Published in final edited form as:
Arch Pediatr Adolesc Med. 2011 April ; 165(4): 320–325. doi:10.1001/archpediatrics.2011.17.

Decision-Making Style and Gender Moderation of the Self-efficacy–Condom Use Link Among Adolescents and Young Adults:

Informing Targeted STI/HIV Prevention Programs

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Abstract

Objective—To test the moderating effects of decision-making style and gender on the relationship between condom use self-efficacy (CUSE) and condom use behavior among sexually active adolescents and young adults.

Design—Cross-sectional study.

Setting—Twenty-four continuation high schools in California.

Participants—Data were collected between February 2008 to June 2009 from a sample of 1304 sexually active adolescents and young adults. The mean (SD) age of the participants was 16.8 (0.9) years, 41% were female, and the ethnicity frequencies were Hispanic, 65%; mixed, 13%; white, 11%; black, 6%; and other, 5%.

Main Exposures—The tools used were CUSE, decision-making–self-confidence, and decision-making–approach.

Main Outcome Measure—Condom use during the most recent sexual intercourse (termed *last sex*).

Results—Forty-five percent of sexually active participants used condoms at last sex. Decision-making–self-confidence and decision-making–approach significantly moderated the effect of CUSE on condom use. The positive relationship between CUSE and condom use was relatively stronger for males and females reporting high vs low decision-making–self-confidence. Among females, the relationship between CUSE and condom use at last sex was weaker for those reporting high vs low decision-making–approach. Both of these effects were observed at high levels of CUSE.

Conclusion—Programs for sexually transmitted infection/human immunodeficiency virus prevention including CUSE content may increase adolescent and young adult condom use by targeting interventions to decision-making style and gender.

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Financial Disclosure: None reported.

Author Contributions: Dr Sussman had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Sussman and Sun. *Acquisition of data:* Sun and Rohrbach. *Analysis and interpretation of data:* Black, Sun, and Rohrbach. *Drafting of the manuscript:* Black and Sussman. *Critical revision of the manuscript for important intellectual content:* Black, Sun, and Rohrbach. *Statistical analysis:* Black and Sun. *Obtained funding:* Sun, Rohrbach, and Sussman. *Study supervision:* Sun, Rohrbach, and Sussman.

Despite the efforts of broad-based sexually transmitted infection/human immunodeficiency virus (STI/HIV) prevention programs to promote condom use among sexually active adolescents in the United States, sex without use of condoms remains prevalent. In 2007, of the 48% of high school students who reported having sex, almost 40% did not use a condom during their most recent sexual intercourse (termed *last sex*).[1] No use and inconsistent use of condoms are major contributors to the approximately 19 million new STIs each year; almost half of these infections are among individuals aged 15 to 24 years.[1] Of any sexually active age group in the United States, adolescents have the highest rates of certain STIs and represent about 14% of the population that is diagnosed as having HIV/AIDS.[2] Ectopic pregnancy, infertility, tubal-ovarian abscesses, and chronic pelvic pain are consequences of STI/HIV, and these conditions can be life-threatening.[3] One promising modality to increase condom use among adolescents is to target effective STI/HIV prevention program content to specific adolescent subgroups.

Examining robust predictors of condom use among adolescent subgroups is one method to gain a clearer understanding of how to target STI/HIV prevention programs. A meta-analysis[4] of studies in the STI/HIV prevention literature suggested that condom use self-efficacy (CUSE) is one of the strongest and most consistent predictors of heterosexual condom use. As such, CUSE is a central curriculum component in STI/HIV prevention programs. *Condom use self-efficacy* is a person's confidence in his or her ability to successfully use a condom during sex. According to social cognitive theory,[5] stronger levels of self-efficacy lead to higher goals that people set for themselves and firmer commitment to enacting those goals.[6] Thus, high CUSE should be associated with increased condom use and low CUSE should be associated with no use of condoms.[7] Research is needed to identify subgroups of adolescents who may benefit most from STI/HIV programs with CUSE curriculum content.

