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Individual and Neighborhood Factors Associated with Sexual Behavior Classes in an Urban Longitudinal Sample

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Abstract

Background: This study aimed to increase understanding of the clustering of sexual behaviors in an urban sample of emerging adults, and the individual and neighborhood factors associated with sexual behavior patterns in order to provide insight into reducing the disproportionate burden of poor sexual outcomes among urban African Americans.

Methods: We draw on two cohorts of urban, predominantly African American youth first assessed at age 6 and follow-up to emerging adulthood (mean age 20, n=1,618). Latent class analyses by gender identified co-occurrence of sexual behavior.

Results: We found three classes for both males and females: *high-risk* (13% of males, 15% of females), *low-risk* (54% of males, 56% of females) and *no-risk* (33% of males, 29% of females). Membership in the *high-risk* class was associated with school dropout, a substance use disorder diagnosis, having a criminal arrest, pregnancy, and STDs for both males and females. *High-risk* females also had higher rates of depression. *Low-risk* males and females also had elevated risk of

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pregnancy and parenthood. Neighborhood factors distinguished the *high-* and *no-risk* classes for males and females, including the neighborhood environment scale, which assessed poverty, safety, drug activity, and crime/violence in the neighborhood. Neighborhood religiosity was inversely associated with membership in the *high-risk* class compared to the *no-risk* class for females only. Neighborhood racism distinguished those in the *high-risk* class compared to the *no-risk* class for males.

Conclusion: Future work should take into account the clustering of sexual risk behaviors. Specific neighborhood factors could be addressed to reduce sexual health disparities.

Short Summary:

Latent class analyses identified three classes of sexual behavior among males and females from an urban cohort following from ages 6-20, including individual and neighborhood predictors of patterns.

Keywords

Sexual behavior patterns; Longitudinal cohort studies; Gender differences; Contextual factors; Latent Class Analysis

Introduction

Urban, African American adults are disproportionately affected by the consequences of risky sex, including high rates of sexually transmitted diseases (STDs) and unintended pregnancies.[1,2] While previous work suggests that sexual behaviors are complex and multidimensional,[3,4] few studies have identified sexual behavior patterns among high-risk groups. Research on sexual risk has focused primarily on individual behaviors, such as early sexual initiation, condom use, and multiple partnering.[5] This approach is somewhat limited as some behaviors are only high risk in the context of other behaviors. For example, multiple partnering is especially risky when it is coupled with a lack of condom use. Given the possibility that sexual behaviors may concurrently influence one other, an approach that examines the co-occurring behaviors is warranted.

Research identifying sexual behavior patterns has focused on general populations[6-8] without considering geographic, gender and/or racial subgroups. For example, utilizing data from Add-Health, Vasilenko and colleagues identified classes of adolescent sexual behavior, including an abstinent class, oral sex only class, low-risk class, and two multi-partner classes.[4] In a rare study of urban youth, Newman and Zimmerman identified subgroups of sexual risk among high schoolers.[9] These included a group with few partners who used condoms consistently; an inconsistent condom group that had several partners; a monogamous group who used condoms inconsistently; and a low-risk, multiple partner group. Similarly, Beadnell and colleagues, in a longitudinal study of urban students, utilized three indicators to group students into risk profiles based on frequency of sex, condom use, number of partners and found four groups.[3] Profiles were associated with STDs and pregnancy history. Neither examined predictors of profiles or extended beyond high school, leaving unanswered questions about factors in emerging adulthood influencing patterns.

Furthermore, previous studies have done little to explain how environments affect patterns, which is critical as context likely contribute to marked disparities in STDs.[10-11]

Socio-ecological models point to the value of considering levels of influence beyond individual factors to understand human behavior.[12] Recently, sexual health interventionists have recognized the importance of examining sexual behaviors within the context of the physical and social environment, as both structural characteristics and normative climate, play a role in influencing sexual behaviors.[13] This expanded perspective provides insight into environmental conditions that increase risk directly by affecting sexual behaviors, as well as indirectly through such things as partner characteristics.[10]

Previous research supports this conceptual notion that neighborhood factors are an important influence on sexual behavior.[14-22] Browning and colleagues found that concentrated poverty explained racial differences in first intercourse timing between racial groups.[15] Their work identified neighborhood-level social resources as an important influence.[15,16] Baumer and South found community disadvantage predicted the timing of first sex, frequency of sex, number of sex partners, and unprotected sex.[17]

