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HIV and Employment among Black Men who have Sex with Men in Baltimore

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Abstract

Employment status is a key social determinant of health, and many populations in the United States that are impacted by HIV also have unequal access to education and employment opportunities which contributes to HIV-related disparities. Black men who have sex with men (BMSM) are one of the groups most heavily burdened by HIV in the United States. With improved health outcomes associated with advancements in HIV treatment, research suggests that more people living with HIV want to work. Using data from a cross-sectional study of individuals living with HIV or at risk for HIV, this study aims to expand understanding of the relationship between HIV and employment among BMSM. This study describes employment among BMSM living in Baltimore, assesses differences in employment by HIV status and assesses predictors of full-time employment among BMSM. The study found that BMSM have limited access to full-time

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employment and that this disparity is even more pronounced among BMSM living with HIV. Men living with HIV were less likely to be employed full-time compared to men not living with HIV controlling for education and social contextual factors (OR 0.40 95% CI (0.22-0.73)). HIV will most likely have important implications for employment patterns and trajectories of BMSM over the life course. Additional research is needed among BMSM living with HIV to understand work histories and experiences, facilitating factors, barriers to work, and the impact of various work experiences on the health and wellbeing.

Keywords

employment; HIV

Background

Black men who have sex with men (BMSM) are one of the groups most heavily burdened by HIV in the United States. Among Black men diagnosed with HIV in 2016, the majority of diagnoses (80%) were attributed to male-to-male sexual contact (10,223/12,890). Among all adult MSM diagnosed with HIV in 2016 (26,569), disparities exist by race and ethnicity; 38% were African American or Black (10,223), 28% were Hispanic/Latino (7,425), 28% were White (7,390), and the remaining 6% were American Indian/Alaska Native, Asian, Pacific Islander, or multiple races (1,532) (Centers for Disease Control and Prevention, 2017). A recent study estimated that 1 in 2 BMSM will be diagnosed with HIV in their lifetime (Hess, 2016). Research suggests that racial disparities in the prevalence of HIV infection among men who have sex with men are at least partially driven by background HIV prevalence, incidence of STIs, unrecognized HIV infection, and viral load (Maulsby et al., 2014; Millett et al., 2012; Millett, Peterson, Wolitski, & Stall, 2006). Social structural factors external to the individual such as stigma, discrimination, patient-provider dynamics, incarceration, unemployment and poverty also play a significant role (Maulsby et al., 2014; Millett et al., 2012; Millett et al., 2006).

Social determinants of health are the social, political and economic conditions that are the root causes (or causes of causes) of inequities in health (Daniel, Bornstein, Kane, Health, & Public Policy Committee of the American College of, 2018). Poverty and employment status have long been recognized as key social determinants of health. Many of the populations in the United States that are impacted by HIV also have unequal access to education and employment opportunities which contributes to HIV-related disparities (Abbott & Williams, 2015).

Frameworks for HIV vulnerabilities among minority men, such as Syndemic Theory, highlight the contribution of poverty to the HIV epidemic (Wilson et al., 2014). Syndemic Theory recognizes that the interrelated epidemics of HIV/AIDS, substance abuse, trauma, incarceration, and poverty interact with each other and with social, structural, and behavioral factors to contribute to an excess burden of disease among social marginalized groups (Wilson et al., 2014). Furthermore, Meyer's minority stress model explains that "stigma, prejudice, and discrimination create a hostile and stressful social environment" (p.674)

(Meyer, 2003), and research suggests that this hostile social environment has a negative impact on social and economic wellbeing (McGarrity, 2014). CDC surveillance suggests that among black MSM, 46% live in census tracts where the median household income level is below \$36,000 per year and 39% live in locations with an unemployment rate at or above 7%. By comparison, among White MSM, 16% live in census tracts where the median household income level is below \$36,000 per year and 16% live in locations with an unemployment rate at or above 7% (Centers for Disease Control and Prevention, 2013).

