Reliability and Validity of the Sexual Pressure Scale

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Abstract: The purpose of this study was to develop the Sexual Pressure Scale (SPS) as a valid and reliable measure of gender stereotypical expectations to engage in sexual behavior. Data were collected using audio computer-assisted self-interview in 306 urban women, aged 18 to 29. Exploratory principal components analysis with varimax rotation yielded 19 items consisting of five factors: Condom Fear, Sexual Coercion, Women's Sex Role, Men Expect Sex, and Show Trust, accounting for 62% of the variance. Divergent and convergent validity were supported, respectively, by negative relationships of SPS factors with dyadic trust and positive relationships with sexual victimization and sexual risk behavior. Alpha reliability was .81; factor reliabilities ranged from .63 to .82. A valid assessment of sexual pressure can suggest the extent to which stereotypical gender expectations structure women's freedom to explore partner and condom use choices. © 2006 Wiley Periodicals, Inc. Res Nurs Health 29:281–293, 2006

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Stereotypical views about gender shape expectations about what should occur in interactions between men and women (Fiske, 2004). The social environment is full of cultural stereotypes about dominant men and sexually objectified women, such as those in sexually explicit music (Ward, Hansbrough, & Walker, 2005) and television (Herrett-Skjellum & Allen, 1996). The link between pervasive stereotypical gender expectations and behavior is found in sex scripts, defined as socially shared representations of appropriate behavior in sexual encounters, which serve to guide behavior (Krahe, 2000; Mosher & Tomkins, 1988; Simon & Gagnon, 1986). Women and men with stereotypical views of gender may not be fully aware of ways to behave in a potentially romantic interaction beyond the traditional sexual script. The purpose of this study was to develop the Sexual Pressure Scale (SPS) as a measure of gender stereotypical expectations to engage in sexual behavior.

Stereotypical views of gender have been related to men's coercive behaviors to gain sex (Biglan, Noell, Ochs, Smolkowski, & Metzler, 1995). However, women may anticipate ways to satisfy men and engage in the sexual behavior that they believe is expected of them (Amaro, Raj, & Reed, 2001). Therefore, whether or not they want to

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engage in sex, women may see themselves as modeling their behaviors according to a sex script (Metts & Spitzberg, 1996; Simon & Gagnon, 1986). When behaviors modeled according to a sex script yield a desired outcome, such as holding onto a relationship, or avoid an undesirable outcome, such as an argument, adherence to stereotypical expectations is likely to be reinforced (Fiske, 2004). Morokoff et al. (1997) not only recognized the importance of assessing women’s ability to refuse unwanted sex, but also their ability to assert their desire for sex. This holistic view is important in countering the assumption that women are passive (Clements-Schrieber, Remple, & Desmarais, 1998). However, in some cases, sexual assertiveness may not be an act of sexual autonomy; it may be a manifestation of pressure to perform sexually, such as initiating sex as a way to hold onto a man.

Sexual health involves the ability to make informed choices concerning sexual intercourse and condom use (Morokoff et al., 1997). Therefore, stereotypical expectations to engage in unprotected sex in the context of a relationship may be an important deterrent to women initiating safer sexual choices, as these choices may not be part of the sex script. This is a public health concern (DiClemente & Wingood, 2003; Jemmott, 2000), because the majority (79%) of women infected with human immunodeficiency virus (HIV) were infected as a consequence of sexual intercourse with an HIV-infected male partner (Centers for Disease Control & Prevention, 2004 [CDC]). Among all women aged 25 to 44, acquired immunodeficiency syndrome (AIDS) is the fifth leading cause of death and the third leading cause of death in African American women (CDC, 2005). It is likely that women with AIDS in this age group were infected as adolescents and young adults due to the long latency period of HIV.

The question is, can adherence to gender stereotypical expectations to have sex and adherence to traditional sex scripts relative to women’s compliance with the dominant behavior of men, be experienced as pressure to have sex? Evidence for this view has been supported. For example, an association has been found between believing that a boyfriend typically decides when to have sex and more frequent unprotected vaginal sex (Crosby et al., 2000).

Definitions of sexual coercion (Biglan et al., 1995; Pacifici, Stoolmiller, & Nelson, 2001), victimization (Koss, Gidycz, & Wisniewski, 1987), and sexual imposition ( Hoskins, 1988) are in the literature. A definition of sexual pressure, inclusive of non-coercive pressures to engage in sex, was not found. Sexual pressure was defined as: sexual choices that are limited by adherence to gender stereotypical expectations for sex and fear of, or experience with, adverse consequences, such as losing the relationship, threats, or physical coercion, if these expectations are not met.

This study was conducted for the purpose of developing the SPS, to provide support for its reliability and construct validity, and to evaluate the dimensionality of sexual pressure through exploratory factor analysis. The results help determine whether sexual coercion and gender stereotypical expectations to have sex are multi-dimensional aspects of one phenomenon.

Stereotypical gender expectations to engage in sexual behavior, which are relatively common in young urban women, have been found to be conceptually related to women’s experiences with intimate male partners’ coercive threats, arguments, and hitting (Jones, 2004; Rando, Rogers, & Brittian-Powell, 1998). Emmer-Sommer and Allen (1999) found that men who approved of treating women as sex objects were more likely to engage in sexually coercive behaviors. These findings indicate a link between stereotypical gender expectations and coercive behavior. However, the term sexual pressure is differentiated from sexual coercion and sexual victimization in that sexual pressure incorporates women’s own stereotypical expectations of how both men and women are to behave or respond sexually. Sexual coercion has been defined as aversive approaches to gain sex (Biglan et al., 1995) or persistence after refusal (Pacifici et al., 2001). Koss and Gidyecz (1985) used the term sexual victimization to denote behaviors ranging from unwanted fondling or attempted intercourse to intercourse after verbal pressure or the use of force. In sexual interactions with their male partners, women may feel sexual imposition, defined by Hoskins (1988) as feelings of conflict in sexual satisfaction. However, women who view the world through gender-based stereotypical expectations may not be aware of their own conflicted views.

