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Perceptions of Behavioral Norms Related to HIV Transmission by People with HIV and by Residents of Their Communities

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Abstract

We examined how people with HIV are both part of and apart from the communities in which they live. We compared perceptions of behavioral norms of 203 people with HIV living in 33 different communities with community-level normative perceptions assessed by surveys of 2,444 randomly selected residents of these communities. Participants with HIV perceived behavior that risks the transmission of HIV as injunctively and descriptively more normative than did other community residents. Participants with HIV living in communities in which community residents perceived relatively widespread approval of condom use to prevent HIV and other sexually transmitted diseases also perceived these behaviors as injunctively normative, and they perceived relatively low levels of HIV stigmatization. Discussion focuses on how perceptions about “deviant” behaviors may affect the experiences of people whose stigmatized status is assumed to be the result of such behavior.

A premise of many theories of social behavior is that norms affect how people think, feel, and behave (Ajzen & Fishbein, 1980; Cialdini & Trost, 1998; Sherif, 1936). We examined whether stigmatized individuals (people with HIV) understand what is considered normative behavior in the communities in which they live. This research takes a social ecological perspective (Barker, 1968; Berkman & Clark, 2003; Insel & Moos, 1974; Stokals, 1992) which emphasizes that human behavior takes place within physical and social contexts (i.e., ecologies). We contend that community normative perceptions are part of the backdrop against which people communicate, interact, and behave. People within a community develop a shared view about what is commonly done (*perceived descriptive norms*) and what behaviors garner societal approval or disapproval (*perceived injunctive norms*; Cialdini & Goldstein, 2004; Cialdini, Reno, & Kallgren, 1990). Although people’s perceptions of norms can sometimes be remarkably accurate (Nisbett & Kunda, 1985), other research

documents a number of tendencies that bias the perception of norms. For example, studies of the *pluralistic ignorance effect* in college students' perceptions of norms for alcohol consumption suggest that individuals within a community (i.e., a college campus) develop a shared *misunderstanding* of what is descriptively and injunctively normative (Perkins, Haines, & Rice, 2005; Prentice & Miller, 1993).

The present study focuses on the physical communities in which people live because however much they may feel connected to a world beyond their immediate physical community, and however important their social networks of friends and family may be to them (Crandall & Coleman, 1992), people still have experiences with people in their physical environments. Research on diverse topics including, for example, the effects of modeling (Berkowitz, 1984) and the effects of priming (e.g., Higgins, 1996; Devine, 1989) indicate that even the most casual of social contacts can affect cognition, mood, and behavior (Bargh & Chartrand, 1999). Thus, even if their primary social networks are elsewhere, people may still be influenced by the people with whom they share a physical location.

We focused specifically on perceived community norms about behaviors related to HIV transmission because these norms may be important in risky and preventative behaviors, and because the perceived normativeness of these behaviors may influence the experience of stigmatization by people with HIV living in different communities. Practicing preventative behaviors (e.g., using condoms, abstaining from sex) typically involves communication with sexual partners and others about the need for such behaviors. Consequently, community perceptions about whether such behaviors are normative or non-normative should be salient to people with HIV. This suggests that there should be an association (i.e., correlation) between community normative perceptions about behaviors related to the prevention or transmission of HIV and the normative perceptions of people with HIV living in the community. However, due to the generally private nature of these behaviors, people are more likely to know how other people feel about behaviors such as having unprotected sex, using condoms, having multiple sex partners, and sharing needles to administer illegal drugs than they are to know how prevalent people think these behaviors are (van den Eijnden, Buunk, & Bosveld, 2000). This suggests that the association between perceived norms of people with HIV and perceived norms of the community will occur primarily for injunctive norms and not for descriptive norms (Hypothesis 1).

Our second hypothesis was that even as they may adopt the perceived norms of the community, the normative perceptions of people with HIV also will differ from the community perceptions in that people with HIV will perceive risky behaviors as more normative and preventative behaviors as less normative than their community counterparts. Marginalization and devaluation are core aspects of stigmatization (Crocker, Major, & Steele, 1998) that reflect and maintain social distance between stigmatized individuals and other people. HIV stigma arises in part because HIV is more prevalent among groups of people who already are marginalized from society (e.g., IV drug users, gay men; Capitanio & Herek, 1999; Grover, Miller, Solomon, Webster, & Saucier, 2010). People with HIV can insulate themselves from stigmatization by developing protective social networks (Crandall & Coleman, 1992). Because people tend to associate with similar others (Sherman, Presson,

Chassin, Corty, & Olshavsky, 1983), the social networks of people with HIV may include other people with HIV and people at risk for becoming HIV infected. For these reasons, we hypothesize (Hypothesis 2) that there will be mean differences in the perceived norms of people with HIV and other community residents such that people with HIV will perceive HIV-related risky behaviors as more normative and preventative behaviors as less normative than community residents in general.