ADOLESCENT DECISION-MAKING AND RELATED GENDER DIFFERENCES

Adolescence is a critical stage in the development of decision-making (DM) skills.[8] Most adolescents have the neurocognitive ability to make decisions; however, they often lack the foresight to make competent decisions. Perhaps this inability stems from an underdeveloped pre-frontal cortex.[9] Because adolescents have to make a decision before sex regarding condom use, their DM ability is an important process to consider in STI/HIV prevention research. Decision-making entails both the processes that lead to making a decision and the adolescent's general approach to making decisions.

Established DM models of contraception suggest that adolescent decisions are made in the same rational process as adult decisions (eg, theory of planned behavior[10]). These models suggest that adolescents consider their underlying attitudes, perceptions of social norms, and self-efficacy beliefs before formulating a behavioral intention. When a behavioral intention is solidified, it is likely that the person will decide to enact the intended behavior. Components of these DM models are often incorporated into adolescents' STI/HIV prevention programs.[11,12] Although these models describe rational processes of DM, a relatively understudied area is the general approach that adolescents take toward DM, termed *DM style*.

DM style refers to a general disposition an adolescent has toward making decisions, and appears to be relatively stable.[13] For example, some adolescents generally avoid making decisions, whereas others approach DM, and some generally have self-confidence in their DM ability whereas others lack confidence to make decisions. These styles of DM influence one's ability to make competent behavioral decisions. For example, adolescents with an avoidant DM style score lower on tasks that measure the ability to make advantageous

decisions.[14] In addition, adolescents who are self-confident in their DM skills have greater sensitivity to aversive motivations and are less avoidant of making decisions.[14] Finally, adolescents who perceive themselves to be less competent decision-makers in general are more likely to report no use of condoms.[15]

Important gender differences in DM style provide further subgroup detail about condom use behavior among adolescents. For example, research[13,16–18] suggests that boys often score higher than girls in areas of DM style such as self-confidence, self-esteem, and impulsiveness. Girls out-score boys in areas of DM panic and approach.[13] These differences are important to consider in STI/HIV prevention because a consistent line of research indicates that more boys than girls report condom use.[4] One reason for this discrepancy may stem from the gender differences already mentioned. Other main reasons include boys report higher CUSE and have greater control over condom use behavior[19,20] and girls have greater vulnerability to the boy's decision to not use a condom.[21]

STI/HIV PREVENTION

Efforts to prevent STI/HIV can be further informed by examining the relationship between CUSE and condom use behavior among subgroups of adolescents. Findings from such examination contribute to the development of targeted interventions, which are shown[22] to have stronger efficacy to reduce high-risk sexual behavior than broad-based STI/HIV prevention programs. The current study adds to the adolescent STI/HIV prevention literature by evaluating the moderating influence of DM style and gender on the robust association between CUSE and condom use at last sex. We hypothesized that the association between CUSE and condom use at last sex would differ by DM style and gender. This association would be stronger for participants scoring high on both DM self-confidence (DM-SC) and DM approach (DM-A) and, for both DM styles, the association between CUSE and condom use at last sex would be stronger for males than for females.

METHODS

PARTICIPANTS AND PROCEDURES

Data were obtained between February 2008 and June 2009 from continuation high school students from 24 schools in Southern California who participated in a school-based prevention program.[23] Students in continuation high school are generally considered a higher-risk population because of their inability to progress in regular high school and because they report higher rates of risk behaviors compared with regular high school students.[23] Baseline data were obtained from 1676 students; our study sample consisted of those reporting ever being sexually active (1304 students; 77.8% of those sampled). The University of Southern California institutional review board approved all study procedures. Parental consent for students younger than 18 years and active consent for participants 18 years or older was obtained from students before study enrollment. Surveys were administered by trained project staff within classrooms. To ensure confidentiality, numeric codes rather than identifying information were placed on surveys.

MEASURES

Demographics—Age, gender, ethnicity, and highest educational level of either parent were self-reported. Total sample and gender-stratified descriptives are provided in Table 1.