Stevens and colleagues suggest mechanisms through which environments impact sexual behaviors.[18] For one, cities that suffer from chronic disinvestment, poverty and unemployment create disordered environments that are highly sexualized. A second mechanism is safety. Unsafe environments drive youth to socialize indoors unsupervised creating an environment conducive to sex. A third mechanism is through the prevalent drug culture in disadvantaged neighborhoods, which creates a context where risky sex as a result of intoxication is common.[19] Logan et al. further suggest the sex ratio imbalance in Black communities devalues women, and promiscuity and a lack of condom use become normative.[20] Thus neighborhood racial composition influences partner availability and sexual norms,[15,21] as well as exposure to STDs.[1] Finally, for males in impoverished neighborhoods, sex may be used to validate their masculinity and increase feelings of empowerment.[22]

To prevent the negative outcomes associated with risky sex among urban youth and reduce disparities, it is critical to identify predictors of patterns of sexual behaviors. We consider objective neighborhood factors and perceptions of the neighborhood that may increase risk behaviors. We also consider a neighborhood social resource, church, that may protect against risk. We examine how individual factors, such as education, pregnancy and STD history, substance use, and depression, relate to sexual behavior patterns with the rationale that it is important to understand the characteristics of those who engage in risky behavior to offer more targeted interventions. This investigation of individual factors allows us to describe and validate the classes. Specific research questions are (1) what are the sexual behavior classes among a sample of urban 20-year-old males and females, and (2) what individual and (3) neighborhood factors predict classes. We expect males and females living in more disadvantaged neighborhoods and perceive their neighborhoods to be poorer, less safe, more violent, have greater crime and drug activity, have more racism, and less religiosity to be in higher risk classes. We also explore the racial composition of neighborhoods as previous studies have identified STDs disparities in majority African American communities.[1] We

estimate models separately by gender due to male/female differences in age of sexual initiation, sexual norms, and neighborhood exposures.

Materials and Methods

Study Design

The analytic sample was drawn from two cohorts of participants from Baltimore, Maryland, USA as part of a series of randomized controlled trials of elementary school-based universal prevention interventions. Interventions were implemented in first grade to improve academic achievement and reduce aggressive/disruptive behaviors. Participants were followed periodically from first grade to young adulthood, with 2,311 participants enrolling in the study in first grade; 1,715 of which were interviewed at the age 20 interview (74% of the initial cohort, mean age 19.98). Over two thirds (67.6%) interviewed at age 20 were Black, 45.5% males, 67.6% qualified for free/reduced priced meals in first grade, and 42.1% participated in the intervention condition. Comparing those interviewed at age 20 and those not, those assessed were more likely to (a) qualify for free/reduced priced meals (67.6% vs. 64.4%); (b) be African American (70.1% vs. 52.6%) and (c) be female (54.5% vs. 37.6%).

Sixty-three males were removed from the analysis because of being incarcerated at the time of the interview since their neighborhood and sexual contexts are different from those not incarcerated. Our final analytic sample includes 1,618 individuals who had sufficient sexual behavior data (708 males and 910 females), 94% of those who completed the age 20 interview.

Measures

Sexual Behavior Items—Sexual behaviors were self-reported at age 20. Participants were asked if they were sexually active in their lifetime and currently (past 30 days); age of initiation of oral, anal and vaginal sex; number of sexual partners in the past 30 days; number of times they used a condom with each partner in the past 30 days; whether they had sex under the influence of drugs or alcohol in the past 30 days; and if they had ever exchanged sex for drugs, food or money (i.e., transactional sex). We conceptualized early sexual initiation as those who began sexual activity (anal, oral or vaginal) before age 14. We conceptualized sex without a condom as any condomless sex with any partner in the past 30 days. Multiple sexual partnering was defined as whether the participant had more than one sexual partner in the past 30 days.

Individual Factors

All individual factors except criminal records were based on responses at the age 20 interviews. Pregnancy was assessed by asking participants if they had ever been pregnant or gotten someone pregnant (33.2% of the males; 49.4% of the females); 17.9% of the males and 34.5% of the females reported having children. Almost 14% of the males (13.6%) and 21.6% of the females reported having had a STD. Almost half of the males (49.0%) and 40.9% of the females did not graduate high school/obtain a GED. Substance use and depression diagnoses were based on DSM IV criteria using the CIDI-UM;[23] 33.0% of males and 16.2% of females had a lifetime alcohol/drug use disorder. For lifetime depression, 8.2%

of males and 13.5% of females met criteria. Criminal records were based on a search of the Maryland Criminal Justice System records in summer 2000 (18.2% of males, 5.8% of females).

