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Motivations for Opioid and Stimulant Use among Drug Using Black Sexual Minority Men: A Life Course Perspective

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Abstract

Introduction.—HIV-related disparities persist among U.S. Black sexual minority men (BSMM). Generational differences in drug use trends and the HIV/AIDS epidemic have created different risk trajectories for BSMM. This study explored age-related differences in the profiles, motivations, and contexts of drug use among opioid and stimulant using BSMM.

Methods.—Participants were recruited using active and passive strategies and in-depth qualitative interviews were conducted among 30 BSMM in Baltimore, MD from December 2018 to March 2019. Exploratory drug testing was conducted to confirm drug use and identify the presence of synthetic materials. Thematic analysis was conducted guided by Life Course theoretical domains.

Results.—Participants' ages ranged from 25–63 (mean age 41, SD=12.4); 40% were under age 35, 60% were age 35 and older. Most (86.7%) were living with HIV. Older BSMM attributed drug use initiation to social trends and sexual partners; younger men shared that prescription painkiller use led to misuse to address emotional pain. Across age groups, childhood sexual abuse and other major events along the life course increased BSMM's drug use as a coping strategy.

Discussion and Conclusion.—HIV and drug use interventions should support BSMM through targeted mental health services and trauma-informed healthcare models.

Keywords

HIV; substance use; men who have sex with men; syndemic

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1. INTRODUCTION

Efforts to reduce HIV infections and associated comorbidities, such as drug use and depression, among Black sexual minority men (BSMM) are urgently needed throughout the United States. At current HIV treatment and prevention rates, BSMM have an estimated 50% lifetime risk of infection (Centers for Disease Control and Prevention [CDC], 2019; Hess et al., 2017). Baltimore, Maryland has had among the highest HIV incidence in the United States and BSMM account for 36% of HIV incidence in Maryland (Flynn, 2015; CDC, 2020a). The continued high and disproportionate national incidence suggests that HIV prevention activities for BSMM have been largely unsuccessful (CDC, 2020b; Hess et al., 2017). Despite evidence that BSMM have lower rates of drug use than other racial/ethnic groups of sexual minority men (SMM) (Goldstein et al., 2016; Maulsby et al., 2013; Sullivan et al., 2015), it is well-established that illicit drug use increases HIV transmission risks (Dangerfield II et al., 2017; Drumright et al., 2006; Hoenigl et al., 2016). Stimulant use elevates risk for condomless sex and an increased number of partners with unknown HIV status; opioid use increases risk of sharing needles through injection drug use (IDU) (Hermansteyne et al., 2018; Kelly et al., 2013).

Throughout the United States, prescription opioid misuse (i.e., using medications for purposes not consistent with medical guidelines) is a major public health concern (Frank and Pollack, 2017). Nonmedical use of prescription painkillers leads to heroin IDU and subsequent HIV transmission risk (Compton et al., 2016). Some BSMM use opioids and other illicit drugs as a mechanism to cope with daily struggles of being racial/sexual minorities or to cope with histories of adverse childhood events (Dangerfield II et al., 2017; Tobin et al., 2013). Structural factors such as racism, discrimination, sexuality stigma, and poverty also contribute to drug use and HIV disparities among BSMM (Dangerfield II et al., 2017; Jeffries et al., 2013; Millett et al., 2007). Since BSMM bear a disproportionately high HIV burden, drug use elevates transmission risk, which could result in cumulative or synergistic effects on HIV care continuum outcomes for this population (Chen et al., 2019). BSMM could also be unknowingly using synthetic street drugs, since synthetic fentanyl is used in counterfeit versions of prescription painkillers (Drug Enforcement Agency, 2016; Frank & Pollack, 2017). Many who have died from fentanyl overdose were unaware that they were using it (Drug Enforcement Administration, 2016). Fentanyl is also mixed with “club drug” stimulants that increase sexual risk-taking and HIV infection such as ecstasy (Goldstein et al., 2016; Grov et al., 2018; McCarthy-Caplan et al., 2015).

Using stimulants such as ecstasy, methamphetamine, and cocaine can also exacerbate negative health outcomes for BSMM. Some BSMM who use stimulants are more willing to engage in condomless sex in hopes of building romantic relationships with sexual partners when they use drugs (Dangerfield II et al., 2017; Dangerfield II, Ober, et al., 2018). There is also growing evidence of increased methamphetamine IDU, which could increase HIV transmission through needle sharing among people who inject drugs (Al-Tayyib et al., 2017; Nerlander et al., 2018). Among BSMM living with HIV, stimulants and opioids are a barrier to treatment adherence (Dangerfield II, Harawa, McWells, et al., 2018). Some BSMM use drugs concurrently or mix drugs, which create different drug use profiles (McCarthy-Caplan et al., 2015; Yu et al., 2014). Concurrent use of multiple drugs has complex behavioral and

cognitive effects and increases the likelihood of rapid partner change and condomless anal intercourse with partners of unknown HIV status (Colfax et al., 2005; Vosburgh et al., 2012). Differing drug use profiles create different risks for HIV and overdose for BSMM (McCarthy-Caplan et al., 2015; Schneider et al., 2019).

