



# HIV microaggressions: a novel measure of stigma-related experiences among people living with HIV

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**Abstract** Since the beginning of the HIV epidemic stigma has served as a strong barrier to effectively delivering HIV prevention and treatment. Due in part to its complex nature, stigma is difficult to address and novel methods of understanding stigma are needed. Based on formative and empirical research with  $N = 236$  primarily Black men living with HIV, a HIV microaggressions scale was developed and evaluated in order to assess this component of stigma. Factor analysis resulted in a 13-item scale ( $\alpha = .83$ ) with 3 subscales explaining 51% of the total variance. The microaggressions scale demonstrated convergent validity (with internalized, enacted, and anticipated stigmas) and discriminant validity (with social support). HIV microaggressions was associated with longer gaps since last care appointment and depressive symptoms, and subscales were associated with barriers to accessing health care, disclosure, and HIV care self-efficacy. The HIV microaggressions scale is a novel tool for assessing a critical subcomponent of stigma.

**Keywords** HIV microaggressions · Stigma · Scale development · Health care

## Introduction

Oppression in all of its forms affects the health and well-being of individuals. There exist well-documented disparities in a variety of physical and mental health outcomes between oppressed persons and their non-oppressed counterparts (Babyar, 2018). Minority stress theories consider the ways in which stress and oppression are experienced among persons with marginalized identities, and how these factors are related to health outcomes and health disparities (Friedman et al., 2009; Hendricks & Testa, 2012; Meyer, 2003). Prior studies suggest that minority-based stressors may affect minority individuals' health through biological stress mechanisms leading to psychological distress, and/or by influencing individuals' health behaviors and their use (or non-use) of health services (Balsam et al., 2011; Hausmann et al., 2008; Krieger et al., 2008; Meyer, 2003).

Much of the literature to date has focused on the impacts of oppression on minority persons in the form of *macroaggressions*, or major discriminatory experiences. Recently, however, literature examining the physical and mental health impacts of oppression in the form of *microaggressions*, or subtle forms of discrimination that occur in daily life, has expanded substantially (Sue et al., 2007). Much of this work has stemmed from the need to recognize both acute and chronic stigmas (Williams et al., 2003). Although not a conceptual framework, different types of microaggressions have been identified; *microassaults* (e.g., name-calling, shunning, purposeful discrimination), *microinsults* (e.g., implications of negativity, rudeness), and *microinvalidations* (e.g., minimizing or ignoring target individuals' feelings and statements, denying oppression) (Lilienfeld, 2017). Studies show that microaggressions can have a multitude of negative consequences for individuals among marginalized, stigmatized

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groups, including racial/ethnic, gender, and sexual orientation minorities. To date, studies of microaggressions have focused primarily on race-based and sexual orientation-based microaggressions. Documented consequences of these types of microaggressions include emotional, psychological, and physiological distress, and substance abuse and substance use disorders (Blume et al., 2012; Nadal et al., 2016; Smith et al., 2008; Torres et al., 2010).

While the literature regarding race- and sexual orientation-based microaggressions is growing, relatively little is known about other types of microaggressions. For example, race and sexual orientation minority persons who are living HIV may be subject to both macroaggressions and microaggressions directed toward their race and/or sexual orientation minority status(es), in addition to macroaggressions and microaggressions directed toward their HIV status. Furthermore, prior studies that have considered how race, sexual orientation, and HIV status-related oppression affects people living with HIV have focused on stigma in the form of macroaggressive experiences. These types of macroaggressions have been shown to discourage disclosure of one's status, seeking and establishing social support networks, and adherence to HIV medications among people living with HIV (Sayles et al., 2009; Smith et al., 2008).

While research has delineated pathways between macroaggressions and various health outcomes, additional work to better understand whether and to what extent people living with HIV experience HIV-based microaggressions, and whether HIV-based microaggressions impede health seeking behaviors among this population, is needed. There exist validated measures of microaggressions toward persons of color (i.e., the Racial Microaggressions Scale, the Racial and Ethnic Microaggressions Scale, Inventory of Microaggressions Against Black Individuals), (Mercer et al., 2011; Nadal et al., 2016; Torres-Harding et al., 2012), as well as measures of microaggressions toward lesbian, gay, bisexual and trans individuals of color (i.e., the LGBT People of Color Microaggressions Scale) (Hausmann et al., 2008), to date there exists no formalized measure of HIV-based microaggressions.