The *false consensus effect* also could give rise to differences in the perceived behavioral norms of people with HIV and other community residents. False consensus effects occur when individuals project their own behaviors and preferences onto others (Marks & Miller, 1987; Ross, 1977; Mullen, et al., 1985). However, the few studies that have examined false consensus effects among stigmatized people suggest that the opposite may occur. People with anxiety disorders (Suls, Wan, Barlow, & Heimberg, 1990) and women who engaged in socially censured sexual behavior (sex with a partner outside of one's relationship; van den Eijnden, et al., 2000) perceived a lower prevalence for these stigmatizing attributes than did other people. Because stigmatization sets people apart from other people, stigmatized people may be unlikely to assume that other people would behave in the same way they do (Gilovich, Jennings, & Jennings, 1983; Marks & Miller, 1987; Suls, et al., 1990; van den Eijnden, et al., 2000). We therefore hypothesized that people with HIV who perform a particular behavior related to HIV risk (e.g., inconsistently using condoms) should show a reversal of false consensus bias (Hypothesis 3).

Our final hypothesis concerned the relationship of community perceptions about norms for behaviors related to HIV transmission and the perception of HIV stigmatization by people with HIV. One reason why HIV is profoundly stigmatizing is because it is associated with socially censured behaviors (Pryor, Reeder, & Landau, 1999). In communities in which these behaviors are perceived as especially non-normative, people with HIV should feel more stigmatized (Hypothesis 4). The normative perceptions of people with HIV could mediate this effect, such that community perceptions are associated with the normative perceptions of people with HIV, which in turn are related to perceived HIV stigmatization. However, there also may be direct effects of community normative perceptions on the experience of stigma by people with HIV. Community members may fail to distinguish between socially censured behaviors and the people who they assume engage in these behaviors. Thus, communities in which HIV transmission-related behaviors are perceived as non-normative may condone disapproval of people with HIV, creating an environment in which people with HIV feel stigmatized.

The present study examined the associations between community perceptions of norms for behaviors related to HIV transmission with the normative perceptions of people with HIV and with perceptions of stigmatization by people with HIV living in those same communities. We assessed perceived norms for behaviors that risk HIV transmission (multiple sex partners, needle sharing in IV drug injection, and sexual behaviors that transmit HIV) and perceived norms for preventative behaviors (using condoms in general, to prevent HIV transmission, and to prevent other STDs). We also assessed the perceived HIV stigmatization of participants with HIV. The hypotheses we tested were: (1) community normative perceptions about the behaviors we assessed would be associated with the

normative perceptions of people with HIV primarily for injunctive norms; (2) there would be mean differences between community normative perceptions and the perceptions of people with HIV indicating that people with HIV perceive risky behavior as more normative and preventative behavior as less normative than do community residents; (3) participants with HIV would exhibit the opposite of a false consensus effect and perceive their own behavior as relatively nonnormative; and (4) community perceived behavioral norms would be associated with perceived HIV stigmatization by people with HIV.

Method

Data were collected from 2004–2006 as part of a larger study on the social and physical ecology of rural communities and HIV stigma (Bunn, Solomon, Varni, Miller, Forehand, Ashikaga, 2008; Gonzalez, Miller, Solomon, Bunn, & Cassidy, 2009; Gonzalez, Grover, Miller, & Solomon, 2011; Miller, Grover, Bunn, & Solomon, 2011; Ryan, Forehand, Solomon, & Miller, 2008; Varni, Miller, McCuin, & Solomon, 2012; Varni, Miller, & Solomon, in press).