Expectations about gender appropriate behaviors in sexual relationships are common (Tolman, Striepe, & Harmon, 2003). However, these expectations may develop into sexual pressure when women are expected to anticipate ways to satisfy men sexually and to acquiesce to a male partner’s desire for sex (Amaro et al., 2001). For example, Morokoff et al. (1997) found that college and community women’s refusal of unwanted sex was influenced by the expectation that their male
partner would react negatively. Thus, women’s expectations of men’s reactions appear to exert influence over their own self-protective behaviors. Expectations for gender-appropriate behaviors also reflect a double standard when it comes to initiating condom use. Women participating in a study were asked to rate a story about a sexual interlude. Participants rated woman-initiated condom use as inappropriate. They also indicated that it was more appropriate for a man to initiate condom use, and that unprotected sex was more appropriate than a woman initiating condom use (Hynie & Lydon, 1995). Therefore, the concept of sexual pressure is broader than coercive tactics; it is inclusive of stereotypical gender expectations for what is deemed to be appropriate sexual behavior.

Trusting that one’s relationship partner is motivated by concern for the welfare of the dyad should be differentiated from feeling pressure to demonstrate trust by engaging in unprotected sex. Dyadic trust is feeling that a partner is benevolent, that is, concerned about the welfare of the dyad, and is honest about this concern (Larzelere & Huston, 1980). Findings indicate that unprotected sex expresses trust (Jadack, Fresia, Rompalo, & Zenilman, 1997; Lock, Ferguson, & Wise, 1998), a relationship-building attribute. Asking a male partner to use condoms could engender feelings of distrust. Consenting to engage in unprotected sex becomes proof of ones trust for one’s partner (Zak, Gold, Ryckman, & Lenney, 1998). Therefore, women may feel pressured to engage in unprotected sex in order to show trust and relationship fidelity, particularly as there is a role expectation for women to be communal and nurturing (Eagley & Wood, 2003). For example, Hynie, Lydon, Cote, and Weiner (1998) asked participants to complete a script about a woman who invited a male partner to her apartment where they had sex. Women participating in a study were asked to rate a story about a sexual interlude. Participants rated woman-initiated condom use as inappropriate. They also indicated that it was more appropriate for a man to initiate condom use, and that unprotected sex was more appropriate than a woman initiating condom use (Hynie & Lydon, 1995). Therefore, the concept of sexual pressure is broader than coercive tactics; it is inclusive of stereotypical gender expectations for what is deemed to be appropriate sexual behavior.

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Previous findings indicate that both sexual imposition (Jones, 2004) and sexual coercion (Kalichman, Williams, Cherry, Belcher, & Nachimson, 1998; Wingood & DiClemente, 2000) are related to HIV sexual risk behavior. As sexual pressure involves an expectation that men initiate condom use, and that men’s approval or disapproval of condom use influences self-protective behaviors (Morokoff et al., 1997), it was hypothesized that sexual pressure would be positively related to HIV sexual risk behavior.

While there is evidence suggestive of the persistence of rigid stereotyped gender roles, there is also evidence that these are changing. Holt and Ellis (1998) found that masculine and feminine adjectives used in the Bem Sex Role Inventory (Bem, 1974), developed nearly 30 years ago, continued to accurately identify gender roles. However, the differences between male and female roles have narrowed. Over a decade ago, Fullilove, Fullilove, Haynes, and Gross, 1990 conducted a seminal study that indicated stereotypical gender roles were important in regards to sexual pressure among African American women and men. More recently, Rosenthal, Lewis, and Cohen, 1996 reported that urban adolescent women initiated sex as a way to achieve control and mastery in the sexual relationship, suggesting some movement away from sexual passivity among this group. Thus, the extent to which stereotypical gender roles manifest among young urban women in regards to sexual pressure may be under transition.

A valid assessment of sexual pressure can suggest the extent to which gender stereotypical expectations to engage in sex, structure young adult urban women’s patterns of thinking and behaving according to sex scripts. Sexual pressure limits women’s freedom to envision and explore their alternative choices, including partner choices and condom use. Barrett (1998) argued that awareness of choices and the freedom to pursue intended choices are key aspects of power. Power in a sexual relationship has been strongly related to consistent condom use (Pulerwitz, Amaro, DeJong, Gortmaker, & Rudd, 2002). Thus, change in women’s pattern of stereotypic gender expectancies may be an important component of HIV sexual risk reduction.

The primary purposes of this study were to evaluate the dimensionality of the SPS through exploratory factor analysis and to provide support for its reliability and construct validity. With regard to construct validity, it was hypothesized...
that sexual pressure would be (a) negatively related to dyadic trust, (b) positively related to sexual victimization, and (c) positively related to unprotected sex with a male partner whom the woman perceives to have recently engaged in risk behaviors.

