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The Urban Environment and Sexual Risk Behavior among Men who have Sex with Men

Victoria Frye, Mary H. Latka, Beryl Koblin, Perry N. Halkitis, Sara Putnam, Sandro Galea, and David Vlahov

ABSTRACT *Increasingly, studies show that characteristics of the urban environment influence a wide variety of health behaviors and disease outcomes, yet few studies have focused on the sexual risk behaviors of men who have sex with men (MSM). This focus is important as many gay men reside in or move to urban areas, and sexual risk behaviors and associated outcomes have increased among some urban MSM in recent years. As interventions aimed at changing individual-level risk behaviors have shown mainly short-term effects, consideration of broader environmental influences is needed. Previous efforts to assess the influence of environmental characteristics on sexual behaviors and related health outcomes among the general population have generally applied three theories as explanatory models: physical disorder, social disorganization and social norms theories. In these models, the intervening mechanisms specified to link environmental characteristics to individual-level outcomes include stress, collective efficacy, and social influence processes, respectively. Whether these models can be empirically supported in generating inferences about the sexual behavior of urban MSM is underdeveloped. Conceptualizing sexual risk among MSM to include social and physical environmental characteristics provides a basis for generating novel and holistic disease prevention and health promotion interventions.*

KEYWORDS *HIV, MSM, Sexual risk behavior, Urban environment.*

INTRODUCTION

After declines in HIV and other sexually transmitted infection (STI) rates among men who have sex with men (MSM) in the late 1980s and early 1990s,[1,2] there has been a resurgence of sexual HIV risk behaviors[3,4] and outbreaks of other STIs[1,5] among MSM in several major urban areas.[6–9] For example, the number of reported syphilis cases increased by more than 230% in New York City (NYC) between 2000 and 2001, mainly among MSM, and NYC witnessed increases in rectal gonorrhea among MSM starting in 1999.[10] In San Francisco, increased rates of male rectal gonorrhea and primary and secondary syphilis have been observed.[4,11]

Frye, Latka, Putnam, Galea, and Vlahov are with the Center for Urban Epidemiologic Studies, New York Academy of Medicine, 1216 Fifth Avenue, New York, NY 10029, USA; Koblin is with the New York Blood Center, New York, NY, USA; Halkitis is with the Department of Applied Psychology, New York University, New York, NY, USA; Vlahov is with the Department of Epidemiology, Columbia University, New York, NY, USA; Galea is with the Department of Epidemiology, University of Michigan, Ann Arbor, MI, USA.

Correspondence: Victoria Frye, DrPh, Center for Urban Epidemiologic Studies, New York Academy of Medicine, 1216 Fifth Avenue, New York, NY 10029, USA. (E-mail: vfrye@nyam.org)

Outbreaks of lymphogranuloma venereum (LGV) have also been noted in western Europe along with increased sporadic reports in the US.[12] New HIV diagnoses among MSM have also increased or remained steady in recent years.[13]

Previous observational and intervention studies have focused primarily at the individual level, offering important insights into the roles of risk perception and cognitions,[14–17] psychosocial factors[18–22] and drugs and alcohol[23–34] associated with sexual HIV risk behaviors among MSM among MSM.[7,35–42] However, focusing sexual HIV risk reduction strategies at the individual level alone ignores the broader social context within which sexual behaviors occur.[43–45] For instance, partner type has been demonstrated to moderate the relationship between alcohol use and sexual HIV risk behaviors, with alcohol use increasing risk among casual partnerships, but not among steady ones.[46] Research that widens the lens to include characteristics of the broader social and physical environments may identify additional contextual or fundamental causative factors that could become the focus of effective structural interventions.[47–50] This is a critical goal, as individually based interventions have shown primarily short-term effectiveness.[51,52] Interventions that focus on the social context of sexual HIV risk among MSM have had promising results.[53–57]