Employment works through a variety of mechanisms (including increased access to material resources, reduced chronic stress, and increased political power) to improve health, social standing, and health equity (Tsui, 2010). The relationship between HIV and employment is likely bi-directional. Unemployment is associated with increased HIV risk behavior (Barron-Limon et al., 2012), delayed HIV testing and diagnosis (Massari et al., 2011; Sheehan et al., 2017), and decreased access to and engagement in HIV care (Aaron, Alvare, Gracely, Riviello, & Althoff, 2015; Joy et al., 2008; Nachega et al., 2015) all of which contribute to increased risk for HIV transmission. In addition, research suggests that HIV is associated with employment loss and a barrier to accessing employment through mechanisms such as poor health and discrimination (Dray-Spira, Lert, & Group, 2007).

The majority of HIV infections among BMSM in the United States occur among individuals of a working age (Centers for Disease Control and Prevention, 2017). With the advent of effective combination antiretroviral therapy, HIV is now considered a chronic disease that is not inconsistent with employment. Hence, it is important to understand the relationship between HIV, employment, and wellbeing. Employment provides financial support, social status, a sense of purpose and identity (Dickson-Gomez, Knowlton, & Latkin, 2004; Timmons & Fesko, 2004; Wagener et al., 2014) and, among people living with HIV (PLWH), employment is an independent predictor of treatment adherence, morbidity, and mortality (Delpierre et al., 2008; Dray-Spira et al., 2005; International Labor Office, 2013; Richardson et al., 2014).

This study aims to expand understanding of the relationship between HIV and employment among a sample of BMSM in Baltimore by a) describing employment among BMSM living in Baltimore, b) assessing differences in employment by HIV status and c) assessing predictors of full-time employment among BMSM.

Methods

Data collection

The Behavioral Surveillance Research Study (BESURE) is the Baltimore arm of the Center for Disease Control's National HIV Behavioral Surveillance Study (NHBS). BESURE is a surveillance study that measures HIV prevalence, access to health services, health-related behaviors and the social contextual factors known to influence health. Data were from the 2014 NHBS MSM4 cycle. Participants were sampled using venue-based time location sampling (MacKellar et al., 2007). Per the CDC's standardized national protocol for venue-based time location sampling, sampling procedures included four steps. First, staff conducted formative research to identify a potential universe of venues. Second, staff

assessed potential venues for eligibility which was defined as 50% or more of attending men were MSM. Third, staff assessed the venues and day/time periods to determine which had sufficient numbers of MSM attending for NHBS-MSM recruitment. Eligible venues and corresponding day-time periods are then included on the monthly sampling frames used to randomly select venues and day-time periods for recruiting participants. Fourth, staff recruited men to participate at randomly selected venue and day-time periods. During recruitment, staff counted venue attendees, approached men to ask them to participate, assessed eligibility, interviewed eligible men, and offered an optional HIV tests. Eligible MSM were over 18 years, lived in the participating area, born male and currently identified as male, and had not previously participated in the current NHBS round. Trained interviewers administered an anonymous 45-minute interviewer-administered survey in a private location and an optional HIV test. HIV testing included an on-site rapid test and whole blood specimens collected for laboratory HIV testing and confirmation. Participants received \$25 remuneration for the survey and \$25 for the HIV test.

The Johns Hopkins Bloomberg School of Public Health's Institutional Review Boards and the Department of Health reviewed all procedures.

Measures

Full-time employment was assessed as an answer of “yes” to the question, “Over the past 12 months, did you get many money from any of the following sources: full-time job?” The independent variable of interest, HIV status, was a reactive laboratory confirmed HIV test result. Potential covariates included: socio-demographic characteristics (age, race/ethnicity, education, household income, sexual identity, sexual identity disclosure, ever incarceration, and current insurance status), health outcomes and health behaviors (depression and crack use), and enacted stigma. We were interested in adjusting for factors associated with HIV among BMSM to minimize confounding as well as to explore the role of additional factors that might lead to or result from unemployment among BMSM living with HIV. These covariates were selected based on the literature, Syndetic Theory, and data availability within either the NHBS core survey or locally specific survey items. The survey included the 10-item CESD, which has been found to be a valid and reliable depression screening measure, (Gellis, 2010). For this analysis, we used the CESD-10 with a cut off of 8 which maybe more appropriate than other short forms of the CESD for Black males (Torres, 2012). We assessed enacted stigma by asking participants about exposure to verbal harassment, discrimination, or physical assault because someone knew or assumed they were attracted to men. Verbal harassment was measured by asking if participants had been called names or insulted. Discrimination was assessed by asking if participants had received poorer services at restaurants, stores, or other businesses or agencies; had been treated unfairly at work or school, or had been denied or given lower quality health care. Physical assault was assessed by asking about previous experiences with being physically attached or injured (Balaji et al., 2017). The NHBS/BESURE team included additional questions on employment in the local survey in response to community member interest.

