

Negative Perceptions About Condom Use in a Clinic Population:
Comparisons by Gender, Race, and Age

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Abstract

Objectives: We sought to elucidate the associations of 13 items assessing negative perceptions about condom use with gender, age, and race in a sample of clinic attendees.

Methods: Patients from 4 clinics, in three US cities, were recruited (N=928). Data were collected using audio-computer assisted self-interviewing. The primary measure was a 13-item adapted version of the Condom Barriers Scale. Logistic regression and chi-square tests were employed to relate the 13 items to gender, age, and race.

Results: Gender, race, and age all had significant associations with negative perceptions of condoms and their use. A primary finding was a large number of significant differences between men and women, with negative perceptions more common among women than men. For African Americans, especially women, negative perceptions were more common among older participants than among younger participants.

Conclusions: Important demographic differences regarding negative perceptions may inform the tailoring of intervention efforts that seek to rectify negative perceptions about condoms and thus promote condom use among individuals at risk for STIs in the US. On the other hand, our findings also suggest that the majority of STI clinic attendees may hold positive perceptions about condoms and their use; maintaining and building upon these positive perceptions via education, counseling, and access is also important.

Introduction

Consistent and correct condom use is the most effective way of reducing the risk of sexually transmitted diseases (STD) and unintended pregnancy.¹⁻⁴ Nonetheless, many people at-risk of STI acquisition or transmission do not use condoms every time they engage in sexual intercourse.^{5,6} Still others who do use condoms delay application or remove condoms early, thereby greatly compromising the protective value of condoms.⁷ Thus, it is important to pursue investigations that shed light on behavioral aspects of condoms and their use to develop more effective approaches to reducing STIs.

People's perceptions about condoms and their use strongly predict whether or not condoms will be used.⁸⁻¹⁰ Some of the perceptions most strongly endorsed, and those most predictive of condom use, are related to beliefs about loss of pleasure during condom-protected sex. For example, in two studies, the view that condom use would interfere with sexual pleasure differentiated condom users from nonusers.⁸ Research suggests that pleasure concerns related to condom use are especially salient for men compared to women.⁹⁻¹² Similarly, research suggests that men, more often than women, perceive condoms to reduce sensation, to interfere with sexual spontaneity, and to disrupt the mood during sex^{9,13} and that men who endorse these beliefs are less likely to use condoms.⁹ Another study found that women were more likely than men to report having unprotected sex if they strongly agreed with the statement that use of condoms or other safe sex products reduced their sexual arousal.¹⁴

Both men and women have reported negative partner-related perceptions towards condoms, such as the belief that condom use disrupts intimacy or creates distrust in a relationship.^{15,16} Studies have demonstrated that these negative perceptions are associated with less frequent condom use.⁹ However, some research suggests that gender and age may interact in predicting perceptions about condoms. For example, in a study of condom "turn offs" among

individuals 18 to 67 years of age, women, particularly older single women, were more likely than men to suggest that using condoms suggests a lack of trust.¹³

Studies have also assessed condom perceptions within and between specific racial groups. Particular attention has been directed toward perceptions held by African Americans, as this population is disproportionately burdened by STIs, especially HIV.¹⁷⁻²⁰ For example, masculinity and sexual prowess appear to be emphasized in sexual scripts for African American men.²¹ Further, masculine ideology has been associated with less positive perceptions towards condoms and their use.^{22,23} Young African American men and women may believe that condoms lead to decreased feeling and sensation, but men may hold these beliefs to a greater degree than women.²³ African American women may be cognizant of African American men's beliefs about pleasure decrements as a result of condom use, and may choose not to use condoms based on their partner's desire.²³

Understanding negative perceptions regarding condom use is important to enhancing consistent and correct condom use and therefore the development of effective intervention programs. Accordingly, the primary objective of this study was to investigate selected perceptions about condom use for differences by gender, race, and age. For convenience we selected 13 selected questions, used in adapted form, of the Condom Barriers Scale (CBS)²⁴ as the perceptions for this study. People's responses to each of these 13 questions were used as outcome variables, with gender, race (black versus else), and age (young versus older) being the correlates of interest. Because these 13 question items were used in this large study of STD clinic attendees, an important secondary objective was to test the reliability and validity of the abbreviated and adapted CBS.