Generational differences in drug use trends and AIDS epidemics have created different risk trajectories for BSMM across decades (Dangerfield II et al., 2017; Dangerfield II, Harawa, Fernandez, et al., 2018). Throughout the 1990s, heroin use and addiction was responsible for a high number of overdose deaths in urban areas such as Baltimore City. Between 1990 and 1997, heroin overdose deaths in Baltimore increased by 426% and exceeded that of all other major U.S. cities (Garfield, 2001; Schwartz et al., 2013). This time was also concurrent with the U.S. AIDS epidemic, whereby many SMM experienced death from lack of prevention and treatment options. The resurgence of heroin use and fentanyl misuse has resulted in increasingly excessive overdoses and deaths (Compton et al., 2016; Kuehn, 2013). Conversely, HIV prevention options have expanded since the AIDS epidemic in the 1990s. These generational differences in exposure to drug use and HIV epidemics could impact the extent to which BSMM engage in HIV prevention and intervention strategies or drug treatment (Arrington-Sanders et al., 2017; Dangerfield II et al., 2017). However, limited data is available about the age-related differences, motivations, and contexts of opioid and stimulant use among BSMM in Baltimore or other U.S. areas.

Life Course Theory (LCT) (Elder, 1998) and Syndemic Theory (Merill Singer & Clair, 2003) provides a useful framework for exploring age-related motivations and contexts of drug use among BSMM. LCT posits that behaviors and outcomes result from historical context, cultural environments, and age-related development, and includes key constructs involving timing of events, developmental trajectories, major life events, and critical periods (Elder, 1998; Jones et al., 2019). Syndemic Theory posits that a collection of health issues manifest simultaneously and amplify the negative impact of one or more other health problems such as HIV, drug abuse, and depression (Dyer et al., 2012; Merrill Singer et al., 2017). This framework provides an opportunity to better characterize drug use pathways, identify the major life events, and explore the role of socio-historical contexts that contribute to opioid and stimulant use for BSMM (Dangerfield II et al., 2017; Hser et al., 2007). These theories have illuminated how social, environmental, and structural factors increase HIV risk and substance use disorders among BSMM (Dangerfield II et al., 2017; Dangerfield II, Harawa, Fernandez, et al., 2018; Dyer et al., 2012). Studies show behavioral differences between younger and older cohorts of BSMM generally, particularly among men ages 30 and under compared to men over 30 (Koblin et al., 2013; Scott et al., 2014; Vagenas et al., 2016). Younger age is associated with sexual risk taking and HIV incidence (Koblin et al., 2013; Mansergh & Marks, 1998), and personal development accompanying age also influences sexual risk taking among BSMM (Dangerfield II et al., 2017). However, few studies have thoroughly characterized the profiles, pathways, and contexts of drug use among BSMM to make a more substantial impact in HIV prevention in Baltimore and throughout the United States.

The purpose of this study is to explore age-related differences in the profiles, motivations, and contexts of opioid and stimulant use among drug using BSMM in Baltimore, MD.

Research on drug use among SMM throughout the United States contains samples with limited representation of BSMM (Grov et al., 2018; Kelly & Parsons, 2013; McCarthy-Caplan et al., 2015) and little focus is given to drug use among BSMM due to evidence that BSMM use drugs at lower rates than other ethnic groups of SMM (Maulsby et al., 2013; Millett et al., 2007, 2012). Therefore, inferences about BSMM behavior are unclear and questionable (Mimiaga et al., 2010). More targeted data are needed about the motivations and contexts of drug use among BSMM specifically. Additionally, little information is known about the motivations and contexts of opioid and stimulant use among BSMM given the different effects of drug use profiles on behaviors. Exploring opioid and stimulant use among BSMM will provide better information about HIV risk and contexts for this population and could better inform harm-reduction strategies along the life course for BSMM of different age groups.