**METHOD**

**Sample**

The sample consisted of 306 urban women, aged 18 to 29, who had either a primary partner (main boyfriend or husband) or a non-primary partner (occasional or one night partner) during the previous 3 months. Sample size was based on a recommendation of at least 300 for a factor analysis (Tabachnick & Fidell, 1996) or at least 5 participants per item (Polit, 1996). The sample size provided greater than eight participants per item. The age range was selected because heterosexual transmission accounts for most of HIV infection in this age group. Engaging in sexual intercourse was not a criterion for participation.

After university institutional review board approval, the sample was recruited from a public supplemental nutrition program, women, infant, and children (WIC), a public sexually transmitted disease (STD) clinic, three public housing developments, and two dormitories at an urban university located within two cities in the urban Northeast where HIV/AIDS is a health priority (Division of HIV/AIDS Services, 2003).

The majority of study participants were African American (64%) and Latina (15%). The mean age was 21.8 years ($SD = 3.4$). While 145 (47%) had completed high school, 78 (26%) had completed 1 or 2 years of college, and 21 (7%) had completed 10th grade or less. Of the 157 (51.3%) who had children, 82 (75.5%) had one child. Fewer than half were unemployed ($n = 125$, 40.8%); 66 (21.6%) worked part-time, and 115 (37.6%) worked 40 hours per week or longer.

**Instruments**

The SPS was developed to evaluate sexual pressure, conceptualized as sexual choices that are limited by adherence to gender stereotypical expectations for sex and fear of, or experience with, adverse consequences, such as losing the relationship, threats, or physical coercion, if these expectations are not met. A total of 36 items were generated. Five items were derived from the 10-item Sexual Imposition dimension of the Sexual Needs Subscale of the Partner Relationship Inventory (PRI; Hoskins, 1988), that had been used in a previous study (Jones, 2004) and adapted for contemporary and gender relevance. An example of these items is: My partner makes me feel that I should satisfy his sexual needs. Six additional items used in other studies (Kalichman et al., 1998; Wingood & DiClemente, 1998) concerning fear and occurrence of physical and psychological abuse after asking a partner to use a condom also were included in the SPS. The remaining 25 items were generated based on a review of the literature on gender, stereotypical gender role expectations, and sexual coercion in male-female dyads, and through a consensus-building process that involved bi-weekly discussions over a 6-month period with four culturally diverse (African, African American, Latina, and White) urban women aged 19 to 24, concerning ways that sexual pressure manifests in contemporary male–female dyads.

Content validity of the SPS was assured by the following method. Twenty undergraduate women students who were culturally diverse and age representative of the target sample completed a form that included the conceptual definition of sexual pressure, the 36 proposed items, and instructions to read each item and recommend to either, (a) keep as is, or (b) change. If a change was recommended, suggested wording was requested. Expert review of the SPS was conducted by a panel of two educational counselors who work with culturally diverse undergraduate students, and a doctorally prepared women’s health nurse practitioner. Each reviewed the SPS items for relevance to young, urban women and completed a content validity form (CVI; Lynn, 1986). Finally, a psychometrist reviewed the instrument. A Likert-type five choice response format was used. Items asking about experiences had the following responses: (1) never (2) don’t know (3) sometimes (4) most of the time (5) always. Items that assessed views had the following responses: (1) definitely do not feel (2) don’t know (3) feel occasionally (4) feel most of the time (5) definitely feel. A higher score indicates higher sexual pressure.

The Dyadic Trust Scale (Larzelere & Huston, 1980) measures trust in a close relationship. It is an eight-item scale that uses a seven-point response format ranging from strongly disagree to strongly agree. Each participant is instructed to complete the Dyadic Trust Scale for either the partner she was with the longest or her most important partner during the past 3 months. The total score ranges from 8 to 56, a higher score indicating...
higher trust. Convergent validity was supported by significant associations of dyadic trust with love and intimacy of self-disclosure. Discriminant validity was supported by low correlations with social desirability and general trust. The Dyadic Trust Scale was reported to have a coefficient alpha reliability of .93 with item-total correlations ranging from .72 to .89 in a heterogeneous sample of dating, married, and divorced partners (Larzelere & Huston, 1980). The alpha reliability for the current study was .84.

The Sexual Experiences Survey (SES; Koss & Gidycz, 1985) measures the occurrence of sexual victimization since the age of 14 and during the previous year. The SES is a 10-item scale that uses a Yes or No dichotomous response format. There are five classifications of sexual victimization. Although more than one classification of victimization may have been experienced, the SES classification is based on the most severe level of self-reported sexual victimization or aggression. The classifications are: (a) no sexual aggression, (b) sexual contact (experience with unwanted sexual behavior such as fondling or kissing that did not involve attempted penetration), (c) attempted rape (attempted intercourse by violence, drugs, or alcohol), (d) sexual coercion (engaging in intercourse after use of menacing verbal pressure or misuse of authority), or (e) rape (intercourse by use of force, impaired judgment, or control subsequent to use of drugs or alcohol). The sexual contact classification is a Yes response to items 1, 2, or 3, but not to any higher items. The sexual coercion classification includes those who respond Yes to items 4 and 5 and not any higher items. Attempted rape is Yes to items 6 and 7. The rape classification is assigned to those who respond Yes to items 8, 9, and 10. A higher score indicates higher sexual victimization. The reported internal reliability for women was .74 and test–retest agreement after 1 week was 93% (Koss & Gidycz, 1985). In the current study, Cronbach alpha was .79.