Methods

Study Sample

Data were collected from a convenience sample of 928 clinic patients enrolled in a longitudinal study of condom effectiveness from December 2007 through April 2011. Only baseline data were used for this study. This was strictly an observational study (no randomization involved). People were provided with an ample supply of condoms and lubricants, as well as verbal instructions/counseling, to enable their condom use.

Participants were recruited from five clinics caring for individuals at high-risk for STI in three U.S. cities: a publicly-funded STI clinic in the Southern US; a publicly-funded STI clinic in the Midwestern US; an STI clinic of a large teaching hospital in Boston, MA; and two adolescent medicine clinics of a children's hospital in Boston. The STI clinics enrolled individuals aged 18 years and older; the adolescent clinics enrolled individuals as young as 15. Eligibility criteria included reporting penile-vaginal intercourse in the preceding 3 months; willing to be tested for Chlamydia, gonorrhea, and trichomoniasis by providing a urine specimen; speaking English; willing to provide contact information; and providing written informed consent. Institutional review boards at the participating universities approved the study protocol with a waiver of parental consent for adolescents less than 18 years of age.

Recruitment procedures varied slightly across the five clinics. At the adolescent clinics, the study was listed on a research recruitment flag attached to the appointment paperwork of age-eligible patients. The research assistant used the flag to identify eligible patients. This chart-flagging system at adolescent clinics precluded us from calculating a participation rate for those sites. Across the three remaining clinics, 1,424 patients agreed to be screened for eligibility. Of these, 1,297 were eligible and invited to participate; 794 enrolled, yielding a

participation rate of 61.2%. With the remaining patients from the Boston clinics (n=134), the participant sample size was 928.

Measures

Based on evidence suggesting the possibility of decreased reporting bias,²⁵ data were collected using audio-computer assisted self-interviewing (A-CASI). The primary measure used in this study was a 13-item scale representing an abbreviated version of the CBS.²⁴ The CBS is a 26-item measure with strong evidence of reliability and validity in at least one study of a clinic-based population.²⁶ For brevity of assessment, we developed and employed an abbreviated and slightly altered version of the CBS that contained only 13 items. Each item was scored on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Higher scores represented greater perceived barriers to condom use.

To assess the criterion validity of the abbreviated and adapted CBS, a measure of unprotected vaginal sex (UVS) was also included in the A-CASI. Using a 3-month recall period participants were asked how many times they had engaged in sex, with sex being explicitly defined in the A-CASI as "putting the penis in the vagina." A subsequent question asked how many times a condom was used for sex and the value for this response was subtracted from the value for the former response to create the measure of UVS.

Data Analysis

Only four participants did not answer the items representing the abbreviated version of the CBS. Data were therefore available for 927 participants (417 males and 510 females). First, we examined the distributions of the 13 items. None of the 13 distributions met the criteria for normality based on skewness and kurtosis being between -2 and +2.²⁷ Consequently, we dichotomized each item as "agree" or "strongly agree" (representing negative perceptions) versus the remaining three response options. Then, we fit 13 multiple logistic regression

models, one relating each item to gender, age, and race. In these models we preserved age as a continuous variable, whereas gender (female versus male) and race (African American/Black versus other racial/ethnic backgrounds) were dichotomous. Next, we compared the prevalence of negative perceptions between males and females by using chi-square tests. Then, within gender, additional chi-square tests were conducted to assess differences by race and age. For these analyses age was dichotomized by a median split for males of 27 and younger versus 28 and older and by a median split for females of 24 or younger versus 25 or older. We assessed the inter-item reliability of the abbreviated 13-item scale by calculating Cronbach's alpha and then assessed criterion validity by conducting a *t*-test to determine if the mean CBS score was significantly greater for those reporting consistent condom use versus those not reporting consistent condom use. Also, *t*-tests were used to assess criterion validity of the abbreviated CBS for males and females separately. We used Version 19.0 of SPSS to analyze data, and statistical significance was determined by a *p*-value < .05.