2. METHODS

2.1 Sampling, Recruitment, and Sample Size

In-depth qualitative interviews were conducted among 30 BSMM in Baltimore, MD, from December 2018 to March 2019. Participants were recruited using a combination of active and passive strategies and stratified by age group: 18–34 vs 35 and older. Active recruitment included targeting gay clubs and social support group meetings in Baltimore where BSMM frequent to provide study information. Passive recruitment included leaving fliers at HIV treatment clinics where drug using BSMM receive healthcare, advertising the study on Craigslist, and referrals from participants in the study. Interested individuals contacted the study team to screen for eligibility and were invited for additional in-person eligibility screening. Participants were eligible based on the following criteria: self-identifying as Black or African American, being 18 years of age, reporting anal intercourse with at least one male partner in the previous six months, and reporting any opioid or stimulant use in the previous 30 days prior to their visit. Participants were recruited in each age group until theoretical saturation was reached.

2.2 Study Procedures

Study procedures took place in a private, designated clinical research space at the Johns Hopkins School of Nursing. The first-author conducted semi-structured in-depth interviews that explored lifetime motivations and contexts of drug use and lasted between 50 and 75 minutes. Interviews began with a general exploration of the current events and the role of drug use in their lives currently. Interviews also asked targeted questions regarding their initial drug use and the motivations of specific drugs reported. Participants were asked to share major events in childhood, adolescence, and adulthood, then to explore the extent to which these events contributed to drug use throughout their lives. Participants were also asked to share details related to their social lives and sexual relationships and the role of drug use in those relationships. Example questions included, “*Tell me about when you first started using cocaine,*” and “*How do you think the experience you just shared contributed to your drug use then and now?*” Participants were also probed on domains related to preferences regarding preferences for treatment and support in healthcare settings.

Prior to interviews, participants were asked to provide urine samples for exploratory drug screening. Untargeted, exploratory drug screening was conducted to identify the range of illicit, pharmaceutical, and synthetic drugs most recently used by participants. Positive results were verified through targeted confirmatory testing, which determined the presence of the compounds. All participants provided written informed consent and study procedures were approved by the Johns Hopkins School of Medicine Institutional Review Board.

2.3 Qualitative Data Analysis

Interviews were audio-recorded and transcribed by a private, IRB-approved transcription service. The study team developed a codebook and two coders (the second and third authors) independently read a sample of transcripts to identify overarching themes related to the motivations and contexts of drug use initiation and continuation among BSMM. Guided by LCT domains (i.e., timing of events, developmental trajectories, major life events, and critical periods), themes were identified as patterns that were associated with specific research questions or expressions that provided novel responses related to LCT domains (Denzin & Lincoln, 2011; Ober et al., 2017; Ryan & Bernard, 2003). Responses in which one or few participants mentioned that provided novel insights into understanding the motivations of drug use or LCT domains were considered thematic outliers. Transcript coding was conducted using Atlas.ti 8.0. Areas of text related to themes were coded independently by the two coders, and interrater agreement was measured to ensure consistency between transcript coding (Krippendorff's $\alpha=0.72$). Inter-coder agreement was measured twice to confirm coding consistency; inconsistencies were reviewed and showed minor differences in the lengths of quoted text but not in the overall quality of the text. Team members then reviewed all coded text, examined the most frequently mentioned themes, and then, of these, selected those that were relevant to the present study (Ober et al., 2017; Ryan & Bernard, 2003). The Consolidated criteria for reporting qualitative research (COREQ)(Tong et al., 2007) was followed throughout the research process to maximize the rigor of the analyzing process and the trustworthiness of the findings.

2.4 Research Team and Reflexivity

The research team consisted of a diverse and interdisciplinary group of researchers. A self-identified Black gay man with expertise in qualitative research methodology and engaging BSMM led the research team. The team also included a white male research physician with clinical expertise in HIV, infectious diseases, and drug use, along with two nursing students, one of which received doctoral training in qualitative research methods and the other was a white female who had limited engagement with the population prior to the study. The team also included a Black female researcher with expertise in clinical research study designs and HIV prevention research. The initial guide was used to interview the first three participants and revised by the team after reviewing interviews. To optimize data collection and the trustworthiness of the interpretation of findings, the research team participated in ongoing biweekly meetings to review audio recordings and directly interrogate the team members' social positions relative to BSMM, their research motivations, and limitations of expertise. This process allowed the team members to identify potential biases, limitation in perspectives, and also support the overall goal to obtain high quality data in support of health promotion for BSMM (Tong et al., 2007; White et al., 2019). Once the interview

guide was finalized, the team continued this process of reflexive debriefing, exploring the relevance of research questions, and interpreting interview data for cultural relevance for BSMM. Data presented in this study represent the range of themes related to age-related differences in the motivations and contexts of opioid and stimulant use among BSMM in Baltimore.

