#digital hood: Engagement with Risk Content on Social Media among Black and Hispanic Youth

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Abstract The digital neighborhood is the amalgamation of the spaces online where youth connect with others. Just as Black and Hispanic youth live in neighborhoods that influence their health, they are also influenced by online digital neighborhoods. Youth are exposed to social media content featuring substance use, sexual risk, and violence, yet little is known about the extent to which youth engage with such content. Using a modified venue sampling strategy, we administered CASI surveys to 145 Black and Hispanic youth aged 13–24 living in low-income urban neighborhoods. Across social media platforms, respondents reported high levels of exposure to sexual, alcohol, drug, and violence-related content (65–84%). Users reported lower levels of engagement with risk-related content (on an engagement continuum), ranging from passive exposure to dissemination. While negative risks may be amplified in the digital neighborhood, youth appear to strategically limit their engagement with that content. However, because risk behavior messaging is common in these digital neighborhoods, these spaces provide opportunities for health promotion interventions.

Keywords Social media · Youth · Sexual health · Substance · Alcohol · Drug · Violence

Black and Hispanic youth living in high poverty neighborhoods develop and socialize in geographic spaces with unique risks. These adolescents and young adults must navigate neighborhoods characterized by high density of alcohol and tobacco marketing and sales, transactional sex, violence, and open-air drug markets [1–4]. Neighborhood disadvantage, coupled with residential segregation, is a fundamental cause of health disparities and is linked to negative outcomes from sexual risk and substance use behaviors [5–9]. In addition to where they live geographically, youth are also a part of *digital neighborhoods*: the amalgamation of their various social media platforms [10]. Engagement in digital neighborhoods is common; in 2015, 75–71% of Black and Hispanic youth, aged 13–17, reported using Facebook and 64–52% used Instagram [11]. Within their digital neighborhoods, youth share and gather information, connect and communicate with known and unknown peers [10]. The quality of digital neighborhoods differs as social networks, geographic neighborhoods and personal engagement with social media differ [11]. Thus, as youth routinely socialize and develop online, so do the online communities that minority youth create and opt into. As such, it follows that youth will be differentially exposed to sexual, alcohol, drug and violent content using the same social media platforms. What is less clear is whether on-line communities expose youth from disadvantaged neighborhoods to risks and resources similar to what they experience offline? Do the risks in their *digital neighborhood* mirror the risk

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in their geographic neighborhood? We examine exposure to and engagement with sex, substance use, alcohol use and violence in the digital neighborhoods of Black and Hispanic youth to begin to answer these questions.

Risk Behaviors

Substance use, unprotected sex, and violence can result in serious health consequences for African-American and Hispanic youth in the USA. Among Black and Hispanic adolescents, 23.8% and 34.4% reported having at least one alcoholic drink in the past 30 days and 27.1% of Black and 24.5% of Hispanic adolescents reported using marijuana one or more times in the past 30 days [12]. Additionally, 36.6% of Black and 44.4% of Hispanic adolescents reported not using a condom during last sexual intercourse, and 32.4% and 23% respectively, reported being in a physical fight in the last 12 months [12]. Compared to their White peers, Black and Hispanic adolescents reported more recent risk behaviors in every category except alcohol usage (35.2% of White adolescents reported having at least one alcoholic drink in the past 30 days compared to 23.8% of Blacks and 34.4% of Hispanics) [12]. These statistics suggest a need to identify factors that might help address these disparities, both as underlying causes and opportunities for intervention.

Social Media and Risk Behaviors

There is a well-established body of research showing that media exposure to substance use and sexual content is associated with increased risk for engaging in related risk behaviors [13–15]. However, media can also serve as a source of health information, facilitating the uptake of health-promoting behaviors [16, 17]. Like traditional media (e.g., television, movies), social media can influence health-related decision-making. Due to the popularity of social media, the prevalence of risk content therein [18, 19], and the opportunity to intervene online to address racial/ethnic disparities [20, 21], we investigated minority youth's exposure to and engagement with risk behaviors on social media.

