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Sexual Education, Gender Ideology, and Youth Sexual Empowerment

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*Sexual education plays an essential role in preventing unplanned pregnancy and the transmission of sexually transmitted infections (STIs). School-based sexual education programs, in particular, may be well positioned to address social factors that are empirically linked to negative sexual health outcomes, such as traditional social norms surrounding gender and sexuality. However, youth are seldom granted access to sexual education programs that explicitly address these issues. This study presents findings from a pretest–posttest survey of a sexual education program that did. It was designed for eighth graders (*N=*95) in the context of a school–community collaboration. The study assessed the links between several components of sexual empowerment, including gender ideology, sexual knowledge, and contraceptive beliefs. Findings link participation in the sexual education program to more progressive attitudes toward girls and women, less agreement with hegemonic masculinity ideology, and increases in sexual health and resource knowledge. Structural equation models suggest that traditional attitudes toward women were significantly related to hegemonic masculinity ideology among both boys and girls, which was in turn negatively related to safer contraceptive beliefs.*

Adolescents account for nearly half of the 18.9 million cases of sexually transmitted infections (STIs) in the United States each year, although they make up only one-quarter of the sexually active population (Weinstock, Berman, & Cates, 2004). Furthermore, the teen pregnancy rate in the United States (82% of which are unplanned) is one of the highest for an industrialized nation—more than twice as high as Canada and Sweden (Finer & Zolna, 2011; McKay & Barrett, 2010). It has been suggested that these factors reflect the broader problem of youth's lack of access to the psychological, social, and material resources that support well-informed, empowered choices about reproductive and sexual health (Bay-Cheng, 2012; Fortenberry, 1997; Rogow & Haberland, 2005). Although sexual education programs are often offered in schools, they rarely address social factors, such as adherence to traditional gender roles and sexual scripts, that are empirically linked to negative sexual health outcomes (e.g., Sanchez, Crocker, & Boike, 2005; Pleck, Sonenstein, & Ku, 1990, 1993).

Adolescent sexual identity develops within the context of gender-role stereotypes and sexual scripts youth receive from individuals and institutions within their culture (Gagnon & Simon, 1973; Galambos, Almeida, & Petersen, 1990; Martin, 1996; Tolman, 2002). As key socializing institutions where adolescents interface daily with sociocultural gender norms (Stromquist, 2007), schools could play an essential role in empowering youth to make informed decisions about their sexual health (Kohler, Manhart, & Lafferty, 2008). The current study evaluated a sexual education program that explicitly addressed assumptions and beliefs about gender and sexuality through the discussion of healthy relationships, communication, and dating skills. We present findings based on a pretest–posttest survey in the context of a school–community collaboration that suggests programs of this nature may enhance the sexual health and empowerment of young people.

Gender Norms of Youth Sexuality and Sexual Education

Reproductive and sexual health are positioned within a broader social context of patriarchy. Although definitions of patriarchy can vary, it is widely accepted that patriarchy refers to social arrangements that privilege males, where men as a group dominate women as a

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group, both structurally and ideologically (Connell, 1987; Hunnicutt, 2009). While sources of influence may occur at macro and micro levels (e.g., religion, familial interactions), power disparities between women and men emerge, in part, through traditional gender ideologies and sexual scripts that assume masculine superiority and agency and feminine passivity, compliance, and naïveté (Byers, 1996; Levant, Hirsch, Celentano, & Cozza, 1992; Shearer, Hosterman, Gillen, & Lefkowitz, 2005; Simon & Gagnon, 1984; Tolman, 2006; Tolman, Striepe, & Harmon, 2003). These normative beliefs, or traditional ideologies, of femininity or masculinity are complementary and interconnected and inform standards of male or female behavior (Greene & Faulkner, 2005; Tolman, 2006; Tolman et al., 2003). Traditional sexual scripts, in particular, lay out a limited range of appropriate and legitimate masculine and feminine sexual goals, contexts, and behaviors (Fine, 1988; Simon & Gagnon, 1984; Tolman, 2006; Tolman & Porche, 2000).

The performance of sexual behaviors in line with traditional sexual scripts and beliefs about gender has consequences that reflect decreased sexual health and empowerment among both men and women. For instance, evidence suggests that men and women who hold traditional perspectives on gender and sexual roles report lower sexual autonomy and higher risk for contracting HIV/AIDS than those with less traditional beliefs (Kalichman et al., 2005; Sanchez et al., 2005). In addition, women's agreement with traditional sexual and marital roles is related negatively to their sexual risk knowledge, sexual satisfaction, assertiveness, and even condom and contraceptive use (Curtin, Ward, Merriweather, & Caruthers, 2011; Sanchez & Kiefer, 2007; Shearer et al., 2005; Waszak, Severy, Kafafi, & Badawi, 2001). Moreover, women in more traditional relationships are more likely to experience forced sex by their partner, have less ability to negotiate safer sex, and are more susceptible to unwanted pregnancies and HIV/AIDS than women in less traditional relationships (Higgins, Hoffman, & Dworkin, 2010; Simonson & Subich, 1999; Waszak et al., 2001). Furthermore, adolescent boys with more traditional masculinity beliefs report more sexual partners, less consistent condom use, less belief that men have some responsibility to prevent pregnancy, and less intimacy in relationships than boys reporting less traditional masculinity beliefs (Pleck et al., 1990, 1993). Although the majority of studies to date have been conducted with adult samples, the formation of gender-role stereotypes and sexual scripts occurs during adolescence (Martin, 1996). Given the potentially grave consequences for health that accompany traditional sexual scripts among youth in the United States, it is important that we begin to examine these processes, and what may interrupt them, among samples of adolescents.