There are several reasons why it might be important to gain a clearer understanding of whether and how sexual behaviors of MSM are influenced by characteristics of the *urban* environment, where sex and drug use is often central to social interaction.[33,58] Many MSM move to urban environments from rural and suburban ones and are therefore concentrated in cities across the United States.[59–61] Cities provide MSM and other sexual minorities adequate numbers of potential sex and life partners[48] and more tolerant social policies where behaviors and identities that are stigmatized elsewhere may be enacted with less fear and more comfort.[61,62]

Another reason to focus on the issue is that it is typically within an urban context that racial and ethnic disparities in HIV and AIDS[63,64] are increasing. Some research suggests that availability and uptake of effective prevention strategies for HIV transmission[14,65–67] remain low among certain MSM of color, which may be contributing to increasing racial disparities.[68,69] Whether and how prevention messages and intervention programs miss these men may have to do with their location within and experience of the social and physical geography. Alternatively, the structural factors, such as concentrated poverty,[70–75] racial segregation[76–78] and population density,[79] that are associated with the unequal distribution of other health risk behaviors and outcomes, including HIV prevalence,[80] may also relate to the sexual risk behaviors of MSM of color.

There is an increasing recognition that investigations into and interventions to change complex social behaviors that are consequential to human health must understand the influence of and focus at multiple levels. An explicit focus on aspects of both the physical and social environment and addition of a socioecological perspective[81,82] to existing individual-level and psychosocial models is critical to building a truly comprehensive understanding of the etiology of sexual risk behaviors among MSM. In this paper, we describe extant theoretical explanations and empirical research concerning the influence of characteristics of the physical and social environments on sexual risk behavior and related outcomes. We then critically evaluate whether these explanatory approaches are applicable to the sexual behavior of MSM. Finally, using insights derived from this process, we present a conceptual framework that could inform the future study of the influence of the urban environment on the sexual behavior of MSM.

THE URBAN ENVIRONMENT AND SEXUAL BEHAVIOR: EXTANT EXPLANATORY APPROACHES AND EMPIRICAL FINDINGS

Previous efforts relating aspects of the broader social and physical environments to human sexual behavior can generally be grouped into studies of characteristics of the physical environment, the social environment and cultural influences. These studies have tended to adopt one of three theoretical explanatory models that correspond to each set of environmental characteristics: physical disorder theory (e.g., "broken windows"),[83,84] social disorganization theory,[85–87] and social norms theory.[55–57,88] Thus, within the urban environment, physical and social structural and cultural characteristics influence individuals via corresponding intervening mechanisms that operate via social networks or family system processes or via individual-level (e.g., internal cognitive or affective) processes. The intervening mechanisms theorized to link physical structures, social structures, and cultural norms to health and social problems include, respectively, stress[89] and consequent maladaptive coping behavior[45] and physiological response;[90] collective efficacy;[86] and social influence processes such as social learning[91] or diffusion of innovation[56,57] (Fig. 1).

Explanations that focus on characteristics of the physical environment posit that physical disorder, such as deteriorating housing, graffiti and vandalism, constitutes environmental stressors and increases adverse health outcomes by causing psychological distress. Sometimes called "broken windows" theory,[83,84] it integrates elements of social stress theory, which accounts for the role of traumatic events, stressors, strains and hassles in the distribution of mental health,[92–94] and social disorganization theory.[95] Thus, certain characteristics of the physical environment increase the likelihood that one will experience personal stress events.[96] Additionally, the stress associated with living amidst physical disorder may increase use and abuse of alcohol and drugs as a maladaptive coping behavior or "self-medication,"[97] termed the stress reduction hypothesis.[45,98,99] Other physical environment factors, such as an absence of parks or well-lit sidewalks, may decrease sociability,[89] which decreases the collective ability of the neighborhood to control problem behaviors, such as drug use, crime and related HIV risk behavior.[71,83,100]

