variance to Compare Women and Men

For our first hypothesis that women would endorse both SDO and the belief that men should dominate sexually less than men would, we used a multivariate analysis of variance to test for mean differences in any study variables (age, family income, number of sexual partners in the past month, perceived HIV/AIDS risk, SDO, belief that men should dominate sexually, sexual self-efficacy, number of female condoms taken) between women and men. As hypothesized, women reported significantly lower endorsement of SDO than men did, $F(1, 481)=12.58$, $P<.001$. Women scored closer to the "Negative" point of the scale, and men scored in between the "Negative" and "Slightly Negative" points of the scale. Women also reported significantly lower endorsement of the belief that men should dominate sexually than men did, $F(1, 481)=76.23$, $P<.001$. Women scored in between the "Disagree Strongly" and "Disagree Mildly" points of the scale, and men scored at the "Disagree Mildly" point of the scale. There were not significant gender differences in age, family income, number of sexual partners in the past month, perceived HIV/AIDS risk, sexual self-efficacy, or number of female condoms taken. Both women and men on average had approximately one sexual partner in the past month, responded close to the "A little bit" point of the perceived HIV/AIDS risk item, responded close to the "Certain" point of the sexual self-efficacy scale, and took approximately one female condom.

Bivariate Correlations

We examined bivariate correlations among all study variables as an initial test of our hypothesis that SDO would be associated with the belief that men should dominate sexually, sexual self-efficacy, and number of female condoms taken among both women and men, before using structural equation modeling to test the entire hypothesized model. Bivariate correlations for study variables shown separately for women and men can be found in Table 2. As hypothesized, SDO was positively correlated with the belief that men should dominate sexually, and was negatively correlated with sexual self-efficacy and number of female condoms taken for both women and men. As well, greater endorsement of the belief that men should dominate sexually was negatively correlated with sexual self-efficacy for both women and men, and with number of female condoms taken for women only. For men only, family income was positively correlated with SDO. For women only, family income was positively correlated with sexual self-efficacy. Also for women only, perceived HIV/AIDS risk was positively correlated with number of sexual partners in the last month and negatively correlated with sexual self-efficacy.

Structural Equation Modeling Analyses

We used structural equation modeling in AMOS to test our full hypothesized model—that is, that the belief that men should dominate sexually would be a mediator of the relationships that SDO has with sexual self-efficacy and number of female condoms taken, and that sexual self-efficacy would be a mediator of the relationship that SDO has with number of female condoms taken. We included age, family, income, number of sexual partners in the past month, and perceived HIV/AIDS risk as control variables in analyses. We used multi-group analyses, with women and men representing separate groups, to compare the model between women and men.

First, we tested the saturated model represented in Fig. 1, including the effects of all four control variables on all other variables in the model. Similar to the correlation matrix, the control variables of age and number of sexual partners were not associated with any other variables in the model for women or men. Further, the control variables of family income and perceived HIV/AIDS risk were only associated sexual self-efficacy (for women only) and with SDO (for men only). Therefore, following model trimming procedures (Kline 2011), we trimmed age and number of sexual partners from the model completely, as well as the paths from family income and perceived HIV/AIDS risk to the belief that men should dominate sexually and number of female condoms taken. We also trimmed the path from sexual self-efficacy to number of female condoms taken because it was nonsignificant for both women and men. All remaining paths were significant for at least one group. Because further model trimming would result in a model that fit the group with the higher sample size best (i.e., women, who comprised 74 % of the sample), we did not trim other paths from the model. By retaining all other paths in the model, we were able to more accurately detect gender differences in regression weights.