Sexual education has the potential to be transformative in this area because gender identities and ideologies are dynamic, change in relation to the sociocultural context, and can be contested and resisted by youth (Tolman, 2006). Despite the promise of school-based sexual education, however, current sexual education curricula in the United States are limited in their capacity to challenge traditional gender ideology. Although the emphasis on abstinence has shifted in recent years under the Obama administration, many schools still utilize abstinence-only curricula to seek federal funding in the United States (National Campaign to Prevent Teen and Unplanned Pregnancy, 2013) and more than $5 million in federal funds were awarded to abstinence-only sex education programs in 2012 (U.S. Department of Health and Human Services, 2012). Yet the vast majority of rigorous empirical investigations fail to support abstinence-only programs' ability to reduce unplanned pregnancy and STI contraction or to increase knowledge and accuracy of safer-sex practices (e.g., use of contraceptives; Haignere, Gold, & McDaniel, 1999; Kohler et al., 2008; Rosenbaum, 2009; Stanger-Hall & Hall, 2011). Part of this failure may be attributed to the fact that abstinence-focused curricula reinforce gendered and heterosexist stereotypes regarding sexual desire, power dynamics, and intimate relationships (Holland, Ramazanoglu, Scott, Sharpe, & Thomson, 1992; Kantor, Santelli, Teitler, & Balmer, 2008; Kumar, Larkin, & Mitchell, 2001; Mayo, 2008). Even programs that take a more comprehensive approach to sexual education, such as those required by the state of California that include accurate information about contraception, may fail to address underlying sociocultural norms that place youth at risk (Bay-Cheng, 2003; Smiler, 2008).

A myopic focus on abstinence, to the exclusion of problematizing traditional gender roles and sexual scripts, is unlikely to facilitate movement toward greater sexual health and empowerment. Although limited, research examining the effect of sexual education on gender ideology suggests that participation in HIV-prevention programs by adult women may shift traditional sexual scripts, thereby increasing women's sexual agency (Dworkin, Beckford, & Ehrhardt, 2007). In addition, a longitudinal survey with adolescents showed that greater sexual knowledge predicted fewer rape-supportive beliefs six months later (Mallett & Herbe, 2011). As such, in the past decade, researchers internationally have argued it is necessary to integrate an examination of social, political, and historical issues into sexual education curricula design and research (Allen, 2004, 2007; Bay-Cheng, 2003; Fine & McClelland, 2006; Harris, Aapola, & Gonick, 2000; Lamb, 2010; Rasmussen, 2004). This shift in focus is important if youth are to gain access to resources necessary to empower them to make safer sexual behavior choices.

Youth Sexual Health and Empowerment

For the purposes of this article, sexual health can be thought of as a construct that extends beyond the absence of sexual disease, dysfunction, and issues of abuse to include physical, psychological, and social well-being related to sexuality (Hensel & Fortenberry, 2013; National Commission on Adolescent Sexual Health, 1995; U.S. Department of Health and Human Services, 2001; World Health Organization, 2006). However, despite the multidimensional nature of sexual health, sexual empowerment is often operationalized as an individualistic notion of self-improvement and personal responsibility with a clear end state. Yet in social justice–oriented fields (e.g., community psychology, social work, women's studies), empowerment, in general, is discussed in more comprehensive ways. In particular, within community psychology, the theoretical conceptualization of psychological empowerment implies an ongoing process requiring an alignment of intrapersonal as well as interactional components (Rappaport, 1981, 1987; Zimmerman, 1995). According to empowerment theory, through a dynamic and relational process individuals and communities gain increased opportunities to control decisions that affect their lives (Rappaport, 1981; Zimmerman, 1995).

In understanding how empowerment theory can be applied to sexuality and sexual health, Peterson and others have argued that both macrostructural (e.g., shifts in structural power; access to resources) and psychological components are important to a comprehensive theory of youth sexual health and empowerment (Gavey, 2012; Lamb & Peterson, 2012; Murnen & Smolak, 2012; Peterson, 2010; Tolman, 2012). In this study we explored two psychological components of sexual empowerment. *Interactional* components of psychological empowerment include awareness and analysis of the sociopolitical context (i.e., power dynamics, critical analysis of dominant narratives, where and how to access desired resources) and the knowledge necessary for making decisions consistent with one's goals (Bay-Cheng, 2012; Peterson, 2010; Zimmerman, 1995). Because the sociopolitical environment includes normative attitudes about gender and sexuality in society, the interactional components of psychological empowerment measured in the current study assessed traditional attitudes toward women, agreement with hegemonic masculinity in interpersonal relationships, and sexual knowledge. *Intrapersonal* components of psychological empowerment include attitudes about efficacy and problem-solving skills (Peterson, 2010; Zimmerman, 1995). In the context of sexual health, efficacy within a relationship and surrounding contraception use is critical, so we measured contraceptive beliefs in terms of relationship communication and birth control access and responsibility.

