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Relationships Between Perceived STD-Related Stigma, STD-Related Shame and STD Screening Among a Household Sample of Adolescents

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Abstract

Context—Important barriers to STD testing for an individual may include STD-related stigma, defined as personal fears about negative societal attitudes toward STD infection, and STD-related shame, defined as anticipated negative personal feelings resulting from a positive STD test. Obtaining a clear understanding of the relationship between STD-related stigma, STD-related shame, and STD testing may help inform programs and policies to reduce STD transmission.

Methods—Measures derived from previously published scales were used to assess an urban, household sample of 594 15–24 year olds' perceptions of STD-related stigma (Cronbach's alpha 0.92), STD-related shame (Cronbach's alpha = 0.89), and receipt of an STD test in the past year. Logistic regression was used to examine the associations between STD testing and perceptions of stigma, shame, and other participant characteristics.

Results—Thirty-seven percent of males and 70% of females reporting receiving an STD test in the past year, the majority of which occurred in the context of a routine health care visit. For both males and females, perceiving higher levels of STD-related stigma was independently associated with decreased odds of having been STD tested (OR = 0.54 and 0.48, respectively). STD-related shame was not related to STD testing.

Conclusions—STD-related stigma may be an important barrier to STD screening for adolescents and young adults. Given the fact that most participants reported receiving an STD test during a routine health visit, it is unclear whether STD-related stigma may be associated with care seeking versus acceptance of STD screening at a routine health visit.

INTRODUCTION

Chlamydia and gonorrhea are among the top ten most frequently reported infectious diseases in the United States (US) with the highest age-specific rates occurring among adolescents aged 15–24 years.¹ Due to the high prevalence of asymptomatic disease, many of these cases can only be identified through screening. Nevertheless, a large portion of vulnerable youth do not seek routine screening or decline to be tested in the absence of symptoms.^{2, 3} Moreover, as many as one third of symptomatic patients attending sexually transmitted disease (STD) clinics report having delayed seeking testing and treatment for more than a week after the onset of symptoms or having been told about an exposure.^{4–6} Current medical guidelines recommend that, at a minimum, chlamydia screening be offered to all sexually active adolescents at least annually as part of routine primary care visits.⁷ Research suggests, however, that not all providers use routine primary care visits as an opportunity to screen and treat adolescents for STDs. Data from a population-based survey in San Francisco suggests that among African American adolescents who had attended a primary health care visit since their sexual debut, only 26% of males and 60% of females had been screened for an STD in the previous 24 months.³

Stigma associated with STDs may be an important barrier to STD prevention and care.^{2, 5, 8, 9} Stigma is an interpersonal process in which a person is set apart from others and linked to negative evaluations due to their real or imagined possession of a particular trait.^{10, 11} Two forms of stigma – perceived stigma and self-stigma – are thought to influence individuals' STD test- and treatment-seeking. Perceived stigma refers to individuals' fears of societal attitudes and potential discrimination arising from being associated with a particular trait.¹² Self-stigma, or shame, refers to individuals' negative attitudes about themselves as a result of internalizing stigmatizing ideas held by society.¹³ Qualitative work suggests that perceived STD-related stigma may contribute to delays in seeking screening and care.^{14, 15} Similarly, STD-related shame is a common theme of individuals' reactions to STD diagnoses and, in turn, may directly influence subsequent test or care seeking behaviors.¹⁶ It is also possible that instead of accepting demeaning social definitions, some people may adopt a stance in which they acknowledge the stigma associated with a particular attribute but contest the meanings assigned to it and to them.¹⁷ Persons who do not anticipate themselves to be prone to internalize negative stereotypes associated with STDs if they received a positive diagnosis may be more likely to be tested despite fears of being identified or labeled as having a stigmatizing condition. In other words, shame may interact with perceptions of STD-related stigma to influence individuals' STD testing behavior. In either case, STD-related shame may be more amenable to intervention, and particularly clinical intervention, than stigma has been shown to be to date.¹⁸

The belief that others hold negative attitudes toward those with STDs has empirically been shown to be associated with shorter intervals between adolescent females' recognition of STD symptoms and their decision to seek care.² Among adolescent females, the perceived negative attitudes of others is also associated with decreased likelihood of recent STD testing.⁵ Likewise, a recent study of the association of STD-related stigma with sexual health care among adult women attending a community clinic program found shame

(“internal stigma”) to be negatively associated with reporting having received an STD test in the past year.⁹ Other studies have not found STD-related shame to be an obstacle to STD testing.^{2, 8} Neither stigma nor shame has been shown to be associated with STD testing among adolescent males.^{2, 5}