Figure 2 represents the final model, including standardized regression weights for both women (in bold) and men (not in bold). The overall model demonstrated a good fit for the data, despite the inclusion of several paths that were nonsignificant for one gender, X^2 (11) = 15.11, *P*=.18; RMSEA=.028, CI=.000–.059; CFI=.95. Given that we were interested in whether the process represented in the hypothesized model differed for women and men, we examined the results of the multi-group analysis comparing the standardized betas between these groups. These results were mixed: one indicator of model fit suggested that the paths were similar between women and men, RMSEA=.045, CI=.024–.066, but other indicators of model fit suggested that the paths were different between women and men, $X^2(20)=39.71$, *P*=.01; CFI=.77. Further analysis of the regression weights themselves suggest that while several paths were similar for women and men, other paths were different. For both women and men, as hypothesized, SDO was positively associated with the belief that men should dominate sexually, and that belief in turn was negatively associated with sexual self-efficacy. However, the belief that men should dominate sexually was only negatively associated with number of female condoms taken for women; therefore our hypothesis that the belief that men should dominate sexually mediates the association between SDO and number of condoms taken was not supported for men. There was still a significant direct association between SDO and taking fewer female condoms among men. As mentioned above, sexual self-efficacy was not associated with number of female condoms taken for women or men, and that path had been cut from the model, therefore our hypothesis that sexual self-efficacy mediates the association between SDO and number of condoms taken was not supported for women or men.

However, the belief that men should dominate sexually was negatively associated with number of female condoms taken among women, and the belief that men should dominate sexually was negatively associated with sexual self-efficacy among women and men. Therefore, we next examined whether there was a significant indirect effect of SDO on

number of female condoms taken among women, and whether there were significant indirect effects of SDO on sexual self-efficacy among women and men, each through the mechanism of the belief that men should dominate sexually. For women, the indirect effect of SDO on number of female condoms taken was significant (p=.02), suggesting that the belief that men should dominate sexually is a mediator of the relationship between SDO and number of female condoms taken for women. For women and men, the indirect effect of SDO on sexual self-efficacy was significant (women: P=.03, men: P=.01), suggesting the belief that men should dominate sexually is a mediator of the relationship between SDO and sexual self-efficacy for both women and men.

Discussion

The current investigation aimed to test whether women's and men's beliefs about social dominance can help us understand power-based gender beliefs and dynamics in heterosexual relationships and some of the processes involved in these relationships. We tested a model that builds on theory and research on social dominance theory and SDO, the belief that men should dominate sexually, sexual self-efficacy, and female condoms. Specifically, we tested a model that hypothesized that among both women and men identifying as heterosexual, endorsement of SDO would be positively associated with the belief that men should dominate sexually, and negatively associated with sexual self-efficacy and interest in female condoms. Further, the model hypothesized that among both women and men the belief that men should dominate sexually would mediate the relationships that SDO has with sexual self-efficacy and interest in female condoms, and that sexual self-efficacy would mediate the relationship that SDO has with interest in female condoms.

We tested our hypothesized model with data from a laboratory study conducted at a Northeastern U.S. university, among undergraduates that reported being heterosexual and sexually active, and who were from racially/ethnically and socioeconomically diverse backgrounds. Results of both correlations and structural equation modeling partially supported our hypothesized model. Consistent with the theorizing of L. Rosenthal and Levy (2010) and our hypotheses, among both women and men, endorsement of SDO was positively correlated with the belief that men should dominate sexually, and negatively correlated with sexual self-efficacy and number of female condoms taken. In structural equation modeling analyses, as hypothesized, the belief that men should dominate sexually was a mediator of the relationship between SDO and sexual self-efficacy for both women and men. The belief that men should dominate sexually was also a mediator of the relationship between SDO and number of female condoms taken among women, but not for men. Sexual self-efficacy was not a mediator of the relationship between SDO and number of female condoms taken for women or men. Age and number of sexual partners in the past month did not end up being included in the model because they did not have any significant relationships with other variables in the model for women or men. Family income was associated with SDO for women and men, and with sexual self-efficacy for women only. Perceived HIV/AIDS risk was associated with sexual self-efficacy for women only, and associated with SDO for men only.

Overall, these findings corroborate the application of social dominance theory to understanding gendered power beliefs and dynamics in heterosexual relationships and sexual risk behavior (L. Rosenthal and Levy 2010), specifically with the important construct of SDO helping to explain individual differences in believing that men should dominate sexually, sexual self-efficacy, and interest in female condoms. These findings suggest that beliefs about power may play a key role in both women's and men's attitudes about sexual behavior and potentially their decisions to protect themselves during sexual activity. Results highlight that power beliefs and dynamics in heterosexual relationships do not only hurt

women, but also hurt men because they potentially decrease their sexual self-efficacy and interest in female condoms as well.