Neighborhood Factors

The Community Disadvantage Index (CDI) consists of objective measures of the residential neighborhood in first grade (age 6) and emerging adulthood (age 20) using the participant's home address at the time of the assessment. These scores were calculated using items from the 1990 and 2000 United States census and is based on the percentage of households in the census tract with a) adults >24 years with a college degree, b) owner-occupied housing, c) households with incomes below the federal poverty threshold, and d) female-headed households with children.[24] Higher values indicate increased disadvantage. We also included neighborhood perceptions in emerging adulthood (age 20). The Neighborhood Environment Scale is a mean of 15 items (1=not at all, 6=very much), assessing perceptions of neighborhood crime and violence (4 items), drug activity (3 items), poverty (4 items) and safety (4 items). Higher values on all scales indicate a worse neighborhood. Neighborhood racism was an item, assessing frequency of seeing signs of racism and prejudice weekly in the neighborhood (1=not at all, 6=very much). Neighborhood composition compared those who reported living in "mostly Black" neighborhoods to other compositions (i.e., mostly other racial/ethnic groups or mixed race/ethnicity neighborhoods). Neighborhood religiosity was based on an item assessing the importance of going to church on Sunday or other religious days for individuals in the neighborhood (1=not at all, 6=very much).

Control Variables

Regression models adjusted for free and reduced price meals (family income <180% of the federal poverty level, FARMs), race, intervention status, and aggressive behavior (an indicator of early risk behavior), as they are expected to influence sexual risk classes and predictors. Aggressive behavior was based on first grade teacher ratings using the Teacher Observation of Classroom Adaptation-Revised (TOCA-R).[25]

Analysis Plan

The first step involved conducting a series of latent class analyses (LCA) on the sexual behavior indicators separately by gender. LCA is a statistical method for identifying unmeasured heterogeneity in a population in order to find substantively meaningful groups of people who are similar in their response to measured variables.[26] We tested two through five classes to determine the number of classes that best fit the various patterns of sexual behavior. Based on the Bayesian Information Criteria (BIC), class prevalence, and substantive interpretation, we decided on the number of classes. The BIC is a comparative goodness-of-fit index in which lower values indicate an improved model fit. We then utilized adjusted multinomial logistic regression for each variable to predict class membership based on (a) risk and (b) neighborhood factors. The reference class for all analyses was the *no-risk* class. Sensitivity analyses of associations between neighborhood factors and class membership were conducted among control group participants only (58% of the sample) and no appreciable differences were found. See Supplementary Table 4a. Maximum likelihood estimation accounted for missing data.

Results

Table 1 overviews the sexual behavior characteristics by gender. By age 20, almost all participants had been sexually active; 68% of males and 72% of females were currently sexually active. Over one quarter of the males initiated sex before age 14 compared to 16% of the females (p<.001). Significantly more males than females (13.6% vs. 3.7%, p<.001) had multiple sexual partners. Males were more likely than females to have sex under the influence (18.4% vs. 10.2%, p<.001) and have engaged in transactional sex (7.1% vs. 2.4%, p<.001). Females were more likely than males to have condomless sex (45.5% vs. 37.6%, p=.001).

Table 2 shows the fit statistics for the LCA. We chose a 3-class model for both males (Figure 1) and females (Figure 2). For males, there was a *high-risk* class (13%), characterized by multiple indicators of high-risk sexual behaviors, including condomless sex, under the influence, and with multiple partners in the past month. Almost one-third of the *high-risk* class had transactional sex. About 60% of this class had initiated sex before age 14. The *low-risk* class (54%) of the males was characterized primarily by being currently sexually active with engagement in a single risky behavior, mostly condomless sex. The *no-risk* class was not currently sexually active (33%).

For females, the *high-risk* class (15%) was characterized by condomless sex. Almost one-third of the *high-risk* class had initiated sex before age 14 and about 20% of the females in this class had multiple sexual partners and about a fifth had engaged in transactional sex. The majority had sex under the influence. The *low-risk* class (56%) was sexually active and most had condomless sex but with a single sexual partner. Like males, the *no-risk* class comprised of those not sexually active (29%).