Adolescent Decision Making Questionnaire—The Adolescent Decision Making Questionnaire[13] was used to measure styles of DM. The first of these, DM-SC, indicates one's confidence in the ability to make a decision and was measured with 3 items: "The decisions I make turn out well." "I think that I am a good decision maker." "I like to make

decisions myself." Response options range from always (1) to never (4). Responses are reverse coded and higher mean scores indicate higher DM-SC (Cronbach α=0.70). The second style, DM-A, indicates the degree to which one approaches rather than avoids DM and was also measured with 3 items: "I'd rather let someone else make a decision for me so that it won't be my problem." "I prefer to leave decisions to others." "When faced with a decision, I go along with what others suggest." Responses options ranged from always (1) to never (4). Higher mean scores indicate higher DM-A (Cronbach α=0.75). Factor analysis indicated that DM-SC and DM-A were independent factors, which is a finding that supports previous research on the Adolescent Decision-Making Questionnaire.[13]

Condom Use Self-efficacy—Six items were used to measure CUSE.[24] Example CUSE items include: "I would use or ask my partner to use a condom to avoid STDs." "I would still make sure we use a condom when things are getting hot and heavy." "I would insist on using a condom during sex even if it was less fun." Response options ranged from strongly disagree (1) to strongly agree (4). Higher mean scores indicate higher CUSE (Cronbach α=0.92).

Condom Use at Last Sex—Condom use behavior was measured with 1 item that is included in national surveys[25]: "Was a condom used the last time you had sexual intercourse?" Response options were yes, no, or I have not had sexual intercourse. Those reporting never having sexual intercourse were excluded from analysis.

ANALYSES

Data analyses were conducted with SAS 9.1.3.[26] Because schools were the unit of selection and students were the level of analysis, multilevel logistic regression analyses were conducted using PROC MIXED to test for student clustering within schools. An unconditional means model for the dependent variable showed that multilevel modeling was not needed to account for student clustering (ICC < .01). Three-way interaction and stratified regression models were tested using PROC GLIMMIX with specification of a logit link and binary distribution. Condom use at last sex was regressed on two 3-way interaction terms: (1) CUSE × DM-SC × gender and (2) CUSE × DM-A×gender. This model controlled for age, gender, ethnicity, parent educational level, and all lower-order 2-way interactions (eg, CUSE×gender; CUSE×DM-SC). Independent variables were centered and standardized before they were entered into the regression model. Some survey items were skipped by respondents; thus, independent *t* test and χ^2 test were used to determine significant differences between the original sample (N=1304) and the sample with no missing data (n=1106). Missing data analyses indicated that participants with no missing data reported significantly higher parent educational levels.

RESULTS

Table 2 provides the zero-order correlations between the measured variables separately for males and females. Condom use self-efficacy correlated with condom use at last sex for both males (r=0.50; P<.001) and females (r=0.52; P<.01). Neither DM measure had a significant zero-order correlation with condom use for either gender. Table 3 provides the standardized β coefficients estimates from the regression of condom use at last sex on two 3-way interaction terms, adjusting for all lower-order 2-way interaction terms: age, gender, ethnicity, and parent educational level. The 3-way interaction term *CUSE ×DM-A ×gender* was statistically significant (β=−0.72; SE=0.26; P=.006), but the 3-way interaction term *CUSE×DM-SC×gender* was not (β=0.35; SE=0.39; P=.38). The 2-way interaction term *CUSE×DM-SC* was statistically significant (β=−0.44; SE=0.22; P=.04).

INTERACTIONS BETWEEN CUSE, DM, AND GENDER

Table 4 reports the odds ratios and their 95% confidence intervals for condom use at last sex across quintiles of CUSE stratified by DM-SC. At both high and low levels of DM-SC, there was a general trend toward an increase in the odds of condom use at last sex across category value of CUSE ($P < .001$ for trend). However, the positive trend in relationship between CUSE and condom use at last sex was relatively stronger for participants reporting high vs low DM-SC. This effect was prominent at the highest category of CUSE (CUSE fifth quintile odds of condom use:13.14 for respondents reporting high DM-SC and 5.72 for respondents reporting low DM-SC).

Table 5 reports the odds ratios and their corresponding 95% confidence intervals for condom use at last sex across quintiles of CUSE stratified by gender and DM-A level. For both genders, there was a general trend toward an increase in the odds of condom use across category value of CUSE ($P <.001$ for trend). Among males, this increase in odds was relatively consistent across both low and high levels of DM-A. However, among females, the positive trend in relationship between CUSE and condom use at last sex was weaker for those reporting high vs low DM-A. Again, this effect was prominent at the highest category of CUSE; there was more than a 3-fold increase in the odds of condom use among females reporting low vs high DM-A (CUSE fifth quintile odds of condom use:4.10 for females reporting high DM-A and 12.59 for females reporting low DM-A).

