



Published in final edited form as:

*Sex Transm Dis.* 2016 March ; 43(3): 204–206. doi:10.1097/OLQ.0000000000000420.

## Willingness to disclose STI status to sex partners among college-age men in the United States

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## Abstract

Disclosure of sexually transmitted infections (STIs) to sexual partners is critical to the prevention, treatment and control of STIs. We examine intra- and inter-personal influences on willingness to disclose STI status among college-age males. Participants (n = 1064) were aged 17-24 years and recruited from a variety of university and community venues. Using independent samples t-test, Pearson chi-squares test, and binary logistic regression, we examined the relationship between willingness to disclose a STI and intra- and inter-personal factors, including age, masculinity values, interpersonal violence, partner cell phone monitoring, alcohol and/or drug use, condom use, number and characteristics of sex partners, and previous STI. Results reveal that among college-age males, type of sex partner and masculinity values are significant variables in predicting whether or not an individual is willing to disclose. These data can inform STI control programs to more effectively address the complex issues associated with STI disclosure to sex partners.

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COMPETING INTERESTS

None

## Keywords

disclosure; sexually transmitted diseases; adolescent; masculinity

College is a time when young men initiate new sexual behaviors, such as unprotected sex with multiple sex partners that put them at increased risk for sexually transmitted infections (STIs). It is also an important time for interventions, as young people are often uniquely open to behavior change. Disclosure—defined as a process in which an individual diagnosed with a STI tells a sex partner that the partner was exposed and needs to seek medical care—is critical to STI control.[1] Guidelines encourage people to disclose a STI to sex partners;[2] however, not all individuals put this public health advice into practice.[3-4]

Much behavioral STI research is done with females. Less is known about the attitudes and beliefs of males as they are related to STI control. College-age men, in particular, frequently have shorter partnerships, more casual partnerships, and higher number of sex partners, creating unique challenges to STI control in this age group.[6-7] There is a need to better understand the predictors of willingness to disclose STI among college-age men to inform prevention efforts. The current study identifies intra- and inter-personal predictors of willingness to disclose a STI among college-age men recruited from community and university venues of a large public university in the United States.

As part of a larger study of STIs, 17-24 year old males were recruited from university and community venues (e.g. dorms, apartments, student centers, fraternities, social clubs, gyms, university and community events, street venues) in a town with a large Midwestern U.S. public university. Venue based sampling was used to avoid the biases inherent in recruiting exclusively from campus health centers or general introductory classes, and to capture the broader university community. After informed consent, all participants provided a urine and/or rectal sample for chlamydia and gonorrhea testing, and completed a 15 minute web-based survey assessing attitudes, sexual behaviors, and relationships. The main outcome measure was willingness to disclose a positive STI to a sex partner. Participants were asked, “If you found out that you had an STD, who would you tell?” and given the option to select multiple responses that included: “Wouldn’t tell anyone;” “My girlfriend/boyfriend;” “Brother, sister, or other family member;” “Friend;” “My doctor or nurse;” “Other adult;” and “Other (please specify).” This was recoded into a bivariate variable, disclosure to a sex partner or girl/boyfriend (yes/no). Intrapersonal characteristics were filled in by each respondent and included age in years, masculinity, and previous diagnosis of a STI (chlamydia, gonorrhea, trichomonas, herpes, syphilis, HIV, and/or HPV); interpersonal variables were also self-reported and included partner type at last sex, number of lifetime sex partners, interpersonal violence and other forms of controlling behavior (e.g. cell phone monitoring), condom use at last sex, and alcohol or drug use at last sex. For partner type at last sex, participants were able to select from a list of options, including, “don’t know well,” “casual friend,” “girl/boyfriend,” “hook-up,” “fiancé,” which were then collapsed into main partner vs. a casual partner. Masculinity was measured using a 5 item Likert type scale adapted from Chu et al.[7] (Cronbach’s alpha=.56). Items included statements, such as “Guys should not let it show when their feelings get hurt,” and “In a good dating

relationship the guy gets his way most of the time,” with higher scores reflecting agreement with conventional masculine values. Interpersonal Violence was measured using a single item adapted from the Behavioral Risk Factor Surveillance System Questionnaire.[8] Cell phone monitoring was two single items asking whether one checks their partner’s cell phone, and captures a potentially controlling behavior.[9] Data were analyzed using t-tests, Pearson chi-squares tests and logistic regression.