As shown in Table 3, *high-risk* males were over nine times as likely to have gotten a females pregnant (aOR=9.41, p<.001), three times as likely to be a parent (aOR=3.09, p=.003), over 11 times as likely to have had an STD (aOR=11.63, p<.001), over 22 times as likely to meet criteria for a lifetime substance use disorder (aOR=22.59, p<.001), and over four times as likely to have a criminal record (aOR=4.63, p<.001) compared to *no-risk* males. *Low-risk* males were four times as likely as *no-risk* males to have gotten someone pregnant (aOR=3.98, p<.001), almost twice as likely to be a parent (aOR=1.91, p=.012), and twice as likely to have had an STD (aOR=2.06, p=.040).

While *high-risk* females were almost three times as likely as *low-risk* females to have been pregnant (aOR=2.80, p<.001), there was no difference in parenthood between these classes (p=.320). H*igh-risk* females were also more likely to have had an STD (aOR=6.27, p<.001), dropped out of high school (aOR=2.19, p=.005), met criteria for a substance use disorder (aOR=9.92, p<.001), and have a criminal record (aOR=3.82, p=.009).

While for males there was no association with depression, *high-risk* females were 2.55 times as likely as *no-risk* females (p=.004), while *low-risk* females were half as likely as *no-risk* females (aOR=0.51, p=.021) to meet criteria for lifetime depression. *Low-risk* females were less likely than *no-risk* females to have a lifetime substance use disorder (aOR=0.49, p=.034). *Low-risk* females were more likely to be parents (aOR=1.63, p=.009). As the

decreased risk of substance use among the low-risk class for females compared to the no-risk class for females was an unexpected finding, we further probed this association. After adjusting for parenting, *low-risk* females and *no-risk* females did not differ significantly on having a substance use disorder.

Table 4 shows the association of neighborhood with class membership. While childhood community disadvantage was not associated with class membership, adult community disadvantage was related to the *low-risk* class for females relative to *no-risk* (aOR=1.24, p=.033). The Neighborhood Environment Scale (NES) differentiated the *high-risk* class from the *no-risk* class for males (aOR=2.01, p<.001) and females (aOR=1.62, p<.001). For males, all four subscales (poverty, safety, drug activity, crime/violence) of the NES were statistically significant in differentiating *high-risk* class from *no-risk*. For females, the poverty, drug activity and crime/violence subscales significantly differentiated *high-risk* and *no-risk* (ps<.001).

For males, we found those living in neighborhoods with more overt signs of racism or prejudice were more likely to be *high-risk* relative to *no-risk* (aOR=1.53, p<.001). We found a protective effect of neighborhood religiosity with *high-risk* females less likely to live in neighborhoods where attending religious services is an important activity compared to *no-risk* females (aOR=0.75, p=.003).

Discussion

We identified three emerging adult sexual health risk classes for males and females: *high*, *low* and *no-risk*. The majority of males fell in the *low-risk* class. Despite “low risk,” males in this class had double the risk of STDs and were almost four times as likely to have impregnated a partner compared to the *no-risk* class. While this finding may represent a reduction in previous risk sexual behavior, it may suggest that even low levels of individual risk can lead to adverse outcomes, consistent with previous research showing that the disproportionate burden of STDs in urban centers is driven significantly by partner characteristics and networks.[11,27-28] Further 13% of the males were considered *high-risk*, engaging in, on average, three risky behaviors in the past month. Similar to males, 15% of the females were *high-risk*. Multiple individual factors were associated with membership in the *high-risk* class, including pregnancy, STDs, school dropout, substance use disorder, and criminal record. These correlates are useful to identify urban youth for intense and multifaceted interventions.[29]

The majority of females were also *low-risk.* This class was primarily made up of sexually-active, monogamous females. *Low-risk* females had higher rates of pregnancy and parenthood, but not higher rates of STDs, suggesting unprotected sex with uninfected, potentially monogamous partners. Overall, there was only one sexual risk behavior that was more common among females than males. Females were significantly more likely than males to have condomless sex. This may be related to trust and expectations of monogamy in emerging adult relationships, as well as the challenges for females to negotiate condom use.[30]

Unlike males, *high-risk* females were more likely to have met lifetime diagnostic criteria for depression, consistent with previous work.[4] Depression also differentiated the *low-risk* and *no-risk* classes for females, but not in the expected direction. It may be that depression is preventing emerging adult females from engaging in normative sexual activity, as the *low-risk* class based on its size represented normative behavior.