COMMENT

To inform targeted STI/HIV prevention programs containing CUSE curriculum content among adolescents and young adults, we examined whether 2 types of DM style moderated the effect of CUSE on condom use at last sex. We also examined whether these relationships differed by gender. Support for the first hypothesis was indicated by the significant relationship between CUSE and condom use at last sex, which differed by level of DM-SC. Support for that hypothesis was also partially supported for DM-A; at high level of CUSE, males with high vs low DM-A had a greater odds of using condoms at last sex. However, at high levels of CUSE, females with high vs low DM-A actually had lower odds of using condoms at last sex. At high levels of CUSE, those reporting high vs low DM-SC had a greater odds of using condoms at last sex, but because this relationship did not differ across gender, the second hypothesis was not supported in the context of DM-SC.

Our results can first be interpreted in the broader context of research on CUSE and condom use. Our results support a general area of research that suggests CUSE is one of the most robust antecedents to condom use behavior.[4] We found correlations of 0.50 and greater between CUSE and condom use at last sex among adolescents and young adults attending continuation high school. The gender differences found in this study are also in line with research[4] that reported disparate rates of condom use across gender. Our findings add to this literature by suggesting that DM style may have a specific role in adolescent condom use behavior. Moreover, we found that prevailing gender differences in previous literature may be explained in part by differences in adolescent DM style. Our one counterintuitive finding suggested that, among females, the odds of condom use was actually higher for those reporting low vs high DM-A. This may be the result of other psychosocial characteristics that define females reporting high DM-A. For example, it can be conjectured that females with high DM-A may also have impulsive DM tendencies, which is a feature strongly related to sensation seeking and sexual risk-taking among adolescents.[27] Thus, interventions with CUSE content may also need to consider these characteristics among girls; however, more research is needed in this area.

Second, our findings may be useful to inform targeted STI/HIV prevention programs among adolescents. Targeted interventions are based on the premise that adolescents are a heterogeneous variety of subgroups with different backgrounds and abilities. Being more specific to the characteristics of subgroups, targeted interventions show evidence of greater effectiveness than broad-based interventions in reducing STI/HIV risk behaviors.[22] Thus, assessing DM style before delivering STI/HIV prevention programs with CUSE content may be useful for targeted program delivery. This targeted approach may be most effective when delivered to both male and female adolescents with high DM-SC and high DM-A and to females with low DM-A. However, our findings do not preclude the notion that DM style could be manipulated in an intervention to increase adolescent use of condoms. Considering this, integrating DM and CUSE skill development may add to the efficacy of STI/HIV prevention programs. Such recommendations are in line with previous studies[28] that suggest the usefulness of targeted STI/HIV prevention programs.

In addition to elucidating adolescent and young adult characteristics for targeted STD/HIV programming, this study has implications for future research. First, research should replicate our study to validate the results. Second, studies should examine the moderating influence of DM style on CUSE and condom use behavior among regular high school students to allow for the generalization of our results to lower-risk adolescents and young adults. Third, research examining the moderating influence of DM style on condom use behavior should consider DM styles not measured in this study (eg, vigilance, panic, and complacency[13]). These DM styles may provide additional information for the development of targeted STI/HIV prevention programs with CUSE curriculum content. Finally, psychometric development studies are needed that examine DM style with specific application to condom use behavior, rather than to DM style in general (eg, “I like to make the decision to use a condom rather than leave it up to my partner.”). If such scales prove to be psychometrically sound, condom use DM styles may further explain condom use behavior. Similar empirical advances were made when general self-efficacy was narrowed to CUSE.

The findings from this study are a result of cross-sectional data, which does not allow for an interpretation of causality; however, a large body of literature suggests a temporal relationship between CUSE and condom use behavior. Longitudinal studies are needed to confirm or refute our findings. The analysis sample reported higher parent educational levels than the original sample, which may limit our findings to continuation high school youth whose parents have higher educational levels. The majority of our sample was composed of Hispanic youth, which may limit our findings to this ethnic group; however, our study did include substantial proportions of other ethnic groups. Finally, staff administration of surveys in classrooms has the potential to result in underestimation of adolescent risk behaviors, and self-reporting also lends to possible recall and social desirability bias; however, our assurance of confidentiality and use of survey codes rather than respondent names may have reduced the impact of these limitations. Although these limitations must be considered, it is evident that the more we know about adolescent and young adult subgroup characteristics related to condom use, the better the delivery and effectiveness of STI/HIV prevention programs to reduce high-risk sexual behavior will be. Our study suggests that STD/HIV prevention programs, which have the ability to increase CUSE, may be more effective when targeted to the DM style and gender of adolescents and young adults.