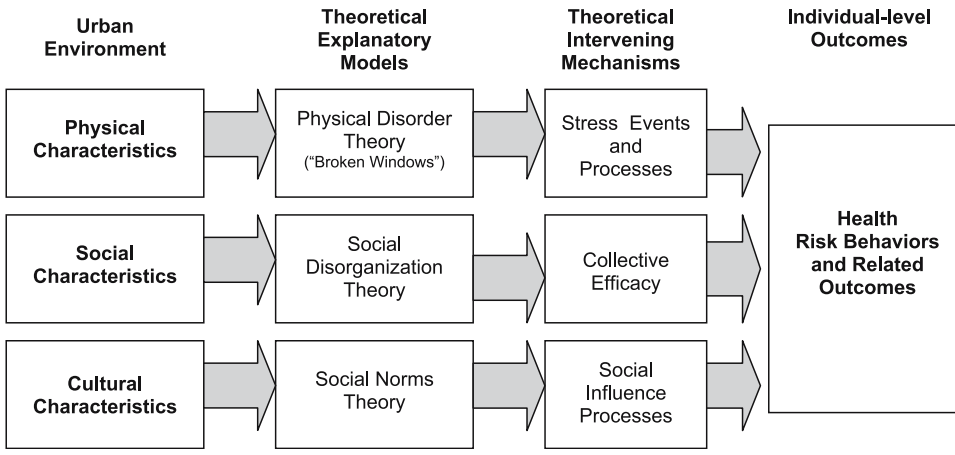

FIGURE 1. Theoretical linkages between the urban environment and individual health behaviors and related outcomes

There has been limited application of this explanation as it relates to sexual behavior and outcomes.[75,83,101] One program of research has found that, after controlling for absolute poverty, neighborhood physical disorder (e.g., building damage, graffiti and garbage accumulation) is associated with prevalence rates of gonorrhea, with the highest rates in neighborhoods with both high levels of visible physical disorder and poverty.[83] Interestingly, further analyses revealed that collective efficacy exerted less of an influence on health outcomes in the context of a deteriorated physical environment.[102]

Examinations of how the social structure influences sexual behavior typically have applied social disorganization theory, which posits that the disruptive effects of industrialization, urbanization, and immigration lead to changes in the social structure of a neighborhood via residential mobility, ethnic heterogeneity and concentrated poverty. The resultant structural changes weaken the social cohesion of neighborhoods and reduce the power of social norms and informal social controls to regulate deviant behavior, a process termed collective efficacy.[103–105] As a result, social problems, such as drug use, violence and sexual HIV risk behaviors, occur.[76,95,105,106]

There is empirical support for the applicability of social disorganization theory to heterosexual behavior, particularly among adolescents with whom there is a tradition of studying the effects of the environment on deviant behavior from this perspective using multi-level analytic techniques.[72] Thus, neighborhood-level residential mobility has been found to be associated with first non-marital intercourse,[107,108] divorce[109] and more recently, short-term sexual partnering.[86] Ethnic heterogeneity at the neighborhood level has been demonstrated to be inversely related to sexual debut,[86,107] and neighborhood-level socioeconomic status has been found to be associated with age at first intercourse,[110–113] premarital pregnancy, childbirth,[70,114,115] marriage,[116] HIV diffusion[117] and increases in AIDS rates.[118] Recently, neighborhood collective efficacy has been found to be inversely related to early sexual activity onset.[87,119]

Cultural norms as a characteristic of the urban social environment theoretically work on behavior via social influence processes both at the individual level (via social learning and internalization of normative values[91]) and the social network level (via social comparison[120] and diffusion[121]). The role of perceived social or peer norms is perhaps the most researched component of this theoretical explanatory model,[122] and there is bountiful empirical evidence that both actual and perceived social norms of behavior influence sexual behaviors, including condom use,[123,124] sexual debut,[125,126] and other sexual risk behaviors among heterosexual populations.[127–129] In addition, there is a growing focus on the role of social networks, as opposed to sexual networks, and their influence on HIV and STI infection and transmission,[130–142] sexual behavior[143–148] and sexual HIV risk behavior.[148–158] However, there is little research that actually measures the social and behavioral norms of geographic areas and assesses how they relate to sexual behavior.