Participants

The study was a multi-level design in which the units of analysis included both individual-level and group-level data. Such designs are becoming increasingly common in studies of structural stigma (e.g., Hatzenbuehler, Wieringa, & Keyes, K, 2011), which refers to social processes and structures such as policies and group norms that create a context or social ecology in which stigmatization occurs (Corrigan, Markowitz, & Watson, 2004; Phelan, Link, & Dovidio, 2008). The individual level was represented by 203 people living with HIV in rural New England who were recruited through clinics (four in Vermont and one in New Hampshire) providing services to people with HIV, AIDS service organizations in Vermont and neighboring states, and local newspaper advertisements. Once these participants were identified, we surveyed (through random digit telephone calls) a sample of residents of the same community in which the participants with HIV resided to provide a group-level estimate of the social ecology in which our participants with HIV lived.

For each participant with HIV, 11 to 13 community members, ages 18 to 75, were selected using random digit dialing based on the first three digits of the land-line telephone number for the participant with HIV. If participants with HIV had no phone or had only a cell phone, community members were randomly drawn from the three-digit telephone exchange of the town in which the participants with HIV resided. The response rate was 63%, producing a total of 2,444 completed telephone interviews.

Sample Size Estimation and Data Exclusion

Simulation studies indicate that unbiased estimates of fixed effects parameters can be obtained with a minimum of three participants per cluster (Clarke & Wheaton, 2007). People with HIV who resided in small communities with fewer than three people with HIV were clustered geographically such that each community or community cluster contained at least three people with HIV. The number of people with HIV in each community or community cluster ranged from 3 to 12, except for one large community (Burlington, VT) which

included 19 people with HIV. The concentration of participants with HIV in the Burlington area is consistent with statistics about the distribution of HIV cases in Vermont (Vermont Department of Health, 2004). There were 33 communities/community clusters. We required a minimum of 11 community residents for each participant with HIV, which provides 95% confidence to estimate community attitudes within 16%. Data from six participants with HIV were removed because we were not able to group them geographically to obtain a minimum of three participants with HIV in a community cluster, and data from another three participants were excluded due to computer errors in administering the measures. Because community participants were matched by town of residence to participants with HIV, 109 community members associated with these nine participants with HIV were also eliminated.

Procedures

Participants with HIV met individually with an experimenter who instructed them on how to complete the computer-administered measures (MediaLab; Jarvis, 2004). Participation took place either at the University of Vermont or an off-campus site, usually the recruitment site (i.e. AIDS service organization or clinic). Participants were monetarily compensated for their time and distance traveled to the study site/off-site location.

Surveys of community residents were conducted with the Computer Assisted Telephone Interviewing system (WinCati, Version 4.2, 2003) and consisted of questions regarding attitudes and concerns about various health issues affecting their communities. Community respondents were thanked for their participation in this study.

Measures

Perceived norms—Perceived descriptive norms were assessed by asking respondents to estimate the percentage of people (from 0 to 100%) in their town who performed each of five sexual behaviors related to the risk of HIV transmission. Participants were asked to estimate what percentage of people in their town engage in sexual behaviors that can spread the virus that causes AIDS, have sex with more than one person, use condoms when they have sex, and of those who use condoms, what percentage use condoms for protection against sexually transmitted diseases, and for protection against transmission of HIV. There also was one question about drug use, which was what percentage of people in their town who inject illegal drugs use needles that have been used by someone else. Perceived injunctive norms for these behaviors were assessed by asking respondents to estimate what percentage of people in their town approves of each behavior.

Perceived stigma measure for participants with HIV—Perceived stigma was measured using Bunn, Solomon, Miller, and Forehand's (2007) revision of the HIV stigma scale (Berger, Ferrans & Lashley, 2001). The subscales from this measure are Enacted Stigma (11 items; e.g., "I have lost friends by telling them that I have HIV."; $\alpha = .95$), Disclosure Concerns (8 items; e.g., "I worry that people who know will tell others." $\alpha = .90$), Concern with Public Attitudes (6 items, e.g., "Most people believe a person who has HIV is dirty."; $\alpha = .88$) and Negative Self Image (7 items: e.g., "Having HIV makes me feel unclean." $\alpha = .91$). Responses were made on 4-point scales from 1 (*strongly disagree*) to 4

(*strongly agree*), and averaged to compute subscale scores; higher scores indicated greater stigma.