Because evaluations of sexual education programs often rely solely on reports of discrete incidents such as sexual behaviors or STI contraction as the only outcome measures, the impact of education curricula on sexual empowerment remains an empirical question (Rogow & Haberland, 2005). By exploring the relationship between youth's gender ideology and sexual knowledge and attitudes in the context of a school-based sexual education program, the current study aimed to better understand and promote youth sexual empowerment. The program evaluated in the current study explicitly addressed assumptions and beliefs about gender and sexuality through the discussion of healthy relationships, communication, and dating skills.

Hypotheses

We expected that, both before and after the program, there would be mean differences in boys' and girls' reports of gender ideology and contraceptive beliefs. Specifically, we hypothesized that girls would demonstrate less traditional gender ideology than boys as well as less safe contraceptive beliefs. We also expected all students to report changes in psychological sexual empowerment after participating in the two-week sexual education curriculum (i.e., changes were predicted to reflect less traditional gender ideology, greater sexual knowledge, and safer contraceptive beliefs). Finally, we expected more progressive gender ideology to predict higher levels of sexual health knowledge and safer contraceptive beliefs after the curriculum.

Method

The Setting

This study was conducted in collaboration with the Walnut Avenue Women's Center (WAWC), a community-based resource center that has been serving women, children, and families for 75 years. Currently, WAWC provides domestic violence services, youth development services, family literacy, early childhood education, and resource and community development. It offers progressive and comprehensive services for youth, including mentoring, gender-specific support groups, and life skills workshops (i.e., comprehensive sexual education; healthy relationships, dating and domestic violence; and media awareness and body image). The youth program director at WAWC, the school principal, a classroom teacher, and a university team collaboratively designed and administered a survey to examine the outcomes of the WAWC-supported sexual education curriculum for middle school students at Surfside Middle School (SMS; all location names are pseudonyms).

SMS is the only public middle school in Pineville, an unincorporated area in the central coastal region of California. The area is both economically and ethnically

diverse, with a heterogeneous mix of low-, middle-, and high-income housing (Schilling & Hearon, 2008). In all, 28% of Pineville's 17,000 residents identify as Hispanic (U.S. Census Bureau, 2010), and there is a large and growing Latina/o im/migrant population. SMS serves more than 550 students who reflect the diversity of the area: 56% of the students are Latina/o or Hispanic, 32% are White, 3% African American, 7% Asian/Pacific Islander, and 1% Native American. Approximately 37% of the students are designated as English-language learners, and 64% are identified as socioeconomically disadvantaged (California Department of Education, 2012).

The Curriculum

WAWC provides an age-appropriate sequence of programs at SMS beginning in sixth grade and ending with a comprehensive sexual education and HIV/AIDS prevention program delivered to all eighth graders who have parental consent. This is in line with California state policy that requires sexual health education begin no later than seventh grade and that HIV/AIDS prevention be taught once in middle school and once in high school (Comprehensive Sexual Health and HIV/AIDS Prevention Education Act, SB 71, California Senate, 2003). Therefore, the majority of students in the current study had been exposed to discussions of pregnancy, HIV, or STIs in the previous year (i.e., prior to their eighth-grade sex education program): 49.5% at school, 3.2% at church, and 9.5% elsewhere (including from friends, doctors, and families/homes).

WAWC's sexual education program was delivered to eighth-grade students by a female and male facilitator, and held for 50 minutes each day, for 10 days, over the course of two weeks during the students' science class period. Approximately 25 to 30 boys and girls were in each class. The classes were based on the "Streetwise to Sexwise" (STS) curriculum (Brown & Taverner, 2001). The program had multiple goals: reducing teen pregnancy through delaying the initiation of sex; reducing the frequency of sex; increasing the use of contraception; increasing student's feelings of self-worth and self-respect; improving perceptions of peer norms and behaviors about sex; building communication and dating skills so youth can make their own informed choices; and addressing assumptions and beliefs about gender and sexuality. In the STS curriculum, student-based questions are considered of central importance.

Although addressing the intersection of gender and sexuality was among several other program goals, it was a unique aspect of the curriculum and was discussed in a variety of ways. For example, students were taught that human sexuality relates to one's entire being (including physical, emotional, social, and spiritual elements) and can include how one feels about gender and gender norms. Students also learned about the role of various types of gendered communication (passive, aggressive, and assertive) and how such communication applies to (among other things) dating, sexual behaviors, condom use, and sexual consent, with an emphasis on breaking rape myths.

Participants and Procedure

Participants were recruited from eighth-grade science classes (five periods from one teacher); a total of 148 students were eligible to participate. Researchers provided students with written information about the study, and students were asked to return parental consent forms. Students who did not return a form by the start of the study—because they forgot ($n = 20$) or because parents declined to have them participate ($n = 3$)—went to the school library for the class periods in which the surveys took place (16% of eligible participants). Students who did not complete both the pretest and posttest due to absences were excluded from analyses ($n = 17$). Two additional students were dropped (one boy and one girl) because they missed four or more sexual education classes. The final sample included 95 eighth-grade students (44 girls, 51 boys; 64% of total eligible participants, and 83% of those who returned parental consent forms). According to chi-square analysis, participants were more likely to be female than expected from the original roster of eligible participants, suggesting a larger proportion of boys than girls were absent, had parents who refused their participation, or forgot forms. When compared to the total group who returned parental consent forms, the proportion of boys to girls in the final sample was not significantly different than expected.