Digital Neighborhood There is also a growing body of evidence that suggests that there are resources gained from living in ethnic enclaves with others from shared cultural backgrounds, particularly when it is by choice

[22]. Even as it evolves, the digital neighborhood remains situated at the nexus of interpersonal communication, entertainment and news media, and the geographic neighborhood. In the digital neighborhood, there is evidence of behavioral modeling, norm definition, and messaging about sex, substance use, and violence [10, 23–25]. This is particularly salient for those living in urban communities typified by concentrated poverty, less community investment, and higher crime [23, 26]. Previous research highlights how youth navigate their digital neighborhoods, making strategic decisions about privacy, posting, “friending,” and tagging [10]. However, less is known about their exposure to risky content (e.g., substance use promoting, sexual risk promoting, or violence related) and their engagement with that risk content online. In light of the racial/ethnic disparities in risk behavior and associated outcomes, it is important to identify what risk content youth of color are exposed to and engage with in their respective digital neighborhoods.

The Social Media Engagement Continuum We hypothesize that there is an engagement continuum with social media that ranges from passive exposure to active engagement. Passive exposure occurs when users view content on their timeline, potentially posted by family, peers, other users they follow, and increasingly advertisers. When content includes people they know (e.g., videos of youth from their neighborhood fighting), this may be a higher level of engagement due to the social proximity to the content. The next level of engagement occurs when users express opinions about the content via a one-click “like” or “heart” on Instagram, a comment, or a tag. The most active engagement on this continuum is posting, reposting, or sharing content on their platform. This differs from traditional seeking and scanning health behavior online as youth are not specifically seeking particular health information [27]. Instead, they witness a stream of content in their digital neighborhood and then choose which degree to engage with each image, video, emoji, or text.

Current Study

Given the complexity of the digital neighborhood, and the potential for risk behaviors for those in geographically disadvantaged neighborhoods to be compounded by content in digital neighborhoods, this work explores

the usage and content characteristics of the digital neighborhood among non-White adolescents. We pose three research questions: [1] What social media platforms do urban minority youth use and what are their patterns of use? [2] What are the types of risk content that youth are exposed to on social media? And, [3] to what extent do youth engage with the risk content in their online social lives? We test the scaling of the social media engagement continuum and investigate how these patterns vary by age and gender. This approach allows us to not only describe risk in the online environment but also measure youth engagement with risk content in the digital space.

Methods

Data from this study are drawn from surveys with Black and Hispanic youth living in urban neighborhoods in a small northeastern city in the USA. The city's residents are predominately Black (48%) and Hispanic (47%) [28]. Approximately 36% of the population is living below the federal poverty line, and the city is ranked second to last in the nation for safety [28].

The surveys were administered during 2014. To be eligible, youth had to [1] identify as Black/African-American and/or Hispanic, [2] be aged 13–24 years at time of enrollment, and [3] reside in the study city. The lower age limit reflects the age requirement to join the Facebook and Instagram. The total sample included 145 youth. These analyses exclude participants who reported never using Facebook or Instagram ($n = 28$). Parental consent and youth assent forms were required for all participants younger than 18 years of age. Participants 18 years old and older provided their own consent. Participants were compensated \$25 for completing the assessment. Surveys were collected using computerized self-assisted interview (CASI) method via netbooks using Medialab v2012 software or online using Qualtrics and took approximately 45 minutes to complete. Survey topics included social media use, sexual behavior, substance use, and violence.

Sample Selection

Survey respondents were recruited using a modified venue-based sampling technique [29]. Research team members spent several months observing and contacting community-based organizations to identify venues popular with youth. These venues included a

wide range of community-based organizations and youth support organizations, as well as bus stops and corner stores near schools. When popular venues and times were identified, the team worked with organizational staff to recruit participants by distributing study fliers. When venues were outdoors (i.e., bus stops and corner stores), the research team distributed study fliers during times when the team previously observed high youth traffic.

Researchers administered the surveys at eight community-based organizations to allow youth to participate in the study at their convenience, in their neighborhoods, and based on their availability. Youth recruited via street recruitment completed the survey at the university. The majority of youth completed the surveys at their recruitment venues: 33.1% were conducted at after school programs, 24% at housing or community centers, 17.1% at the university, and the remaining 25.7% at agencies supporting youth in transition including graduate equivalency and vocational training programs or centers supporting homeless youth. The Institutional Review Board at the sponsoring institution approved all study procedures.

Measures

Preferred Social Media Site This variable was assessed with the open-ended measure “What social media site do you use the most?” Frequency of social media use was measured with the item: How often do you use social media? Response options ranged from 1 “several times a day” to 7 “never.”