Results

Characteristics of the Sample

The mean age of the sample was 29.2 years (standard deviation = 10.8). The majority identified as African American/Black ($n=617$, 66.6%), and more than half were women ($n=510$, 55.0%). Most (61.7%) of those 18 and older reported earning less than \$1,000 per month in income or social assistance, and 45.0% of those under 18 reported qualifying for a free lunch at school. The mean number of lifetime sex partners was 29.7 ($SD=38.2$), and the mean number of sex partners in the past 3 months was 2.9 ($SD=6.4$). Just under half of the sample (49.1%) reported ever being diagnosed with an STD.

Demographic Characteristics Predicting Negative Condom Perceptions

Table 1 displays the findings from the 13 logistic regression models. For all except one item, two or more of the demographic characteristics (gender, age, and race) were significantly predictive of negative condom perceptions. The one exception was that age and race did not significantly predict agreement that condoms rub and cause soreness; on the other hand, the odds of women agreeing with this statement were an estimated 2.72 times as large as the odds of men agreeing, after controlling for age and race. For four of the items, all three demographic characteristics were significantly predictive.

The largest odds ratio estimates pertained to gender, with women estimated to have more than triple the odds of men to agree that they won't use a condom and that condom requests are insulting. Importantly, these gender differences occurred after controlling for race and age. Non-African-American/Black participants were more likely to agree with negative condom perception items related to sensation as evidenced by significant odds ratio estimates of less than 1. In contrast, African-American/Black participants were more likely to agree with relationship-related negative condom perceptions.

Gender Comparisons

Table 2 displays a comparison of men and women for each of the 13 items. Of note, two of the most commonly held negative perceptions centered on relationships (i.e., feel closer without condoms and suspicions of cheating). Two other common negative perceptions centered on sensation (i.e., condoms do not feel good and condoms feel unnatural). All four of these perceptions were held by at least 25% of female and 25% of male respondents. Only small percentages (less than 15% of female and 15% of male respondents) held negative perceptions about condoms spoiling the mood or feeling angry if asked to use a condom. On 9 of the 13 items, the proportions holding negative perceptions differed significantly by gender. For 7 of these 9 differences, negative perceptions were greater among women. A few of these

differences are particularly noteworthy. Women were more than twice as likely as men to agree with the statement “I won’t use a condom” and almost twice as likely to agree with the statement “If my partner asked if we could use a condom, I would think he did not trust me.” Women were also more than twice as likely to agree that condoms “rub and make you feel sore” and that they were insulted if asked to use a condom. Although not as great in magnitude, the differences suggesting a higher degree of negative perceptions among men were on the items “condoms feel unnatural” and “condoms change the climax or orgasm or how I cum.”

Differences by Race and Age within Gender

Table 3 displays descriptive and comparative information for women who did and did not identify as African-American/Black, with each of these groups being further divided by the median age for women in the sample (younger than 25 years of age vs. 25 years of age or older). Four of the 5 most frequently held negative perceptions for African-American/Black women (greater than 20% in both age strata) centered on relationship issues (trust, fidelity, and closeness). In contrast, 3 of the 4 most frequent negative perceptions held by non-African-American/Black women (greater than 20% in both age strata) centered on sensations (naturalness, feeling, and orgasm). Among African-American/Black women, there were significant differences between younger and older participants on 9 of the 13 items, with older participants consistently holding more negative perceptions. In contrast, among non-African-American/Black women, younger and older participants differed significantly on only one of the 13 items.

Table 4 displays descriptive and comparative information for African-American/Black and non-African-American/Black men, with each of these groups being further divided by the median age for men in the sample (younger than 28 years of age vs. 28 years of age or older). Among non-African-American men, there were no significant differences between younger and

older men on any of the condom perception items. For African-American men, older participants were significantly more likely to hold four of the negative perceptions (turned off if partner suggested condom use, condoms spoil the mood, won't use condoms, and insulted if partner requests condom use).