While results suggest that intervening on individual characteristics has the potential to reduce the burden of risky sexual behavior, identifying and addressing factors at the neighborhood level may be more likely to have widespread impact on health disparities.[11] For both males and females, the Neighborhood Environment Scale, which measures perceptions of neighborhood safety, crime/violence, poverty, and drug activity, was associated with class membership, where those in worse neighborhoods were significantly more likely to be in the *high-risk* class compared to the *no-risk* class. This association was apparent for all subscales, except neighborhood safety amongst females. While others have suggested that neighborhood safety might be driving youth indoor, providing more opportunities to be sexually active unsupervised,[18] this finding does not align with that theoretical mechanism, for females at least. Instead, findings align with the notion that neighborhood disadvantage may create environments that are highly stressful, lack hope, and normalize risk behavior.[31] For males, signs of prejudice or racism in the neighborhood also distinguished the *high-risk* class from the *no-risk* class. Again, sex may serve as a coping mechanism in these highly stressful environments or as an adaptation to oppression.[21,22]

For females only, neighborhood religiosity may play a protective role as those in neighborhoods that valued religious service attendance were more likely to be in the *no-risk* class compared to the *high-risk* class. As suggested by Warner and colleagues the mechanism through which neighborhood factors influence sexual risk behaviors is sexual norms, which encourage or fail to discourage sexual behaviors.[13] Thus neighborhoods that value religiosity may protect females from high-risk sexual behaviors, potentially through providing a positive way to cope with stressors prominent in urban neighborhoods.[32]

Overall, perceptions of neighborhood seemed more important than objective measures as the CDI, which is based on census tracts, had little predictive value. Census tracts may not adequately capture important social or geographic boundaries as they are large and somewhat heterogeneous.[33] We did find one instance of an association between objective neighborhood disadvantage and class membership. Community disadvantage differentiated the *low-risk* from the *no-risk* class for females. It may be that sexual behavior patterns are more related to how one experiences their surroundings than the actual surroundings.

While findings suggest a relationship between neighborhood and sexual behavior patterns, they must be interpreted in the context of several limitations. First, associations cannot be inferred as causal due to potential confounding not capture by our control variables and issues of temporality. While it is unlikely that current sexual behavior at age 19 influenced neighborhood factors, these behaviors may have influenced neighborhood perceptions. Neighborhood perceptions and sexual behavior were both self-reported and the associations found may be a result of same source bias. Finally, while we expect findings to be similar in other urban communities, findings may not generalize to non-urban settings.