Participants were ages 12.66 to 15.48 (boys, $M = 14.30$, $SD = 0.45$; girls, $M = 14.10$, $SD = 0.40$). The majority of participants self-identified as Latino, Hispanic, Chicano, and/or Mexican American ($n = 62$, 65.3%); 32 students identified as White (33.7%), 3 as Black/African American (3.2%), 7 as American Indian, Native American, and/or Alaskan Native (7.4%), 7 as Asian, South Asian, Asian American, and/or Pacific Islander (7.4%), and 8 as Other (8.4%). Approximately one-quarter of students' mothers (28.4%) and fathers (23.3%) had not completed high school. These demographics reflect the overall makeup of the school.

Students with parental permission were asked to participate in a study about themselves, their relationships, and health. The first author and two undergraduate research assistants explained the procedure and questionnaire and answered any questions. Students were given the option to complete a written consent form and the survey instrument in Spanish or English, and they were reminded that the survey was voluntary and confidential. Participants completed the pretest survey during a class period one week before the comprehensive sexual education curriculum (T1), and a posttest survey three weeks after the curriculum ended (T2). Students

were provided a resource list of local and national organizations (e.g., police, teen crisis line, WAWC) as well as the research team's contact information. Students received ballpoint pens as an incentive for completing both parts of the survey.

Measures

Each of the measures was assessed at both time waves.

Gender ideology.

Attitudes toward women. The 12-item Attitudes Toward Women Scale for Adolescents (AWSA) measures beliefs about feminine gender roles (Galambos, Petersen, Richards, & Gitelson, 1985). Participants rated their agreement with such statements as "It is all right for a girl to ask a boy out on a date" on a scale from 1 (*Disagree a lot*) to 4 (*Agree a lot*). The rating scale was modified for this study from the original (*Disagree strongly* to *Agree strongly*), in line with previous research (Chu, Porche, & Tolman, 2005). Items were averaged, and higher scores reflect more rigid and traditional beliefs about women's and girl's roles and rights (boys' pretest $\alpha = .79$, posttest $\alpha = .77$; girls' pretest $\alpha = .76$, posttest $\alpha = .76$).

Masculinity ideology. The 12-item Adolescent Masculinity Ideology in Relationships Scale (AMIRS) assesses agreement with norms of hegemonic masculinity within interpersonal relationships (Chu et al., 2005). Participants rated their agreement with such statements as "Guys should not let it show when their feelings are hurt" on a scale from 1 (*Disagree a lot*) to 4 (*Agree a lot*). Items were averaged, and higher scores reflect greater agreement with dominant norms of masculinity. Internal consistencies for boys (pretest $\alpha = .68$, posttest $\alpha = .72$) and girls (pretest $\alpha = .65$, posttest $\alpha = .73$) were similar.

Sexual knowledge.

Sexual health knowledge. Participants were asked about four different contraceptive methods: (a) choosing not to have sex, (b) using birth control pills, (c) using condoms, or (d) using Depo ("the shot"). They were asked if each method protects individuals, (a) from pregnancy and (b) from STIs. Participants answered *Yes, No*, or *Don't know* (recoded as missing). Answers across each method were summed to create four knowledge scores: Abstinence Knowledge, Birth Control Knowledge, Condom Knowledge, and Depo Knowledge. Higher scores reflected more accurate knowledge. Because the scale was indexed as a count score, internal consistency was not computed. The questions were adopted from a previous unpublished statewide evaluation of the sexual education curriculum conducted from 2006 to 2007 by the University of California, San Francisco (UCSF; n.d.), and sponsored by the California Department of Health Services.

Services knowledge. A scale called Services Knowledge was created with three questions asking about family planning services from the UCSF statewide evaluation: "Do teens have to pay?"; "Do clinic staff tell parents that teens sought services?"; and "Do teens need permission from parents to use family planning services?" Participants answered these items on a scale from 1 (*They definitely do*) to 4 (*They definitely don't*). Responses were summed, and higher scores indicate more accurate knowledge about family planning services in the community. Because the scale was indexed as a count score, internal consistency was not computed.

Contraceptive beliefs.

Healthy sexual relations. A five-item scale assessing beliefs about healthy sexual relationships, specifically communicating with a partner, and taking precaution, was designed for the current study in collaboration with the community organization. Questions were adapted from the UCSF statewide evaluation and a scale measuring adolescent sexual self-efficacy (Rosenthal, Moore, & Flynn, 1991). Participants indicated how much they agreed with the following items on a scale from 1 (*Disagree a lot*) to 4 (*Agree a lot*): "If a person has sex, they should use protection (contraception)"; "It is important to get tested for Sexually Transmitted Diseases (STDs)/HIV"; "It is important for a person to talk to their boyfriend/girlfriend about using condoms and/or birth control"; "Communication is an important part of dating"; and "It is important for a person to talk to their boyfriend/girlfriend about getting tested for STDs/HIV." Items were summed, and higher scores reflect greater endorsement of these items. The scale had good internal consistency for boys (pretest $\alpha = .88$, posttest $\alpha = .93$) and girls (pretest $\alpha = .86$, posttest $\alpha = .88$).