Assessment of Sexual and Drug Use Behavior for Participants with HIV—The NIMH Multisite HIV Prevention Trial (1998) survey was used to ask participants with HIV whether they had vaginal, anal, or oral sex during the previous 90 days. Those who responded affirmatively were asked to estimate how often they used condoms, with responses ranging from “all of the time” to “never”. Participants were then categorized into three risk groups: those who were not sexually active during the previous 90 days ($n = 91$), those who used condoms for all sexual encounters over the previous 90 days (consistent condom users, $n = 31$), and those who did not use condoms for all sexual encounters (inconsistent condom users, $n = 66$). Six participants provided insufficient information to be classified with respect to current sexual behavior. This same measure was used to ask if participants injected any illegal drug or shared needles with someone else in the previous 90 days. The number of participants with HIV who indicated that they currently injected illegal drugs was too small ($n = 7$) to make meaningful comparisons, and thus the drug questions will not be discussed further. We did not assess sexual and drug use behaviors in the community sample because asking for personal information in a telephone survey would have reduced community participation.

Results

Demographics of participants with HIV and community residents

The results are based on responses provided by 194 people with HIV and 2,335 other residents of the community in which they lived. Most participants with HIV lived in Vermont ($n = 143$), and the rest lived in New Hampshire ($n = 37$), Massachusetts ($n = 12$), and New York ($n = 2$). Although participants with HIV were a convenience sample, it should be noted that at the time this study was conducted, there were only 393 Vermont residents who were known to be living with HIV (Vermont Department of Health Quarterly HIV/AIDS Report, June, 2005).

We did not expect participants with HIV to represent their communities at large, and indeed the two populations did differ. Consistent with gender and ethnic group differences in the prevalence of HIV in this region, participants with HIV were more likely than community residents to be male (73.2% versus 35.5%, $X^2 = 107.9$, $p < .001$), and less likely to identify as White (81.3% versus 96.6%; $X^2 = 95.4$, $p < .001$). Participants with HIV also were less likely than community residents to be married or in a civil union (20.6% versus 52.3%; $X^2 = 71.8$, $p < .001$), were less likely to have continued their education beyond high school (53.6% versus 65.4%; $X^2 = 10.7$, $p = .001$), and were younger ($M = 43.0$, $sd = 8.7$) than were community residents ($M = 49.0$, $sd = 14.4$; $t(2520) = 5.68$, $p < 0.001$). Almost half of the people with HIV earned less than \$11,000, while over 77% of the community members reported a household income of greater than \$25,000. Most participants with HIV reported being homosexual (41.8%) or bisexual (17.0%), with 41.2% indicating that they were heterosexual.

How are perceived norms of individuals with HIV associated with (Hypothesis 1), yet different from (Hypothesis 2) the perceptions of community residents?

Mean differences between the perceptions of behaviors of people with HIV and their community counterparts were examined using a mixed effects analysis of covariance. Community was modeled as a random effect, and participant type (person with HIV or community resident) was modeled as fixed effect. Because this analysis directly compares the perceived norms of participants with HIV and community participants, demographic characteristics of both groups were included as covariates. Covariates were race (White vs. all other races), education (high school graduate or less vs. at least some college), marital status (married/civil union vs. others), age, and gender. Sexual orientation was not included because this information was not collected for community participants.

The analyses revealed (Table 1) that the perceived norms of participants with HIV differed from those of other community residents for all of the descriptive norms and for all but two of the injunctive norms (needle sharing and multiple sex partners). As predicted by Hypothesis 2, compared to community residents, participants with HIV perceived risk as more normative and preventative behavior (condom use) as less normative both descriptively and injunctively. One exception to this was the community members' higher prevalence estimates for needle sharing.

We had predicted that despite these mean differences, the perceptions of participants with HIV would be associated with the normative perceptions of residents of their community (Hypothesis 1). We used a multilevel model to examine this hypothesis. Community perceptions, calculated as the mean across community residents within a given community, were included as a Level 2 variable in this regression. Level 1 covariates were race, education, marital status, age, and gender of the participants with HIV. Because more females than males participated in the community survey, results were corrected for the percent of females in the community sample. Because the demographic composition of different communities may be an important contributor to the expression of perceived norms, we did not control for other characteristics of community residents since controlling for these could eliminate important sources of variation in perceived norms across communities. Moreover, each additional Level 2 covariate results in a loss of one denominator degree of freedom, which, in this multi-level analysis, is based on the number of communities.

Table 2 shows that as expected, community perceived descriptive norms were not associated with perceived norms of participants with HIV for any of the behaviors.