The literature specific to HIV stigma related measures is extensive and largely focuses on stereotypes, prejudice, discrimination, internalized stigma, enacted stigma, and anticipated stigma (Earnshaw & Chaudoir, 2009; Earnshaw et al., 2013). Further review of this literature, however, demonstrates that much of the work in the area of stigma measurement has focused on experiences of internalized stigma among people living with HIV, and examining stereotyping among the general population towards people living with HIV. Other areas of stigma are relatively underrepresented in the literature. Moreover, HIV microaggressions are a form of enacted stigma, yet enacted stigma in

particular has been overlooked in the literature (Nyblade, 2006). When enacted stigma is measured it is typically infrequently reported relative to other measures (Earnshaw et al., 2013), however, measures of enacted stigma tend to focus on major events (e.g., job loss, housing loss, or relationship loss as a result of living with HIV). A scale focused on HIV microaggression fills this overlooked area of enacted stigma.

Previous scholarship has documented a link between increased levels of alcohol use and depression to experiences of stigma and macro/microaggressions. For example, Grov et al., 2010 found that a significant portion of depression among HIV-positive men and women was attributable to HIV/AIDS-related stigma, which included personalized stigma and concerns of aggressions/negative reactions to one's HIV status. Specific to microaggressions, Blume et al., 2012 found that among a sample of ethnic minority college students, race/ethnic microaggressions predicted more binge drinking and associated alcohol-related consequences for students of color in particular. Given previous associations between stigma and macro/microaggressions among minority populations, we perform preliminary analyses to explore the relationship between the microaggression measure and several health outcomes to demonstrate the potential utility of this new measure that investigates HIV-specific microaggressions among black men living with HIV.

### Study objectives

Prior research suggests that microaggressions affect the health of people with HIV, yet few studies have been able to systematically measure this association. Given the state of the available research, the present study's objectives were four-fold. The first objective was to develop items for a measure of HIV-based microaggressions among a sample of primarily black men living with HIV, which included a principal components analysis (PCA). The second objective was to test the initial reliability of the measure. The third objective was to test the validity of the measure by exploring correlations between the measure and measures of internalized, anticipated, and enacted stigmas, as well as social support. The fourth objective was to explore relationships between the HIV-based microaggression measure and multiple HIV-related health outcomes, including HIV health care behaviors and status disclosure. The final objective was determine the extent to which microaggression was associated with problematic alcohol use.

## Methods

### Initial scale development procedures

Four focus groups ( $N = 7-8$  per group) and individual interviews ( $N = 17$ ) (Guest et al., 2017) were convened with black men living with HIV from the Atlanta, GA area in February 2017. Participants were recruited from LGBT focused online and in-person venues. Participants were provided with an overview of the designated topic (subtle experiences of mistreatment related to living with HIV), an overview of the format of the discussion, and for focus groups, general ground rules for maintaining respect/privacy. All participants provided written informed consent and were compensated \$50 for participation. Participants were encouraged to discuss their personal and observed experiences with HIV stigma microaggressions. The first and last authors developed the guide for the focus groups and semi-structured individual interviews, and therefore, content areas were kept consistent across data collection methods. Focus groups were conducted by the first and last authors, and research staff conducted individual interviews which were coded for content and then evaluated by the first author. Based on memos created from data collected from the groups and individual interviews, a preliminary scale was established. The preliminary scale was reviewed and discussed by LAE and SCK based on interpretation of the qualitative data. Twenty-five items that reflected microaggressive experiences were generated from the focus group and individual interview data. From these items, 11 were removed due to ambiguity or redundancy leaving a total of 14 items for the scale. Item development and elimination were directed by the first and last author. Item response set for all items included 0-Never, 1-Rarely, 2-Sometimes, and 3-Often, and items were asked with a 3 month timeframe.

### Scale testing procedures

Participants were 189 men residing in and around Atlanta, GA, recruited at LGBT venues (e.g., bars/clubs/parties) and LGBT online sites (e.g., dating sites and apps), and over the phone through fliers and participant referrals. Study activities occurred between September 2017 and July 2018. Participants provided written informed consent and all procedures were approved by an Institution Review Board. Study entry criteria included: 16 years of age or older, assigned male gender at birth and identified as male, and living with HIV. Scale administration occurred during the baseline assessment of a larger, ongoing behavioral intervention trial to improve access to health care for people with HIV. Study procedures also included providing

medical documentation of HIV positive status or administration of a rapid HIV self-test (OraQuick HIV 1/2 antibody test) to confirm HIV status, and completing an Audio Computer-Assisted Self-Interview (ACASI).