THE URBAN ENVIRONMENT AND SEXUAL BEHAVIOR OF MSM: EMPIRICAL FINDINGS

Data on how characteristics of the urban environment influence the sexual behavior of MSM are sparse. Empirical research not directed exclusively at the individual level has focused on the role of social norms within the gay community,[55–57] perceptions of norms,[159] and how social network characteristics are related to HIV

risk behaviors among MSM.[160–163] How structural interventions influence sexual risk behaviors among MSM is also understudied.[54] While there is strong theorizing and supportive evidence that the social stress associated with being a sexual minority plays a unique role in sexual risk behaviors or related factors (e.g., depression)[44] and how cities are organized into 'sex markets' that influence behavior,[48,164] there is little data that connect these stress events or organizational structures specifically to the geographic environments within which MSM live. Similarly, there is little quantitative work examining the impact of physical disorder on the sexual behavior of MSM. Thus, while historical[62,165,166] and ethnographic[48] researchers have explored the bidirectional influence of MSM on the urban environment, there is virtually no quantitative research into how characteristics of the urban environment influence the sexual HIV risk behavior of MSM.

THE URBAN ENVIRONMENT AND SEXUAL BEHAVIOR OF MSM: APPLYING EXTANT EXPLANATORY APPROACHES

When considering how the theoretical models applied to heterosexual populations might be applied to MSM, there are several factors that should be considered. First, because of the historical migration patterns of MSM into cities, individual-level socio-economic status strongly influences urban neighborhood selection and thus exposure to various characteristics of the urban environment. Further, the pattern of middle- and upper-class gay men "gentrifying" poor, typically ethnic minority, urban neighborhoods has profound implications for their experience of those environments.[61] Second, the sexual behaviors of MSM have traditionally been considered to be deviant behaviors; thus, there exist at least two levels of social structures and norms that might influence the sexual behavior of MSM: those of the larger heterosexually dominated social environment and those of the smaller, gay community. Third, that MSM are members of overlapping social groups who are variously and simultaneously oppressed (i.e., not heterosexual, non-white, lower class, foreign-born) and privileged (i.e., male, white, upper class, US-born) is relevant to their experience of the urban environment, as they may activate various identities that provide protection or confer risk in response to various characteristics of the urban environment.[167]

In terms of the physical environment, the pathway that links physical disorder with risky sexual behavior among MSM via stress-reducing drug and alcohol use appears plausible, although individual-level race and socioeconomic status and other factors likely moderate the effect of a disorderly physical environment on the behavior of MSM. Thus, middle- and upper-class MSM who live in physically deteriorating and disorderly neighborhoods may be less strongly affected by physical disorder. They may be buffered, for example, both by individual-level material resources associated with their social class as well as by the protection conferred by their identity as upper class men, a mechanism we will describe in greater detail later. Other features of the physical environment that might uniquely influence the sexual behavior of MSM include public park spaces, which have been historically "safe" spaces for meeting sexual partners and having sex,[168] and alcohol outlet availability, as a strong association between drug and alcohol use and risky sexual behaviors among MSM exists.[33,169–171]

When considering the potential role that social disorganization plays in the sexual behavior of MSM, it is important to note that a central tenet of social disorganization theory is that the collective efficacy of the neighborhood facilitates

adherence to social norms of behavior and minimizes engagement in *deviant behavior*. While the theory is plausibly applied to adolescents, whose sexual behavior is the object of social control in most societies, when applied to the sexual behavior of MSM, a question emerges: Which behavior, sex between men or risky sex, is deemed deviant? Applying social disorganization theory to the sexual behavior of MSM highlights the tension inherent in understanding the influence of the *geographic* social environment or community, which—even for MSM living in cities—is likely heterosexual-dominated, and the influence of an *identity-based* social environment or community, which transcends geographic borders. The answer then to the question of which behavior is deemed deviant depends fundamentally on whether the social norms of behavior of the dominant cultural group or the subcultural group are being applied.

