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The role of STI-related attitudes on screening attendance in young adults

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ABSTRACT

This study assessed whether attitudes towards STI screening, visiting a clinic and having an STI (STI stigma) predict STI screening attendance in young adults. Participants ($N = 217$) rated each of these attitudes and completed measures assessing their STI knowledge, past sexual behaviour and sexual health. STI stigma and having favourable attitudes towards STI screening positively predicted screening attendance. People were less likely to attend if they had a negative attitude towards visiting sexual health clinics. Researchers should assess attitudes towards the attitude object (screening), condition (STI stigma) and process (visiting a clinic) to understand the different ways that attitudes predict behaviour.

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Sexually transmitted infections; sexual health; youth; attitudes; screening

Introduction

Young adults have disproportionately high levels of sexually transmitted infections (STIs; Public Health England, 2015) and are often reluctant to be screened (Wolfers, Kok, Mackenbach, & de Zwart, 2010). Therefore, it is important to assess what predicts STI screening attendance in young adults. Although sex education is regarded as essential (World Health Organization, 2010), knowledge only weakly predicts sexual-health compared with social-cognitive variables, such as people's attitude towards the object (Ajzen, 1991; Ajzen, Joyce, Sheikh, & Cote, 2011; Sheeran & Taylor, 1999). In this case, this refers to the extent to which STI screening is viewed as important. Indeed, young adult's attitude towards STI screening positively predicts screening intention (Wolfers et al., 2010).

Although the literature has focused on the attitude towards the object, there are likely to be other influential attitudes. Young adults may feel judged at sexual health clinics (Balfe, Brugha, O'Donovan, O'Connell, & Vaughan, 2010) and this may deter them from being screened (Balfe & Brugha, 2009). As such, it is important to consider this attitude towards the *process* of being screening (i.e. feeling judged when visiting clinics). Finally, having an STI is often viewed as a source of shame and stigma (Barth, Cook, Downs, Switzer, & Fischhoff, 2002). This negative attitude towards having the *condition* may deter screening

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Supplemental data for this article can be accessed here.

(Cunningham, Tschann, Gurvey, Fortenberry, & Ellen, 2002). Therefore, we argue that it is important to consider the unique predictive power of young adult's attitude towards STI screening (i.e. the object, 'STI screening is important'), visiting a clinic (i.e. the process, 'I feel judged at clinics'), and having an STI (i.e. the condition, 'having an STI is embarrassing') on STI screening attendance. Despite this, there has been little research assessing the unique predictive power of these three attitudes on STI screening attendance in young adults. This was the aim of this research.

Method

Participants

The target population was young adults (18–25 years). Participants were recruited for this online study through messages on social networking websites. Of the 290 participants who started the survey, we removed 37 for not complete all sections, 28 who did not have any sexual partners (as STI screening was irrelevant), and 8 who were not aged between 18–25 years. Therefore, the sample contained 217 participants (M_{age} = 20.84, SD_{age} = 1.77). Participants were most likely to be female, heterosexual, in a relationship or married, White, and educated in the USA or Canada (Table 1).

Design

In this cross-sectional study the predictor variables were attitudes towards STI screening, visiting a clinic and having an STI. The outcome variable was previous STI screening attendance (yes vs. no). The covariates were STI knowledge, number of sexual partners and protection use.

Table 1. Demographic information of target population.

	N (%)
Gender	
Male	33 (15.21%)
Female	167 (76.96%)
Prefer not to say	16 (7.37%)
Sexual orientation	
Heterosexual	117 (53.92%)
Homosexual	27 (12.44%)
Bisexual	52 (23.96%)
Undecided or prefer not to say	21 (9.68%)
Marital status	
Single	106 (48.85%)
In a relationship or married	111 (51.15)
Ethnicity	
White	185 (85.25%)
Ethnic minority	26 (11.98%)
Prefer not to say	6 (2.76%)
Country of education	
Primary education in USA or Canada	113 (52.07%)
Primary education in UK	83 (38.25%)
Primary education in Other	20 (9.22)
Secondary education in USA or Canada	113 (52.07%)
Secondary education in UK	87 (40.09%)
Secondary education in Other	16 (7.37%)

Measures

STI knowledge quiz

Participants were asked to state whether 16 statements about STIs were true of false[1] (e.g. You can't catch an STI through the use of shared sex toys). The number of correct answers was then calculated. Given that missing data represented the absence of a correct response, unanswered questions were coded as incorrect.

Past sexual behaviour and health

Participants stated the *number of sexual partners* they had been with in their lifetime (1 = *none*, 2 = 1, 3 = 2–5, 4 = 6–10, and 5 = 10+). *STI screening attendance* was assessed by asking whether or not the participant had visited a sexual health clinic for screening (yes vs. no). *Protection use* was assessed by asking participants how often they used protection (i.e. condom or dental dam) during vaginal, anal and oral sex (1 = *Always,* 5 = *Never*). Participants also had the option to state they had never had oral, vaginal or anal sex (*N* of never had vaginal = 32, anal = 141, and oral = 7). These three items were reverse scored and the mean used to create a single variable indicating overall protection use, with higher scores reflecting greater protection use. If a participant had not engaged in a type of sex, then this mean was based on the other types of sex. For example, if a participant had not engaged in anal sex then the protection use score was based on the mean of the oral and vaginal sex variables.

Attitude measures

The attitude items were rated on 5-point Likert scales (1 = *Strongly Agree,* 5 = *Strongly Disagree*). *Attitude towards STI screening* was measured using two items (e.g. 'It is important to get tested regularly, even without symptoms'; $\alpha = .68$; for scales, see Supplemental Online Materials)[2]. *Attitude towards visiting a clinic* was assessed using three items (e.g. I would/do feel judged if/when I visit a sexual health clinic; $\alpha = .81$). *Attitude towards having an STI* was assessed using six items (e.g. 'Only promiscuous people catch STIs'; $\alpha = .72$)[3]. Items were reverse scored (where appropriate) to make higher scores on the attitude towards STI screening indicate a favourable attitude towards screening and higher scores on the attitude towards visiting clinics and having an STI represent unfavourable attitudes.