However, although many elements of the model were the same for women and men, some were different, particularly that the belief that men should dominate sexually was not significantly associated with the number of female condoms taken for men, and therefore could not be a mediator of the relationship between SDO and number of female condoms taken for men. This suggests that although power-related beliefs can affect both women and men in heterosexual relationships in some similar ways, some of the processes involved may be different. This may be because women and men have differing experiences in society such as those based on their different status in the gender-based hierarchy. Consistent with past work and our hypotheses, in a multivariate analysis of variance we indeed found that women endorsed social dominance orientation and the belief that men should dominate sexually less than men did (e.g., Pratto et al. 1994). Overall, these findings suggest that a belief like SDO may be detrimental for both women and men in their heterosexual relationships, but that it is important to examine and understand gender differences involved.

Findings from the present investigation also speak to how the study of female condoms fits into understanding gender-based power beliefs and dynamics in heterosexual relationships. The female condom has been promoted in the U.S. and internationally as a promising alternative to male condoms because female condoms give women more control or power over protection. However, findings from this study, along with other studies, point to how issues of power, and specifically overarching beliefs about whether inequities are justified, may still be a challenge to both women's and men's interest in using female condoms (e.g., Cabral et al. 2003). These results do not suggest that female condoms should not continue to be studied and promoted as a means of empowering women, as past work has found them to be efficacious in some circumstances and useful to women who are unable to negotiate male condom use with partners (e.g., Beadnell et al. 2000 in the U.S.; Gollub 2000 for an international review; Hollander 2002 in the U.S.). In fact, our findings showing that social power beliefs are related to being less likely to take free female condoms, may suggest that researchers should redouble efforts to study female condoms and uncover ways to promote interest and acceptance of them despite continued challenges of power inequities between women and men.

Limitations and Future Directions

This study was conducted with undergraduate students in the Northeastern U.S., who make up a key age group that engages in some unsafe sexual behaviors and is often targeted by on-campus programs to increase condom use and decrease risk taking. So that we can understand how generalizable these findings are, future work should test these relationships with different age groups, and with people from different socioeconomic and racial/ethnic backgrounds, and in other countries. Many sociodemographic characteristics such as race, class, education level, among other things, affect gendered power-related beliefs, sexual risk, attitudes toward condoms, and condom use (for a review, see L. Rosenthal and Levy 2010), and therefore, examining these relationships among other samples is necessary to have a fuller understanding of how these variables operate in different contexts and among diverse groups of people. Future work may also want to examine potential moderators of the relationships found in the current study, such as current relationship dynamics and the level of risk of current partners, or use dyadic data collection and analysis to examine the role of SDO in gendered beliefs and sexual decision-making made by both partners together.

As well, although it is a strength of this study to examine the actual behavior of taking female condoms instead of just self-reported attitudes concerning female condoms, it is important for future work to examine the relationships that SDO has with attitudes toward

female condoms and the actual use of female condoms as outcomes. Although we studied the female condom because it specifically has been targeted as empowering women to protect themselves, to more completely understand the significance of individuals' beliefs about power in sexual risk, future work should consider whether social dominance beliefs relate to interest in, attitudes toward, and use of male condoms, or whether these relationships would be different from those with female condoms.

We also suggest that future work consider elaborating on our model in other ways. Our study aimed to test several variables that we identified in past work as key to the study of gender-based power beliefs and dynamics in heterosexual relationships. We found that the belief that men should dominate sexually is a mediator of the relationship between SDO and sexual self-efficacy for women and men, as well as a mediator of the relationship between SDO and number of female condoms taken among women; however, we did not find any mediator of the relationship between SDO and number of female condoms take among men. The mechanisms driving these relationships deserve further attention. Given that gender roles and norms play a crucial role in sexual behavior between women and men, it seems fruitful to consider other gender-related beliefs that could play a role in the general model as well as the specific models for women and men. Additionally, the belief that men should dominate sexually was measured with a single item, and thus future work may want to test these relationships with other longer measures of this belief. Overall, because this is the first test of these hypothesized relationships, more work is needed to understand the associations of SDO, the belief that men should dominate sexually, sexual self-efficacy, and interest in female condoms.