While evidence to date suggests that perceptions of stigma associated with STDs may be a more powerful barrier to appropriate diagnostic and treatment services than shame, research assessing these relationships suffers from some important limitations. Adolescents are the population most at risk for contracting an STD yet little is known about the role of STD-related stigma and STD-related shame on their test and treatment seeking behaviors. Adolescents may be particularly sensitive to social judgments and the opinions of their peers relative to other age groups. Moreover, because they are not necessarily autonomous health care consumers, typical barriers such as transportation to clinics and costs associated with getting tested and, if necessary, obtaining treatment might be amplified for adolescents in the face of perceived STD-related stigma. Additionally, research assessing the relationship between STD-related stigma, STD-related shame, and STD test seeking has predominantly been conducted in clinic-based populations; thus, the findings cannot be generalized to persons who do not actively seek health care. Beyond gender, most analyses have failed to control for other known correlates of STD screening, such as previous experience with a positive diagnosis, which may influence the relationship between STD-related stigma, STD-related shame, and STD testing. Small sample sizes may also have limited the ability of previous studies to detect significant effects, particularly among adolescent males.

Given the limitations of previous research, the objective of this study was to examine, among a household sample of adolescents, the relationship between STD-related stigma, STD-related shame, and the receipt of an STD test in the past year. We hypothesized that perceiving lower levels of STD-related stigma would be independently associated with adolescents having received an STD test in the past year. In addition, we posited that adolescents who anticipated lower levels of STD-related shame from a positive STD test would be more likely to have been screened than those who anticipated being more shame-prone.

METHODOLOGY

Study Design and Sampling Strategy

The study was a household study conducted from April 2004 to April 2007 in Baltimore City, Maryland. The target population included English-speaking, sexually active persons between the ages of 15 and 24 years who resided in the 486 census block groups. The sampling selection for the study was conducted in two stages—the first stage involved the selection of neighborhoods, i.e., census block groups, and the second stage involved the selection of households.

In the first stage of selection, Baltimore City block groups (n=710) were categorized by percentile rates of gonorrhea and the number of households with at least one resident 14–24 years old. Gonorrhea rates were generated from public health surveillance data from 1994 to 1999 per 15–49 year olds per 100,000 and estimates of eligible households were generated

using US Census 2000 information.^{19, 20} To be eligible for selection, census block groups were required to have gonorrhea rates greater than the lowest 25th percentile and to have greater than or equal to 35 estimated eligible households. Based on these criteria, 487 (67%) of census block groups were eligible for selection. The 486 eligible census block groups were ordered by deciles of gonorrhea rates, followed by the percent of household incomes below the federal Poverty line according to the Census 2000, and lastly by geographic location. This ordering was conducted to ensure that the census block groups selected included a range of different levels of gonorrhea prevalence and poverty and were geographically noncontiguous. A final sample of 65 census block groups was selected using a stratified probability proportional to size and systematic sampling strategy.

To create a household sampling frame for the second sampling stage, we obtained address lists from three different vendors for the 65 selected block groups. The address lists included two targeted to 15–24 year olds and one providing a complete list of residential addresses. A total of 27,194 addresses associated with the 65 selected census block groups served as the second-stage sampling frame. We then used non-linear optimization to select a household sample of 13,873 households in a way that reduced screening costs while controlling for design effects.²¹ The target enrollment for each block group was 10 participants.

Procedures

All sampled households received a lead letter describing the study approximately two weeks before the households were contacted for enumeration. Enumeration, to determine whether the household had at least one age-eligible individual, was conducted by telephone for those households for which a telephone number was available (approximately 33% overall) and in-person by trained research assistants. If a selected household had more than one age-eligible person, one was randomly selected for screening. Screening was conducted to determine sexual activity, residence at the selected address and whether or not the individual spoke English. Parental/guardian informed consent and adolescent informed assent was conducted with individuals less than 18 years of age and informed consent was conducted for individuals 18 years or older. If eligible and willing to participate, consenting individuals were enrolled and research assistants administered an audio computer-assisted self-interview (audio-CASI) in a private setting. Participants were asked questions about their sociodemographic characteristics, health care seeking behaviors, sexual behaviors, STD and pregnancy history, drug and alcohol use, relationships with others, and the neighborhoods in which they live. Respondents were given \$25, \$35, or \$50 dollar gift certificates, depending on when they were enrolled in the study, for their participation. The increases in the amount of compensation provided were comparable to other study increases over the data collection time period. The study protocol was approved by the Western Institutional Review Board for Johns Hopkins University.