3. RESULTS

A total of 30 BSMM participated in the study. The age of participants ranged from 25 to 63 (mean age 41, SD=12.4); 40% were under the age of 35, 60% were age 35 and older. Eleven (36.7%) reported their highest education completed was a high school diploma or GED; a third reported attending “some college.” Most (60%) were renting or owning their own housing, 30% were living with a friend or relative. Most (63.3%) reported an annual income of \$20,000 or less. Most (87%) were living with HIV. Regarding drug use in the previous 30 days, 63.3% reported marijuana use, 16.7% reported powder cocaine use, 46.7% reported crack cocaine use, and 20% reported methamphetamine use. A total of 16.7% reported heroin use and 33.3% reported use of one or more prescription painkillers in the previous 30 days (Table I). Self-report was confirmed by drug screening, which also identified the prevalence of fentanyl among 60% of participants who reported heroin use. The older age group reported a higher proportion of heroin use, the younger age group reported a higher proportion of prescription painkillers (Table II).

3.1 Thematic Findings

Overall, interviews yielded themes related to how generational differences in drug use trends influenced the types of drugs they initiated and how drugs were used. Interviews also revealed how major life events and trauma along the life course impacted drug use initiation to self-medicate for mental health support. Interviews suggested that social and developmental contexts influenced drug use initiation among BSMM regardless of drug effects.

3.1.1 Generational differences: Drug use initiation and drug use modalities—

Participants over the age of 35 shared reflections on how drug use trends in the late 1980’s through the 1990’s and their social environments influenced their willingness to initiate heroin and cocaine use. Casual/recreational drug use culture during that time influenced willingness to initiate crack and heroin use among friends and family members. One man said,

Yeah, it was a recreation and everything at the time, and we had a lot of fun. A lot of fun and good times. I started smoking heroin. I was smoking marijuana first off. Then my cousin, she was sniffing some cocaine, so I sniffed the cocaine. Smoking with her with some cocaine. That was fun. Then one day I saw her and said, “What is this there?” I said, “Come on.” I said, “I want to try that.” I said, “Let me try this,” so she slipped me some dope. So we started sniffing some dope-- we started sniffing some dope and freebasing.

(Age 52, crack & heroin user, living with HIV)

Older participants also mentioned how sexual partners introduced them to drugs such as crack cocaine and heroin. They shared how their desire for those relationships when they were younger made them more interested in using the drugs that their partners were using to maintain the relationship. When asked about the reason why he began using heroin, one man said, *“I guess it’s like I said, I was with the person who I had sex with. I was with them and they were doing it. And I wanted the person, so I did it”* (Age 50, heroin user, living with HIV). Another reflected on when he began using crack cocaine and said,

I was in a relationship with an individual that I knew I should not have been in a relationship with, and knowing that I was too far gone into it, knowing even his behaviors, and eventually I got to the point where I loved him so much that I was afraid of him leaving, so I thought if I participated in what he did, knowing I shouldn’t, but that it would improve our relationship, but it did not.

(Age 49, crack cocaine user, living w/HIV)

These reflections of initiating drug use to strengthen or maintain relationships emerged from older participants in a way that younger participants did not report.

However, a novel thematic outlier emerged in which a few younger participants mentioned regarding drug use modalities. Specifically, younger men reported disinterest in IDU compared to older participants who shared histories of injecting heroin. Younger participants shared that avoiding IDU because it would make them feel like “drug addicts.” Additionally, two participants across both age groups shared a history of rectal administration of cocaine and methamphetamine, which they shared to provide a better “high” and influenced their willingness to practice RAI. Although participants were probed on the extent to which they were victimized into using drugs this way, participants reported willingness to administer drugs rectally.

3.1.2 Developmental Trajectories - Childhood sexual abuse—A total of 14 participants (41.7% younger BSMM and 50.0% older) reported experiencing molestation or rape by another person (mostly a man) who was at least five years older than they were prior to the age of 12. Across age groups, a salient theme was experiencing a history of childhood sexual abuse (CSA), which men frequently linked as a motivation for drug use initiation as a coping strategy to deal with feelings of shame and low social support. While recounting his initiation of crack cocaine at the age of 17, one of the older participants who also had a history of heroin use said,

The reason why I got into drugs heavy like I did is because my brothers done fucked up my life...by them doing what they was doing, like I said, I thought it [CSA] was the norm. I thought that’s what you do. So it hurt me, and I was depressed for a lot of time. That’s why I did a lot of things to take that thought out, to hide it, to tack it down in the back of the head. And I got high a lot.

(Age 63, living with HIV)

Another participant, who was under the age of 35, shared a story of how he began using marijuana as a teenager to cope with being raped by a mother’s boyfriend at the age of nine

and how his mother banished him after discovering the rape, which later led to a pattern of misusing prescription opioids. He said,

“...it [drugs] helped me escape through reality because I was going through a lot. But I didn’t want to tell anybody else. So I used the drugs to get to hide how I was truly feeling...I was scared to tell anybody about my past because I felt as though people would look at me different or treat me like an outcast...”