Psychometric Evaluation

The 13-item scale obtained excellent inter-item reliability with a Cronbach's alpha of .89. Moreover, cross-sectional evidence for criterion validity was strong. The mean scale score for persons using condoms consistently in the past 3 months was 23.5 compared to 30.5 among those not always using condoms ($t=8.2$, $df=925$, $P=.0001$), indicating that fewer negative perceptions about condoms were held by those reporting consistent condom use. This was also true when examining the association by gender. For men using condoms consistently the mean abbreviated CBS score was 25.1 versus 29.4 for those not always using condoms ($t=3.8$, $df=415$, $P=.0001$). For women using condoms consistently the mean abbreviated CBS score was 21.5 versus 31.3 for those not always using condoms ($t=7.6$, $df=508$, $P=.0001$).

Discussion

In this study of more than 900 men and women attending clinics that diagnose and treat STIs, we examined each item in an abbreviated version of the CBS to gain insights into the specific perceptions that clinic-attendees may hold regarding condoms and their use. These insights are important because they can be used to tailor clinic-based counseling and prevention education efforts to various populations according to gender, race, or age. To our knowledge, this study is the first to analyze these very specific condom perceptions and their relationships with gender, race, and age in a clinic-based sample. We also found that this abbreviated CBS yielded excellent reliability and validity, thereby suggesting its utility for conducting a behavioral diagnosis prior to counseling.

This study found that gender, race, and age were significantly associated with several negative perceptions of condoms and their use. In particular, there were numerous significant differences between men and women, mostly in the direction of women having greater negative perceptions about condoms and their use than men. This finding suggests that greater intervention efforts should be devoted to women and that men may not be the primary “gatekeepers” regarding condom use. These efforts should help women reconsider the meaning of condoms in relationships, shifting perceptions from the idea that condoms indicate distrust and infidelity to the idea that condoms represent respect and responsibility. Also important is that women were more likely than men to report that condoms rubbed and caused soreness, thereby suggesting that clinics may want to promote lubricant use to women using condoms. However, adding lubrication may not be sufficient if sexual arousal is low or if friction caused by ribbing or studding occurs. That women were particularly likely to report rubbing and soreness also suggests that condom manufacturers may want to consider women’s needs in the design of male condoms.

Of importance, women were far more likely than men to agree with the statement that they would not use condoms. This observation suggests that women may sometimes preclude condom use among couples at high-risk of STI acquisition and transmission, thereby implying a need for interventions to address issues that women may have with condom use. Notably, in only two instances did a significantly larger proportion of men have negative perceptions compared to women. These two exceptions each involved physical sensation, although approximately one-quarter of women held these negative perceptions as well. Thus, enhanced intervention attention to “fit and feel” issues among men and women who use condoms is suggested.

Regarding African-American/Black and non-African-American/Black women, our findings are different compared with results from other studies of condom use behaviors. For example, in a study of condom use at last penile-vaginal intercourse, proportionally more African-American/Black and younger participants reported condom use.⁶ Our results indicated greater frequencies of negative perceptions among older African-American/Black women. The large majority of safer sex efforts for African-Americans in the US have focused on younger age groups, and our findings suggest that these interventions may have engendered more positive perceptions of condoms in young African-American women. Alternatively, for African-American women in their mid-twenties or older, our results indicate a need to intensify education and intervention efforts promoting positive perceptions about condom use.

Among non-African Americans, older women were substantially more likely than younger women to perceive condom requests as “insulting.” Again, older women may benefit from education efforts promoting condom use as a symbol of positive relationship values. We found no other significant age differences among non-African American women, suggesting that generational differences are less pronounced in this population than in the population of African American women.

In contrast to the findings for African American women, there were relatively few significant differences between younger and older African American men in the proportions of those reporting negative perceptions. Of note, three of the four significant differences pertained to relationship issues rather than to decreased pleasure or sensation, with younger African American men holding negative perceptions less often than older African American men. This signals a need for intensified intervention efforts for African American men in their late twenties and older.