Analysis

Pearson's Chi Square was used to assess differences in a) demographic characteristics, health behaviors, stigma by full-time employment status and b) current employment and employment history by HIV status. We used SAS's PROC SURVEYLOGISTIC to assess bivariate and multivariate relationships between HIV and employment. Covariates were selected *a priori* based on the literature, theoretical frameworks, and availability. When two covariates were highly correlated, we selected the variable with the strongest association with the outcome of interest or that was most amenable to public health intervention. In the case of enacted stigma, we included verbal harassment in our regression analysis because this was the most prevalent of the three stigma variables. Variables that were significant at $p \leq .10$ in the bivariate analyses were included in multivariate regression. Multivariate regression models were built using backwards selection and AIC was used to assess model fit. The final models included only predictor variables with a significant association with the outcome of interest unless removing the variable from the model reduced the fit of the model. In this case, the covariate is put back in the model, even if this was not statistically significant. The main objective of this approach was to assess the relationship between HIV status and employment, controlling for potential confounders. We also assessed interactions of HIV with age, education, incarceration, and stigma to assess if the relationship between HIV status and employment varied by strata of these variables. We conducted multiple sensitivity analyses. We ran our multivariate analyses excluding the following populations of individuals who may not be employed due to the context of their lives: retired individuals, individuals who were unable to work for health reasons, and students. We also assessed the relationship between self-reported HIV status (vs. lab-based HIV status results) and employment. In this sensitivity analysis, we used self-reported HIV status as our predictor of interested and individuals with undiagnosed HIV (individuals who self-reported being HIV negative but had a reactive HIV test result) were excluded from the analysis. Finally, we ran our analysis of predictors of full-time employment with an alternative outcome measure, current full-time employment. (An answer of "Full-time employment" to the question, "What best describes your employment status?")

Results

The BESURE-MSM 2014 study enrolled a total of 568 men. Our analysis included the 291 study participants who were African American or non-Hispanic black and reported having sex with a man in the past year. In addition, we excluded eight men with missing data on our outcome of interest, full-time employment, bringing the total number of observations for this analysis to 283. Participants were primarily under the age of 34 (62%), had a high school GED or less education (51%), and identified as Gay or Homosexual (64%). The majority of participants were insured (86%). Participants reported high rates of depression (46%), incarceration (44%), and experiences with verbal harassment (29%), discrimination (18%), and assault (7%) due to sexual orientation. Forty-two percent of participants were living with HIV (Table 1).

Table two describes current employment and employment history of study participants. Forty-one percent of men were employed full-time, 15% were employed part-time, and 6%

were students. Twenty-two percent of men were unemployed and 9% were unable to work for health reasons. When we asked about employment history over the past year, about half of men reported full-time work and about 25% reported part-time work. One in five men reported odd jobs as a source of money and 41% reported receiving some sort of assistance such as social security, food stamps or public assistance. The majority of men (60%), reported more than one source of money in the past year. Approximately half of men had ever attended a job or vocational training course.

Men who were living with HIV were less likely to be currently employed full-time (32% vs. 48%, $p=0.0083$) and were more likely to be currently unemployed (28% vs. 18%, $p=0.0372$). When we looked at work history over the past year, we found no differences by HIV status in part-time work, odd jobs, or day labor. We also found no difference in ability to work due to health reasons or number of sources of money in the past year. People living with HIV were less likely to report full-time work in the past year (38% vs. 57%, $p<0.0018$) and more likely to report receiving some kind of assistance (53% vs. 32%, $p<0.0006$). The overwhelming majority of PLWH reported some work in the past year (71% reported either full-time, part-time, day labor or odd jobs). There were no differences by HIV status in job or vocational training. Among the PLWH who were currently unemployed, 18% reported a full-time job in the past year, 13% reported a part-time job in the past year, 44% reported doing odd jobs, and 13% reported day labor in the past year.