## Measures

### Demographic and HIV care characteristics

Participants reported on age, race/ethnicity, gender identity, sexual orientation, relationship status, education, and income. Participants also reported on the date of their most recent HIV care appointment (analyzed as months since last appointment) and whether they knew their most recent viral load (yes/no).

### Anticipated and enacted stigmas

Participants were administered a battery of 24 HIV stigma related items adapted from Earnshaw et al., 2013 (e.g., mistreated by healthcare providers, made fun of or insulted, rejected by sex partners, lost friends, lost housing, etc., due to living with HIV). Participants were asked how often they experienced these stigmas (enacted stigma). Response set included *never*, *rarely*, *sometimes*, and *often*. Next, participants were asked to report on if they believed that experience would occur in the future (anticipated stigma). Example item included, "How likely is it that you will lose friends in the future for telling them you have HIV?" All items were based on a 6-point Likert scale (1 = *Strongly Disagree* to 6 = *Strongly Agree*). Items were averaged across the enacted stigma items (Cronbach's  $\alpha = .93$ ) and the anticipated stigma items<sup>1</sup> forming two separate scales.

### Internalized stigma

Participants reported on their agreement with internalized HIV stigma items (Earnshaw et al., 2013). Six items were used to assess this construct. Example items included "Having HIV makes me feel like I'm a bad person" and "I feel ashamed of having HIV". All items were based on a 6-point Likert scale (1 = *Strongly Disagree* to 6 = *Strongly Agree*). The scale demonstrated good internal reliability (Cronbach's  $\alpha = .89$ ).

<sup>1</sup> Because the anticipated stigma items were only asked if the participants had previously experienced the stigma (enacted stigma), reliability analyses could not be conducted.

## Social support

Participants reported on their experiences with social support. Fourteen items were used to assess this construct. Example items included, “When I need suggestions on how to deal with a personal problem, I know someone I can turn to” and “I feel a strong emotional bond with at least one other person” (Cutrona & Russell, 1987). Response set ranged from 1 = completely true to 4 = completely false, and responses were recoded such that higher scores indicated higher levels of social support. The scale demonstrated good internal reliability (Cronbach’s  $\alpha = .91$ ).

## Alcohol use disorders identification test (AUDIT)

The AUDIT is a 10-item questionnaire designed to assess hazardous and harmful alcohol use (Saunders et al., 1993). Items are focused on experiences with alcohol use from the past year. Scores of an 8 or higher on the AUDIT signal the need for a more in-depth alcohol assessment. Response sets include value ranges of 0–4 with answers varying based on question. Total scores range from 0 to 40.

## Depressive symptoms

The Center for Epidemiological Studies Depression Scale (CES-D) for assessing self-reported depressive symptomatology consists of 20 items (Radloss, 1977). Items focus on depressive symptoms from the prior week. Scores of 20 or higher indicate the need for further assessment of mental health. Responses range from 0 to 3, with a possible total score range of 0–60 (Cronbach’s  $\alpha = .82$ ).

## Barriers to accessing health care

Four items were asked to assess common barriers to attending HIV care appointments. Items included, “How hard is it for you to pay for transportation to go to a doctor or clinic for HIV care?” and “How hard is it to understand the information you are given at the doctor’s office or clinic about HIV (such as information from staff, pamphlets, or posters)?” Response set included 0 = *very easy* to 4 = *very hard*. Responses were averaged over all items, and the scale demonstrated good reliability (Cronbach’s  $\alpha = .80$ ).

## HIV disclosure

Participants were asked if they had told some, none, or all of the following groups of people: sex partners, parents, siblings, children, relatives, close friends, casual friends, healthcare providers, and employers, about their living with HIV. For groups of people who were not applicable, these items were not included in the partici-

pants’ average. The scale demonstrated good reliability (Cronbach’s  $\alpha = .85$ ).