Despite limitations, there are a number of implications. This study extends previous work by examining classes separately by gender, which allows for more targeted interventions programs that address the range and combination of risky behavior. For example, by assessing intervention participants' specific neighborhood and individual risk factors at baseline, interventionists can use this knowledge to (1) identify those at greatest risk of poor outcomes, and (2) focus intervention programs on the sexual outcomes that most typically co-occur for each gender (e.g., multiple partnering, condomless sex, and sex under the influence for males and condomless sex and sex under the influence in monogamous females.) Findings also suggest specific individual and neighborhood factors that can be addressed to potentially reduce adverse sexual outcomes and health disparities that result from them. Specifically, at the individual-level, substance use disorder was a particularly strong predictor for these urban, minority males and females. At the neighborhood level, which is less often the target of sexual health interventions,[9] violent and criminal activity was predictive of the *high-risk* sex for both males and females, and thus addressing these conditions may impact risky sex if the association proves causal. Future research should confirm these classes and explore the mechanisms that drive the factors associated with these classes.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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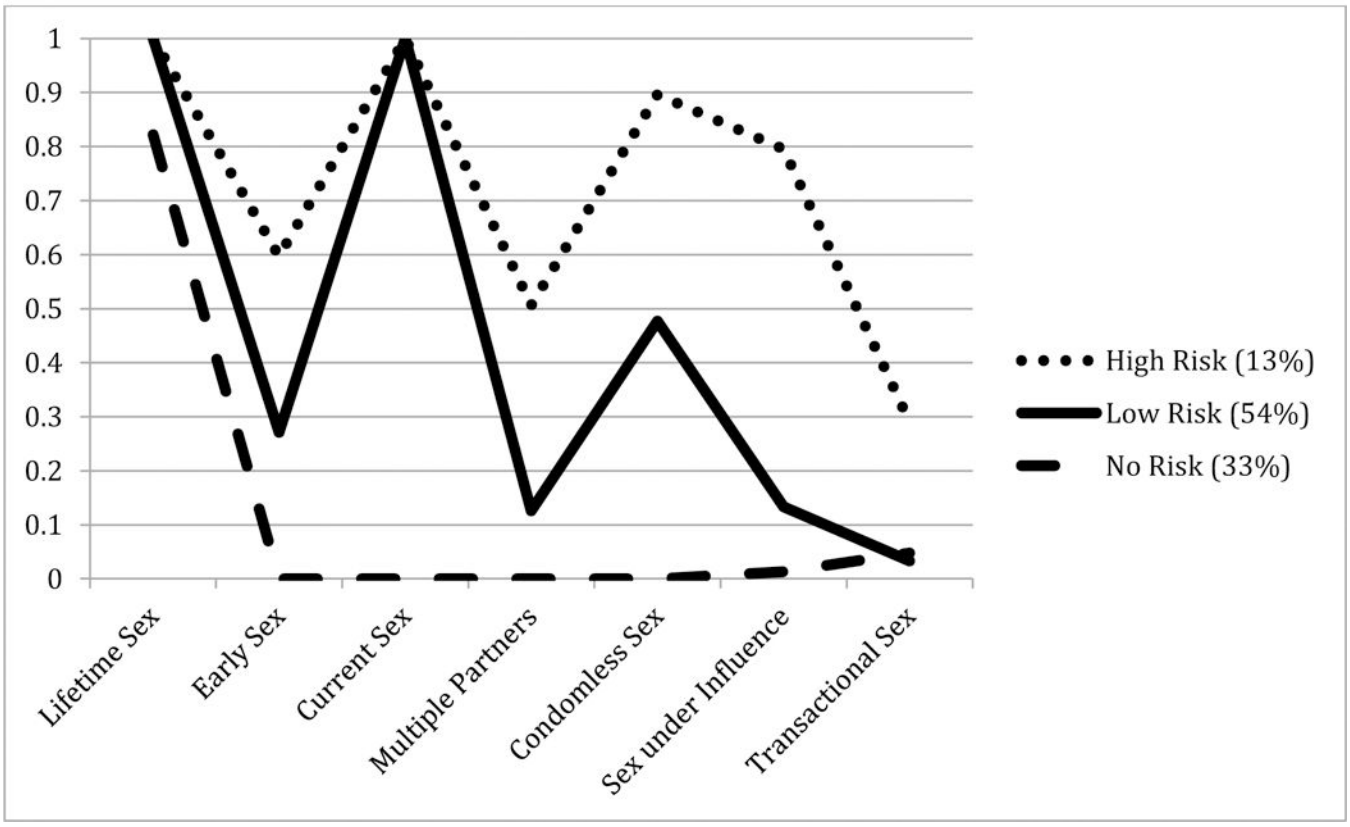

Figure 1:
Latent Classes of Sexual Risk among Males (n=708)