The Women’s Relative Sexual Risk Scale (WRSRS; Jones, 2004) measured the frequency of unprotected vaginal, oral, and anal intercourse (six items) during the previous 3 months and the perceived likelihood that a participant’s partner engaged in sex with other women, with men, or injected drugs (three items) during the previous 3 months. The perceived partner’s behavior was scored according to the strength of the women’s certainty with 1 = None at all, indicating negligible risk; 2 = don’t know, 3 = possible, and 4 = definitely could. The unprotected sex score and the perceived partner behavior score were standardized to place them on the same metric and summed for a total score. A higher sexual risk score indicates higher HIV sexual risk behavior (Jones, 2004). Indices of sexual risk have emphasized the approach of assessing the frequency of unprotected sex over the proportion of protected sex as an outcome variable (Crosby et al., 2000) and that anal sex carries the greatest risk (Susser, Desvarieux, & Wittkowski, 1998). Content validity has been reported elsewhere (Jones, 2004). Because engagement in unprotected vaginal, oral, and anal sex are valid indicators of sexual risk but do not necessarily correlate, theta, an approach designed to address the problem of low alpha reliability in a heterogeneous instrument, is reported, as recommended by Ferketich (1990). Theta reliability for the WRSRS in the previous study was .83 and for the current study was .93 (Jones, 2004).

A demographic sheet was used to obtain information about five demographic variables related to sexual risk behavior. These were participants’ years of formal education, knowledge that condoms help reduce the risk of HIV and AIDS, hours of weekly employment, drug, and alcohol use before or during sex, and number of children. Although researchers have indicated that knowledge about condoms reducing the risk of HIV transmission has had little influence on changing sexual risk behavior (Albarracin et al., 2003; Institute of Medicine, 1997), it was deemed important to assess whether women possess the requisite knowledge about risk reduction. Differences in educational level, hours of employment, and number of children may be associated with differences in condom use (Bankole, Darroch, & Singh, 1999). The use of drugs or alcohol before or during sex has been found to relate to sexual risk behavior (Wingood & DiClemente, 1998), although this is an inconsistent finding (Leigh, Temple, & Trocki, 1994).

Procedures

Participants were recruited by the principal investigator (PI) and research assistants (RAs) who were culture, age, and gender representative of the target sample. Recruitment flyers describing the “Women’s Project” were posted or placed on tables at the study sites. Women were approached individually or in groups. Upon completion of appointments at the WIC Center or the STD clinic, individuals indicating an interest in the study were directed to a private room. At the housing sites, a community room was reserved for study-related
activities. At the university site, the interviews were conducted in a private room outside the student cafeteria. During the interviews, the PI or RA provided child-care, if needed.

Interviews were conducted using audio computer-assisted self-interview (ACASI). Using ACASI, the participant can hear the interview items in privacy over a headset attached to a notebook computer, while reading the corresponding text on the screen. In order to participate in the study using ACASI, previous computer experience was not required. Use of the computer was reported to be easy by 302 of the 306 participants.

Participants pressed a number key to enter their responses, sending the data directly to the database. A “Statement to the Participant” that included all the elements of informed consent, was played over the headset and viewed on the monitor. A written copy was given to each participant. To preserve anonymity, pressing the 1 key, indicated consent. More detail concerning ACASI may be found elsewhere (Jones, 2003). Upon completing the interview, each participant was given $10 to compensate for her time, and two pamphlets on ways to reduce HIV risk were reviewed with her.

RESULTS

Sexual Demographics

Roughly one-third of the women (n = 112, 36.6%) used non-injecting drugs or alcohol before or during sex. Only two used injection drugs. The majority denied HIV infection (227, 74.2%), while 79 (25.8%) did not know their HIV status or were awaiting results. Most had a primary partner. Unprotected sex was higher with primary partners compared to non-primary partners. The most frequent type of sexual behavior for both primary partnered and non-primary partnered women was vaginal, although the majority engaged in oral sex, and nearly one-fourth (24%) of the sample engaged in anal sex (see Table 1).

Of the women with a primary partner, 41.8% were unsure of, or perceived him to engage in risk behaviors (40.6% sex with other women, 7.3% sex with men, 3.8% injected drugs), compared to 91% of those with a non-primary partner (89% sex with other women, 20% sex with men, 20% injected drugs). Ninety-two (35.2%) of those with primary partners and 25 (55.6%) with non-primary partners engaged in unprotected sex with a partner they perceived to have engaged in a risk behavior, the criterion for HIV risk behavior.

Content Validity of the SPS

The results of expert review resulted in acceptance of all proposed SPS items with minor changes. Further editing for comprehension and contemporary terms was conducted based on recommendations from representatives of the target group.

Exploratory Factor Analysis

The dimensionality of the SPS was explored by using exploratory principal components factor analysis with orthogonal varimax rotation. Criteria used to select the number of factors were (a) eigenvalue greater than 1, (b) scree plot characteristics; and (c) interpretability (Nunnally & Bernstein, 1994). Items were eliminated when, (a) the item-factor loading was below .40; (b) the inter-item and item-total correlation was below .30; (c) there was a relatively high loading on more than one factor; and (d) they did not contribute to factor interpretability (Nunnally & Bernstein, 1994). Examples of items that were eliminated are: *I felt I should have sex just to have his baby*, *It’s up to the

<table>
<thead>
<tr>
<th>Sexual Intercourse with a Primary Partner</th>
<th>Sexual Intercourse with a Non-Primary Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal</td>
<td>Oral</td>
</tr>
<tr>
<td>N 240</td>
<td>176</td>
</tr>
<tr>
<td>No Condom 109</td>
<td>148</td>
</tr>
<tr>
<td>Use 45.4%</td>
<td>83.6%</td>
</tr>
</tbody>
</table>

Note: Primary Partner, n = 261 (85.3%), non-primary partner, n = 45 (14.7%).