(Age 25, OxyContin user, HIV-negative)

This man eventually shared a history of using prescription painkillers to cope with other feelings such as losing relationships. Everyone who shared a history of CSA did not explicitly self-identify their drug use due to trauma; however, interviews across age groups revealed how CSA primed participants for drug use to cope with unreconciled trauma and daily life challenges as BSMM along their life course.

3.1.3 Drug use during critical periods & other major life events—Across age groups, participants also mentioned how major events over the course of their lives such as the death of family members, divorce, or homelessness increased their vulnerability to drug use as a coping strategy. One third of participants explicitly described using opioids and stimulants as a mental health support to cope with their life challenges. One of the younger participants shared how he started using crack cocaine along with other substances such as alcohol, marijuana, and prescription painkillers to cope with the loss of his grandmother in his teens. When describing his drug use initiation, he said,

“...it was right after my grandmother had died. So, I was like, ‘Hey, as numb as possible.’ At that point, I was drinking two-fifths of vodka a day. Going through about two ounces of weed in about two, three days. So at that point, it was like, ‘Hey, as long as it doesn’t have to go up my nose or in my arm, let’s get it. Let’s see how numb I can get.’”

(Age 23, crack cocaine, living with HIV)

Some participants also discussed how using stimulants such as methamphetamine and crack cocaine helped them escape clinical mental health diagnoses (i.e., depression and post-traumatic stress disorder). One man shared,

So 2008, my brother - he was 19 years old - hung himself. And me and my sister found him. And the year after that, started doing drugs. For these past years, I’m noticing whenever I’m triggered-- I was diagnosed with post-traumatic stress from that shit. And whenever I’m triggered, I go get high. And it definitely picks me up and motivates me out of this depression. Because I never used to-- I’d never been depressed. Nothing ever bad has happened to me.

(Age 33, methamphetamine user, living with HIV)

The men who shared using stimulants to escape from clinical depression also shared histories of using drugs during sex to help alleviate depressive symptoms. They also mentioned that they sought mental health treatment through psychotherapy but felt that those services failed their needs as BSMM, suggesting the providers they visited did not adequately address their histories of trauma and daily coping needs. Other interviews across

age groups yielded information related to how these and other events such as divorce lead to a series of events such as homeless, sexual risk-taking, HIV infection, and perpetual drug use to cope with a newly diagnosed HIV-positive status.

3.1.4 Opioid Use & Pain Management—Among opioid users, a pattern emerged of young BSMM under the age of 35 initiating prescription opioids and older BSMM initiating heroin. Younger men who mentioned using prescription painkillers shared that their initial use was for physical pain but attributed later misuse to support with emotional pain. One participant in the younger group who mentioned misusing OxyContin put it this way,

I guess because I was in that moment of time where me and my significant other was going through some problems. And all that I ever really wanted for him was to love me. To actually comfort for me when I need it. But all we had done mostly was just yelling and arguing. And it took me into-- I guess it took a toll on me. So I decided, let me try this. Let me get my mind off this pain.

(Age 25, ecstasy and Percocet user, living with HIV)

Another mentioned using illicit drugs to manage physical pain because his primary care provider did not believe him and would not prescribe painkillers. Some also mentioned using opioids in the absence and unavailability of marijuana. One interview with a younger participant also yielded a novel concept of using prescription painkillers to reduce pain and increase pleasure during RAI. These sentiments provided crucial insight into the experiences of pain and the motivations for opioid use among BSMM.

4. DISCUSSION

The present study identified generational and age-related differences in the motivations and contexts of opioid and stimulant use among BSMM in Baltimore. We found that drug use among older BSMM was influenced by social factors, relationships with partners, and was more focused in injection drug use (IDU) and that younger BSMM reported less IDU and greater prescription opioid misuse. Across both groups, childhood sexual abuse (CSA), major life events and losses, and self-medicating through mental health issues and trauma affected drug use. Findings suggest that social and developmental contexts, coupled with the availability of specific drugs, influenced drug use initiation among BSMM regardless of drug effects.

Older participants attributed their drug use initiation to social trends and sexual partners. Epidemiological research found age-related trends and “history effects” for opioid and stimulant use throughout the U.S., whereby cocaine and heroin became more widely available at different times and was therefore used more and in greater amounts (Bluthenthal et al., 2017; Hser et al., 2007). Opioid use also increased among BSMM from 2008 to 2014 (Hoots et al., 2017). Understanding socio-cultural trends in drug use provides insight into the drug use initiation and could be key in predicting future drug use trends and designing more relevant intervention/harm reduction strategies.