Risk Content Exposure to and engagement with risk content on social media were measured with a series of items. Youth were prompted with the following statement “Sometimes there are sexually suggestive, sexy, nearly nude, or nude pictures, videos, or posts on Facebook.” They then answered a series of questions related to the prompt. These were as follows: [1] have you ever seen posts like this? [2] Have you seen posts like this with people from your city? [3] Have you liked, commented on, or tagged posts like these? [4] Have you posted or shared sexy or nearly nude pictures of yourself? And, [5] have you posted or shared sexy or nearly nude pictures of others? Participants answered yes or no to each of the questions in the series. Identically structured items were used to measure exposure and engagement with violence (fight posts), drugs (using drugs or

drug related), and alcohol (or drinking alcohol). All participants were asked about exposure or engagement specific to Facebook, the most popular site in the sample. Those who also listed Instagram as a favorite social media site were asked about risk content on Instagram specifically.

Socio-demographics We measured self-identified *age* with the open-ended question, “how old are you?”. To identify their *race/ethnicity*, participants were asked to select all applicable identities from the following list: Black/African-American, Latino/Hispanic, White, Asian or Pacific Islander, Native American/American Indian, and other (please specify). Response options for *gender* were male or female. *Maternal education* was measured with the item “What best describes your mother’s/female guardian’s education level” with the response options: did not graduate from high school, graduated high school, received her GED, took some college classes, graduated college, do not have this type of person in my life, and I do not know.

Statistical Analysis

First, descriptive statistics of the study sample and on the prevalence of risk behavior content in their digital neighborhoods were calculated. *t* tests were conducted to compare mean differences in engagement with the four types of risk content (e.g., sex vs. alcohol, alcohol vs. drug, etc.). Analysis of variance was used to assess mean differences in social media use patterns by age groups and gender. Participants were grouped into three *age groups* based on their reported age to correspond with approximate high school age, college age, and post-college young adults: 13–17, 18–21, and 22–24. We analyzed social media engagement using ordered difficulty scaling [30]. The activities in the engagement scale began with passive exposure [1], followed by exposure to a risk behavior by someone with close social proximity [2], followed by tagging, liking, and commenting [3], and finally posting and sharing risk content [4]. Separate social media engagement scales were created for content featuring sexual content, drugs, alcohol, and violence. Scalability of the items was assessed with Loevingers’s H coefficient, which ranged from .60 to .82 across the two platforms, indicating that there is a progression of engagement with social media. Stata v.14 was used to conduct all statistical analyses.

Results

Demographic characteristics of the sample are presented in Table 1. About 60% of the sample is female and has a mean age of 18.8 years old ($SD = 3.1$). The sample was predominately Black/African-American, and maternal education levels were high, with 71.3% of mother’s completing at least high school or an equivalent degree.

Social Media Platforms Patterns of Use Of 151 users, 64.2% report using social media hourly, 19.2% report daily usage, 16.7% report weekly usage, and 4.0% report rare usage. Facebook (59.6%) and Instagram (21.9%) were the most preferred social media platforms. There were no significant age or gender differences in frequency of usage or site preference. Youth regularly used 2.8 platforms ($SD = 2.2$, range 0–8), with the number of platforms decreasing with age. Youth aged 13–17 used an average of 3.6 platforms ($SD = 2.3$), compared to their older counterparts: 18–21-year-old youth used 2.8 ($SD = 2.1$) and an average of 1.6 ($SD = 1.6$) among 21–25-year olds ($p < .001$). There were no gender differences in multiple platform usage.

Social Media Risk Behavior Exposure We analyzed risk content on Facebook and Instagram for those using Facebook or Instagram regularly ($n = 145$ Facebook, $n = 91$ Instagram). Some youth frequented both platforms ($n = 64$), and we reported their findings for both platforms separately. As shown in Figs. 1 and 2, across platforms 65–84% of youth reported exposure to sexual, alcohol, drug, and violence-related content (the “saw” bar in the figures). On Facebook (Fig. 1), 84% of users saw fight videos and 64% reported that those fights include people from their community. Exposure to violence was less common on Instagram.