In contrast, community perceived approval (i.e., injunctive norms) for multiple sex partners, condom use in general, and condom use specifically for protection against transmission of HIV were significantly correlated with perceived approval for these behaviors by people with HIV living in these same communities. Community perceived approval for sharing needles, using condoms to prevent sexually transmitted diseases, and the general question about approval for engaging in behaviors that spread HIV was not associated with perceived approval by participants with HIV.

Do participants with HIV exhibit a reversal of the false consensus effect (Hypothesis 3)?

Analysis of variance was conducted to examine whether participants with HIV, categorized by their sexual behavior (no sexual activity, sexual activity with consistent condom use, and sexual activity with no or inconsistent condom use) differed in their perceptions of the norms for sexual behavior.

We did not control for the characteristics of participants with HIV because when people project their own behaviors onto other people they probably do not take into consideration individual differences that might affect how they perceive the behavior of others. Results revealed no significant effects for the sexual behavior of participants with HIV on their perceptions of the norms for sexual behavior (see Table 3). Repeating the above analysis correcting for the age, sex, race, education, marital status, and sexual orientation of participants with HIV produced the same pattern of results.

How are perceived community norms related to perceived HIV stigma (Hypothesis 4)?

We used a multi-level regression to examine the association of community perceptions of behavioral norms with extent to which participants with HIV felt stigmatized. In these analyses we controlled for the same variables as in the previously described multi-level models. The columns on the right-hand side of Table 4 show that in communities in which residents perceived more approval for using condoms to prevent HIV, participants with HIV reported feeling less stigmatized on all aspects of HIV stigma (disclosure concern, concern with public attitudes, disclosure concerns, and enacted stigma). The same associations occurred with community perceived approval for using condoms to prevent other STDs, except that the association for enacted stigma was not significant. Community perceptions of descriptive norms were unrelated to perceived HIV stigma.

In contrast, the left-most columns of Table 4 show that for people with HIV, significant relationships between their own perceptions of behavioral norms and perceived HIV stigmatization occurred sporadically, and mainly for descriptive rather than injunctive norms. This indicates that in general, the association between perceived community behavioral norms and perceived stigma by people with HIV was not mediated by the perceived norms of people with HIV. The only exception to this trend was that HIV participants' concern with public attitudes was related to both the community perceived injunctive norm for using condoms to prevent HIV and to perceptions of this same norm by participants with HIV. These relationships establish that both the purported predictor (perceived community norm) and purported mediator (perceived norm of people with HIV) are related to concern with public attitudes by people with HIV (the outcome). The next step in testing for mediation (Baron & Kenny; 1986), was to conduct a multilevel analysis in which we regressed the outcome on both the purported predictor and the purported mediator. This analysis¹ showed that with the perceived injunctive norm of participants with HIV included, the association for community normative perceptions was no longer significant [$B = -.009$; $SE = 0.013$; $F(1, 29) = 0.53$, $p = .47$]. This suggests that the effect of community

¹The bootstrapping approach to testing mediation (Preacher & Hayes, 2004) was not appropriate because such procedures for multi-level models have not yet been developed.

normative perceptions about condom use to prevent HIV transmission on concern with public attitudes among participants with HIV worked indirectly through the perceptions of participants with HIV.

Discussion

Participants with HIV differed from residents of their home communities on a host of demographic variables, and even after controlling for these variables, differences in perceived norms emerged for both descriptive and injunctive norms. Our findings suggest that people with HIV inhabit a different normative world than do other community residents, a world in which HIV-related risky behavior is perceived as more normative and prevention is perceived as less normative. Despite the pronounced tendency we observed for divergent views of the prevalence and approval of behaviors related to HIV transmission, perceptions by participants with HIV about perceived approval of condom use in general and to prevent HIV transmission and perceived approval of multiple sex partners tracked with community perceptions about these injunctive norms. These findings illustrate that the association between the perceived norms of community members and people with HIV can occur when people in the two groups have similar perceived norms (e.g., perceived approval of multiple sex partners) and when people in the two groups have sharply divergent perceived norms (e.g., perceived approval of condom use to prevent HIV transmission, where community members' estimates of approval were twice as high as those made by participants with HIV).

In addition, the associations between community perceptions and perceptions of people with HIV generally occurred only for injunctive norms. Behaviors related to the transmission of HIV are typically private behaviors. Because people may have relatively few opportunities to observe such behaviors directly, they may feel that they do not have much information about what people actually do. They may be more likely to communicate approval or disapproval for private behaviors, and consequently may feel that they know more about how other people feel about a behavior. For these reasons, we predicted, and our results confirmed, that associations between community perceived norms and the perceived norms of individuals with HIV would occur primarily for injunctive norms.