HIV status was significantly associated with employment in our bivariate analysis (OR 0.49 (95%CI 0.30-0.80)), and this relationship remained significant in our multivariate model controlling for confounders. Specifically, individuals living with HIV were 60% less likely to be employed full-time (AOR 0.40 (95%CI 0.22-0.73)) compared to individuals not living with HIV. We did not find any evidence of interaction between HIV status and age, education, sexual identity or verbal harassment on employment. HIV remained independently associated with employment in multivariate analyses when we excluded participants who were retired, unable to work for health reasons, and students. Our findings did not change when we used self-reported HIV status as our predictor or interest or when we used current employment as our outcome of interest. In our final model, other factors associated with employment included age (35-44 AOR 2.82 (95% CI 1.10-7.24)), 45+ AOR 0.67 (95% CI 0.29-1.55)), college education (AOR 2.21 (95% CI 1.26-3.84)), gay or homosexual identity (AOR 3.45 (95% CI 1.84-6.46)), and verbal harassment (AOR 0.46 (95% CI 0.23-0.92)).

Discussion

Our study found that approximately 41% of black MSM (BMSM) study participants were currently employed full time. Men living with HIV were substantially less likely to be employed full time compared to men not living with HIV controlling for education and social contextual factors (OR 0.40 95% CI (0.22-0.73)). Researchers have hypothesized that major improvements in HIV care and treatment would remove some barriers to work for PLWH, a population that is primarily working-aged. Our study indicates that disparities in employment exist among BMSM living with HIV in Baltimore when controlling for sociodemographic, psychosocial and contextual factors.

In the US among men, the current unemployment rate among Black Americans is 6.5% (US Department of Labor, Bureau of Labor Statistics: <https://www.bls.gov/opub/ted/2018/unemployment-rate-rose-to-4-point-0-percent-in-june-2018.htm>). In Baltimore the unemployment rate for Black Americans is 14% compared to Latinos (7%) and whites (4%) (Prosperity Now). In our sample the prevalence of unemployment was higher, 22%. The relatively high prevalence of unemployment (27%) and low prevalence of full-time employment (32%) was particularly striking among PLWH in our study which suggests that even in the era of ART significant barriers to employment remain for BMSM living with HIV in Baltimore. A recent study of BMSM living in Mid-Atlantic cities, found significantly higher prevalence of unemployment in Baltimore (41.8%) compared to Philadelphia (26.6%) or Washington DC (17.6%) (German et al., 2017). Research suggests that the majority of unemployed PLWH perceive work has having significant value and want to work (Brooks, Martin, Ortiz, & Veniegas, 2004; Hergenrather, Rhodes, & Clark, 2005). In our study the overwhelming majority of PLWH reported some type of work in the past year (either full-time, part-time, odd jobs or day labor) and many men reported multiple sources of income.

However, PLWH face significant social and physical health barriers to employment such as HIV stigma and discrimination, gaps in employment, co-morbidities such as depression and a fear of loss of benefits including SSI and SSDI (Brooks et al., 2004; Dray-Spira et al., 2007; Hergenrather et al., 2005; Timmons & Fesko, 2004; Wagener et al., 2014). Among BMSM living with HIV, additional barriers to employment are likely at play. For example, BMSM living HIV with may experience minority stress related to race, sexual orientation and gender. For BMSM, minority stress must be understood through the intersectionality of multiple minority identities that negatively impact health and access to economic opportunity (McGarrity, 2014; Meyer, 2003). Research suggests that lesbian, gay and bisexual individuals may have less access to economic opportunity due to factors such as discrimination in the workplace including hiring and promotions; reduced access to financial and instrumental familial support due to conflict around sexual orientation; and reduced access to education due to early experiences of discrimination (Badgett, 2007; Barrett, 2002; Henkicksen, 2008; Kurdek, 2004; McGarrity, 2014; Solomon, 2004). In our sample we also found a relationship between verbal harassment and employment. Specifically, men who had experienced verbal harassment in the past twelve months because of their sexual orientation were less likely to be employed than those who had not.