Birth control access. Participants indicated whether they thought it was easy for teenagers to get birth control on a scale from 1 (*Disagree a lot*) to 4 (*Agree a lot*). This question was adopted from the UCSF statewide evaluation of the sexual education curriculum.

Birth control responsibility. Participants were asked how much they agreed with the statement "Girls have more responsibility than boys to make sure that birth control is used to prevent pregnancy and/or STDs/HIV" on a scale from 1 (*Disagree a lot*) to 4 (*Agree a lot*). This question was adopted from the UCSF statewide evaluation of the sexual education curriculum.

Results

Repeated-Measures MANOVA

First, we conducted a repeated-measures multivariate analysis of variance (MANOVA) to consider the influence of all variables simultaneously when evaluating potential gender differences and changes in the study variables between T1 and T2 (see Table 1). For all analyses, mean replacement was used for students missing only a few data points on attitudes toward women (one boy), easy birth control access (one girl and four boys), and birth control responsibility (two boys). As expected, there were no significant interactions between time and gender at the multivariate level, F (10, 84) = 1.79, $p = .075$ (Wilks' lambda = .824, partial $\eta^2 = .176$). As hypothesized, there were significant main effects based on gender F (10, 84) = 2.37, $p = .016$ (Wilks' lambda = .780, partial $\eta^2 = .220$). Univariate results can be seen in the columns of Table 1 labeled Gender. Results indicate several statistical trends, with girls reporting less traditional attitudes toward women, less agreement with masculine ideology, more knowledge about the Depo Provera shot, and greater belief in ease of birth control access than boys.

Also as hypothesized, there were significant differences in the study variables pre- and posttest, $F(10, 84) = 22.24$, $p = .000$ (Wilks' lambda = .274, partial $\eta^2 = .726$). As can be seen in the columns of Table 1 labeled Time, after taking the sexual education curriculum, students reported significantly more progressive attitudes toward women and marginally more progressive masculinity ideology scores. In addition, at T2 students reported significantly more accurate knowledge about family planning services in the community and contraception (with the exception of the birth control pill, which approached significance). Youth's belief that it is easy for teens to access birth control was also higher at T2. Finally, students were less likely to agree that girls have more responsibility for birth control than boys after the program. Healthy sexual relations was the only component of sexual empowerment that did not change over time. Thus, as predicted, both girls and boys reported less traditional gender ideology, had more accurate sexual knowledge, and showed evidence of safer contraceptive beliefs at T2.

Correlation Analyses

Correlation analyses were used to explore the relationships between gender ideology and sexual knowledge and contraceptive beliefs. We were primarily interested in the relationships between variables at T2 because these data reflect participants' attitudes and beliefs after the sexual education curriculum. Pearson R correlations were examined for boys and girls separately. As can be seen in Table 2, traditional attitudes toward women and agreement with hegemonic masculinity ideology were related to less accurate contraceptive knowledge on the four indicators for girls but not boys. However, the contraceptive beliefs measures were related to gender ideology for both boys and girls. In

Table 1. *Repeated-Measures MANOVA*

	Gender						Time					
	Boys		Girls				T1		T2			
Variable	M[a]	*SD*	M	*SD*	Partial η^2	*F*	M	*SD*	M	*SD*	Partial η^2	*F*
Gender ideology												
AWSA	2.09	0.38	1.89	0.38	.070	7.04†	2.04	0.42	1.94	0.39	.116	12.18*
AMIRS	2.19	0.32	1.99	0.33	.092	9.45†	2.13	0.34	2.05	0.37	.086	8.70†
Sexual knowledge												
Condom knowledge	1.60	0.52	1.48	0.52	.014	1.28	1.30	0.81	1.78	0.54	.227	27.35*
Depo knowledge	0.71	0.50	1.03	0.50	.099	10.16†	0.37	0.58	1.37	0.78	.541	109.55*
BC knowledge	1.43	0.50	1.60	0.50	.029	2.75	1.41	0.72	1.63	0.60	.063	6.22†
Abstain knowledge	1.63	0.46	1.78	0.46	.029	2.75	1.55	0.68	1.86	0.46	.169	18.90*
Services knowledge	8.54	1.74	8.96	1.75	.014	1.34	7.84	1.89	9.65	2.10	.477	84.79*
Contraceptive beliefs												
Healthy sexual relations	16.75	2.32	17.23	2.32	.011	1.02	16.80	2.42	17.18	2.86	.023	2.19
BC access	2.66	0.42	2.87	0.43	.057	5.66†	2.58	0.59	2.95	0.58	.176	19.83*
BC responsibility	2.57	0.81	2.64	0.82	.002	0.18	2.84	0.95	2.36	0.91	.244	30.05*

Note. AWSA = Attitudes Toward Women Scale for Adolescents; AMIRS = Adolescent Masculinity Ideology in Relationships Scale; Depo = Depo Provera ("the Shot"); BC = birth control. Univariate tests must surpass $p = .001$ to be deemed statistically significant because a Bonferroni correction would lower alpha to .002 (.05/30). Cohen (1969) suggests criteria for partial η^2 effect sizes: low .010, moderate .059, and large .138. Because the results from the MANOVA revealed no interaction effects, means for gender were collapsed across the time waves and means for time were collapsed across gender.

[a]Means are estimated marginal means.