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man to decide when to have sex, and It's up to the man to decide when to use a condom. The application of these criteria led to acceptance of a five-factor solution containing 19 of the original 36 items. The five factors explained 62% of the variance in sexual pressure. Factor 1 (four items), Condom Fear, reflects fear that the partner might say no, would leave, or become violent if asked to use a condom; Factor 2 (three items), Sexual Coercion, reflects the experience of threats, choking, hitting, kicking, or pulling hair by the male partner after the woman indicated she did not want to have sex; Factor 3 (four items), Women's Sex Role, reflects a woman's expectation that it is her responsibility to satisfy her male partner and that sex will provide evidence that she's the best partner for him; Factor 4 (five items), Men Expect Sex, reflects the expectation that a male partner's relationship priorities are to be with a woman for her body and to have sex; and Factor 5 (three items), Show Trust, reflects the expectation that unprotected sex promotes or represents trust and relationship commitment. The respective factor loadings together with the eigenvalues, percentages of explained variance, and alpha reliabilities are reported in Table 2. Alpha reliability coefficients were .81 for the total SPS and ranged between .82 and .72 for the first three factors, but were somewhat below .70 for Factors 4 and 5. Polit (1996) and Nunnally and Bernstein (1994) suggested that reliability coefficients should generally be at least .70 for a newly developed scale.

Descriptive statistics for the SPS factors also are presented in Table 2. On a scale of 1 to 5, the mean score for the SPS was 1.44, SD = .44, with a range of 1 to 3.53. Average scores for all factors were relatively low with Women's Sex Role the highest and Condom Fear the lowest. The total sexual pressure score was positively skewed, indicating most women did not experience sexual pressure or reported low sexual pressure. Logarithmic transformation of the items before or after summing did not affect the results of correlations nor internal reliability. According to Norris and Aroian (2004), data transformations are not always needed or advisable when the Cronbach alpha or Pearson product moment correlation is calculated for instruments with skewed item responses.

Inter-correlations among the factors were significant (all $p < .05$), ranging between a low of .17 for Women's Sex Role with both Condom Fear and Sexual Coercion and a high of .49 for Condom Fear and Sexual Coercion. Of interest to the construct validity of the factors, the correlation between the Show Trust factor and the Condom Fear factor was .40 indicating that the pressure to show trust was moderately related to the fear of asking a partner to use a condom. Correlations between individual factors and total SPS ranged between .57 (Condom Fear) and .76 (Men Expect Sex).

**Theoretically Related Constructs**

**Correlational analyses.** The hypothesis that sexual pressure would be negatively related to dyadic trust was supported ($r = -.40, p < .001$). Significant negative correlations between dyadic trust and all SPS factors were observed ($rs$ ranged between $-.15$ for Women’s Sex Role and $-.40$ for Men Expect Sex, all $ps < .05$). In particular, the relationship of dyadic trust with the Show Trust factor was $r = -.32, p < .001$, indicating that the higher the pressure to show trust by engaging in unprotected sex, the lower the feeling that the partner is concerned about the welfare of the dyad, the definition of dyadic trust.

Sexual pressure was positively correlated with sexual victimization ($r = .40, p < .001$), as hypothesized. Significant positive low to moderate correlations also were found between all SPS factors, except Women’s Sex Role, with all SES classifications (Table 3). Women’s Sex Role was significantly correlated with the SES Rape classification and Attempted Rape. There was a medium correlation between unprotected anal sex with a non-primary partner with SPS factors Condom Fear, Sex Coercion, and Show Trust (all $rs = .43, p < .01$). However, sexual pressure was not related to unprotected anal sex with a primary partner.

**Regression analyses.** To test the hypothesized positive relationship of sexual pressure with sexual risk behavior, hierarchical multiple regression was performed, controlling for demographic covariate variables that may influence sexual risk behaviors (level of education, knowledge that condoms help reduce the risk of HIV/AIDS, hours of employment outside the home, and use of drugs or alcohol before or during sex, number of children), and dyadic trust (Table 4).

First, the assumptions underlying the multiple regression analysis were verified by scatterplot, providing evidence of homoscedasticity. The positively skewed sexual pressure and sexual risk scores were transformed logarithmically to make them more symmetric. No substantive difference in results was found between logarithmically transformed and raw data; therefore, the results using the raw data are reported. Cook’s distance and centered leverage indices established that the
Table 2. The Sexual Pressure Scale: Principal Components Analysis with Varimax Rotation (N = 306)