Applying social norms theory to the sexual behavior of MSM is not novel and has been the focus of observational and intervention research.[55–57] Considering, though, how the gay community's social norms influence the sexual behavior of MSM from a socioecological perspective identifies the potential for different sets of social norms to exert influence. Thus, MSM may be influenced by the social norms of the gay community, with its unique physical and social structures and cultural characteristics. MSM may be more influenced, though, by the norms of smaller subsets of the gay community, such as Bears or barebackers, as we discuss later. However, MSM may also be influenced by the social norms of the geographic community in which they live; this may be particularly true for MSM born and raised in their communities or those who have lived in them for many years. The influence of the geographic community's social norms may also be modified by race/ethnicity. Recent research demonstrates that individual-level feelings of community affiliation, both gay and ethnic, are important to sexual HIV risk behaviors.[172–174] Attachment to community is likely modified by whether one physically lives in the identity-based community or not. How a *geographic* community's social norms may influence sexual behavior among MSM is unknown. However, given that higher levels of community-level homophobia have been reported in minority compared to white communities,[175–179] MSM living in such areas, particularly MSM of color, may experience shame and subsequently lower rates of self-identification as gay.[177,179]

THE URBAN ENVIRONMENT AND SEXUAL BEHAVIOR OF MSM: AN INTEGRATED CONCEPTUAL MODEL

The absence of empirical work in this area provides an opportunity to frame a way of thinking about how characteristics of the urban environment might influence the sexual behavior of MSM. Our examination of extant theoretical models of the influence of the environment on sexual behavior reveals that the sexual behavior of MSM is likely shaped in ways that are simultaneously similar to, and different from, the sexual behavior of heterosexuals. However, several factors unique to MSM highlight the limits of applying existing approaches. We propose that a critical and missing conceptual component of these models, one that is critical to understanding the social and sexual lives of MSM, is the role of social identity.

Social identity theory proposes that individuals develop self-concepts as group members, which may be expressed by common values, behaviors, activities and visual symbols of membership.[180–182] Individuals with strong social identities are more likely to engage in a particular behavior when it is in accordance with the

perceived behavioral and attitudinal norms of that group.[183–185] Research has found that MSM who do not self-identify as gay (i.e., possess a social identity as a gay man) may be more likely to use substances and less likely to discuss sex with their partners.[186] Identifying as gay may improve self-evaluation and related psychosocial factors[187,188] that are associated with safe sex.[172,173] Alternatively, self-identification may enhance the likelihood of embracing the social norms of the specific subgroups within the gay community, which are time and space-sensitive phenomena and may not consistently promote safer sex practices. Ethnographic and microsociological research has shed light on these more discrete identity-based groups within the gay community; for example, barebackers,[189–191] for whom a specific behavior has become an identity, embody sexual risk. Other groups such as "Bears," an organized community, or leathermen, more loosely defined but similarly identity-based subcultural groups,[18,189–192] confer identities that may be consequential for risk behaviors and HIV/STI transmission.

Integrating insights from social identity theory into a sociecological approach suggests that characteristics of the urban environment might influence sexual risk behavior via negative impacts on identity,[44] such as identity interruptions or challenges that cause psychological distress or decrease self-esteem.[193] Identity-related impacts may be more likely among MSM who do not self-identify as gay in their predominantly non-gay neighborhoods and experience "insider status" evaluations from neighbors, who presume that they are not gay, that challenge the legitimacy of this part of their identity.[48] The stress associated with keeping a gay identity hidden from or variously invoking the social identity of a geographic community may increase psychological distress-reducing behaviors, like alcohol and drug use. Alternatively, a strong social identity may be protective, as recent evidence suggests that for MSM of color racial/ethnic affiliation may more strongly predict safe sex behaviors than gay community affiliation.[174] Affiliation, the affective component of social identity, may be influenced by environmental characteristics particularly among urban men of color, who are less likely to live in the predominantly white and gay neighborhoods and more likely to live near and be embedded in kin networks.[48]

The conceptual model below illustrates several potential pathways of influence, based on our review of extant explanatory approaches and complemented by social identity theory. Although we include the individual level in this model, we are unable to comprehensively discuss how all potential individual characteristics might mediate or modify relationships among various aspects of the urban environment and sexual HIV risk behavior among MSM (Fig. 2).