Conclusion

Research findings and theorizing increasingly point to the importance of gender-based power beliefs and dynamics in heterosexual relationships. The present investigation builds on and extends past work on social dominance theory, power and women's sexual risk, sexual script beliefs, sexual self-efficacy, and female condoms, to highlight the importance of social dominance orientation in power-related dynamics in heterosexual relationships, including the processes involved in those relationships. Among undergraduates at a Northeastern U.S. university, sexually active women identifying as heterosexual who more strongly endorsed social dominance orientation endorsed the belief that men should dominate sexually to a greater extent, had lower sexual self-efficacy, and took fewer female condoms. Social dominance orientation—an individual's level of support for social hierarchy and power inequities—may be important in women's beliefs, confidence, and behaviors in heterosexual relationships, even posing a challenge to interest in female condoms, which are intended to be a woman-controlled form of protection. The same results were also found among sexually active men identifying as heterosexual, suggesting that social dominance beliefs are also driving men's beliefs, confidence, and behaviors in heterosexual relationships, and underscoring the reality that power inequities and beliefs put both women and men at risk. Taken together, the present findings, along with a growing body of work, point to the need to continue to study beliefs about power dynamics among women and men in heterosexual relationships to better understand sexual beliefs and behavior that can have long-term consequences for individuals and societies worldwide.

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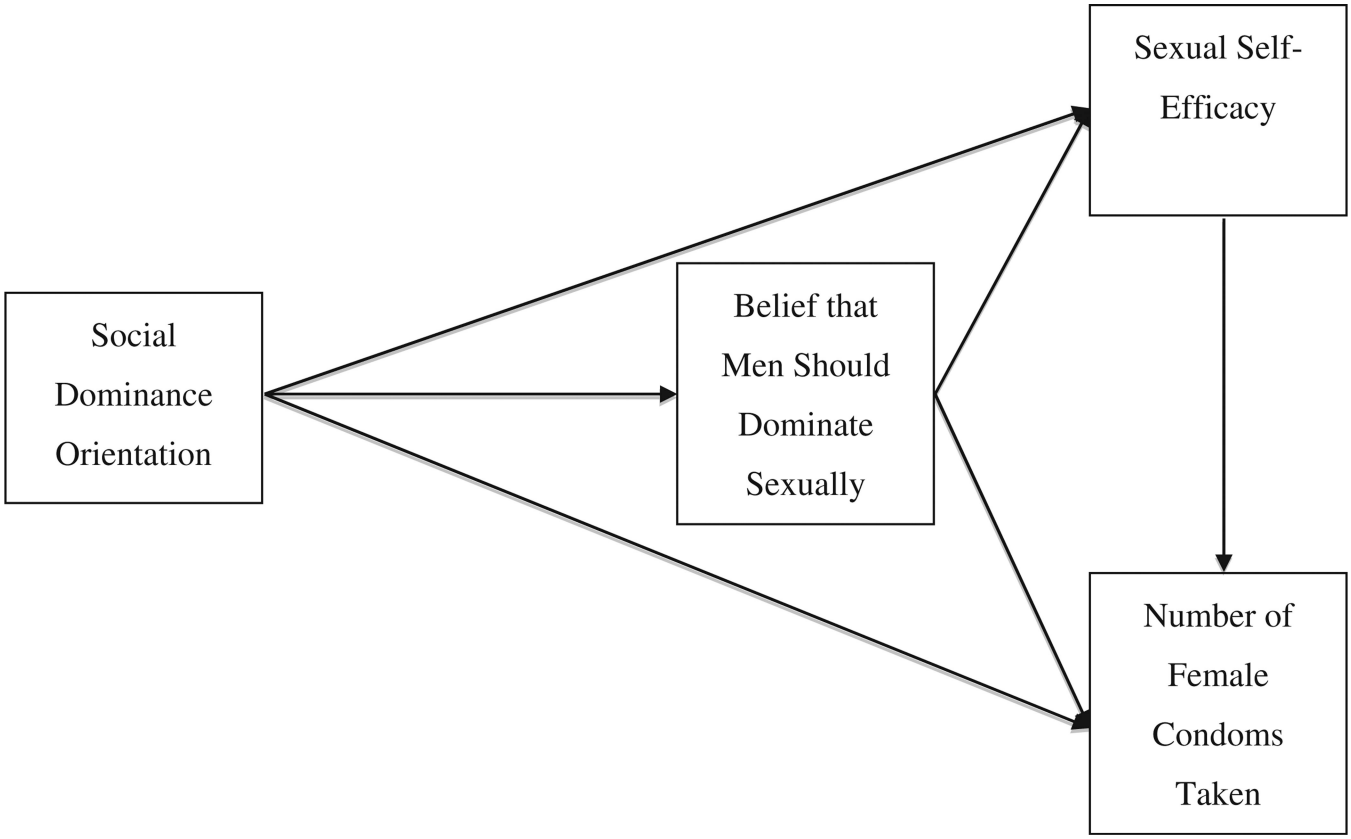