## HIV care self-efficacy

Five items were asked in order to assess their self-efficacy for maintaining HIV care related behaviors (adapted from Johnson et al., 2007). Items included, “How certain are you that you can follow all of your HIV doctor’s orders?” and “How certain are you that you can keep your next HIV doctor’s appointment?”. Response set included an 11 point scale ranging from 0 = *not certain at all* to 10 = *very certain*. The scale demonstrated good reliability Cronbach’s  $\alpha = .78$ .

## Data analyses

Primary analyses were conducted using IBM SPSS version 25. The overall sample included 189 male participants (see Table 1, participants who self-identified as transwomen [ $n = 4$ ] and participants with incomplete data [ $n = 2$ ] were excluded from analyses). Bivariate correlations were conducted and results demonstrated that while the items were significantly correlated overall, the values did not exceed  $r = .80$ , suggesting no multicollinearity. A principal components analysis and tests of multiple validities were conducted.

## Results

### Initial tests of factorability

Prior to running factor analyses, Pearson’s correlation coefficients were examined. It was observed that of the 14 items, 11 correlated  $> .3$  with one or more other items suggesting reasonable factorability (Tabachnik & Fidell, 2001) (see Table 2 for correlations, see Table 3 for each item description). Second, the Kaiser–Meyer–Olkin measure of sampling adequacy was .84, above the commonly recommended value of .6, and Bartlett’s test of sphericity was significant ( $\chi^2(91) = 692.23, p < .05$ ). These tests indicate the suitability of the data for structure detection (Tabachnik & Fidell, 2001). Lastly, the communalities of 13 items were above .3 (see Table 2), further confirming that close to all of the items shared some common variance with other items. Although, item 5 did not have a communality above .3, it was significantly correlated with most of the other microaggression items. Given these overall indicators, factor analysis was deemed to be suitable with all 14 items.

**Table 1** Sociodemographics of men living with HIV in the Atlanta, GA and surrounding areas

	N	%
Education		
≤ High school	74	39.2
> High school	115	60.8
Race/ethnicity		
Black	182	96.3
Other/non-specified	7	3.7
Sexual orientation		
Heterosexual	10	5.3
Gay/same gender loving	161	85.0
Bisexual	18	9.5
Income		
≤ \$20,000	112	59.3
> \$20,000	77	40.7
Pay for healthcare		
No coverage	17	9.0
Private insurance	47	24.9
Public insurance	107	56.6
Other	18	9.5
Without healthcare in past 2 years	80	42.3
Seen a provider for HIV care in past 4 months	165	87.3
Employed	123	65.1
AUDIT (8 or higher)	32	16.9
Depression (16 or higher)	93	49.2
	M	SD
Years since diagnosis	7.01	4.51
Internalized stigma	2.54	1.49
Anticipated stigma	3.10	1.42
Enacted stigma	.39	
Social support	2.28	.33
Barriers to accessing healthcare	1.24	.98
HIV status disclosure	1.11	.45
HIV care self-efficacy	8.67	1.61

Enacted stigma ranged from 1 (*never*) to 4 (*often*). Internalized stigma and anticipated stigma ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). Social support ranged from 1 (*completely true*) to 4 (*completely false*). Barriers to accessing health care ranged from 0 (*very easy*) to 4 (*very hard*). HIV status disclosure ranged from 1 (*none*) to 3 (*all*). HIV care self-efficacy ranged from 0 (*not certain at all*) to 10 (*very certain*). *N* number, *M* mean, *SD* standard deviation

### Factor analysis

A principal components factor analysis with an oblimin rotation was used because the primary purpose was to identify and determine whether these items loaded on to one factor or consisted of multiple underlying factors (Table 3). The first three factors cumulatively explained approximately 52% of the variance. The first factor

explained 31.67% of the variance, the second factor explained 10.49% of the variance resulting in 42.16% of cumulative variance explained, and the third factor explained 9.35% of the variance resulting in 51.51% of cumulative variance explained. All other factors were below the eigenvalue cutoff of 1.00. All items significantly contributed to the factor structure and had a primary factor loading of .4 or above with a factor. A few items demonstrated cross-loadings, loading onto more than one factor above .4. For this reason, we grouped items based on loadings above .5 (Fornell & Larcker, 1981). For item 10, loadings were above .50 for two factors (and did not vary substantially from each other), indicating a lack of distinction in the factor structure; item 10 was, subsequently, deleted. We evaluated our factor loading structure as fair (.45), good (.55), very good (.63) and excellent (.71) (Tabachnik & Fidell, 2001).