<table>
<thead>
<tr>
<th>Item</th>
<th>Condom Fear</th>
<th>Sex Coercion</th>
<th>Women’s Sex Role</th>
<th>Men Expect Sex</th>
<th>Show Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many times have you felt your partner would leave you if you asked him to use a condom?</td>
<td>.77</td>
<td>.07</td>
<td>.14</td>
<td>.16</td>
<td>.22</td>
</tr>
<tr>
<td>How many times were you afraid to ask your partner to use a condom because he might yell or curse at you? (^a)</td>
<td>.77</td>
<td>.38</td>
<td>.08</td>
<td>.10</td>
<td>.08</td>
</tr>
<tr>
<td>How many times has your partner become violent (like push, slap, choke, pull your hair, hit or kick you) (^b) AFTER you asked him to use a condom?</td>
<td>.76</td>
<td>.29</td>
<td>-.04</td>
<td>.03</td>
<td>-.06</td>
</tr>
<tr>
<td>How many times were you afraid to ask your partner to use a condom because he might say NO?</td>
<td>.70</td>
<td>.10</td>
<td>.03</td>
<td>.08</td>
<td>.32</td>
</tr>
<tr>
<td>How many times has your partner threatened to physically hurt you (for example, push, slap, choke, pull your hair, hit, or kick you) (^b) AFTER you told him you would not have sex with him?</td>
<td>.25</td>
<td>.86</td>
<td>.00</td>
<td>.05</td>
<td>.13</td>
</tr>
<tr>
<td>How many times has your partner become violent physically (for example, push, slap, choke, pull your hair, hit, or kick you) (^b) AFTER you told him you would not have sex with him?</td>
<td>.32</td>
<td>.85</td>
<td>.04</td>
<td>.09</td>
<td>.02</td>
</tr>
<tr>
<td>How many times has your partner yelled or cursed at you (^b) AFTER you told him you would not have sex with him?</td>
<td>.20</td>
<td>.65</td>
<td>.08</td>
<td>.34</td>
<td>.08</td>
</tr>
<tr>
<td>If my partner wants sex, I feel it is my responsibility as his woman to have sex with him.</td>
<td>.06</td>
<td>.01</td>
<td>.83</td>
<td>-.01</td>
<td>.01</td>
</tr>
<tr>
<td>It is a woman's responsibility to satisfy her man sexually.</td>
<td>.09</td>
<td>-.01</td>
<td>.77</td>
<td>.07</td>
<td>.00</td>
</tr>
<tr>
<td>Having sex with my partner will show him that I am the BEST woman for him.</td>
<td>.01</td>
<td>.08</td>
<td>.73</td>
<td>.13</td>
<td>.06</td>
</tr>
<tr>
<td>I feel I should have sex with my partner because there are plenty of women who are willing to take him away.</td>
<td>.02</td>
<td>.11</td>
<td>.50</td>
<td>.35</td>
<td>.26</td>
</tr>
<tr>
<td>I feel that my partner is with me more for my body than anything else. (^c)</td>
<td>.15</td>
<td>.00</td>
<td>.00</td>
<td>.75</td>
<td>.01</td>
</tr>
<tr>
<td>I have sex with my partner because I am afraid of losing the things he does for me (like paying rent, giving me gifts, taking me out, giving me money for my child) (^c)</td>
<td>-.22</td>
<td>.10</td>
<td>.03</td>
<td>.60</td>
<td>.25</td>
</tr>
<tr>
<td>How many times have you felt your partner would leave you if you did not have sex?</td>
<td>.34</td>
<td>.18</td>
<td>.05</td>
<td>.59</td>
<td>.09</td>
</tr>
<tr>
<td>My partner makes me feel that I should satisfy his sexual needs(^c)</td>
<td>-.09</td>
<td>.25</td>
<td>.38</td>
<td>.55</td>
<td>.08</td>
</tr>
<tr>
<td>My partner makes me feel that I should try new ways to have sex (for example, new position, toys, porno, or threesome). (^c)</td>
<td>.16</td>
<td>.04</td>
<td>.14</td>
<td>.53</td>
<td>-.02</td>
</tr>
<tr>
<td>I do NOT ask my partner to use a condom because he may think I had sex with someone else.</td>
<td>.28</td>
<td>-.01</td>
<td>.06</td>
<td>.04</td>
<td>.78</td>
</tr>
<tr>
<td>I do NOT ask my partner to use a condom because he may think I do NOT trust him.</td>
<td>.29</td>
<td>.06</td>
<td>.11</td>
<td>.20</td>
<td>.78</td>
</tr>
<tr>
<td>Even though I feel my partner has sex with other women, I have sex with him because he says he loves me.</td>
<td>-.17</td>
<td>.40</td>
<td>.18</td>
<td>.05</td>
<td>.58</td>
</tr>
</tbody>
</table>

Percent of explained variance 27.19 12.56 8.06 7.25 6.46
Initial eigenvalue 5.17 2.39 1.53 1.38 1.23
Alpha reliability coefficient .82 .80 .72 .63 .67
Mean 1.12 1.21 1.88 1.56 1.30
SD .40 .58 .94 .64 .65
Minimum/maximum 1–4.75 1–4.33 1–5.0 1–4.0 1–4.33

Note: Item responses are on a scale of 1 to 5. The 19 item five-factor solution explained 62% of the total variance in sexual pressure.

\(^a\)Adapted from Kalichman et al., 1998.
\(^b\)Adapted from Wingood and DiClemente, 1998.
\(^c\)Adapted from Hoskins, 1988.
outliers did not significantly alter the model (Tabachnick & Fidell, 1996). The model with all cases is reported.

The demographic covariate variables were entered into Block 1. Dyadic trust was entered into Block 2. Sexual pressure was entered into Block 3. Only number of children and use of drugs and alcohol before or during sex were significant Block 1 variables. After controlling for Block 1 covariates and dyadic trust, sexual pressure remained significantly related to sexual risk behavior. The model accounted for 21% of the variance in sexual risk behavior, \( F(7, 298) = 11.49, p < .001 \). Controlling for all the demographic covariates and trust, sexual pressure explained an additional 2% of the variance in sexual risk behavior \( F(1, 298) = 6.96, p < .01 \). Therefore, the hypothesized positive relationship with sexual risk behavior was supported.