Acknowledgments

Funding/Support: This study was supported by grant DA020138 from the National Institute on Drug Abuse (Dr Sussman) and grant T32 CA09492 from the National Cancer Institute (Dr Black).

References

1. Centers for Disease Control and Prevention. [Accessed April 13, 2010.] Healthy youth! sexual risk behaviors. 2009. http://cdc.gov/healthyyouth/sexualbehaviors
2. Gray-Swain MR, Peipert JF. Pelvic inflammatory disease in adolescents. Curr Opin Obstet Gynecol. 2006; 18(5):503–510. [PubMed: 16932044]
3. DiClemente RJ, Salazar LF, Crosby RA. A review of STD/HIV preventive interventions for adolescents: sustaining effects using an ecological approach. J Pediatr Psychol. 2007; 32(8):888–906. [PubMed: 17726032]
4. Sheeran P, Abraham C, Orbell S. Psychosocial correlates of heterosexual condom use: a meta-analysis. Psychol Bull. 1999; 125(1):90–132. [PubMed: 9990846]
5. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. Psychol Rev. 1977; 84(2): 191–215. [PubMed: 847061]
6. Bandura A. Health promotion by social cognitive means. Health Educ Behav. 2004; 31(2):143–164. [PubMed: 15090118]
7. Bandura, A. A social cognitive approach to the exercise of control over AIDS infection. In: DiClemente, RJ., editor. Adolescents and AIDS: A Generation in Jeopardy. Thousand Oaks, CA: Sage Publications, Inc; 1992. p. 89-116.
8. Keating, DP. Adolescent thinking. In: Feldman, S.; Elliott, G., editors. At the Threshold: The Developing Adolescent. Cambridge, MA: Harvard University Press; 1990. p. 54-89.
9. Hooper CJ, Luciana M, Conklin HM, Yarger RS. Adolescents' performance on the Iowa Gambling Task: implications for the development of decision making and ventromedial prefrontal cortex. Dev Psychol. 2004; 40(6):1148–1158. [PubMed: 15535763]
10. Albarracín D, Johnson BT, Fishbein M, Muellerleile PA. Theories of reasoned action and planned behavior as models of condom use: a meta-analysis. Psychol Bull. 2001; 127(1):142–161. [PubMed: 11271752]
11. Kirby DB, Laris BA, Rolleri LA. Sex and HIV education programs: their impact on sexual behaviors of young people throughout the world. J Adolesc Health. 2007; 40(3):206–217. [PubMed: 17321420]
12. Jemmott JB III, Jemmott LS, Fong GT. Efficacy of a theory-based abstinence-only intervention over 24 months: a randomized controlled trial with young adolescents. Arch Pediatr Adolesc Med. 2010; 164(2):152–159. [PubMed: 20124144]
13. Tuinstra, J.; van Sonderen, FLP.; Groothoff, JW.; van den Heuvel, WJA.; Post, D. [Accessed September 10, 2010.] Reliability, validity and structure of the Adolescent Decision Making Questionnaire among adolescents in the Netherlands; Pers Individ Dif. 2000. p. 273-285 .http://share.eldoc.ub.rug.nl/FILES/root2/2000/Relivaans/Tuinstra_2000_Personality_and_Individual.pdf
14. Franken IHA, Muris P. Individual differences in decision-making. Pers Individ Dif. 2005; 39(5): 991–998.10.1016/j.paid.2005.04.004
15. Commendador K. The relationship between female adolescent self-esteem, decision making, and contraceptive behavior. J Am Acad Nurse Pract. 2007; 19 (11):614–623. [PubMed: 17970861]
16. Ormond C, Luszcz MA, Mann L, Beswick G. A metacognitive analysis of decision making in adolescence. J Adolesc. 1991; 14(3):275–291. [PubMed: 1744255]
17. Mann L, Harmoni R, Power C. Adolescent decision-making: the development of competence. J Adolesc. 1989; 12(3):265–278. [PubMed: 2687339]
18. Friedman IA, Mann L. Coping patterns in adolescent decision making: an Israeli-Australian comparison. J Adolesc. 1993; 16(2):187–199. [PubMed: 8376642]
19. Joffe A, Radius SM. Self-efficacy and intent to use condoms among entering college freshmen. J Adolesc Health. 1993; 14(4):262–268. [PubMed: 8347636]
20. Meekers D, Klein M. Understanding gender differences in condom use self-efficacy among youth in urban Cameroon. AIDS Educ Prev. 2002; 14(1):62–72. [PubMed: 11900111]
21. Lorber, J. Gender Inequality: Feminist Theories and Politics. New York, NY: Oxford University Press; 2009.