### Internal consistency for all factors

Internal consistency for the overall microaggression scale and the three underlying factors was examined using Cronbach's alpha. The overall alpha for the entire scale was high ( $\alpha = .83$ ) and the other alphas were moderate to high: .78 (Factor 1—*direct microaggressions*; negative treatment towards individual living with HIV), .60 (Factor 2—*self-protection from microaggressions*, avoiding circumstances where stigmatizing experiences are assumed to occur), .73 (Factor 3—*indirect microaggressions*, negative treatment towards all people living with HIV). No substantial increases in alpha for any of the scales could have been achieved by eliminating items.

Composite scores were created for each of the three factors based on the mean of the items which had their primary loadings on each factor. An additional composite score was created based on the means of all the HIV microaggression items. Higher scores indicated greater experiences of HIV microaggression. Small to moderate correlations were observed between each of the composite scores:  $r = .30$  between direct microaggressions (factor 1) and self-protection from microaggressions (factor 2);  $r = .55$  between direct microaggressions and indirect microaggressions (factor 3); and  $r = .25$  between self-protection from microaggressions and indirect microaggressions.

### Scale validities

In order to examine convergent and discriminate validity we correlated the microaggression composites with composite scores created from the enacted stigma, anticipated stigma, internalized stigma, and social support measures. Social support was assessed to determine discriminant

**Table 2** Summary of correlations, means, and standard deviations for scores of the HIV microaggression items

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. You heard someone say, “I’m HIV negative, I’m clean”	–													
2. You avoided circumstances where people might ask questions about your health	.23**	–												
3. You avoided reading the comments section on online articles about HIV	.01	.43**	–											
4. You saw an HIV positive person portrayed negatively in the media	.24**	.19**	.14*	–										
5. You heard about someone being outed about their HIV status	.35**	.21**	.16*	.45**	–									
6. You heard someone say, “but he or she doesn’t look HIV positive”	.35**	.15*	.01	.38**	.60**	–								
7. Someone assumed you must be depressed because of your HIV status	.13	.22**	.14	.26**	.30**	.35**	–							
8. Someone assumed you don’t or shouldn’t have sex because of your HIV status	.23**	.20**	.17*	.30**	.37**	.46**	.47**	–						
9. Someone’s body language showed you that they were bothered because of your HIV status	.18*	.18*	.21**	.25**	.33**	.36**	.53**	.55**	–					
10. You weren’t included in a group event because of your HIV status	.01	.13	.23**	.23**	.29**	.20**	.30**	.21**	.44**	–				
11. You felt that other health conditions (such as breast cancer or heart disease) received more public support than HIV	.04	.20**	.15*	.26**	.34**	.30**	.26**	.36**	.40**	.20**	–			
12. You heard about people trying to make or enforce laws that harm people with HIV	.16*	.07	.13	.31**	.28**	.26**	.18*	.27**	.20**	.16*	.26**	–		
13. In an online dating profile, someone wrote “drug/disease free, UB2” or neg for neg only,” etc.	.25**	.21**	.03	.30**	.37**	.34**	.22**	.23**	.24**	.13	.22**	.26**	–	
14. Someone seemed surprised to learn that people living with HIV would want to have children	.20**	.22**	.09	.42**	.36**	.46**	.39**	.43**	.40**	.28**	.36**	.31**	.31**	–
<i>M</i>	2.44	1.56	.91	1.75	2.15	2.38	1.38	1.49	1.26	.42	1.62	1.40	2.50	1.80
<i>SD</i>	.86	1.09	1.04	1.02	.92	.85	1.18	1.17	1.17	.84	1.23	1.16	.90	1.10

\*\*Correlation is significant at the .01 level (2-tailed). \*Correlation is significant at the .05 level (2-tailed). *M* mean, *SD* standard deviation

validity as microaggressions and social support are theoretically different constructs and, therefore, considered separate areas of inquiry, yet potentially impactful on each other, making this construct fitting for discriminant validity (i.e., social support has been shown to serve as a buffer to the effects of stigmatizing experiences). Similar to the microaggression composites, these composites were based on the means of the items for each measure respectively. Results supported convergent validity among the microaggression items and the enacted, anticipated, and internalized stigma measures, showing significant positive correlations. In regards to social support, results demonstrated discriminant validity, showing no significant correlation with the HIV microaggressions scale overall, and significant negative correlations with two of the subscales

(indirect microaggressions and self-protection from microaggressions) (Table 4).