The associations we discovered between the community residents and those of individuals with HIV are remarkable, given that the two populations differ dramatically on so many variables. There are a myriad of reasons why people with HIV may dissociate from their community. They are demographically different, being less well educated, less well off economically, and more likely to be male, gay and a member of a racial minority than the community at large. Moreover, they are members of a stigmatized group who in addition to their disadvantaged status must deal with the challenges of a serious, chronic illness. Thus, people with HIV may have little reason to identify with their community and to adopt the norms that prevail there.

These differences between our sample of community residents and our sample of people with HIV work against finding an association between their perceived norms, and yet associations did occur. Although people with HIV perceived risk as more normative and prevention as less normative than did the community at large, their perceptions of approval

of behaviors related to HIV transmission were nonetheless dependent on the particular community in which they lived.

We used a random sample of community residents rather than people who were more closely associated with the participants with HIV (e.g., people in their social networks) because our main research goal was to examine how the social ecology of different communities might shape the perceptions of people with HIV living in those communities. Our theorizing suggested that although people with HIV develop social networks that may insulate them from perceptions of a geographic community, there are numerous processes in which the beliefs of the larger community may infiltrate the haven that a social network may provide. While casual contacts may be not be as important or influential as contacts with close others, even casual contacts may color how individuals perceive the social milieu in which they live.

Our findings also add to the small number of studies showing that stigmatized people are an exception to the trend for people to perceive their own characteristics and behaviors as the norm (i.e., the false consensus effect; van den Eijnden, et al., 2000; Suls & Wan, 1987; Suls et al., 1990). It should be noted that our participants with HIV did not underestimate the normativeness of their own behavior as stigmatized people in prior research have done, but they did not overestimate the normativeness of their behavior either, as (mostly) nonstigmatized people in the vast research on false consensus bias have done (Mullen et al., 1985). In a society in which a numerical advantage is often used to promote one's self interest, failing to perceive their own preferences and behavior as more prevalent than they really are may reduce the ability of stigmatized people to effectively demand attention to their needs and to insist that policies are enacted that benefit their group (Miller, 1993; Whitney & Miller, 2002).

Theoretical accounts of social stigma have long assumed that deviance from social norms can instigate stigmatization. However, relatively few studies have examined how community attitudes, perceptions, or motivations relate to the experience of stigmatization by stigmatized people living in different communities. One exception is a recent report (Miller et al., 2011), based on data from the same sample used in the present study, showing that community internal and external motivation to control HIV prejudice were related to the disclosure concerns of people with HIV living in different communities. The present study suggests that community perceptions of norms about using condoms to prevent the transmission of HIV and STDs infiltrates a broad array of stigmatizing experiences. Not only did people with HIV who live in "disapproving" communities fear disclosure of their HIV status, but they also had more concern about public attitudes, had a more negative self-image related to being HIV positive, and reported more experiences with enacted stigma. It also is noteworthy that the significant associations occurred only for injunctive norms for using condoms for preventing HIV and STDs, both of which are preventative behaviors, and not for perceived norms about any of risky behaviors we assessed (needle sharing, multiple sex partners, and sexual behaviors that generally risk transmitting HIV) and not for perceived norms about using condoms in general. One possible reason is that using condoms to prevent disease transmission may be more likely to require communication with sexual

partners about HIV than do the other behaviors. This may make participants with HIV especially attentive to perceived community approval of these behaviors.

A limitation of the present study is that like all correlational studies, other variables beyond those we controlled for may explain the relationships we discovered.

Measuring the association of community-level variables with individual level variables is an ambitious undertaking. We believe this effort was worthwhile because, while there is considerable evidence that social norms influence the expression of prejudice (Crandall & Eshleman, 2003; Gervais, 2011; Sechrist & Stangor, 2011; Watt & Larkin, 2010), there is little empirical evidence about how stigmatized people may be affected by the social ecologies in which they live. The present study indicates that community approval for behaviors associated with members of a stigmatized group may set the stage for perceived stigmatization by people in that stigmatized group.