Procedure

This study was approved by the authors' university ethics committee. Participants first completed the demographics measures. Participants then completed an STI knowledge quiz, rated their past sexual behaviour and health, and completed the attitude scales. The order of these three sections was randomised.

Statistical analysis

A logistic regression was used to analyse the data. The predictors were attitudes towards STI screening, visiting a clinic, and having an STI. The covariates were STI knowledge, number of sexual partners, and protection use. The outcome variable was STI screening attendance.

Table 2. Descriptive statistics and correlation coefficients.

	M (SD)	1	2	3	4	5	6	7
(1) Attitude towards STI screening	4.26 (.72)	–						
(2) Attitude towards visiting a clinic	2.73 (1.05)	−.33***	–					
(3) Attitude towards having an STI	3.33 (.67)	−.07	.47***	–				
(4) Protection use	2.40 (1.00)	.15*	−.14*	−.08	–			
(5) Number of sexual partners	3.44 (1.04)	.31***	−.28***	−.12†	−.01	–		
(6) STI knowledge	12.77 (1.93)	.22**	−.11†	−.01	.07	.18**	–	
(7) STI screening attendance	–	.37***	−.33***	−.01	.06	.50***	.18**	–

Notes: Correlations with the dichotomous screening variable (coded 0 = no and 1 = yes) are point-biserial correlations. Att = attitude. Listwise deletion was used. Ns for correlation analyses range from 214 to 217.
†$p < .10$ *$p < .05$; **$p < .01$; ***$p < .001$

Table 3. Logistic regression analysis assessing the role of attitudes and covariates on STI screening attendance.

	B (SE)	Odds ration (Lower and Upper 95% CI)
Attitude towards STI screening	.62* (.27)	1.86 (1.11, 3.13)
Attitude towards visiting a clinic	−.68** (.21)	.51 (.33, .77)
Attitude towards having an STI	.84* (.33)	2.33 (1.22, 4.45)
Protection use	−.004 (.18)	1.00 (.70, 1.41)
Number of sexual partners	1.22*** (.23)	3.40 (2.19, 5.28)
STI knowledge	.08 (.09)	1.08 (.90, 1.30)
Nagelkerke Pseudo R^2	.46	
χ^2 model	87.52***	

Notes: Screened was coded as 0 = had not been screened and 1 = had been screened. Listwise deletion was used. The *N* for the analysis was 214.
*$p < .05$; **$p < .01$; ***$p < .001$.

Results

Eighty-four participants (38.71%) had not been screened for an STI. Correlation analyses indicated that screening was positively associated with favourable attitudes towards screening, number of sexual partners and STI knowledge (Table 2). Having an unfavourable attitude towards visiting a clinic negatively predicted screening.

In the logistic regression the pseudo R^2 was .46 ($\chi^2(6) = 87.52$, $p < .001$). Having a favourable attitude towards screening and negative attitude towards having an STI positively predicted STI screening attendance (Table 3). By contrast, having an unfavourable attitude towards visiting a clinic negatively predicted screening. The number of sexual partners positively predicted screening. STI knowledge and protection use did not significantly predict screening.

Discussion

We enhance previous research (e.g. Balfe et al., 2010; Cunningham et al., 2002; Wolfers et al., 2010) by demonstrating the unique predictive power of different attitudes on STI screening attendance in young adults. Having a favourable attitude towards screening was positively associated with screening. By contrast, having an unfavourable attitude towards visiting a clinic negatively predicted screening. In contrast to previous research which found unfavourable attitudes toward having a STI (i.e. STI stigma) deters screening attendance (Cunningham et al., 2002), we found that this attitude *positively* predicted attendance, after controlling for the other factors. This discrepancy with previous research may be due to

the fact that this positive relationship may only be apparent after controlling for the other attitudes, reflecting a suppressor effect.

We demonstrated the importance of the attitude towards the object, process and condition. This theoretical framework can be applied by researchers to understand the reluctance to undertake other forms of screening (e.g. cervical, bowel and breast screening). This research also suggests that targeting attitudes towards the object (screening is beneficial) and process (healthcare professionals will not judge you) should produce behaviour change. However, given that targeting attitudes towards having an STI may be detrimental to people living with an STI (e.g. Frost, Parsons, & Nanin, 2007), it may be harmful to target this attitude.

It is also important to discuss the limitations of this research. First, the cross-sectional design means that causality cannot be inferred. Second, the sample was not representative. Although, the attitude variables remained significant predictors of STI screening attendance after controlling for gender and ethnicity (see Supplemental Online Material), there may be other unmeasured variables. Finally, the use of self-report measures for sensitive topics such as this may bias the results. Therefore, future research is needed with experimental designs, a more representative sample and objective measures.

In conclusion, this research assessed the predictive power of different attitudes (object, process and condition) on STI screening. We found that these attitudes uniquely predict STI screening. Because of this, it is important to assess different attitudes in relation to health behaviours and design interventions that target these different attitudes. This should increase the likelihood of these interventions having an effect on behaviour.

Notes

1. This quiz originally contained 19 items. However, we removed three items that were UK specific.
2. Two items were removed from this variable because the original four item measure was unreliable (α = .62).
3. Although STI stigma and shame were measured as separate constructs, both scales were unreliable (α = .46 and.69, respectively). After removing a stigma item, the combination of these items produced a reliable measure.

Disclosure statement

No potential conflict of interest was reported by the authors.

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