The sociodemographic characteristics of the 1064 college-aged male participants reflected the enrollment at this large public Midwestern United States university, and are described in Table 1. Most participants (54%) described their most recent sexual experience as being with a main or steady partner, and 8% had never had sex. Due to the hypothetical nature of the study question, responses from all participants, regardless of previous sexual experience, were included in the analyses. Approximately 20% had ever been tested for a STI, <5% (37) reported had ever been diagnosed with a STI, and 2% were chlamydia positive at the time of the survey. Eighty percent (80%) of participants reported that they *would* disclose a STI diagnosis to their sex partner/s.

In bivariate analysis (Table 1), intrapersonal characteristics associated with willingness to disclose STI status included older age ( $p<.05$ ), and lower conventional masculinity ( $p<.001$ ). We found no significant differences in the proportion of men reporting fewer than 5 lifetime sex partners, condom use at last sex and a previous STD diagnosis by willingness to disclose. Interpersonal characteristics associated with unwillingness to disclose STI status included casual sex partnerships ( $p<.001$ ), alcohol or drug use at last sex ( $p<.05$ ). While other forms of controlling behavior and interpersonal violence (e.g. hitting/slapping) were not significant, respondents reporting that they have checked a partner’s cell phone to see who they had called or texted was associated with willingness to disclose.

In multivariate analysis (Table 2), we found that partner type and masculinity remained significant predictors of willingness to disclose, but age, number of sex partners, substance abuse at last sex, condom use, and cellphone monitoring were no longer significant. Individuals whose last sexual experience was with a casual sexual partner were 39.8% less likely to disclose STI. Similarly, for every 1-unit increase in masculinity score, respondents were 15% less likely to disclose STI status.

Partner disclosure is a key step in STI control. Consistent with previous research, this study demonstrated a significant relationship between sex partner and disclosure, with a steady or main partner associated with willingness to disclose.[1, 3, 4, 10-13] This analysis extends our understanding of the influences on willingness to disclose through its identification of masculinity values as an independent predictor of willingness to disclose a STI among college-age males in the United States. Nondisclosure, as it relates to issues of masculinity, may be a reflection of unequal relations of power between sex partners and of larger gender dynamics embedded within American society. Although our prevalence of STI was low and willingness to disclose was, therefore, hypothetical, rates of chlamydia were consistent with nationally representative data on young men in this age group.[14] Interventions focused on disclosure may need to re-frame messages to account for the influence of masculinity, better

target both individuals and social contexts where higher levels of masculinity are endorsed, and help facilitate college-age men's disclosure to casual partners.

## ACKNOWLEDGMENTS

The project described was supported by Award Numbers 1R56AI090393 and T32AI007637 from the National Institute of Allergy and Infectious Diseases.

## REFERENCES

1. Mohammed H, Leichter JS, Schmidt N, et al. Does patient delivered partner treatment improve disclosure for treatable sexually transmitted diseases? *AIDS Patient Care and STDs*. 2010; 24:183–188. [PubMed: 20214486]
2. Catalozzi M, Ebel SC, Chávez NR, et al. Understanding perceptions of genital herpes disclosure through analysis of an online video contest. *Sex Transm Infect*. 2013; 89:650–652. [PubMed: 23702459]
3. Keller ML, von Sadvoszky V, Pankratz B, et al. Self-disclosure of HPV infection to sexual partners. *Western Journal of Nursing Research*. 2000; 22:285–302. [PubMed: 10804893]
4. Gorbach PM, Galea JT, Amani B, et al. Don't ask, don't tell: patterns of HIV disclosure among HIV positive men who have sex with men with recent STI practicing high risk behavior in Los Angeles and Seattle. *Sex Transm Infect*. 2004; 80:512–517. [PubMed: 15572626]
5. Paul EL, McManus B, Hayes A. "Hookups": Characteristics and correlates of college students' spontaneous and anonymous sexual experiences. *Journal of Sex Research*. 2000; 37:76–88.
6. Desiderato LL, Crawford HJ. Risky sexual behavior in college students: relationship between number of sexual partners disclosure of previous risky behaviors and alcohol use. *Journal of Youth and Adolescence*. 1995; 24:55–67.
7. Chu JY, Porche MV, Tolman DL. The adolescent masculinity ideology in relationships scale: development and validation of a new measure for boys. *Men and Masculinities*. 2005; 8:93–115.
8. Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Questionnaire. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Atlanta, Georgia: 2005.
9. Korchmaros JD, Ybarra ML, Langhinrichsen-Rohling J, et al. Perpetration of teen dating violence in a networked society. *Cyberpsychology, Behavior, and Social Networking*. 2013; 16:561–567.
10. Green J, Ferrier S, Kocsis A, Shadrick J, et al. Determinants of disclosure of genital herpes to partners. *Sex Transm Infect*. 2003; 79:42–44. [PubMed: 12576613]
11. Arima Y, Winer RL, Kurth AE, et al. Disclosure of genital human papillomavirus infection to female sex partners by young men. *Sex Transm Dis*. 2012; 39:583–587. [PubMed: 22797688]
12. Marhefka SL, Daley EM, Anstey EH, et al. HPV-related information sharing and factors associated with US men's disclosure of an HPV test result to their female sexual partners. *Sex Transm Infect*. 2012; 88:171–176. [PubMed: 22215695]
13. Montgomery KA, Gonzalez EW, Montgomery OC. Self-disclosure of sexually transmitted diseases: An integrative review. *Holis Nurs Pract*. 2008; 22:268–279.
14. Miller WC, Ford CA, Morris M, et al. Prevalence of chlamydial and gonococcal infections among young adults in the United States. *JAMA*. 2004; 291:2229–2236. [PubMed: 15138245]