*$p \leq .001$ in accordance with a Bonferroni correction of .05/30.

†$.05 \geq p > .001$, approaching statistical significance.

Table 2. *Correlations among Study Variables at T2 for Boys (Above the Diagonal) and Girls (Below the Diagonal)*

Variable	1	2	3	4	5	6	7	8	9	10
Gender ideology										
1. AWSA	—	.65***	−.13	−.13	−.26†	−.24†	−.04	−.37**	−.37**	.22
2. AMIRS	.79***	—	−.11	−.12	−.15	−.30*	−.17	−.47***	−.21	.41**
Sexual knowledge										
3. Condom knowledge	−.35*	−.35*	—	.26†	.52***	.39**	.04	.00	.09	−.15
4. Depo knowledge	−.38*	−.45**	.60***	—	.61***	.21	.06	−.19	.14	−.38**
5. BC knowledge	−.42**	−.41**	.68***	.62***	—	.40**	.14	.07	.13	−.28†
6. Abstain knowledge	−.38*	−.44**	.82***	.49***	.63***	—	.07	.34*	.23	−.06
7. Services knowledge	−.19	−.30†	.19	.05	.13	.30*	—	.27†	.49***	.09
Contraceptive beliefs										
8. Healthy sexual relations	−.40**	−.37*	.26†	.15	.16	.29†	.11	—	.32*	.11
9. BC access	−.24	−.32*	.20	.19	.22	.31*	.39**	.14	—	.08
10. BC responsibility	.37*	.22	−.09	−.24	−.31*	−.06	.09	−.02	−.15	—

Note. AWSA = Attitudes Toward Women Scale for Adolescents; AMIRS = Adolescent Masculinity Ideology in Relationships Scale; Depo = Depo Provera ("the Shot"); BC = birth control.
†.10 ≥ p > .05. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

general, the pattern of findings suggested that higher levels of traditional gender ideology were related to riskier contraceptive beliefs. Specifically, among boys, more traditional attitudes toward women were related to less belief in ease of birth control access, whereas for girls, greater agreement with hegemonic masculinity ideology was related to less belief in ease of birth control access. Similarly, and not surprisingly, higher endorsement of hegemonic masculinity among boys was positively related to the belief that girls have more responsibility for contraception than boys, whereas more traditional attitudes toward women were positively related to birth control responsibility among girls.

Exploratory Structural Equation Modeling

To more fully explain the processes involved in the relationships among the study variables we conducted structural equation modeling (SEM) analyses. We tested a hypothesized model in which traditional attitudes toward women were predicted to indirectly influence contraceptive beliefs, in part because of the role of hegemonic masculinity in relationships (see Figure 1). Although we recognize the reciprocal nature of these variables, we hypothesized that they operate in this order because the attitudes toward women scale measures a more generalized (and perhaps distal) ideology, whereas the masculinity in relationships scale assesses beliefs within the context of interpersonal relationships. Moreover, because prior findings suggest that masculinity ideology is a better predictor of sexual behavior than more general gender-based attitudes toward family roles (Shearer et al., 2005), we hypothesized that masculinity ideology would more likely be directly, rather than indirectly, related to safer contraceptive beliefs. We included only outcome measures that were consistently related to gender ideology for both boys and girls in these models, which were the contraceptive belief

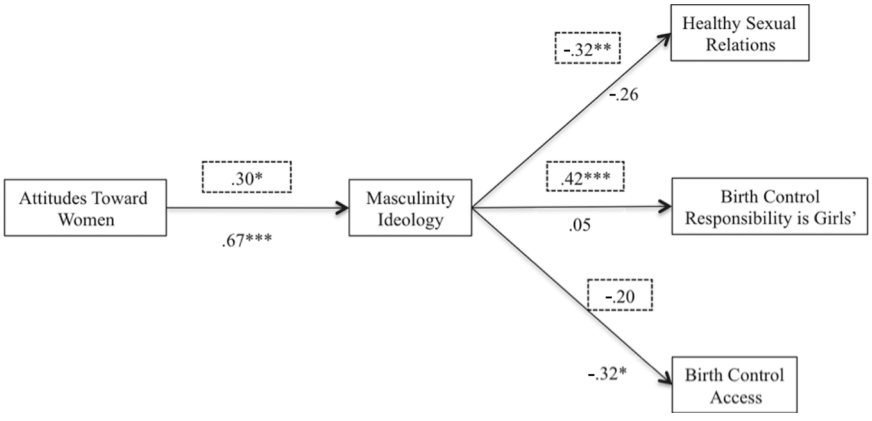

Figure 1. Hypothesized model examining the process through which gender ideology is related to contraceptive beliefs. Traditional attitudes toward women predicted agreement with hegemonic masculinity ideology and, in turn, less safe contraceptive beliefs. Standardized path estimates for boys are indicated above the pathways in boxes; estimate for girls are represented below the pathways. The hypothesized model fit the data well for both girls ($\chi^2(23) = 25.09$, $p = .346$, $\chi^2/df = 1.09$, CFI = 0.98, RMSEA[CI] = .045[.000, .135]) and boys ($\chi^2(23) = 39.82$, $p = .016$, $\chi^2/df = 1.73$, CFI = 0.90, RMSEA[CI] = .120[.052, .181]). *$p < .05$. **$p < .01$. ***$p < .001$.

measures (i.e., healthy sexual relations, birth control access, and birth control responsibility).