Fig. 1. Hypothesized model to be tested using structural equation modeling

In the structural equation modeling analyses, we also allowed for the potential inclusion of age, family income, number of sexual partners in the past month, and perceived HIV/AIDS risk as control variables

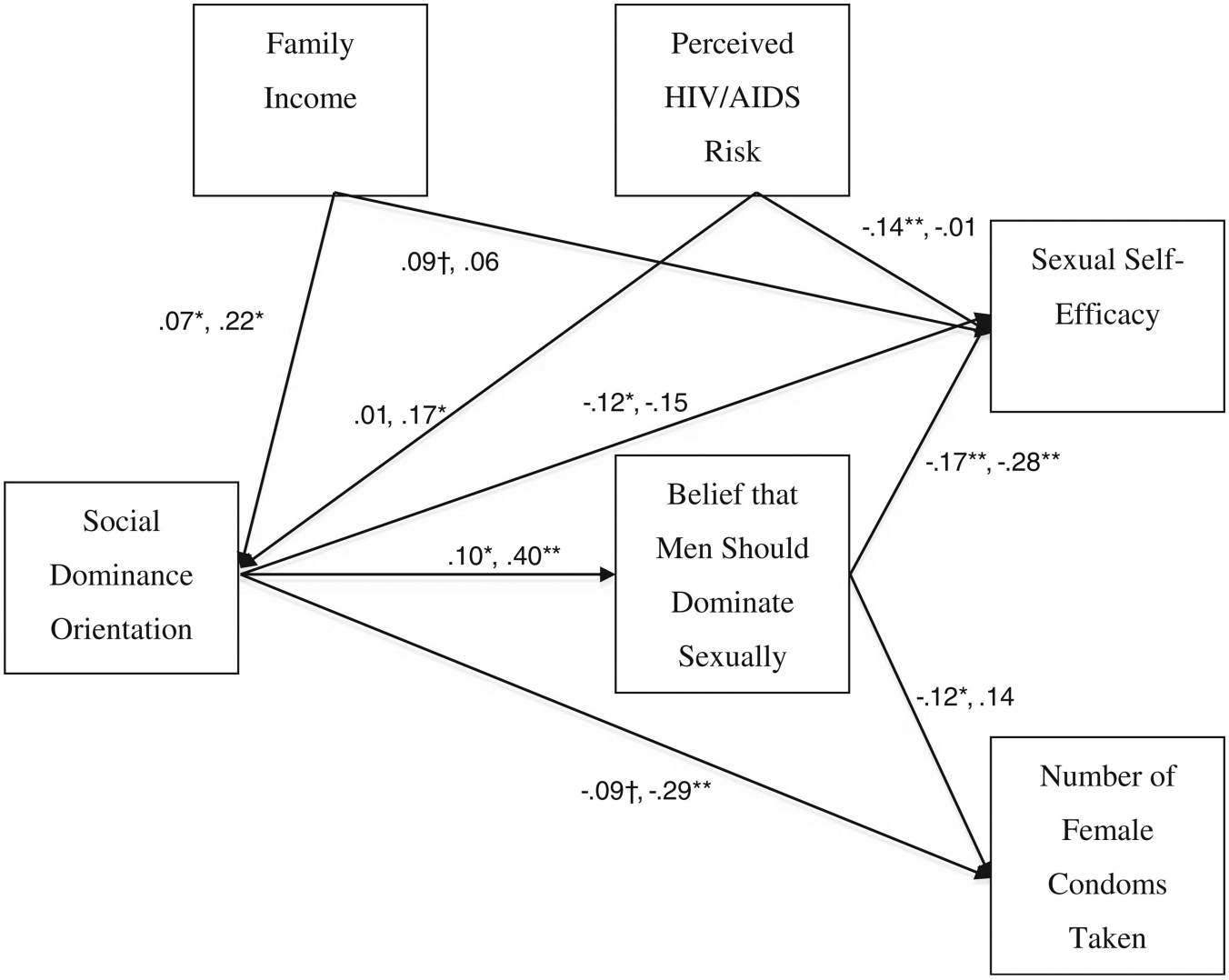

Fig. 2. Structural equation model results

Coefficients shown are standardized betas, in bold for women (*N*=357), and not in bold for men (*N*=126). †*p*<.10; **p*<.05; ***p*<.01. Model fit statistics: $X^2(11) = 15.11$, *p*=.18; RMSEA=.028, CI=.000–.059; CFI=.95

Table 1

Means (and standard deviations) for women (*N*=357), men (*N*=126)

	Women	Men
Control Variables		
Age	19.87(2.12)	20.18(2.50)
Family Income	2.87 (.89)	2.89 (.98)
Number of Sexual Partners in Last Mont	1.12 (.42)	1.19 (.67)
Perceived HIV/AIDS Risk	1.78(1.07)	1.80(1.16)
Main Study Variables		
Social Dominance Orientation	−1.93 (.93)[a]	−1.57(l.ll)[a]
Belief that Men Should Dominate Sexually	.41 (.65)[a]	1.03 (.79)[a]
Sexual Self-Efficacy	3.92 (.56)	3.86 (.50)
Number of Female Condoms Taken	.88(1.94)	.93 (1.90)