Level of Engagement with Risk Content The level of engagement represents the type of interaction youth have with risk content, ranging from passive exposure (i.e., seeing risk content) to actively posting risk content. Table 1 shows the mean level of engagement for each behavior on the two platforms. On the engagement scale, 1 is scored as passive exposure to the content, 2 is exposure that includes known or local peers, 3 is tagging, liking, or commenting on the content, and 4 is actively posting or reposting risk content. Facebook users had significantly higher levels of engagement with violent content ($M = 2.04$, $SD = 1.14$) than engagement

Table 1 Sample profile—demographic, social characteristics, and risk content engagement scores, $N = 145$ unless noted

Variable		Total sample % (no.)	<i>t</i> test of mean differences or mean (SD)
Age (mean)		19.21 (3.26)	
Age (categories)	13–17	34.48 (50)	
	18–21	39.31 (57)	
	22–24	26.21 (38)	
	Female	62.07 (90)	
Gender	Male	37.93 (55)	
	Black	56.55 (82)	
Race	Latino	27.59 (20)	
	Multiracial/other	13.45 (23)	
Maternal education	Less than HS diploma or equivalency	20.51 (16)	
	High school diploma or equivalency	38.46 (30)	
	Some college	19.23 (15)	
	College degree	15.38 (12)	
	No mother figure or do not know	06.41 (5)	
Engagement score—Facebook ($N = 145$)	Sex	1.64 (1.12)	$p = .001$
	Alcohol	1.59 (1.19)	$p = .001$
	Drugs	1.40 (1.18)	$p = .001$
	Violence	2.04 (1.14)	ref
Engagement score—Instagram ($N = 91$)	Sex	1.42 (1.23)	$p = .006$
	Alcohol	1.66 (1.24)	ref
	Drugs	1.49 (1.20)	$p = .020$
	Violence	1.46 (1.24)	$p = .012$

For mean tests, the risk behavior with highest engagement score was treated as the reference category. For Facebook, the reference is violence. For Instagram, the reference is alcohol

with sex ($M = 1.64$, $SD = 1.12$, $p = .001$), alcohol ($M = 1.59$, $SD = 1.19$, $p = .001$), or drug content ($M = 1.04$, $SD = 1.18$, $p = .001$). Instagram users were significantly more engaged with alcohol content ($M = 1.66$, $SD = 1.24$), than sexual content ($M = 1.42$, $SD = 1.23$, $p = .006$), drug content ($M = 1.49$, $SD = 1.20$, $p = .02$), and violent content ($M = 1.46$, $SD = 1.24$, $p = .012$). Youth also reported higher engagement with violent and sexual content on Facebook than on Instagram. There were no significant differences in alcohol or drug engagement across the two platforms.

Figures 1 and 2 offer a visual depiction of the exposure-engagement continuum for Facebook and Instagram, respectively. The majority of Facebook users reported seeing sexual content (73%), seeing sexual content featuring local people (57%), followed by liking that content (26%) and disseminating content through shares (8%), and finally, disseminating sexually suggested images of themselves (6%). Consistent with the

exposure-engagement scale, 87% of observations on Facebook and 92% on Instagram fit this pattern. On Instagram (Fig. 2), alcohol-related posts were most common (75% of regular users) and alcohol posts also exhibited the highest levels of engagement via dissemination (e.g., posting 11%).

Discussion

Grounded in previous work on neighborhood, risk, and health [1–10, 22], this study sought to illuminate the links between digital space, risk exposure, and engagement among adolescents and young adults of color. This study provides insight into the digital neighborhoods of urban, minority youth by examining what they say and do in the way of risk behavior content on social media. The findings contribute to the accumulating evidence

Fig. 1 Engagement with risk content on Facebook ($n = 145$)

that not only is social media popular among minority youth [11, 23, 31], but that sexual content, substances, and violence are commonly broadcasted in their digital neighborhoods. Risk exposure in the digital neighborhood is analogous to risk exposure in many Black and Hispanic urban neighborhoods, where there is a high density of alcohol outlets and marketing, violent crime, drug trafficking, and/or commercial sex work [2, 22]. Whether in the digital or physical space, risk exposure is common. Just as youth report using strategies of avoidance to limit their neighborhood risks, they also limit engagement with risk content online, particularly considering their high levels of exposure to such content. One such strategy may be reflecting in the lower levels

of active forms of engagement with content (e.g., reposting, sharing).