Younger BSMM reported use of prescription opioids as a strategy to cope with emotional pain. Other research described how some BSMM use opioids as a strategy to cope with daily

stressors, such as a lack of economic opportunities and racial discrimination (Voisin et al., 2017). Coupled with daily challenges to cope with poverty, trauma, and grief in adulthood, our findings suggest that early victimization in childhood (i.e., CSA) could prime BSMM to be vulnerable to both drug use and sexual risk taking. Moreover, a series of major events over the life course from childhood to adulthood perpetuate a cycle of exposure to maladaptive coping, negative events, and perpetual drug use. Pain management programs should expand the definition of pain and include emotional domains in assessments. Pain management programs should also identify and consider patient histories of trauma and abuse in treatment plans, which is well aligned with trauma-informed care models.

The present study also found an extremely high proportion of CSA in this sample. Other research has found similarly high prevalence and proportions of CSA among BSMM (Dangerfield II et al., 2017; Wu, 2018). CSA history is associated with drug use, depressive symptoms, and being HIV-positive (Kecojevic et al., 2015; Wu, 2018). While the present study does not provide a causal pathway, individuals who experience CSA exhibit early sexual debut, condomless sexual behaviors, drug use, higher frequency of exploring submissive roles during sex, and HIV infection (Abajobir et al., 2017; Williams et al., 2015). Findings from the present study suggest that BSMM who experienced CSA and other traumatic histories were vulnerable to unhealthy relationships, drug use, and sexual risk in part due to desires for emotional connections with drug-using partners. Adverse childhood events increase the negative interactions between sexual risk taking, drug use, sexual victimization in adult relationships, and HIV infection among BSMM (Dangerfield II et al., 2017; Kecojevic et al., 2015; Williams et al., 2015; Wu, 2018).

Of note, BSMM who described past experiences with rectal administration of stimulants shared that they had done so to provide a better “high.” Rectal administration of drugs increases risk for rectal tearing, HIV, and STIs and sexual victimization (Ferri, 2004; Klein, 2014). Other research has described rectal administration of stimulants as a part of a sexual victimization, whereby a partner living with HIV packs the foreskin of his penis with methamphetamine or powder cocaine (Klein, 2014). More research should explore drug use modalities among BSMM to explore relative motivations and harms. Additional motivations for rectal administration of drugs could exist such as avoiding IDU or increasing pleasure during RAI.

The U.S. history of drug use trends and AIDS advances is well documented. Sociological changes in culture have large impacts on individual behaviors and outcomes (Elder et al., 2003; Friedman et al., 2009; Friedman & Rossi, 2015). Figure 1 is guided by previous work using a LCT and syndemic framework among BSMM (Dangerfield II et al., 2017) and recreated to support the emergent findings for drug use and HIV risk for BSMM. The timeline diagram provides a valuable resource that helps identify patterns in life history data and highlights how a dynamic relationship between historical context, adverse childhood events, personal development, and individual experiences can combine to facilitate sexual risks, drug use, and HIV/STI outcomes for BSMM of different age groups (Dangerfield II et al., 2017; Friedman et al., 2008). By calculating the mean age of participants in each age group, Figure 1 shows how BSMM over age 35 had longer exposure to drug use epidemics and sexual risk behaviors prior to their average age of HIV infection than younger BSMM

who on average experienced earlier HIV infections and subsequent drug use. In the U.S., same-sex marriage is now legalized, drug use is increasingly considered a mental health disorder, and HIV infection is not a death sentence. Comparatively, older BSMM experienced greater exposure to sexuality stigma, the criminalization of drug use, and AIDS-related deaths. It is not surprising then, that the present study found different patterns, profiles, and motivations for drug use by age among BSMM.

While the overview from Figure 1 might show similar behaviors and outcomes between the two age groups (e.g., condomless sex, childhood abuse, drug use, HIV infection), in-depth qualitative interviews provided key differences in the mechanisms and processes leading to risk behaviors along the “average” life course of BSMM for different age groups. These differences in processes will require differential targeting for interventions, treatment adherence protocols, etc. This suggests that early detection and intervention of drug use in the appropriate age groups should be important policy and practice priorities (Dangerfield II, Harawa, McWells, et al., 2018; Hser et al., 2007).

There are limitations to consider with this study. The study was not representative of all BSMM; many were low-income and living with HIV. All data were self-reported. In addition, single interviews were conducted; some qualitative research suggests that multiple interviews with participants improve rigor through increased participant candor and disclosure (Murray et al., 2009; Tong et al., 2007). Additionally, drug use and sexual risk were used as eligibility criteria. Therefore, inferences about all BSMM or all drug using BSMM are limited. Due to the sample size, this study could not identify themes within smaller age ranges. Still, this research provides important insights into the lives and health trajectories of a high-risk population of BSMM. This study highlights the distinctions and interplay between the differences related to generational cohort and the different societal contexts in which BSMM are engaging, versus individual-level changes related to age-related development.