22. Sales, JM.; DiClemente, RJ. [Accessed July 27, 2010.] Adolescent STI/HIV prevention programs: what works for teens?. Act for Youth Center of Excellence. http://www.actforyouth.net/documents/HIVSTI_May10.pdfPublished May 10, 2010

23. Sussman S, Dent CW, Stacy AW. Project towards no drug abuse: a review of the findings and future directions. Am J Health Behav. 2002; 26(5):354–365. [PubMed: 12206445]

24. Shew ML, Remafedi GJ, Bearinger LH, et al. The validity of self-reported condom use among adolescents. Sex Transm Dis. 1997; 24(9):503–510. [PubMed: 9339967]

25. Santelli J, Carter M, Orr M, Dittus P. Trends in sexual risk behaviors, by non-sexual risk behavior involvement, U.S. high school students, 1991–2007. J Adolesc Health. 2009; 44(4):372–379. [PubMed: 19306796]

26. SAS Institute Inc. Base SAS® 9.1.3 Procedures Guide. 2. Vol. 1–4. Cary, NC: SAS Institute Inc; 2006.

27. Donohew, L.; Zimmerman, R.; Cupp, PS.; Novak, S.; Colon, S.; Abell, R. [Accessed September 10, 2010.] Sensation seeking, impulsive decision-making, and risky sex: implications for risk-taking and design of interventions; Pers Individ Dif. 2000. p. 1079-1091 .http://www.uky.edu/Centers/HIV/Rick%20Articles/Donohew%20et%20al.%202000.pdf

28. Hoppe MJ, Graham L, Wilsdon A, Wells EA, Nahom D, Morrison DM. Teens speak out about HIV/AIDS: focus group discussions about risk and decision-making. J Adolesc Health. 2004; 35(4):345.e27–345.e35.10.1016/j.jadohealth.2003.12.002 [PubMed: 15830447]

Table 1

Demographic Characteristics of Total Sample and Stratified by Gender

Variable (Range)	Mean (SD) or %			*P* Value[a]
	Total (N=1304)	Females (n=541)	Males (n=763)	
Age (14–21), y	16.8 (0.9)	16.8 (0.9)	16.8 (0.9)	
Parent educational level (1–6)	3.1 (1.3)	3.0 (1.3)	3.2 (1.3)	*b*
Ethnicity				
Hispanic	65.0	65.5	64.6	
Mixed	13.2	14.3	12.4	
White	10.8	11.1	10.5	
Black	5.6	4.0	6.8	
Other	5.5	5.1	5.7	
DM–approach (1–4)[c]	3.4 (0.6)	3.4 (0.5)	3.4 (0.6)	
DM–self-confidence (1–4)[c]	2.8 (0.5)	2.6 (0.6)	2.8 (0.6)	*b*
CUSE (1–4)[c]	3.0 (0.8)	2.9 (0.8)	3.0 (0.8)	
Condom used at last sex	44.6	42.0	64.9	*b*

Abbreviations: CUSE, condom use self-efficacy; DM, decision-making.

[a] *P* for comparison across gender; totals may not total 100% because of rounding.

[b] *P*<.01.

[c] Range indicates always (1) to never (4).