In sum, there exist multiple pathways through which physical, social and cultural characteristics of the urban environment might influence the sexual risk behavior of MSM. In one potential pathway of this model, a disorderly physical environment causes psychological distress, which in turn increases substance use and associated sexual HIV risk behavior. Another pathway affects MSM who live in neighborhoods characterized by low levels of homophobia and large numbers of MSM; these men may tend to have more sex partners and sex in high-risk venues, due to proximity and ease of access. Alternatively, MSM who do not self-identify as gay because of high levels of homophobia in their geographic community may be more likely to engage in anonymous sex with multiple partners and/or use substances to cope with the psychological distress caused by identity challenges they chronically face. Each of these potential pathways may be modified by individual-level and situation-level factors. For example, the influence of a

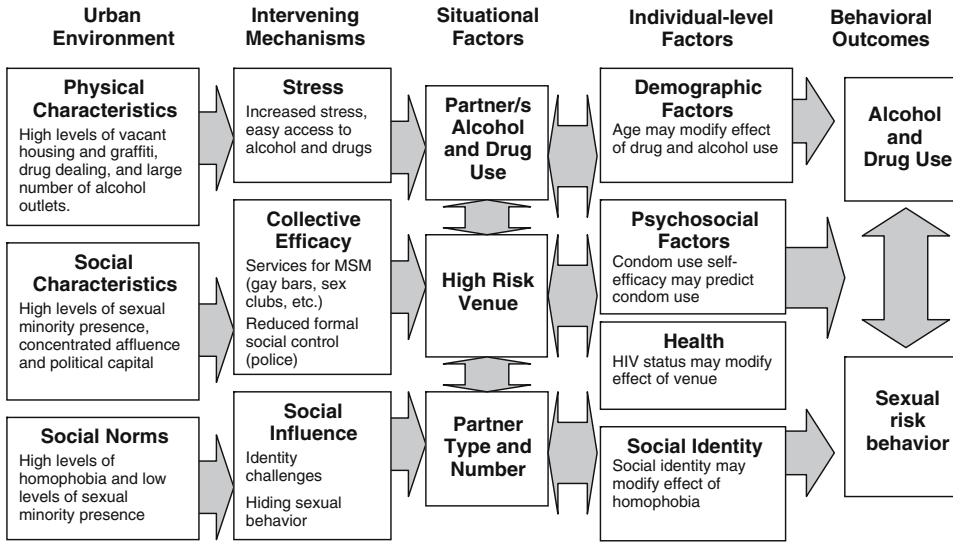

FIGURE 2. Exemplary pathways of influence between characteristics of the urban environment and sexual HIV risk behavior among MSM

disorderly environment may be particularly felt by men who live, work and spend most of their leisure time in such environments.

CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

While there is accumulating conceptual work on the urban environment and the sexual experiences of MSM,[48,194] there is a dearth of empirical work focusing on the relationship. To increase the empiric knowledge base, collection of new data is likely required, as existing datasets tend not to contain the information required for multi-level analyses. Further, census data do not capture the social norms and attitudes of the geographic environment within which MSM live, factors critical to the experience of MSM. Future research efforts on the influence of the urban environment on the sexual behavior of MSM should initially focus on two areas. First, whether associations found between characteristics of the urban environment and sexual behaviors of heterosexuals also hold for the sexual behavior of MSM should be evaluated. Second, the hypothesized mechanisms of influence between environmental characteristics and sexual risk behavior among MSM should be compared and evaluated using datasets collected specifically for this purpose and via analyses that are theory-based and multi-level. Results of such basic research would identify points of intervention at multiple levels, as well as specific content areas, and would inform the development of structural, community-based or multi-level interventions.

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