Measures

STD testing behavior was assessed by participant's response when asked, "In the last twelve months have you been tested for a sexually transmitted disease whether or not you had any symptoms?". Responses were coded as "no STD test in the past year" or "any STD test in the past year." Additionally, participants were asked more specifically whether they had

ever been diagnosed with any of the following STDs: chlamydia, gonorrhea, pelvic inflammatory disease (female only), syphilis, trichomonas, herpes, or warts. In order to distinguish between infections diagnosed in the past year and previous STD experiences, those who reported having ever had an STD(s) were asked when they were diagnosed. Responses were collapsed into “no STD history prior to the past year” and “history of at least one STD prior to the past year.” Other sociodemographic and behavioral data collected included participant’s age, sex, race, years of education completed, highest grade completed by a parent/guardian, number of lifetime sex partners, and sexual orientation.

Table 1 shows fourteen perceived STD-related stigma and STD-related shame items that were adapted from previous research.^{2, 8} A factor analysis (principal components with varimax rotation) of responses with the fourteen items showed that they fell into two components. An STD-related stigma component (9 items, $\alpha = 0.92$) reflected participants’ expectations of negative interactions and judgments associated with STDs. For each item, participants rated on four point scales how much they agree with what other people would think of them (1, strongly disagree to 4, strongly agree) if they had an STD such as “people would avoid you” or “people would think you had bad morals”. An STD-related shame component (5 items, $\alpha = 0.89$) reflected participants’ sense of shame and related negative affective states. For each item, participants rated the intensity of emotions (e.g., embarrassment, guilt, disappointment) they anticipate they would feel if they had an STD (1, not at all to 4, very). Items for the perceived STD-related stigma and STD-related shame scales were summed so that higher scores reflected greater perceived STD-related stigma and anticipated shame. For ease of interpretation of results, scale scores below the 50th percentile were reclassified as “low” and scores above or equal to the 50th percentile were reclassified as “high.”

Statistical analyses

All analyses were conducted separately for males and females since previous studies suggest that STD-related stigma may differentially affect adolescents’ STD testing behaviors by sex.^{2, 5} Bivariate analyses were conducted to determine whether there were differences in study variables by gender, assess the level of correlation between study variables, and examine the association between STD testing (outcome) and perceptions of STD-related stigma, STD-related shame, and other characteristics and behaviors of participants. All of the variables that were significantly associated with STD testing in bivariate analyses were then entered into multiple logistic regression models as single blocks. Statistical analyses were performed using logistic regression with 95% confidence intervals for each odds ratio. Generalized estimate equations (GEE) were used to control for the non-independence of participants within the same census block group.²² Statistical significance was defined as $P < 0.05$. All analyses were performed using STATA Intercooled Version 8.0 (STATA Corp., College Station, TX).

RESULTS

Sample characteristics

Of the 27,194 addresses in the second stage sampling frame, 50% were fielded and, of these, 74% of households were successfully screened. During the screening, two of the 65 census block groups were found to be comprised exclusively of retirement communities and thus were excluded. Among households enumerated, 12% had at least one English speaking person between the ages of 15 and 24 of whom 70% completed a screening for sexual activity. The final sample analyzed for this study included 594 participants residing in 63 census block groups, corresponding to an overall interview response rate of 50.5%.²³

Table 2 shows a comparison of characteristics for male and female participants. The majority of both sexes identified themselves as being of Black race (87% of males and females) and heterosexual (92% males, 89% females). There were no significant differences between male and female participants regarding race, highest level of education achieved by a parent or guardian, sexual orientation, or anticipated feelings of shame if they were to test positive for an STD. Males were significantly more likely than females to have had more than 10 sex partners during their lifetime and perceive higher levels of STD-related stigma. Females were significantly older and more likely than males to have been tested for an STD test in the past year, and have had at least one previous STD diagnosis. Education level and age were highly correlated ($r = 0.55$). Thus, males were significantly more likely than females to have less than high school education while females were significantly more likely than males to have completed some higher education.

Thirty-seven percent of male and 70% percent of female participants reported having received an STD test in the past year. Table 3 lists adolescents' primary self-reported reasons for having been screened. Forty-six percent of males' and 61% of females' STD tests occurred in the context of a routine health care visit or as part of a study. Far fewer adolescents reported having sought care of their own accord because they had experienced symptoms (11% males, 8% females), been told by a partner or someone else that they may have been exposed to an STD (7% males, 2% females), or were concerned because they had unprotected sex (8% males, 6% females).