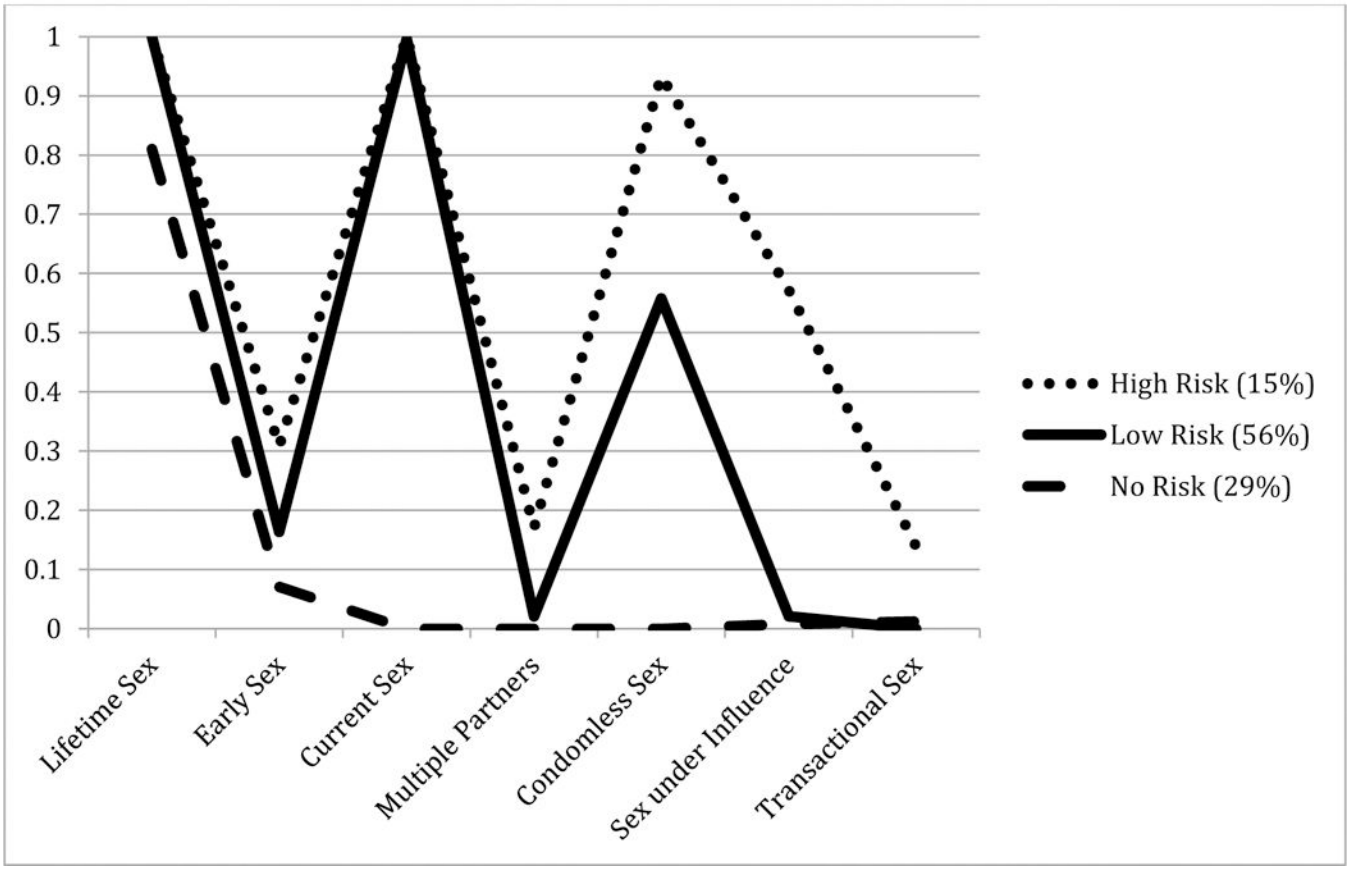

Figure 2:
Latent Classes of Sexual Risk among Females (n=910)

Table 1:

Sexual Risk Characteristics Among Baltimore Emerging Adults by Gender, Age 20

	Males	Females	Total	X^2, p-value
Lifetime Sex	94.2%	94.6%	94.4%	0.125, p=.724
Early Initiation of Sex (<14)	27.8%	15.9%	21.1%	33.886, p<.001
Current Sex (Past 30 Days)	67.9%	72.1%	70.3%	3.275, p=.070
Multiple Sexual Partners (Past 30 Days)	13.6%	3.7%	8.0%	51.902, p<.001
Any Sex Without a Condom (Past 30 Days)*	37.6%	45.5%	42.1%	10.170, p=.001
Sex under the Influence (Past 30 Days)	18.4%	10.2%	13.8%	22.569, p<.001
Engaged in Transactional Sex (Lifetime)	7.1%	2.4%	4.5%	20.003, p<.001

*Vaginal and anal only

Table 2:

Fit Statistics for Male and Female Sexual Risk Latent Classes

Males							
# of classes	AIC	BIC	nBIC	Entropy	Lo-Mendell Rubin LRT Test p-value*	Vuong-Lo-Mendell Rubin p-value*	bootstrapped parametric LRT p-value*
2	3957.184	4025.621	3977.993	.774	<.0001	<.0001	<.0001
3	**3887.315**	**3992.251**	**3919.221**	**.843**	**.00004**	**.00003**	**<.00001**
4	3880.582	4022.018	3923.586	.773	<.0001	<.0001	<.00001
5	3879.266	4057.201	3933.367	.719	0.0070	0.0064	<0.0001
Females							
# of classes	AIC	BIC	nBIC	Entropy	Lo-Mendell Rubin LRT Test p-value*	Vuong-Lo-Mendell Rubin p-value*	bootstrapped parametric LRT p-value*
2	3963.250	4035.729	3988.091	.738	0.0001	0.0001	0.0001
3	**3895.309**	**4006.444**	**3933.398**	**.790**	**0.0001**	**0.0001**	**0.0001**
4	3890.689	4040.480	3942.027	.836	0.0001	0.0001	0.0001
5	3890.183	4078.629	3954.769	.864	0.0192	0.0182	0.0001

*Statistical significance suggests that this model is better than K-1 classes.