SEM was conducted in Mplus 6.11 using maximum likelihood estimation procedures to explore the presence of indirect relationships (Muthén & Muthén, 2010). Due to the different pattern of correlations for boys and girls, we estimated separate models by gender. The proposed models were examined using T2 data as outcomes with each variable autoregressed on its T1 equivalent to control for prior scores on each variable. Goodness-of-model fits were assessed using the nonsignificant χ^2 goodness-of-fit statistic, with χ^2 lower than double the degrees of freedom (Tabachnick & Fidell, 1996), the comparative fit index (CFI) of 0.95 or greater (Hu & Bentler, 1999), and the root mean squared error of approximation (RMSEA) values less than .08 with a 90% confidence interval (CI) that encompasses .05 (MacCallum & Austin, 2000). To establish a significant indirect relationship (a) the independent variable (attitudes toward women) must be significantly related to the process variable (masculinity ideology); (b) the hypothesized process variable must predict the outcomes (contraceptive beliefs); and (c) a product of coefficients test, in which a calculated indirect effect is divided by a calculated standard error, is significant (MacKinnon, 2000; Sobel, 1990).

As can be seen in Figure 1, traditional attitudes toward women were significantly related to agreement with hegemonic masculinity ideology among boys. Masculinity ideology among boys was, in turn, negatively related to healthy sexual relations and positively related to believing girls have more birth control responsibility. Tests of indirect effects among boys suggested that, approaching statistical significance, traditional attitudes toward women were indirectly negatively related to healthy sexual relations, via the direct relationship with hegemonic masculinity ideology ($t = -1.90$, $p = .058$). Similarly, for boys, traditional attitudes toward women were indirectly related to the belief that girls have more responsibility for birth control because of the direct relationship to masculinity ideology ($t = 2.12$, $p = .034$).

Traditional attitudes toward women were also significantly related to agreement with hegemonic masculinity ideology among girls; however, the indirect effects reflected a slightly different pattern. Traditional attitudes toward women were indirectly related to greater belief in ease of birth control access, in part, because of their relationship to masculinity ideology among girls ($t = -2.33$, $p = .020$). Overall, as predicted, traditional attitudes toward women indirectly predicted contraceptive beliefs among boys and girls.

Although longitudinal data can leave us reasonably assured of the directionality of the SEM findings, it is possible that the predicted relationships between traditional attitudes toward women and masculinity ideology operate in the reverse. To rule out this alternative process, we tested a model whereby masculinity ideology was proposed as the independent variable (see Figure 2). As can be seen from the path estimates in Figure 2, fewer direct pathways were significant than in the hypothesized model. Moreover, the magnitude of the effect of attitudes toward women on the contraceptive beliefs measures was less robust than the magnitude of effects demonstrated by masculine ideology on the same outcomes. Finally, we evaluated the goodness-of-fit statistics and the Akaike information criteria (AIC; Bozdogan, 1987) to compare the hypothesized and alternative models. The alternative model did not fit the data as well, and the hypothesized model had lower AIC values than the alternative model for girls (363.92 versus 372.58) and boys (468.70 versus 476.03). These findings

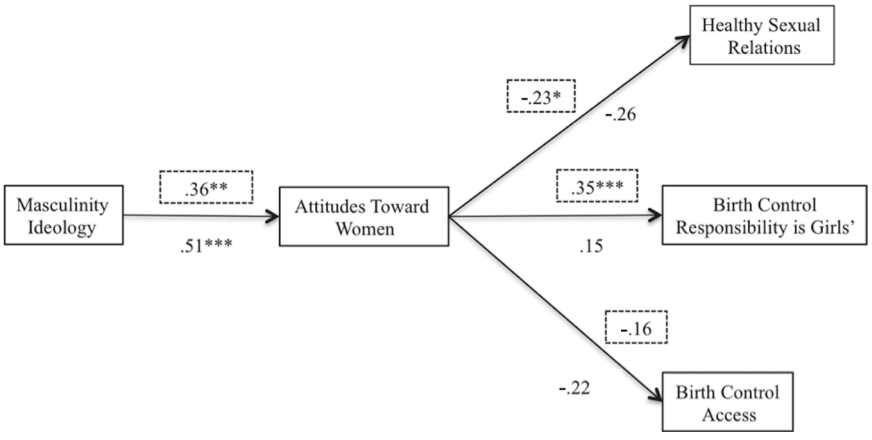

Figure 2. Alternative model examining the process through which gender ideology is related to contraceptive beliefs. Agreement with hegemonic masculinity ideology predicted more traditional attitudes toward women and, in turn, less safe contraceptive beliefs. Standardized path estimates for boys are indicated above the pathways in boxes; estimates for girls are represented below the pathways. Model fit for girls ($\chi^2(23) = 33.75$, $p = .069$, $\chi^2/df = 1.47$, CFI = 0.92, RMSEA[CI] = .103[.000, .173]) and boys ($\chi^2(23) = 47.14$, $p = .002$, $\chi^2/df = 2.05$, CFI = 0.86, RMSEA[CI] = .143[.084, .202]). $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

allow us to more confidently suggest that the hypothesized model was a better predictor of safer contraceptive beliefs among youth.