The digital neighborhood often encompasses multiple platforms with at least one or more dominant sites. This is consistent with national research showing that patterns of use among youth includes use of more than one platform, with Instagram, Facebook, and more recently Snapchat, being among the most popular [11]. This suggests that youth are not wedded to a particular social media brand or platform but move across and between as their social connections migrate and change. The number of platforms used, however, decreased with age. It may be the case that as youth age, they are drawn to one particular online community more than the others

Fig. 2 Engagement with risk content on Instagram ($n = 91$)

and that the breadth of their digital neighborhood narrows and focuses more on the closeness of particular relationships.

In these digital neighborhoods, youth reported high levels of exposure to various risk-related contents on both Facebook and Instagram. Content featuring sex, alcohol, drugs, and violence were seen by at least two-thirds of youth for both platforms, with some content (e.g., violence) reaching much higher exposure levels. Children and adolescents in particular are exposed to a stream of sex, drugs, and violence on social media, away from the oversight and protections of parents, guardians, and older adults that can help them contextual such content. In this absence of adult knowledge, there is a lost opportunity to help youth navigate their online risks.

Youth also reported that risky content associated with local connections (e.g., living in the same city) was frequently seen as well. The risk content from “local” sources accounts for a substantial portion of risk content. Social proximity of risk activity may influence how peer norms (substance use, sexual behavior) and community safety (witnessed violence) are evaluated [10, 14, 19]. Although not measured here, it is plausible that risk activity online posted by friends and those who live in a user’s neighborhood may be more influential in promulgating norms around performing certain behaviors, and around sharing that information online. Further research is needed to understand how being exposed to risk behavior local to one’s geographic neighborhood or posted by one’s local friends is different from risky

content in general, and how it might influence offline behavior. Future research should also investigate the messages related to sex, alcohol, drugs use, and violence that predominate different youth digital neighborhoods and also consider the context in which the messages are received. For example, the strength of ties with friends and followers in one's network may play a role [32, 33]. Similarly, as the characteristics of the geographic neighborhood interact with their digital neighborhood, it may influence youth engagement with the content and platforms. We know that youth strategically avoid certain platforms or behaviors to limit conflict in their social relationships [10]. One consequence is that in doing so, youth may unintentionally reduce their exposure to positive resources that accompany online community (e.g., accurate sexual health information; employment opportunities), in order to minimize engagement with spaces that make their lives feel more vulnerable.

Passive exposure to risk content was the most common type of engagement. Active engagement with the risk content, in the form of liking or posting, was much less common. This suggests that while Black and Hispanic youth are exposed to risk online, most are not actively engaging, amplifying, and disseminating that content. Instead, this mirrors findings that youth strategically use and/or abandon social media to limit their personal risk exposure [10]. The least common behavior was the dissemination or sharing of any of the four risk behaviors. As the level of engagement with the content increased, fewer users participated in the more "difficult" behaviors. That is, engagement with risky content was typically limited to exposure and liking; posting happened much less frequently. Given the discrepancy between the frequencies with which they report seeing risky content (which was common) and their reports of posting such content (which was uncommon), youth appear to handle their saturated digital worlds without feeling the need to replicate or amplify risk content. It is also plausible that some youth may underreport active engagement with risk content, partially accounting for the discrepancy.

Limitations While this study is geographically bound to one urban region, the low-income urban geography of the study provides insight into the characteristics of digital neighborhoods that are largely invisible. The study design does not allow for determining the causal influence of social media engagement on youth behavior but instead provides the first step in describing the

heterogeneity in exposure and engagement for future media effects research. Finally, the study relies on self-report, which even without an accompanying content analysis, examines youth's perceptions of the most salient examples of risks in their environment.

Conclusion

Youth from disadvantaged urban neighborhoods are exposed to a variety of risk behaviors on social media. However, the nature of that exposure is more complex than was previously possible with other forms of media because social media participation is structured by levels of engagement. Active engagement by posting and liking is a part of what makes social media social, but when it comes to risk content, not actively engaging is the most common response, even when exposure is high. It is clear that Black and Hispanic youth are exposed to sex, substance use, and violent content, and additional research is needed to determine if this increased exposure is associated with future risk behavior among youth. As youth of color are often at heightened risk of negative consequences associated with sexual risk behavior, substance use, and violence, it is of particular importance to test whether the digital neighborhood is contributing to or helping to reduce health disparities. Equally important, just as ethnic enclaves provide unique and often unexpected benefits to minorities, digital neighborhoods of Black and Hispanic youth may also act as havens of support and may offer opportunities to spread positive health and risk reduction content, norms, and behaviors.

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