**Psychosocial health related associations**

The microaggressions scale and subscales were also evaluated for their associations with depression, accessing HIV care, HIV status disclosure, and HIV care self-efficacy. The total microaggressions scale was found to be positively associated with depression. The direct microaggressions subscale was positively associated with depression, experiencing barriers to health care, and HIV status disclosure, and was negatively associated with HIV care self-efficacy. The self-protection subscale was positively associated with depression and barriers to accessing health care, and negatively associated with HIV status disclosure and HIV care

**Table 3** Items, component loadings, item means, standard deviations, and communalities for HIV microaggressions

Item	Factor loadings			Scale if items are deleted			Factor	Item parameters			
	1	2	3	All	1	2		3	<i>M</i>	<i>SD</i>	<i>h</i> <sup>2</sup>
	1. Someone assumed you must be depressed because of your HIV status	<b>.71</b>	.12	.37	.79	.69		–	–	1	1.38
2. Someone assumed you don't or shouldn't have sex because of your HIV status	<b>.69</b>	.09	.46	.78	.69	–	–	1	1.49	1.17	.66
3. Someone's body language showed you that they were bothered because of your HIV status	<b>.81</b>	.16	.30	.78	.64	–	–	1	1.26	1.17	.43
4. You weren't included in a group event because of your HIV status	<b>.63</b>	.23	.09	.80	.75	–	–	1	.42	.84	.37
5. You felt that other health conditions (such as breast cancer or heart disease) received more public support than HIV	<b>.60</b>	.14	.29	.80	.75	–	–	1	1.62	1.22	.23
6. You avoided circumstances where people might ask questions about your health	.19	<b>.81</b>	.31	.80	–	n/a	–	2	1.56	1.09	.72
7. You avoided reading the comments section on online articles about HIV	.27	<b>.84</b>	.03	.81	–	n/a	–	2	.91	1.04	.74
8. You heard about people trying to make or enforce laws that harm people with HIV	.35	.03	<b>.44</b>	.81	–	–	.73	3	1.40	1.16	.35
9. In an online dating profile, someone wrote "drug/disease free, UB2" or neg for neg only," etc.	.24	.09	<b>.59</b>	.80	–	–	.69	3	2.50	.90	.51
10. Someone seemed surprised to learn that people living with HIV would want to have children	<b>.59</b>	.07	<b>.58</b>	n/a	n/a	n/a	n/a	n/a	1.80	1.09	.51
11. You heard someone say, "I'm HIV negative, I'm clean"	.01	.13	<b>.67</b>	.81	–	–	.70	3	2.44	.86	.52
12. You saw an HIV positive person portrayed negatively in the media	.37	.16	<b>.63</b>	.79	–	–	.67	3	1.75	1.02	.42
13. You heard about someone being outed about their HIV status	.46	.14	<b>.71</b>	.79	–	–	.64	3	2.15	.92	.61
14. You heard someone say, "but he or she doesn't look HIV positive"	.49	–	<b>.72</b>	.79	–	–	.66	3	2.38	.85	.51

Values in boldface type are component loadings at or above the criteria for selection (.40). Item 14 was deleted due to double loading

self-efficacy. The indirect microaggressions subscale was positively associated with problematic alcohol use (Table 4).

**HIV microaggressions and healthcare engagement**

Using generalized linear modeling, HIV microaggressions was significantly associated with months since last HIV care appointment, with greater endorsement of microaggressions being associated with greater amount of time since last visit (RR = 1.33, 95%CI = 1.09–1.83, *p* < .01).

**Discussion**

For the current study, we present a new 13-item microaggression scale that we evaluated in order to understand how this form of stigma relates to other measures of stigma, and HIV health behaviors and beliefs. This measure allows for assessing stigmatizing experiences that have been overlooked by prior scales that primarily capture overt forms of stigma. Findings demonstrate a novel approach to understanding experiences of stigma among people living with HIV. Further, this measure can be used in the evaluation of stigma reduction interventions (Stangl et al., 2013). Three distinct factors emerged from the principal components factor analysis. There are important nuances across each

factor: microaggressions can be experienced as either direct or indirect, and people with HIV also report taking steps to protect themselves from these experiences. Subscales provide further insight into this new approach to understanding the complex nature of stigma.