[a]Means that were found to be significantly different from each other for women versus men in a multivariate analysis of variance are noted with superscripts

Family income was assessed on a 1 to 4 scale; perceived HIV/AIDS risk was assessed on a 1 to 5 scale; social dominance orientation was assessed on a −3 to 3 scale; the belief that men should dominate was assessed on a 0 to 3 scale; sexual self-efficacy was assessed on a 1 to 5 scale

Table 2

Bivariate correlations for women (*N*=357) and men (*N*=126)

Variable	1	2	3	4	5	6	7	8
1. Age	-	.02	.17	−.01	.08	−.04	.00	.06
2. Family Income	.00	-	−.08	−.06	.21*	.16	−.01	−.17
3. Number of Sexual Partners in Last Month	−.06	.04	-	.07	−.06	−.13	.13	−.02
4. Perceived HIV/AIDS Risk	.07	−.01	.13*	-	.16	.09	−.05	−.03
5. Social Dominance Orientation	−.05	−.07	−.00	.00	-	40**	−.25**	− 23**
6. Belief that Men Should Dominate Sexually	−.06	−.06	.05	.05	19**	-	−.33**	.03
7. Sexual Self-Efficacy	.04	.11*	−.07	− 14**	−.16**	− 20**	-	.02
8. Number of Female Condoms Taken	.04	.03	−.05	.00	−.11*	−.14*	.07	-

Correlations for women are below the diagonal, and correlations for men are above the diagonal.

* $p<.05$;

** $p<.01$