Limitations

As is true for most sexuality research, the findings are limited by the validity of participant self-report. Findings must also be interrupted with the inherent limitations of a cross-sectional study design. Moreover, the use of a convenience sample limits the generalizability of the findings. In addition, our lack of a denominator to calculate a participation rate for those recruited from the adolescent medicine clinics represents a limitation regarding the possibility of sample bias for those 134 participants. Also, the study assessed the 13 perceptions on a generic basis rather than asking participants to complete one set of assessments for main partners and another for non-main partners. Because main and non-main sexual partnerships are quite fluid in this population (with many having both) a statistical approach to this issue is not warranted given the measures available. Finally, dichotomizing the items of the abbreviated CBS may have reduced statistical power to detect associations between negative perceptions and demographic characteristics, although power still appeared to be more than adequate given the large number of significant differences that were detected.

Conclusions

Gender, age, and race all appear to be important factors to consider in the development of tailored intervention efforts that seek to rectify negative perceptions about condoms and thus promote condom use among individuals at risk for STIs in the US. Our findings also suggest that younger African Americans, especially women, may hold more positive condom use perceptions relative to their older counterparts. These more positive perceptions may be a product of several factors such as improved sex education and more accessible sex information. Many of the significant differences observed in the current investigation indicated that women, particularly older African American women, may hold more negative condom perceptions, especially regarding relationships rather than sexual pleasure/sensation issues. Although no item on the abbreviated CBS was endorsed by a majority of the older African American

women, the fact that some items were endorsed by sizable minorities suggests that gains to STI prevention can still be achieved through intensified and tailored education efforts. Lastly, our findings suggest that the majority of STI clinic attendees may hold positive perceptions about condoms and their use; maintaining and building upon these positive perceptions via education, counseling, and access is also important.

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Table 1. Estimated odds ratios and 95% confidence intervals for predictors of condom perception items

Condom Perception Item	Gender EOR (95% CI)	Age EOR (95% CI)	Race EOR (95% CI)
Won't use a condom	3.23*** (2.19 – 4.78)	1.04*** (1.03 – 1.06)	1.31 (.89 – 1.93)
Partner's request to use condoms indicates mistrust	2.67*** (1.87 – 3.83)	1.04*** (1.02 – 1.05)	2.45*** (1.63 – 3.69)
If I request condom use, partner would think I'm accusing him/her of cheating	1.48* (1.07 – 2.04)	1.04*** (1.02 – 1.05)	2.44*** (1.66 – 3.57)
If I request condom use, partner may think I'm cheating	1.51** (1.12 – 2.03)	1.03*** (1.02 – 1.04)	2.14*** (1.52 – 3.00)
Condom request makes me feel angry	1.79* (1.14 – 2.81)	1.04*** (1.02 -1.06)	2.27** (1.31 – 3.95)
Condom request is insulting to me	3.61*** (2.21 – 5.90)	1.06*** (1.04 -1.08)	1.52 (.92 – 2.51)
Feel closer without a condom	.83 (.62 – 1.07)	1.02** (1.01 – 1.03)	.44*** (.33 - .58)
Request to use condom turns me off	1.90** (1.30 – 2.79)	1.05*** (1.03 – 1.07)	.96 (.65 – 1.43)
Condoms rub and cause soreness	2.72*** (1.82 – 4.07)	1.01 (.99 – 1.02)	.88 (.61 -1.29)
Condoms don't feel good	.85 (.63 – 1.14)	1.01* (1.00 – 1.03)	.70* (.51 - .95)
Condoms feel unnatural	.74* (.56 - .98)	1.00 (.99 - .101)	.74* (.55 - .99)
Condoms spoil the mood	1.10 (.75 – 1.61)	1.04*** (1.02 – 1.06)	.66* (.44 - .98)
Condoms change the orgasm	.56*** (.42 - .75)	1.01 (.99 – 1.02)	.62** (.45 - .84)

Note. * indicates $P < .05$; ** indicates $P < .01$; *** indicates $P < .001$; EOR = estimated odds ratio; CI = confidence interval; odds ratios for gender are female versus male; odds ratios for

age are per one year increase; odds ratios for race are Black/African American versus other. Item wording in this table is abbreviated, for complete wording see Table 2.

Table 2. Gender differences in agreement with items on the Condom Barriers Scale.