Our analysis found no differences by HIV status in part-time employment. Part-time employment might appeal to PLWH because it might provide greater flexibility to address health-related needs. Prior research suggests that jobs which allow flexible work schedules make it easier for employees living with HIV to attend medical appointments and comply with prescribed medical treatment (Hergenrather et al., 2005). However, research suggests that part-time employees earn less per hour compared to full-time employees (controlling for education, experience and other confounding factors) and that part-time employees receive fewer fringe benefits than full-time employees (Kalleberg, 2000).

There are several limitations to this study that are worthy of mention. First, this study is cross-sectional and is therefore unable to provide insights into employment over the life

course or to assess temporality. Second, the study employed venue-based sampling which has high external validity, however generalizability of the study findings beyond the study population is unknown. Men who agreed to participate in the study might have been systematically differed from those who did not on characteristics important to this analysis. For example, men of lower income might have been more willing to participate in this study which would bias our sample towards lower-income individuals. In addition, our study found high rates of insurance, most likely due to Medicaid expansion in Maryland. Generalizability of certain findings to varied settings, such as men living in non-expansion states, might be limited.

Despite these limitations, this study makes a valuable contribution to the literature. The findings from this analysis suggests that many BSM have limited access to full-time employment (and thus the benefits that full-time employment afford) and that this disparity is even more pronounced among BSM living with HIV. Given that from 2011-2015 HIV diagnoses among BSM aged 25-34 increased 30% and half of BSM are projected to be infected with HIV in their lifetime (Centers for Disease Control and Prevention, 2018; Hess, 2016), HIV will have important implications for employment patterns and trajectories of BSM over the life course. Additional research is needed among BSM living with HIV to understand work histories and experiences, facilitating factors and barriers to work, and the impact of various work experiences on the health and wellbeing. In particular, our study found a relationship between verbal harassment and employment. Future research on intersectionality, enacted stigma, and employment is needed. The National HIV AIDS Strategy calls for initiatives that help PLWH access income support through job skills and employment. Public health interventions that integrate employment-related services into HIV prevention programming might simultaneously address a prioritized need, combat a social determinant of HIV, and improve health and well-being.

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Table 1:

Characteristics of Black MSM in Baltimore (n=283)

	Employed Full Time in the Past Year			X ² (p-value)
	Yes n (%)	No n (%)	Total	
Total	139 (49.1)	144 (50.8)	283 (100)	
Descriptive characteristics				
Age				
18-24	38 (27.3)	36 (25.0)	74 (26.2)	12.9 (0.0049)
25-34	58 (41.7)	43 (29.9)	101 (35.7)	
35-44	20 (14.4)	15 (10.4)	35 (12.4)	
45+	23 (16.6)	50 (34.7)	73 (25.8)	
Education				
High school/GED or less	52 (37.4)	86 (59.7)	145 (51.2)	14.1 (0.0002)
Some college or more	87 (62.6)	58 (40.3)	138 (48.8)	
Household income				
<\$5,000	7 (5.0)	31 (21.5)	38 (13.4)	61.8 (<.0001)
\$5,000to <\$10,000	5 (3.6)	27 (18.8)	32 (11.3)	
\$10,000 to <\$20,000	30 (21.6)	42 (29.2)	72 (25.4)	
\$20,000 to <\$39,000	42 (30.2)	23 (16.0)	65 (23.0)	
\$40,000+	45 (32.4)	9 (6.3)	54 (19.1)	
Missing/Unknown	10 (7.2)	12 (8.3)	22 (7.8)	
Sexual identity				
Gay/Homosexual	108 (77.7)	72 (50.0)	180 (63.6)	23.4 (<.0001)
Bisexual/Heterosexual	31 (22.3)	72 (50.0)	103 (36.4)	
Disclosed sexual identity				
Yes	129 (92.8)	110 (76.4)	239 (84.5)	14.5 (0.0001)
No	10 (7.2)	34 (23.6)	44 (15.5)	
Ever been incarcerated				
Yes	45 (32.4)	79 (54.9)	124 (43.8)	14.5 (0.0001)
No	94 (67.6)	65 (45.1)	159 (56.2)	
Current insurance				
Yes	122 (87.8)	122 (84.7)	244 (86.2)	0.8 (0.7557)
No	17 (12.2)	19 (13.2)	36 (12.7)	
Missing/Unknown	0 (0.0)	3 (2.1)	3 (1.1)	
Health outcomes and health behaviors				
HIV				
Yes	45 (32.4)	73 (50.7)	118 (41.7)	9.8 (0.0018)
No	94 (67.6)	71 (49.3)	165 (58.3)	
Depression				
Yes	54 (38.9)	77 (53.5)	131 (46.3)	4.4 (0.0368)