Table 2

Zero-Order Correlations[a]

Variable	1	2	3	4	5	6
Age	1	−0.04	0.01	0.04	0.05	−0.02
Parent educational level	−0.14[b]	1	0.01	0.09[c]	0.02	0.01
DM–approach	0.08	−0.03	1	0.14[b]	0.09[b]	0.04
DM–self-confidence	0.01	0.17[b]	0.22[b]	1	0.04	0.05
Condom use self-efficacy	0.01	0.11[c]	0.07	0.07	1	0.50[c]
Condom use at last sex	−0.02	0.16[b]	0.03	0.06	0.52[b]	1

Abbreviations: CUSE, condom use self-efficacy; DM, decision-making.

[a]Correlations for females are to the lower left of the diagonal; males, to the upper right of the diagonal.

[b]$P<.01$.

[c]$P<.05$.

Table 3

Logistic Regression of Condom Use at Last Sex on Interaction Terms and Covariates

Variable[a]	Standardized β Coefficient	SE
CUSE	2.77[c]	0.54
DM-A	−0.89[c]	0.31
DM-SC	1.12	0.62
CUSE×gender[b]	−0.64	0.96
CUSE×DM-A	0.31[c]	0.11
CUSE×DM-SC	−0.44[d]	0.22
DM-A×gender	2.10[c]	0.80
DM-SC×gender	−0.78	1.20
CUSE×DM-A×gender	−0.72[c]	0.26
CUSE×DM-SC×gender	0.35	0.39

Abbreviations: CUSE, condom use self-efficacy; DM-A, decision-making–approach; DM-SC, decision-making–self-confidence.

[a] Model controls for age, gender, ethnicity, and parent educational level.

[b] Gender reference group is female.

[c] $P<.01$.

[d] $P<.05$.

Table 4

Odds of Condom Use at Last Sex With CUSE (Quintiles) Among Students of Both Genders, by DM-SC Level

	DM-SC			
	High		Low	
CUSE Category	Odds Ratio (95% CI)	*P* (Condom Use)[a]	Odds Ratio (95% CI)	*P* (Condom Use)[a]
1	0.14 (.07–0.29)	12.3	0.23 (0.13–0.40)	18.7
2	0.54 (0.31–0.94)	35.1	0.54 (0.34–0.86)	35.1
3	1.59 (0.96–2.62)	61.4	1.71 (1.15–2.52)	63.1
4	3.51 (1.94–6.36)	77.8	3.46 (2.06–5.79)	77.6
5	13.14 (6.52–26.48)	92.9	5.72 (3.36–9.74)	85.1
P value for trend[b]	<.001		<.001	

Abbreviations: CI, confidence interval; CUSE, condom use self-efficacy; DM-SC, decision-making–self-confidence.

[a] Probability of condom use at last sex, given DM-SC and CUSE category.

[b] Odds/(1+ odds).

Table 5

Odds of Condom Use at Last Sex With CUSE (Quintiles), by Gender and DM-A Level

	DM-A			
	High		Low	
CUSE Category	Odds Ratio (95% CI)	*P* (Condom Use)[a]	Odds Ratio (95% CI)	*P* (Condom Use)[a]
Male				
1	0.27 (0.13–0.54)	21.3	0.53 (0.29–0.99)	34.6
2	1.02 (0.55–1.87)	50.5	1.45 (0.77–2.75)	59.2
3	3.30 (1.81–6.04)	76.7	3.22 (1.89–5.49)	76.3
4	8.39 (3.59–19.60)	89.4	8.23 (3.26–20.80)	89.2
5	11.78 (5.09–27.28)	92.2	12.04 (4.88–29.71)	92.3
P value for trend[b]	<.001		<.001	
Female				
1	0.15 (0.06–0.40)	13.0	0.06 (0.02–0.21)	5.6
2	0.27 (0.13–0.57)	21.3	0.23 (0.10–0.56)	18.7
3	0.82 (0.45–1.51)	45.1	0.93 (0.47–1.82)	48.2
4	1.75 (0.88–3.52)	63.6	1.47 (0.77–2.82)	59.5
5	4.10 (2.14–7.88)	80.4	12.59 (4.29–36.95)	92.6
P value for trend[b]	<.001		<.001	

Abbreviations: CI, confidence interval; CUSE, condom use self-efficacy; DM-A, decision-making–approach.

[a] Probability of condom use at last sex, given DM-SC and CUSE category.

[b] Odds/(1+ odds).