Condom Perception Item	Women (n = 510) %	Men (n = 417) %	<i>P</i>
I won't use a condom.	23.9	10.1	.0001
If my partner asked if we could use a condom, I would think that he/she didn't trust me.	25.7	13.2	.0001
If I asked my partner to use a condom, he/she would think I was accusing her/him of cheating.	25.1	20.6	.11
If I asked my partner to use a condom, he/she might think I was cheating.	31.4	25.4	.046
I would feel angry if my partner asked that we use a condom.	12.2	8.2	.047
It is insulting to me when my partner asks if we can use a condom.	15.5	6.0	.0001
I feel closer to my partner without a condom.	37.1	41.5	.17
I get turned off when my partner suggests that we use a condom.	18.4	12.0	.007
Condoms rub and make you feel sore.	20.8	8.9	.0001
Condoms don't feel good.	25.1	28.5	.24
Condoms feel unnatural.	28.4	34.8	.038
Condoms spoil the mood.	13.7	13.4	.90
Condoms change the climax or orgasm or how I cum.	21.8	32.6	.0001

Note. Agreement reflects combined categories of "agree" and "strongly agree."

Table 3. Age differences in agreement with condom perception items by racial category for women.

Condom Perception Item	Not African American (n = 183)			African American (n = 327)		
	Younger than 25 (n = 111) %	25 or older (n = 72) %	<i>P</i>	Younger than 25 (n = 151) %	25 or older (n = 176) %	<i>P</i>
Won't use a condom	17.1	23.6	.28	19.2	32.4	.007
Partner's request to use condoms indicates mistrust	10.8	19.4	.10	21.9	40.9	.0001
If I request condom use, partner would think I'm accusing him/her of cheating	10.8	16.7	.25	20.5	41.5	.0001
If I request condom use, partner may think I'm cheating	18.9	26.4	.23	23.5	48.5	.0001
Condom request makes me feel angry	5.4	8.3	.42	11.3	18.8	.06
Condom request is insulting to me	5.5	18.1	.007	9.9	25.6	.0001
Feel closer without a condom	45.9	51.4	.47	22.5	38.1	.002
Request to use condom turns me off	11.7	20.8	.09	15.2	24.4	.04
Condoms rub and cause soreness	21.6	18.1	.56	17.9	23.9	.19
Condoms don't feel good	29.7	25.0	.49	17.2	29.0	.012
Condoms feel unnatural	35.1	26.4	.21	21.2	31.3	.04
Condoms spoil the mood	17.1	15.3	.74	9.3	14.8	.13
Condoms change the orgasm	22.5	22.2	.96	19.9	22.7	.53

Note. Agreement reflects combined categories of “agree” and “strongly agree.” Item wording in this table is abbreviated, for complete wording see Table 2.

Table 4. Age differences in agreement with condom perception items by racial category, for men.

Condom Perception Item	Not African American (n = 127)			African American (n = 290)		
	Younger than 28 (n = 74) %	28 or older (n = 53) %	<i>P</i>	Younger than 28 (n = 146) %	28 or older (n = 144) %	<i>P</i>
Won't use a condom	6.8	7.5	.86	5.5	17.4	.001
Partner's request to use condoms indicates mistrust	6.8	7.5	.86	13.0	18.8	.18
My request to use condoms, partner would think I am cheating	10.8	15.1	.47	20.5	27.8	.15
If I request condom use, partner may think I'm accusing cheating	12.2	15.1	.63	26.7	34.7	.14
Condom request makes me feel angry	4.1	3.8	.94	8.2	11.8	.31
Condom request is insulting to me	2.7	5.7	.40	2.7	11.1	.005
Feel closer without a condom	58.1	50.9	.42	30.8	40.3	.09
Request to use condom turns me off	9.5	18.9	.12	3.4	19.4	.0001
Condoms rub and cause soreness	11.8	9.5	.33	4.8	10.4	.07
Condoms don't feel good	37.8	30.2	.37	21.9	29.9	.12
Condoms feel unnatural	45.9	32.1	.12	28.1	36.8	.11
Condoms spoil the mood	13.5	17.0	.59	6.2	19.4	.001
Condoms change the orgasm	52.7	37.7	.09	26.0	27.1	.84

Note. Agreement reflects combined categories of “agree” and “strongly agree.” Item wording in this table is abbreviated, for complete wording see Table 2.