To corroborate these findings, logistic regression was performed to explore to what extent an increase in sexual pressure would correspond to an increase in the likelihood of engaging in sex risk behavior. The analysis was performed using the dichotomous sexual risk score with sexual pressure and dyadic trust, because this method is free of the assumption about normal distributions of the predictors (Tabachnick & Fidell, 1996). This time, the only demographic variable that significantly predicted sexual risk behavior was the use of drugs and alcohol before or during sex. In the presence of trust, this variable was no longer significant.

Therefore, the logistic regression model was rerun with only sexual pressure and dyadic trust.

Two tests of significance were used to assess whether each variable improved the model. The difference between each model was assessed with -2 Log Likelihood, which has an approximate Chi-square distribution. The omnibus test for model improvement is a Chi-square statistic, that is comparable to the \( F \)-change test in multiple regression (Pedhazur, 1997). Sexual pressure and dyadic trust both improved the model, \( \chi^2(2, N=306) = 91.127, p < .001 \). Next, the classification table indicated that sexual pressure alone correctly classified 92% of the women who would not engage in sexual risk behavior and 30.8% of those who would, with an overall correct classification of 68.6%. Together with dyadic trust, the

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE of B</th>
<th>Beta</th>
<th>R^2</th>
<th>R^2 Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge about condoms reducing the risk of HIV/AIDS</td>
<td>.13</td>
<td>.16</td>
<td>.04</td>
<td>.07</td>
<td>.07***</td>
</tr>
<tr>
<td>Highest grade completed</td>
<td>.01</td>
<td>.05</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of children</td>
<td>.23</td>
<td>.07</td>
<td>.19</td>
<td>.07</td>
<td>.07***</td>
</tr>
<tr>
<td>Hours of employment</td>
<td>.03</td>
<td>.05</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol or non-injection drugs before or during sex</td>
<td>.25</td>
<td>.11</td>
<td>.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyadic trust</td>
<td>-.04</td>
<td>.01</td>
<td>-.30</td>
<td>.19</td>
<td>.12***</td>
</tr>
<tr>
<td>Sexual pressure</td>
<td>.03</td>
<td>.01</td>
<td>.15</td>
<td>.21</td>
<td>.02**</td>
</tr>
</tbody>
</table>

*p < .05.

**p < .01.

***p < .001.
two variables correctly classified the probability of who would not engage in sexual risk behavior (87.3%), and who would engage in sexual risk behavior (58%).

The Exp (B) odds ratio for sexual pressure was 1.05 and for trust was .90, indicating that each point increase in sexual pressure corresponded to a 1.05-fold increase in the odds of engaging in sexual risk behavior, and each point increase in dyadic trust corresponded to a .90-fold decrease in the odds of engaging in sexual risk behavior (or conversely, each point increase in dyadic trust corresponded to a 1.12-fold increase in the odds of not engaging in sexual risk behavior).

To understand why the effect size of sexual pressure on sexual risk behavior was weak, a dichotomous score (yes/no) was created for sexual risk and sexual pressure and a cross tabulation performed. Of the 264 participants reporting sexual pressure, 156 did not engage in unprotected sex with a partner engaging in risk behavior; 108 did engage in sex risk behavior. Thus, the large number who felt pressured but did not engage in unprotected sex mitigated the effect size of sexual pressure for those who did engage in unprotected sex. It appears that women who did not engage in unprotected sex also were feeling pressure to do so.

To determine the relationship of sexual victimization to sexual risk behavior, multiple regression analysis was conducted entering the 4 SES factors as a block. The block was significant, $F(4, 301) = 3.87, p < .01$. However, the effect size of SES factors was small (4.9%). In comparison, the result of multiple regression with the five SPS factors was significant, $F(5, 300) = 10.72, p < .001$, with a medium effect size of 15.2%.

**DISCUSSION**

These findings provide initial support for the validity of the SPS. Conceptualized as pressure to engage in unprotected sex based on a gender schema of stereotypical expectations, sexual pressure was found to be a multidimensional concept that included coercion and stereotypical expectations. The five dimensions of the sexual pressure scale: Condom Fear, Sexual Coercion, Women’s Sex Role, Men Expect Sex, and Show Trust explained 62% of the variance in sexual pressure. The correlations between factor pairs illustrate some relatedness among the factors but there was also evidence that each factor measures a unique concept. Internal consistency reliability for the SPS was .81. The Men Expect Sex factor and the Show Trust factor demonstrated the lowest alphas, indicating the need for further item revision or the addition of new items to represent these dimensions.

The positive skew and relatively low factor mean scores indicated that the views of most of the young urban women, the majority of whom were African American, did not conform to stereotypical gender role expectations. Tolman and Porche (2000) also found that African American adolescent women were more resistant to gender-based norms for feminine behavior than White or Latina adolescents. Rosenthal et al. (1996) suggested that urban adolescent women initiated sex as a way to achieve control and mastery in the sexual relationship. In the current study, the significance of the positive skew in sexual pressure may indicate that gender stereotypes among young urban women are changing. Sexual risk behavior also was skewed positively (indicating the majority did not engage in risk behaviors) but was correlated positively with sexual pressure, indicating the minority who engaged in sexual risk behavior also held stereotypical gender views.

Women responded more affirmatively to Women’s Sex Roles, Men Expect Sex, and Show Trust factors than to the Condom Fear and Sexual Coercion factors, thus supporting the view that sexual pressure based on stereotypical gender expectations involves mutual expectations about sex and to a much smaller extent, coercive tactics. Findings by Sionean et al. (2002) in a study of African American adolescents also supported the dominance of emotional pressure over physical pressure. Assessment of sexually coercive relationships, particularly in relationship to HIV risk (Doll & Carballo-Diegues, 1998), continues to be a public health concern and assessment of stereotypical gender expectations may be a way to open communication about alternative views concerning gender roles.