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Table 1
Mean differences between norms as perceived by community residents and by participants with HIV

Perceived Norms	Perceived Descriptive Norms				Perceived Injunctive Norms					
	M	SE	M	SE	Participants with HIV	Community Participants	Participants with HIV	Community Participants		
Needle sharing in illegal drug use	17.0	(2.6)	27.9	(1.9)	17.27**	7.4	(1.0)	5.6	(0.7)	3.40
Sexual behaviors related to HIV transmission (general)	39.6	(2.1)	27.8	(1.4)	32.56**	22.5	(1.8)	15.7	(1.3)	14.05**
Multiple sex partners	37.9	(2.0)	32.2	(1.5)	8.99**	26.0	(2.0)	28.3	(1.4)	1.43
Using condoms										
in general	28.7	(2.1)	35.4	(1.6)	11.75**	46.2	(2.5)	56.4	(1.8)	16.49**
to prevent STDs	30.0	(3.0)	59.0	(2.2)	98.88**	51.0	(2.5)	72.5	(1.6)	76.41**
to prevent HIV/AIDS	30.3	(3.1)	61.0	(2.3)	104.30**	54.8	(2.5)	75.9	(1.6)	73.20**

df = 2 for the numerator and ranged from 1,410 to 1,924 for the denominator due to missing data.

* $p < 0.05$

** $p < 0.01$

Parameter estimates of association between norms as perceived by community residents and by participants with HIV/AIDS

Table 2

	Parameter estimates for perceived descriptive norms		Parameter estimates for perceived injunctive norms			
	Parameter	SE	F/I	SE	F/I	
Norms related to HIV transmission						
Needle sharing	-0.40	0.38	1.13	0.10	0.64	0.02
Sexual behaviors related to HIV transmission (general)	0.47	0.58	0.65	0.15	0.68	0.05
Multiple sex partners	0.87	0.44	3.96	1.17	0.45	6.95**
Using condoms						
in general	0.53	0.39	1.92	1.29	0.47	7.37**
to prevent STDs	0.27	0.33	0.68	1.07	0.66	2.60
to prevent HIV	0.44	0.43	1.01	1.24	0.60	4.32*

Note: Level 1 results correct for the age, sex, race, education, and marital status of participants with HIV. Level 2 results correct for the percent of females in the community sample.

J (df = 1, 30). Denominator df is based on the number of community clusters.

* $p < 0.05$

** $p < 0.01$

Mean perceived descriptive and prescriptive norms by participants' with HIV/AIDS own current sexual behavior

Table 3

	Not sexually active (n=91)		Consistent condom use (n=31)		Inconsistent condom use (n=66)		<i>F</i> ¹
	<i>M</i>	<i>(SE)</i>	<i>M</i>	<i>(SE)</i>	<i>M</i>	<i>(SE)</i>	
Perceived descriptive norms							
Sexual behaviors related to HIV (general)	43.0	3.0	46.0	5.3	41.8	3.4	.22
Multiple sex partners	37.8	2.7	47.0	4.3	39.9	3.1	1.56
Using condoms (general)	27.6	2.5	36.9	5.6	30.7	2.9	1.58
Using condoms STD prevention	32.3	3.1	31.0	5.3	29.8	3.4	.15
Using condoms HIV prevention	34.2	3.3	36.0	6.7	28.4	3.1	.92
Perceived injunctive norms							
Sexual behaviors related to HIV (general)	22.0	2.6	29.0	5.4	26.3	3.5	.97
Multiple sex partners	29.3	2.5	29.8	4.4	30.3	2.9	.04
Using condoms (general)	46.8	3.1	46.6	6.2	52.9	3.3	.92
Using condoms STD prevention	51.7	3.8	48.6	6.5	60.2	4.2	1.55
Using condoms HIV prevention	58.3	3.6	49.4	7.5	60.0	4.5	.90

Note: Means are uncorrected for characteristics of participants with HIV.

¹ *df* = 2 for the numerator and ranged from 138 to 184 for the denominator due to missing data.