AIC=Akaike Information Criteria.

BIC=Bayesian Information Criteria.

LRT=likelihood ratio test.

Table 3:

Association of Latent Classes with Emerging Adult Risk: Adjusted Odds Ratios and p-values

Males	*High-risk* Class	*Low-risk* Class
Got Someone Pregnant	**9.41, p<.001**	**3.98, p<.001**
Parent	**3.08, p=.003**	**1.91, p=.012**
Sexually Transmitted Infection	**11.63, p<.001**	**2.06, p=.040**
High School Dropout	1.82, p=.051	1.23, p=.256
Substance Use Disorder	**22.59, p<.001**	1.32, p=.694
Criminal Record	**4.63, p<.001**	1.40, p=.201
Depressive Disorder	1.16, p=.787	1.01, p=.977
Females	*High-risk* Class	*Low-risk* Class
Ever Pregnant	**2.80, p<.001**	**2.30, p<.001**
Parent	1.24, p=.320	**1.63, p=.009**
Sexually Transmitted Infection	**6.27, p<.001**	1.37, p=.202
High School Dropout	**2.19, p=.005**	1.00, p=.997
Substance Use Disorder	**9.92, p<.001**	**0.49, p=.034**
Criminal Record	**3.82, p=.009**	1.58, p=.287
Depressive Disorder	**2.55, p=.004**	**0.51, p=.021**

Note: Each predictor is a separate regression model. The reference class is the *no-risk class*. Models adjust for aggressive behavior, race, FARMs, and intervention status. All predictors are lifetime variables. Statistically significant findings at p<.05 are bolded.

Table 4:

Association of Neighborhood Variables with Latent Classes for Males and Females: Adjusted Odds Ratios and P values

Males	*High-risk* Class	*Low-risk* Class
Community Disadvantage Index Grade 1	1.01, p=.961	1.15, p=.159
Community Disadvantage Index Age 20	1.00, p=.994	1.09, p=.407
Neighborhood Environment Scale (NES) Age20	**2.01, p<.001**	1.05, p=.582
NES Poverty Subscale	**1.58, p<.001**	1.03, p=.714
NES Safety Subscale	**1.44, p=.003**	0.98, p=.788
NES Drug Activity Subscale	**1.64, p<.001**	1.04, p=.547
NES Crime/Violence Subscale	**1.76, p<.001**	1.10, p=.242
Neighborhood Racism Age 20	**1.53, p<.001**	1.00, p=.973
Neighborhood Racial Composition (Mostly Black vs. Other[1]) Age 20	1.49, p=.276	0.89, p=.583
Neighborhood Religiosity Age 20	0.93, p=.388	1.03, p=.662
Females	*High-risk* Class	*Low-risk* Class
Community Disadvantage Index Grade 1	1.31, p=.131	1.13, p=.182
Community Disadvantage Index Age 20	1.17, p=.433	**1.24, p=.033**
Neighborhood Environment Scale (NES) Age 20	**1.62, p<.001**	0.95, p=.537
NES Poverty Subscale	**1.41, p=.001**	0.89, p=.132
NES Safety Subscale	1.10, p=.374	1.00, p=.979
NES Drug Activity Subscale	**1.47, p<.001**	0.97, p=.647
NES Crime/Violence Subscale	**1.56, p<.001**	0.99, p=.914
Neighborhood Racism Age 20	1.18, p=.075	0.93, p=.338
Neighborhood Racial Composition (Mostly Black vs. Other[1]) Ages 20	1.31, p=.425	1.12, p=.537
Neighborhood Religiosity Ages 20	**0.75, p=.003**	1.03, p=.629

Note: Each predictor is a separate regression model. The reference class is the *no-risk class*. Models adjust for aggressive behavior, race, FARMs, and intervention status. Statistically significant findings at p<.05 are bolded.

[1]Other includes “mostly White,” “mostly Asian/Pacific Islanders,” “mostly Native American,” “Mostly Latino,” “Mixed Black and White,” “Mixed Black and Latino,” “Mixed White and Latino”