More research to examine risk and protective behaviors among opioid and stimulant using BSMM is needed. Future research might expand the findings of this study and utilize a LCT framework to assess individuals’ access and relationship to healthcare along different phases of development, especially during vulnerable phases such as childhood, adolescence (when sexual debut occurs), housing transitioning (e.g., independent housing, homelessness), and drug use initiation. As seen in Fig. 1, some BSMM could be more vulnerable to infections and drug use outcomes at different points of their lives. Unpacking their perceptions of and access to healthcare at different points of vulnerability could also contribute to understanding how to address the changing needs of BSMM. Future efforts could also employ a stress and coping framework to support the reduction of drug use and sexual risk behaviors among young BSMM in particular (Voisin et al., 2016). Understanding BSMM’s relationship with healthcare environments at different points of development would also enable healthcare providers to impact the sexual health trajectories of BSMM. Future efforts should consider both the independent and collective role of generational, developmental, and sexual contexts of risk on the lives and sexual health of BSMM. Effective drug use and HIV prevention for BSMM should include interventions that support changes in individual behaviors, community environments, and mental health services.

5. CONCLUSIONS

Findings suggest that effective substance misuse and HIV prevention programming for BSMM should include interventions that support changes in individual behaviors, community environments, and mental health services.

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Highlights

- Young BSMM reported prescription opioid use to cope with emotional pain
- Childhood sexual abuse and other major life events impacted drug use among BSMM
- Social and developmental contexts influenced drug use regardless of drug effects
- Interventions should include mental health services for BSMM

Figure 1.
Timeline of developmental pathways to drug use and HIV risk among two age groups of U.S. BSMM

Table 1.

Demographic and drug use characteristics among BSMM, Baltimore, MD (n=30)

	n (%)
Age	
Range (Mean [SD])	25–63 (41.1 [12.4])
Highest Education Completed	
1 st to 11 th grade	2 (6.7)
High School Diploma or GED	11 (36.7)
Some college	10 (33.3)
Associated degree	3 (10.0)
College degree	3 (10.0)
Some graduate school, but no degree	1 (3.3)
Current living arrangement	
Rent your own apartment or home	18 (60.0)
Publically subsidized housing	2 (6.7)
Living with a friend or relative	9 (30.0)
Temporary housing	1 (3.3)
Employment Status	
Working full time	5 (16.7)
Working part time	5 (16.7)
Unemployed or not working	7 (23.3)
Retired	3 (10.0)
Disabled	9 (30.0)
Other	1 (3.3)
Annual income (USD)	
No income	3 (10.0)
<\$10,000	13 (43.3)
Between \$10,000 and \$20,000	6 (20.0)
Between \$20,000 and \$30,000	3 (10.0)
Between \$30,000 and \$40,000	1 (3.3)
Between \$40,000 and \$50,000	4 (13.3)
Partnership status	
Single, not married, or not in a committed relationship	20 (66.6)
Significant other, partner, lover (boyfriend or girlfriend)	7 (23.3)
Legally married to a man	1 (3.3)
Other	3 (10.0)
Sexual orientation	
Straight or heterosexual	2 (6.7)
Gay, homosexual, or same gender-loving	20 (66.7)
Bisexual	6 (20.0)

	n (%)
Pansexual	1 (3.3)
Something else	1 (3.3)
HIV Status	
Living with HIV	26 (86.7)
HIV-negative	4 (13.3)
Drug use past 30-days	
Marijuana	19 (63.3)
Heroin	5 (16.7)
Powder	5 (16.7)
Crack cocaine	14 (46.7)
Methamphetamine	6 (20.0)
Ecstasy	2 (6.7)
Prescription painkillers	10 (33.3)

Table 2.

Demographic and drug use characteristics among BSMM by age group, Baltimore, MD (n=30)