Table 4

Relationship of perceived stigma with perceived norms for participants with HIV

	Norms of Participants with HIV				Norms of Community Residents			
	Descriptive Parameter	<i>F</i> / <i>t</i>	Injunctive Parameter	<i>F</i> / <i>t</i>	Descriptive Parameter	<i>F</i> / <i>t</i>	Injunctive Parameter	<i>F</i> / <i>t</i>
Needle Sharing								
Public Attitudes Concerns	0.003 ^a	1.73	0.000 ^b	0.02	-0.005 ^d	0.31	0.057 ^f	3.73
Disclosure Concerns	-0.004 ^a	2.39	-0.003 ^c	0.60	-0.011 ^d	1.30	-0.005 ^f	0.03
Enacted Stigma	0.000 ^b	0.01	0.001 ^c	0.08	-0.005 ^d	0.18	0.022 ^f	0.56
Negative Self-Image	0.001 ^a	0.22	0.003 ^c	0.70	0.007 ^d	0.35	0.033 ^f	1.09
Sexual behaviors related to HIV transmission (general)								
Public Attitudes Concerns	0.004 ^a	5.88*	0.000 ^a	0.00	0.002 ^d	0.02	0.009 ^e	0.25
Disclosure Concerns	0.001 ^a	0.45	0.000 ^a	0.03	-0.010 ^d	0.66	0.022 ^e	1.64
Enacted Stigma	0.003 ^a	1.70	0.000 ^a	0.03	-0.018 ^d	1.77	-0.021 ^e	1.25
Negative Self-Image	0.001 ^a	0.28	0.002 ^a	0.90	-0.006 ^d	0.18	0.012 ^e	0.39
Multiple sex partners								
Public Attitudes Concerns	0.004 ^a	6.72*	0.003 ^a	2.19	-0.001 ^d	0.01	0.007 ^e	0.19
Disclosure Concerns	0.000 ^a	0.03	0.000 ^a	0.01	-0.015 ^d	1.75	-0.016 ^d	1.42
Enacted Stigma	0.002 ^a	1.02	0.000 ^a	0.00	-0.011 ^d	0.91	-0.005 ^e	0.11
Negative Self-Image	0.001 ^a	0.06	0.003 ^a	1.70	0.003 ^d	0.04	-0.005 ^e	0.08
Using condoms (general)								
Public Attitudes Concerns	0.003 ^a	2.68	0.003 ^a	3.00	-0.010 ^d	0.62	-0.014 ^d	1.31
Disclosure Concerns	0.001 ^a	0.38	0.003 ^a	3.02	-0.007 ^d	0.40	-0.016 ^d	2.03
Enacted Stigma	0.000 ^a	0.00	0.001 ^a	0.36	-0.006 ^d	0.28	-0.011 ^d	0.78
Negative Self-Image	0.000 ^a	0.01	0.001 ^a	0.14	-0.005 ^d	0.15	-0.019 ^d	2.27
Using condoms STD prevention								
Public Attitudes Concerns	0.001 ^a	0.19	-0.002 ^a	2.31	-0.011 ^d	1.61	-0.026 ^d	4.02*

	Norms of Participants with HIV				Norms of Community Residents			
	Descriptive		Injunctive		Descriptive		Injunctive	
	Parameter	<i>F</i> / <i>t</i>	Parameter	<i>F</i> / <i>t</i>	Parameter	<i>F</i> / <i>t</i>	Parameter	<i>F</i> / <i>t</i>
Disclosure Concerns	-0.001 ^a	0.55	0.002 ^a	0.96	-0.015 ^d	3.15	-0.033 ^d	6.76*
Enacted Stigma	0.000 ^a	0.06	-0.003 ^a	2.73	-0.014 ^d	2.41	-0.017 ^d	1.46
Negative Self-Image	-0.003 ^a	1.71	-0.003 ^a	2.86	0.005 ^d	0.23	-0.034 ^d	5.98*
Using condoms HIV prevention								
Public Attitudes Concerns	-0.002 ^a	1.18	-0.003 ^a	5.12*	-0.012 ^d	1.44	-0.027 ^d	5.21*
Disclosure Concerns	-0.002 ^a	1.40	0.002 ^a	0.80	-0.015 ^d	2.62	-0.033 ^d	7.74*
Enacted Stigma	-0.002 ^a	0.54	0.000 ^a	0.03	-0.024 ^d	5.91	-0.027 ^d	4.14*
Negative Self-Image	-0.005 ^a	5.72*	-0.003 ^a	2.99	-0.003 ^d	0.09	-0.029 ^d	4.89*

¹ *df* = 1 for the numerator and ranged from 156 to 180 for the denominator due to missing data.

² (*df* = 1, 30). Denominator *df* is based on the number of community clusters.

^a SE = .002,

^b SE = .003

^c SE = .004,

^d SE = .01

^e SE = .02,

^f SE = .03

* *p* < 0.05