Discussion

To our knowledge, this study offers some of the first empirical evidence linking a school-based sexual education curriculum in the United States to sexual empowerment among youth. Our findings demonstrated that although differences in gender ideology are apparent among boys and girls at an early age, education aimed at empowering youth can shift traditional ideology in a manner that leads to empowering outcomes among both boys and girls.

The gender differences in levels of agreement with traditional gender ideology in the current study are not necessarily new; previous research on gender and egalitarianism has shown that adolescent females tend to hold more egalitarian gender-role attitudes than males (e.g., Burt & Scott, 2002; Galambos et al., 1990). Nevertheless, the results from the current study suggest, as has previous research, that the gender differences in ideologies driving traditional sex scripts are manifest in adolescence (e.g., Pleck et al., 1993; Tolman & Porche, 2000). Given that between one-quarter and one-third of adolescents in the United States report an average age of first intercourse between 15 and 16 years old (Mosher, Chandra, & Jones, 2005), these findings underscore that the early teen years are a critical time for transformative education.

The longitudinal findings in the current study hold great promise for school-based sexual education curricula that can facilitate shifts in interactional and intrapersonal components of sexual empowerment. In particular, the findings suggest that the ability to adopt more alternative gender ideologies may lay a foundation for developing the motivation and efficacy to control other aspects of personal sexual health and well-being. This is particularly striking in that the outcomes we measured might suggest that changes in attitudes and beliefs aligned with traditional gender ideology may contribute to a reduction in the negative sexual health outcomes that are currently widespread among adolescents in the United States (Pleck et al., 1990, 1993; Sanchez et al., 2005). Specifically, because our findings demonstrated that more progressive attitudes toward women and lower levels of agreement with hegemonic masculinity were related to contraceptive beliefs among youth, it is reasonable to suggest that youth who adopt more progressive attitudes may stop reinforcing traditional gendered norms and sexual scripts in their own relationships. Indeed, empowerment theory suggests that awareness and critical analysis of the sociopolitical environment, knowledge, and a sense of efficacy are precursors to adopting empowering behaviors (Campbell & Murray, 2004). The current findings support the notion that curricula promoting alternative discourses about gender and sexuality may encourage both boys and girls to be more accepting of a wider range of gendered behaviors and ultimately engage in healthier sexual behaviors and relationships. Elsewhere, psychologists have argued that community settings mediate the development of critical consciousness surrounding harmful ideological structures and may subsequently lead to engagement in collective action to effect change (Campbell & Murray, 2004). Sexual education programs, such as the one examined here, have the potential to serve as such a mediating context. In addition, an important implication of this work for community organizations and academics is that such sociocultural influences as gender ideology and sexual scripts can and should be addressed and assessed in sexual education curricula (e.g., Allen, 2004, 2007; Harris et al., 2000; Lamb, 2010; Rasmussen, 2004).

Study Limitations

This study's limitations are, in part, reflective of constraints associated with conducting school-based research. For example, we were unable to gather information from students who were absent or without parental consent and therefore unable to compare our sample to the larger sample of students who may have been able to participate. In addition, our access, while rich, was also to a relatively small sample of eighth grade students. It is possible that some of the marginally significant effects (e.g., shifts over time in masculinity ideology) could be explained by a small sample size combined with multiple tests. This may be similarly true when considering the fit statistics for the path models. Still, the findings from this sample make a novel and important contribution in that they are not based on a standard, predominantly White, undergraduate research pool, as is much research in psychology.

Perhaps a greater limitation to our study design was that in order to follow the school board requirements, we were not able to collect data on issues that may have been relevant but were considered too sensitive given the age of the adolescents (e.g., dating and sexual activity history, sexual orientation). Despite the fact that standardized measures for these constructs exist for youth, our school collaborators approved only items assessing sexual knowledge and behavior that had been administered in the past via a statewide evaluation. As community collaborators, we weighed the costs and benefits of preserving the relationship with the school and meeting stakeholder needs and expectations while also collecting data. Despite these limitations, our longitudinal design with a diverse population holds much promise for understanding the role of gender ideology in education aimed at improving youth's sexual health and empowerment.

Conclusion: Moving toward Broader Notions of Youth Sexual Empowerment

Our study suggests that sexual education can be a resource vital to the advancement of more equitable gender relations. Yet education alone is unlikely to produce the kinds of changes necessary to adequately address structural-level barriers that many youth experience in the area of sexual health. Thus, as other empowerment researchers have noted, it is important that understandings of sexual empowerment not be limited only to the psychological components of empowerment. For example, the importance of individual attitudes, beliefs, or efficacy may be limited if one does not have adequate power over or access to resources (Lamb, 2010; Peterson, 2010). Therefore, we argue that sexual education must be coupled with material resources, such as access to contraception and local health services (Rubin, 1984; Spencer, Maxwell, & Aggleton, 2008; Tolman et al., 2003). In this manner, we agree with Murnen and Smolak's (2012) assertion that change is needed at the cultural level, not just at individual levels. We consider progressive changes in the content of sexual education offered to youth—education that can shift widely held cultural ideologies—as part of the structural-level changes that are necessary. Because sexual education that presents an alternative perspective to the mainstream has the potential to interrupt high rates of adolescent pregnancy and disease in the United States, we believe it should receive wide political, economic, and academic support.

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