	Under 35 n (%)	35 and older n (%)
Age		
Range (Mean [SD])		
Highest Education Completed		
1 st to 11 th grade	1 (8.3)	1 (5.5)
High School Diploma or GED	5 (41.6)	6 (38.9)
Some college	4 (34.7)	6 (38.9)
Associated degree	1 (8.3)	2 (11.1)
College degree	1 (8.3)	2 (11.1)
Some graduate school, but no degree	1 (8.3)	0 (0.0)
Current living arrangement		
Rent your own apartment or home	7 (58.3)	11 (61.1)
Publicly subsidized housing	0 (0.0)	2 (11.1)
Living with a friend or relative	5 (41.6)	4 (22.2)
Temporary housing	0 (0.0)	1 (5.5)
Employment Status		
Working full time	4 (33.3)	1 (5.5)
Working part time	3 (25.0)	2 (11.1)
Unemployed or not working	4 (33.3)	3 (16.6)
Retired	1 (8.3)	2 (11.1)
Disabled	0 (0.0)	9 (50.0)
Other	0 (0.0)	1 (5.5)
Annual income (USD)		
No income	3 (25.0)	0 (0.0)
<\$10,000	6 (50.0)	7 (38.9)
Between \$10,000 and \$20,000	0 (0.0)	6 (33.3)
Between \$20,000 and \$30,000	1 (8.3)	2 (11.1)
Between \$30,000 and \$40,000	1 (8.3)	0 (0.0)
Between \$40,000 and \$50,000	1 (8.3)	3 (16.6)
Partnership status		
Single, not married, or not in a committed relationship	6 (50.0)	13 (72.2)
Significant other, partner, lover (boyfriend or girlfriend)	5 (41.6)	2 (11.1)
Legally married to a man	0 (0.0)	1 (5.5)
Other	1 (8.3)	2 (11.1)
Sexual orientation		
Straight or heterosexual	2 (16.7)	0 (0.0)
Gay, homosexual, or same gender-loving	7 (58.3)	13 (72.2)
Bisexual	1 (8.3)	5 (27.8)

	Under 35 n (%)	35 and older n (%)
Pansexual	1 (8.3)	0 (0.0)
Something else	1 (8.3)	0 (0.0)
Self-Reported HIV Status		
Living with HIV	10 (83.3)	16 (88.9)
HIV-negative	2 (16.6)	2 (11.1)
Drug use past 30-days		
Marijuana	11 (91.7)	9 (50.0)
Heroin	0 (0.0)	5 (27.8)
Powder	3 (25.0)	2 (11.1)
Crack cocaine	1 (8.3)	13 (72.2)
Methamphetamine	3 (25.5)	3 (16.6)
Ecstasy	2 (16.6)	0 (0.0)
Prescription painkillers	6 (50.0)	4 (22.2)
Fentanyl	2 (16.6)	1 (5.5)

Table II.

Demographic and drug use characteristics by age group

	Under 35 n (%)	35 and older n (%)
Age		
Range (Mean [SD])		
Highest Education Completed		
1 st to 11 th grade	1 (8.3)	1 (5.5)
High School Diploma or GED	5 (41.6)	6 (38.9)
Some college	4 (34.7)	6 (38.9)
Associated degree	1 (8.3)	2 (11.1)
College degree	1 (8.3)	2 (11.1)
Some graduate school, but no degree	1 (8.3)	0 (0.0)
Current living arrangement		
Rent your own apartment or home	7 (58.3)	11 (61.1)
Publicly subsidized housing	0 (0.0)	2 (11.1)
Living with a friend or relative	5 (41.6)	4 (22.2)
Temporary housing	0 (0.0)	1 (5.5)
Employment Status		
Working full time	4 (33.3)	1 (5.5)
Working part time	3 (25.0)	2 (11.1)
Unemployed or not working	4 (33.3)	3 (16.6)
Retired	1 (8.3)	2 (11.1)
Disabled	0 (0.0)	9 (50.0)
Other	0 (0.0)	1 (5.5)
Annual income (USD)		
No income	3 (25.0)	0 (0.0)
<\$10,000	6 (50.0)	7 (38.9)
Between \$10,000 and \$20,000	0 (0.0)	6 (33.3)
Between \$20,000 and \$30,000	1 (8.3)	2 (11.1)
Between \$30,000 and \$40,000	1 (8.3)	0 (0.0)
Between \$40,000 and \$50,000	1 (8.3)	3 (16.6)
Partnership status		
Single, not married, or not in a committed relationship	6 (50.0)	13 (72.2)
Significant other, partner, lover (boyfriend or girlfriend)	5 (41.6)	2 (11.1)
Legally married to a man	0 (0.0)	1 (5.5)
Other	1 (8.3)	2 (11.1)
Sexual orientation		
Straight or heterosexual	2 (16.7)	0 (0.0)
Gay, homosexual, or same gender-loving	7 (58.3)	13 (72.2)
Bisexual	1 (8.3)	5 (27.8)

	Under 35 n (%)	35 and older n (%)
Pansexual	1 (8.3)	0 (0.0)
Something else	1 (8.3)	0 (0.0)
Self-Reported HIV Status		
Living with HIV	10 (83.3)	16 (88.9)
HIV-negative	2 (16.6)	2 (11.1)
Drug use past 30-days		
Marijuana	11 (91.7)	9 (50.0)
Heroin	0 (0.0)	5 (27.8)
Powder	3 (25.0)	2 (11.1)
Crack cocaine	1 (8.3)	13 (72.2)
Methamphetamine	3 (25.5)	3 (16.6)