	Employed Full Time in the Past Year			χ^2 (p-value)
	Yes n (%)	No n (%)	Total	
No	78 (56.1)	67 (46.5)	145 (51.2)	
Missing/Unknown	7 (5.0)	0 (0.0)	7 (2.5)	
Ever crack use				
Yes	4 (2.9)	21 (14.6)	25 (8.8)	12.0 (0.0005)
No	135 (97.1)	123 (85.4)	258 (91.2)	
Stigma				
Verbal harassment				
Yes	33 (23.7)	49 (34.0)	82 (29.0)	3.5 (0.0673)
No	105 (75.5)	95 (66.0)	200 (70.7)	
Missing/Unknown	1 (0.7)	0 (0.0)	1 (0.4)	
Discrimination				
Yes	28 (20.1)	23 (16.0)	51 (18.0)	0.83 (0.4396)
No	111 (79.9)	121 (84.0)	232 (82.0)	
Assault				
Yes	4 (2.9)	15 (10.4)	19 (6.7)	6.4 (0.0158)
No	135 (97.1)	129 (89.6)	264 (93.3)	

Table 2:

Employment among Black MSM in Baltimore, by HIV status (N=283)

	HIV-positive n (%)	HIV-negative n (%)	Total	χ^2 (p-value)
Current employment				
Employed full-time	38 (32.2)	79 (47.9)	117 (41.3)	7.0 (0.0083)
Employed part-time	18 (15.3)	25 (15.2)	43 (15.2)	0.0 (0.9811)
A homemaker	1 (0.8)	0 (0.0)	1 (0.4)	NA
A full-time student	4 (3.4)	13 (7.9)	17 (6.0)	2.4 (0.1171)
Retired	8 (6.8)	2 (1.2)	10 (3.5)	NA
Unable to work for health reasons	12 (10.2)	12 (7.3)	24 (8.5)	0.7 (0.3884)
Unemployed	33 (28.0)	29 (17.6)	62 (21.9)	4.3 (0.0372)
Other	4 (3.4)	5 (3.0)	9 (3.2)	NA
Employment History				
Sources of money in the past year				
Full-time job				
Yes	45 (38.1)	94 (57.0)	139 (49.1)	9.8 (0.0018)
No	73 (61.9)	71 (43.0)	144 (50.9)	
Missing/Unknown	0 (0.0)	0 (0.0)	0 (0.0)	
Part-time job				
Yes	28 (23.7)	44 (26.7)	72 (25.4)	0.5 (0.4842)
No	89 (75.4)	115 (69.7)	204 (72.1)	
Missing/Unknown	1 (0.9)	6 (3.6)	7 (2.5)	
Odd jobs				
Yes	27 (22.9)	38 (23.0)	65 (23.0)	0.0 (0.8736)
No	90 (76.3)	121 (73.3)	211 (74.6)	
Missing/Unknown	1 (0.9)	6 (3.6)	7 (2.5)	
Day labor				
Yes	5 (4.2)	9 (5.5)	14 (5.0)	0.3 (0.6038)
No	112 (94.9)	150 (90.9)	262 (92.6)	
Missing/Unknown	1 (0.9)	6 (3.6)	7 (2.5)	
Assistance programs				
Yes	63 (53.4)	53 (32.1)	116 (41.0)	11.6 (0.0006)
No	54 (45.8)	106 (64.2)	160 (56.5)	
Missing/Unknown	1 (0.9)	6 (3.6)	7 (2.5)	
Number of sources of money in the past year				
1	44 (37.3)	60 (36.4)	104 (36.8)	2.1 (0.5419)
2	28 (23.7)	46 (27.9)	74 (26.2)	
3	19 (16.1)	28 (17.0)	47 (16.6)	
4	13 (11.0)	15 (9.1)	28 (9.9)	
5 +	12 (10.2)	9 (5.5)	21 (7.4)	