**TABLE 1**

Sociodemographic characteristics and bivariate analysis of intrapersonal and interpersonal characteristics associated with willingness / unwillingness to disclose among college-age male participants from a Midwestern town with a large U.S. public university

STUDY VARIABLES	All Participants N=1064 Mean (St. Dev) Or N (%)	DISCLOSURE	
		YES—WOULD DISCLOSE n = 848 (80%) Mean (St. Dev.) Or N (%)	NO—WOULD <i>NOT</i> DISCLOSE n = 216 (20%) Mean (St. Dev.) Or N (%)
<b>Ethnicity</b>	836 (79%)		
White	61 (6%)		
African American	56 (5%)		
Latino	62 (6%)		
Asian	49 (5%)		
Other			
<b>Age</b>	20.1 Years (1.3)	20.1 Years (1.3) *	19.9 Years (1.2)
<b>Student Status</b>			
Student	1036 (97.4%)	822 (96.9%)	214 (99.1%)
Not a Student	28 (2.6%)	26 (3.1%)	2 (.9%)
<b>Masculinity Values (range: 5-20<sup>a</sup>)</b>	10.2 (2.1)	10.0 (2.1) ***	10.8 (2.0)
<b>Fewer than 5 Sex Partners - Lifetime</b>	666 (63%)	529 (62%)	137 (63%)
<b>Alcohol or Drug Use at Last Sex</b>	541 (51%)	418 (49%)	123 (57%) *
<b>Condom Use at Last Sex</b>	505 (47%)	406 (52%)	99 (56%)
<b>Previous STD Diagnosis</b>	37 (4%)	32 (4%)	5 (2%)
<b>Tested Positive for Chlamydia</b>	23 (2%)	20 (2%)	3 (1%)
<b>Casual Sex Partner (last sex)</b>	405 (38%)	299 (35%)	106 (49%) ***
<b>Interpersonal Violence</b>			
Respondent has Checked Partner Cell Phone	395 (37%)	325 (38%)	70 (32%) *
Hit/Slapped/Kicked Partner	61 (6%)	50 (6%)	11 (5%)

\*\*=p<01,

\* = p<05,

\*\*\* =p<001

<sup>a</sup> = Higher scores reflect more hegemonic masculine values

**TABLE 2**

Significant predictors of willingness /unwillingness to disclose STI status among 1064 participants in multivariate analysis

N = 1064	Willing to Disclose n=848 (80%) Mean (St. Dev.) Or N (%)	Unwilling to Disclose n = 216 (20%) Mean (St. Dev.) Or N (%)	AOR	95% CI	P
<b>Study Variables<sup>b</sup></b>					
Masculinity Value (range: 5-20 <sup>a</sup> )	10.0 (2.1)	10.8 (2.0)	.85	.79-.91	.002
Types Sex Partner Main/Steady Casual	497 (59) 299 (35)	75 (35) 106 (49)	Reference .61	.45-.83	.001

<sup>a</sup> = Higher scores reflect more hegemonic masculine values

<sup>b</sup> = The following variables were not found to be significant in bivariate analysis and were excluded from the final model: age, number of sex partners, substance abuse at last sex, condom use, and cellphone monitoring.