Divergent validity of the SPS was demonstrated by the moderate negative relationship between the total sexual pressure score and dyadic trust. All SPS factors also were related significantly and negatively to dyadic trust, with low to moderate correlations. Given that dyadic trust is belief in the partner’s benevolence and honesty (Larzelere & Huston, 1980), the moderately negative correlation between the SPS factor Show Trust and dyadic trust suggests that the gender role expectations that unprotected sex is a way to communicate trust and relationship closeness, is a form of sexual pressure. Further, the findings indicate that showing trust by engaging in unprotected sex is an aspect of sexual pressure.
that can be discriminated from dyadic trust, which is related to love and intimacy (Larzelere & Huston, 1980). This interpretation is further supported by positive relationships of the Show Trust factor with more coercive forms of sexual pressure. The Show Trust factor was positively correlated with the SPS Condom Fear factor, as well as the SES, and the SES classifications of sexual victimization. These findings indicate that young urban women may feel pressured to manifest a trusting relationship by engaging in unprotected sex although their authentic response is distrust. The importance of distrust is that it may be a woman's affective cue to avoid unprotected sex with a partner (Jones, 2004) or not to engage in sex at all. Instead, the Show Trust factor, as an aspect of gender stereotypical expectations that is characteristic of sexual pressure, means women silence their authentic response in anticipation of what they believe their male partners want (Amaro et al., 2001).

Further study is needed to understand the role of low trust in relationship to sexual pressure and HIV sexual risk behavior. The sex script appears to involve stereotypical expectations such as I feel I should have sex with my partner because there are plenty of women who are willing to take him away and If my partner wants sex, I feel it is my responsibility as his woman to have sex with him. Because sex risk is defined as unprotected sex with a partner perceived to engage in a risk behavior, and there is a positive correlation between sexual pressure and sexual risk behavior, women may be attaching themselves to men who meet their stereotypical expectations. Young urban women’s distrust for the men with whom they are engaging in unprotected sex could be part of the sex script.

Convergent validity of the SPS was evidenced by low to moderate positive correlations between the SES classifications and sexual pressure. The SPS factor, Condom Fear, correlated with all the SES classifications, and most highly with the Sexual Coercion and Rape classifications of the SES scale. This supports the relationship between the fear of asking a male partner to use a condom, and intercourse as a behavior that is coerced by verbal or physical means. Similarly, the SPS factor, Sexual Coercion, correlated with all SES classifications and the highest correlation was with the Rape classification. The small but significant correlation of the SPS factor, Women’s Sex Role, with the SES Attempted Rape and Rape classifications suggests that women with stereotyped gender expectations about the importance of pleasing men are having relationships with men who will exercise force to have sex. Rando et al. (1998) also found that a traditional gender role was related to sexual aggression. The factor, Men Expect Sex, correlated well with all dimensions of the SES, supporting the notion that traditional gender role expectations underlie physical coercion. Therefore, the SPS may be used to assess risk for harmful abusive relationships.

Those who felt sexually pressured also were engaging in higher sexual risk behaviors. Women who held stereotypical gender expectancies were selecting male partners whom they believed were having sex with other women, and to a lesser extent, sex with men or injecting drugs. This finding highlights the important role of partner selection in HIV sexual risk. A valid assessment of sexual pressure can suggest the extent to which stereotypical gender expectations structure women’s patterns of thinking and action in ways that influence their partner selection by limiting the scope of the type of man they seek, and limiting their autonomy in sexual choices. If so, women who score higher on sexual pressure may not be as aware of the range of relationship choices that are possible, such as a mutually respectful loving relationship. Envisioning alternative choices (Barrett, 1998) and participating in changing stereotypical patterns may change the type of male partner women choose as well their ability to refuse sex and increase consistent use of condoms (Morokoff et al., 1997). Power in sexual relationships was found to relate to consistent condom use (Pulerwitz et al., 2002), pointing to directions for HIV risk research opportunities and promotion of sexual health.

Use of ACASI and anonymous reporting increases self report of high risk behaviors, including anal sex (Jones, 2003). Although beyond the scope of this study, the finding that 24% of women engaged in anal sex and that most anal sex was unprotected is important, as unprotected anal sex with an infected partner carries the highest HIV transmission risk. This finding is consistent with those reported by Baldwin and Baldwin (2000) and Gross et al. (2000), confirming that heterosexual anal sex remains underestimated (Halperin, 1999; Voeller, 1991).

A limitation of the study is the use of a convenience sample, limiting generalization of the findings to young adult women in the urban Northeast. Although anonymity and privacy of the participants’ responses was carefully controlled by conducting the interviews using ACASI (Jones, 2003), some participants may have minimized the type and frequency of sexual pressure in order to provide socially accepted responses. Additional research is needed to increase internal consistency.
reliability of two factors (Men Expect Sex, Show Trust) and to confirm results of the present study. Despite these limitations, the SPS appears to be a valid and overall reliable measure of gender stereotypical expectations for sex.

REFERENCES


Pulerwitz, J., Amaro, H., De Jong, W., Gortmaker, S.L., & Rudd, R. (2002). Relationship power, condom use and HIV risk among women in the USA. AIDS Care, 14, 789–800.