Factors associated with having received an STD test in the past year

Tables 4 lists the odds ratios for the factors associated with adolescents having received an STD test in the past year by sex. In bivariate analyses, male adolescents' receipt of an STD test in the past year was associated with lower levels of perceived STD-related stigma as well as being older, of Black race, having had 3–5 or greater than 10 lifetime sex partners and having had a previous history of an STD. For females STD testing was associated with lower levels of perceived STD-related stigma and having had more than two lifetime sex partners.

Multivariable logistic regression confirmed that, for both male and female adolescents, perceiving higher levels of STD-related stigma was independently associated with decreased odds of having been tested for an STD in the past year (Table 4). For males, STD testing also remained significantly associated with being of black race and having had more than 10

lifetime sex partners. Similarly, for females, having had more than 2 lifetime sex partners remained significantly related to having received an STD test.

DISCUSSION

Our findings lend support to the notion that perceived STD-related stigma might be an important barrier to adolescents' STD screening behaviors. Furthermore, they suggest that this relationship is not just a gender-specific phenomenon among young women as previously reported.^{2, 5} Rather, STD-related stigma was independently associated with decreased odds of both males and females having been tested for an STD in the past year. The contradiction between our findings and previous assumptions about the role of STD-related stigma as a barrier to STD testing for adolescent females but not males may be due, in part, to other studies having been limited to just clinic populations. Females are more likely to seek routine health care than males thus young women recruited from clinics may be more similar to the general population than males.^{24, 25} Small sample sizes of adolescent males combined with their lower likelihood of having received an STD test in the past year may also have limited the ability of previous studies to detect this relationship.

Consistent with previous studies, shame was not found to be independently related to STD testing among adolescents.^{2, 8} Recent findings by Sales and colleagues (2007) indicate, however, that STD-related shame, rather than stigma, is an important factor in female adolescents' engaging in other STD prevention behaviors such as condom use, with higher shame predicting higher rates of condom-protected intercourse.²⁶ Collectively, these findings support the notion that some aspects of stigma may be more relevant than others in terms of how they affect primary prevention practices versus care-seeking behaviors.¹⁶ They raise questions, however, regarding how practitioners should address these aspects via clinical interventions. For example, while shame could possibly be used as a motivator to enhance the adoption and maintenance of STD-preventive practices such as condom use or abstinence, such a strategy may also perpetuate perceptions of there being a social risk associated with testing positive for an STD thereby decreasing the likelihood of persons to be screened. This is a particularly important consideration given the recent heavy emphasis on abstinence-only programs. Public health messages that relay on scare tactics or stratify people into "us and them" categories, with a negative view being placed on "them," should be avoided.²⁷

Adolescents who had higher numbers of lifetime sex partners were more likely to have had an STD test in the past year indicating that they may have perceived themselves to be at higher risk than those who reported having had fewer partners. This is consistent with previous findings that young women are more likely to seek chlamydia and gonorrhea screening when they have experienced a change in partners.²⁸

Likewise, our finding that more than half of participants' STD tests occurred in context of a routine health care visit is consistent with another recent study regarding adolescents' HIV testing behaviors.²⁹ These results support current guidelines that health care providers should offer STD screening to all sexually active adolescents as this may be the most effective means of reaching the general population. The clinic encounter is also a key

opportunity for providers to address patients' lack of or misinformation regarding STDs and other fears they may have if they test positive.¹⁴ Such provider-patient exchanges may help to mitigate the negative effects of and reduce STD-related stigma. That many adolescents don't actively seek testing but may take advantage when given the opportunity also supports providing more widespread availability of STD tests in non-traditional venues such as schools, emergency rooms, and other community settings.^{30, 31}

There are several limitations to this study. Results are based on self-reported behaviors and therefore are subject to potential recall and social desirability biases. Additionally, some youth may be unclear about what constitutes an STD test. For example, women may perceive receipt of a Pap smear to mean that they were tested even if no other testing was done. The cross-sectional nature of this study makes it difficult to assess whether behavior influences perceptions or perceptions influence behavior. Our use of number of lifetime sex partners as a proxy for sexual risk is limited for the potential biases cited above as well as its lack of specificity with regard to relationship types (e.g., steady versus casual) and consistency of condom use. The use of dichotomized variables for stigma and shame may have resulted in a loss of information that, in turn, may have resulted in a loss of power for statistical analyses. The generalizability of these findings is also limited since the study involved only adolescents residing in Baltimore and thus may not be representative of those who live in other settings.