	HIV-positive n (%)	HIV-negative n (%)	Total	χ^2 (p-value)
Missing/Unknown	2 (1.7)	7 (4.2)	9 (3.2)	
Job or vocational training course				
Within the last year	17 (14.4)	28 (17.0)	45 (15.9)	2.5 (0.5419)
Between 1 and 5 years ago	21 (17.8)	19 (11.5)	40 (14.1)	
More than 5 years ago	22 (18.6)	31 (18.8)	53 (18.7)	
Never	57 (48.3)	81 (49.1)	138 (48.8)	
Missing/Unknown	1 (0.9)	6 (3.6)	7 (2.5)	

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Table 3:

Predictors of full-time employment among Black MSM in Baltimore, MD

	Full-time employment in the last 12 months		OR unadjusted (95% CI)	Test statistic, p-value	OR adjusted (95% CI)	Test statistic, p-value
	No n (%)	Yes n (%)				
Total						
Descriptive characteristics						
Age						
18-24	36 (48.7)	38 (51.4)	ref	ref	ref	ref
25-34	43 (42.6)	58 (57.4)	1.28 (0.70-2.4)	1.71, 0.0884	1.65 (0.84-3.26)	1.04, 0.3014
35-44	15 (42.9)	20 (57.1)	1.26 (0.56-2.87)	1.16, 0.2463	2.82 (1.10-7.24)	2.43, 0.0159
45+	50 (68.5)	23 (31.5)	0.43 (0.22-0.86)	-3.33, 0.0010	0.67 (0.29-1.55)	-2.49, 0.0132
Education						
High school/GED or less	86 (62.3)	52 (37.7)	ref	ref	ref	ref
Some college or more	58 (40.0)	87 (60.0)	2.48 (1.53-4.02)	3.71, 0.0003	2.21 (1.26-3.84)	2.80, 0.0054
Sexual identity						
Bisexual/Heterosexual	72 (69.9)	31 (30.1)	ref	ref	ref	ref
Gay/Homosexual	72 (40.0)	108 (60.0)	3.26 (1.93-5.49)	4.45, <.0001	3.45 (1.84-6.46)	3.89, 0.0001
Disclosed sexual identity						
No	34 (77.3)	10 (22.7)	ref	ref		
Yes	110 (46.0)	129 (54.0)	3.77 (1.77-8.04)	3.45, 0.0006		
Ever been incarcerated						
No	65 (40.9)	94 (59.1)	ref	ref		
Yes	79 (63.7)	45 (36.3)	0.42 (0.26-0.70)	-3.43, 0.0007		
Health outcomes and health behaviors						
Depression						
No	67 (46.2)	78 (53.8)	ref	ref		
Yes	77 (58.8)	54 (41.2)	0.60 (0.37-0.97)	-2.07, 0.0390		
HIV Status						
No	71 (43.0)	94 (57.0)	ref	ref	ref	ref
Yes	73 (61.9)	45 (38.1)	0.49 (0.30-0.80)	-2.89, 0.0042	0.40 (0.22-0.73)	-2.99, 0.0030
Ever crack use						
No	123 (47.7)	135 (52.3)	ref	ref	ref	ref
Yes	21 (84.0)	4 (16.0)	0.18 (0.06-0.55)	-3.02, 0.0028	0.38 (0.11-1.35)	-1.50, 0.1353
Stigma						

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	Full-time employment in the last 12 months		OR unadjusted (95% CI)	Test statistic, p-value	OR adjusted (95% CI)	Test statistic, p-value
	No n (%)	Yes n (%)				
Verbal harassment						
No	95 (47.5)	105 (52.5)	ref	ref	ref	ref
Yes	49 (59.8)	33 (40.2)	0.60 (0.35-1.01)	-1.91, 0.0568	0.46 (0.23-0.92)	-2.21, 0.0276

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