

Influence of modifiable protective factors on sexual behavior among urban adolescents:

Paternal Closeness, Antisocial Peers, and AIDS/HIV Education.

Elizabeth M.G. Larkin, MS; Bridget Haas, MSSA; Jean Frank, MPH; Sarah Sylvia, PhD
Div. of Adolescent Health, Dept. Family Medicine, CASE School of Medicine



INTRODUCTION

- Although sexual activity rates are monitored nationally, urban areas often face unique problems not captured by national data. Urban adolescents also live in a different social context and may have a different distribution of protective factors.
- High sexual activity and pregnancy rates put adolescents at risk for poor health and economic outcomes. Parents and schools need effective ways to actively support and encourage responsible sexual decision-making among adolescents.
- Studies have shown that strong relationships to parents, family, school and community are associated with less sexual activity, more contraceptive use and fewer pregnancies.

PURPOSE

- To quantify the level of sexual activity among urban high school students compared to students nationwide.
- To evaluate the association between potentially modifiable protective factors and sexual activity.
- To determine which factors hypothesized to be protective in other populations function as protective factors in this highly sexually active population, where sexual activity is often the norm.

METHODS

- In 2004, the Youth Risk Behavior Survey with an added module compiled from the Student Survey of Risk and Protective Factors, was administered in 11 high schools from a large Midwestern urban school district.
- A random sample of students were chosen and 1268 valid surveys were received. The survey was anonymous and voluntary with passive parental permission.
- The potentially protective effects of Paternal Closeness, Maternal Closeness, Lack of Antisocial Peers, AIDS/HIV Education, Family Management, School Connectedness, Doctor Visits, Volunteerism, Employment, Number of Trusted Adults, After-school Program Involvement, and Participation in Team Sports, were explored.
- Univariate analysis of prevalence and bivariate preliminary analyses were conducted and variables showing inconsistent or no predictive power were eliminated from the final models.
- When missing data for continuous scales were detected and determined to be MAR, missing data was imputed using the EM algorithm. In incidences where student surveys were not completed, surveys were excluded from analysis, leaving a final sample of 1082.
- Each continuous scale was divided into three equal percentiles (low, medium, and high), so that odds ratios of the continuous scales could be more easily interpreted.
- Logistic models were created to quantify the effects of Paternal Closeness, Maternal Closeness, Antisocial Peers, and AIDS/HIV education, on six different measures of sexual activity, while controlling for gender, age, SES and race.

RESULTS

Table 1: Self-reported Demographics

	%	TOT N=1082	F N=605	M N=465
Age	≤13	0.5	0.5	0.2
	14-15	40.8	41.9	39.0
	16-17	46.4	46.6	46.2
	18+	12.2	11.1	13.8
Race	White	16.7	16.9	16.8
	Minority	83.3	83.1	83.2
SES (Mother's Ed)	No College	55.9	60.3	50.0
	Some College	44.1	39.7	50.0

Table 2: Self-reported Sexual Behaviors

	%	TOT N=1082	F N=605	M N=465	National (2003)
Ever had sexual intercourse	64.8**	59.1	72.5	46.7	
Currently sexually active	42.5**	40.0	45.8	34.3	
Four or more current partners	4.7**	1.3	9.2	2.7	
Sexual activity before age 13	13.5**	7.0	22.0	7.4	
No condom use at last intercourse	33.8	39.7	27.5	37.0	
Drug or alcohol use before last intercourse	14.8	14.0	15.6	25.4	

** significant difference between this urban population than in the US (p < .05)

Table 3: Logistic Models of Sexual Behavior

Model:	1			2			3			4			5			6		
	Ever had sexual intercourse			Currently sexually active			Four or more current partners			Sexual activity before age 13			No condom use at last intercourse			Drug or alcohol use before last intercourse		
OR	Tot	F	M	Tot	F	M	Tot	F	M	Tot	F	M	Tot	F	M	Tot	F	M
Paternal Closeness	.87	.74**	1.1	.75**	.78*	.71**	1.1	.56	1.3	1.1	1.4	1.0	.67**	.68	.68**	1.1	1.1	1.3
Maternal Closeness	1.1	.97	1.2	1.0	1.0	1.0	.75	.77	.74	1.1	.92	1.3	1.2	1.1	1.3	.97	.82	1.2
Antisocial Peers	1.8**	1.8**	2.0**	1.9**	1.8**	2.1**	1.8**	1.3	1.9**	2.0**	1.4	2.4**	1.2	1.3*	1.0	1.5**	1.4	1.6**
AIDS/HIV education	.98	.93	1.1	.78	1.0	.60	.36**	.23**	.41**	.48**	.44*	.49**	1.1	1.5	.92	.36**	.60	.21**
Male gender	1.8**			1.1			6.0**			3.5**			.60**			.98		
Increasing age	1.3**	1.3**	1.3**	1.4**	1.3**	1.3**	1.2	.78	1.4	.89	.85	.87	1.1	1.0	1.3**	.95	.77*	1.2
High SES	.87	1.0	.67	1.0	.86	1.2*	.54*	.22	.63	1.1	1.2	1.1	.98	.94	1.0	1.1	.72	1.9*
White race	.76	1.1	.41*	.89	.99	.81	1.2	1.2	1.2	.76	.82	.75	1.3	1.9	.80	2.7**	3.0**	3.0**

* p < .10, ** p < .05 - red indicates risk factors, green indicates protective factors

RESULTS SUMMARY

- Sexual activity is significantly more prevalent among this urban population than is reported by adolescents nationally.
- With the exception of gender, demographics play only a small role in influencing adolescent sexual behavior.
- Paternal Closeness and Antisocial Peer association have the largest influence on sexual behavior among adolescents.
- Surprisingly, Maternal Closeness had no association with sexual behavior.
- Other factors hypothesized to be protective in other studies (Family Management, School Connectedness, Doctor Visits, Volunteerism, Employment, Number of Trusted Adults, After-school Program Involvement) showed inconsistent or no relationship to the sexual activity measures explored.
- Alternatively, playing on a sports team or having an after-school job proved to be detrimental in some analyses, especially amongst males.
- Interestingly, AIDS/ HIV education has some influence on sexual activity behavior, yet no influence on condom use.

IMPLICATIONS

- While demographics and sexual activity rates found in this urban population are significantly different than national patterns, they are similar to those found in other large Midwestern cities, indicating that these findings may be generalizable to other populations.
- The factors that were found to be protective are not merely characteristics of sexually active adolescents, but are areas where parents, schools, and programming may be able to influence or provide protective resources.
- Students may be less likely to be "protected" by socially-supportive assets when they live in an environment where sexual activity is a more often a normative behavior, than a risk behavior.
 - Further studies measuring attitudes and norms relating to sexual activity in this population would be helpful to further explore this hypothesis.
- This study highlights the importance of paternal bonding in responsible sexual decision-making and demonstrates the powerful influence of peers on adolescents.
 - Further analysis should focus on factors which may encourage adolescents' choice of pro-social peers, as a possible avenue for influencing sexual decision-making.
- In populations with high prevalence of single parent households, there may be less variation in Maternal Closeness and more variation in Paternal Closeness than in populations with more stable family structures. This could account for the unintuitive differences between parental effects.
 - Studies comparing the prevalence of these same variables in suburban environments as well as comparative data on variables such as family structure may illuminate important normative differences in protective factors.
- While the context of the school-based AIDS/HIV education reported by students was not measured, there appears to be some beneficial protective effects from some type of exposure to AIDS/HIV education which translates into fewer partners and later initiation. More study is needed to more fully understand the impact of AIDS/HIV education on sexual behavior