Nonetheless, this study contributes to a growing body of literature emphasizing the deleterious effects of perceived STD-related stigma on STD prevention and control efforts such as routine STD screening. However, the results also indicate that many adolescents who are receiving STD tests are not actively seeking screening thereby raising the question of whether perceived STD-related stigma is actually predicting care seeking versus acceptance of screening when providers offer it. Providers are more likely to offer testing to more high risk youth, thus, it may not be adolescents' perceptions of the social risk of acquiring an STD, but clinicians' assessments, that matters. As such, health practitioners should be vigilant in asking youth about their sexual behaviors and offering STD screening to all those potentially at risk. Moreover, care should be taken in the way they broach this topic with patients so as not to add to perceptions of stigma. In particular, messages concerning STD prevention and treatment should be delivered in a supportive manner that promotes future positive sexual experiences as opposed to focusing on previous mistakes that could have been avoided.

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Table 1

STD-related stigma and STD-related shame measures

Items	Factor Loadings	
	Factor 1: Stigma	Factor 2: Shame
If you had an STD, people would avoid you?	.712	-
If you had an STD, people would think you were unclean?	.760	-
If you had an STD, people would not want to be friends with you?	.796	-
If you had an STD, people would be disgusted by you?	.862	-
If you had an STD, people would be uncomfortable around you?	.865	-
If you had an STD, people would think you have bad morals?	.843	-
If you had an STD, people would think you are hanging out with the wrong crowd?	.699	-
If you had an STD, people would think you don't take care of yourself?	.773	-
If you had an STD, people would think you are weak and foolish?	.706	-
If you had an STD, how ashamed would you feel?	-	.827
If you had an STD, how embarrassed would you feel?	-	.835
If you had an STD, how guilty would you feel?	-	.824
If you had an STD, how scared would you feel?	-	.798
If you had an STD, how disappointed in yourself would you feel?	-	.801

Table 2

Sample characteristics, by sex

Variable	% or Mean (SD) ^a	
	Male (N = 230)	Female (N = 364)
Age, years (range 15–24)*	2.7	2.6
Race		
Black	86.5	86.8
Other	13.5	13.2
Education-level		
Less than high school*	51.5	39.0
High school degree or equivalent	34.5	34.1
Some college, technical school, or higher*	14.0	26.9
Highest grade completed by parent/guardian		
High school or less	58.9	58.9
Some college or technical school	12.8	16.8
College degree or higher	28.3	24.3
Sexual orientation		
Heterosexual	92.0	88.7
Gay	4.0	4.6
Bisexual	4.0	6.7
Number of lifetime sex partners		
1–2	30.0	30.0
3–5	21.6	28.7
6–10	18.4	23.5
>10*	30.0	18.8
STD test, past year*		
No	63.4	30.3
Yes	36.6	69.7
STD history*		
No	87.8	71.7
Yes	12.2	28.3
Perceived stigma (range 9–36)*	24.5 (7.0)	22.4 (7.1)
Shame (range 5–20)	17.1 (3.7)	17.5 (3.5)

^aFor some variables, the percent is based on a smaller N due to missing data.

* P < 0.05 for sex difference

Table 3

Primary self-reported reason for getting an STD test in the past year, by sex

Reason	Males (N = 83) %	Females (N = 251) %
Tested during routine visit	42.2	58.6
Other	24.1	17.9
Experienced symptoms	10.8	8.0
Unprotected sex	8.4	6.0
Suggested by someone	3.6	4.4
Tested as part of study	3.6	2.8
Contacted because exposed	3.6	1.6
Told by partner	3.6	0.4
Unknown	0.0	0.4

Table 4

Predictors of STD testing in the past year, by sex

Characteristic	STD test in the past twelve months			
	Unadjusted Odds Ratio		Adjusted ^a Odds Ratio	
	Males	Females	Males	Females
Age (in years)	1.12*	1.01	1.08	---
Black race (vs other)	4.38*	1.03	3.76*	---
Heterosexual (vs no)	0.47	0.90	---	---
Lifetime no. sex partners				
1-2	Reference	Reference	---	---
3-5	2.36*	3.30*	1.92	3.19*
6-10	1.30	5.78*	1.04	5.56*
>10	4.16*	3.49*	2.75*	3.50*
History of an STD (vs no)	3.56*	1.19	1.69	---
High perceived stigma (vs low)	0.49*	0.52*	0.54*	0.48*
High shame (vs low)	0.75	0.71	---	---

^a Sample size is 195 for males and 329 for females due to listwise deletion of missing data.

* P < 0.05,

** 0.05 < P < 0.1