Similar to prior literature (Berger et al., 2001), our HIV microaggressions scale demonstrated positive correlations with depression and other stigma measures, and negative correlations with social support (among subscales). These findings provide important insight into how microaggressions are related to other psychosocial measures. Further, it has been hypothesized that the burden of stigma on mental health is buffered by social support (Kondrat et al., 2017; Smith et al., 2008). These pathways may explain findings in the current paper and offer an explanation for how experiences of stigma result in varied outcomes (*i.e.*, as a result of varied levels of social support) among individuals experiencing stigma (Stutterheim et al., 2011).

The HIV microaggressions scale was also both positively and negatively associated with health related and HIV specific behaviors. For example, indirect microaggressions was positively associated with alcohol use, a relationship that may exist through coping (Wardell et al., 2018). Prior research proposes that addressing stigma could impact problematic alcohol use and is a novel avenue for intervention research in this area (Wardell et al., 2018). Interestingly, we conceptualize indirect microaggressions

**Table 4** Correlations between the microaggression scale and other psychosocial measures

Measures	HIV microaggression scale	Direct microaggression	Self-protection from microaggression	Indirect microaggression
HIV microaggression scale	–			
Direct microaggressions	–	–		
Self-protection from microaggressions	–	.30**	–	
Indirect microaggressions	–	.55**	.25**	–
Stigma measures				
Internalized stigma	.36**	.31**	.40**	.21**
Anticipated stigma	.26**	.23**	.24**	.13
Enacted stigma	.54**	.61**	.30**	.32**
Social support	– .12	– .15*	– .29**	.04
AUDIT	.11	.09	– .02	.16*
Depression	.22**	.25**	.23**	.10
Barriers to accessing health care	.13	.16*	.24**	– .01
Disclosure	.09	.20**	– .26**	.08
HIV care self-efficacy	– .14	– .16*	– .23**	– .05

\*\*Correlation is significant at the .01 level (2-tailed). \*Correlation is significant at the .05 level (2-tailed)

as a particularly subtle forms of stigma, which is likely exceedingly challenging to articulate as having experienced. The “invisible” nature of microaggressions makes them hard to identify, process, and address, but they can be equally, if not more, emotionally harmful as macroaggressions (Sue, 2010). Likewise, and an extension of the current literature (Eaton et al., 2018), stigma subscales varied in their relationship to barriers to accessing health care, with direct and self-protection from microaggressions being associated with barriers. Considerable work has examined the affective states, typically stress, in making seemingly logic-based health care related decision making (Ferrer & Mendes, 2018). Experiencing HIV microaggressions likely contributes to emotional states that have an impact on health care decision making.

We note inverse relationships in the direction of correlations between direct microaggressions and HIV status disclosure (positive relationship), and self-protection from microaggressions and HIV status disclosure (negative relationship). Although we can't be certain of the cause of the relationship, the direct microaggressions subscale includes items that assume the ‘stigmatizer’ is aware of the ‘targets’ HIV status, and therefore, in order for these items to be endorsed, an individual would likely have disclosed his/her status. This finding represents a unique area of microaggressions research where consequential outcomes of disclosure are identified. Likewise, self-protection from microaggressions conveys an avoidance of status disclosure, which is, of course, consistent with lower rates of

disclosure, as was observed. Overstreet et al., 2013 noted related findings between disclosure and internalized stigma, however experiencing microaggressions as a result of disclosure is a novel area of research.

HIV microaggressions was associated with a longer gap in time since last HIV care appointment. Prior work has identified experiences of stigma as being associated with lack of accessing health care, however, much of this work has specifically focused on stigma from health care providers and/or stigma experienced in health care settings (Fay et al., 2011; Kinsler et al., 2007; Nyblade et al., 2009). For the current paper, not only did we find microaggressions to be associated with health care gaps, but our measure of microaggressions does not focus on health care providers or settings, which suggests the possibility of a generalized impact of microaggressions. That is to say, experiencing microaggressions in one area (*e.g.*, in online or in person social environments) may impact beliefs and behaviors in other areas (*e.g.*, accessing health care).

### Limitations

Our research is cross-sectional and, therefore, causality can't be inferred from the current data. Our sample primarily focused on individuals who identified as black males which limits generalizability of our findings. Further validation of the current scale needs to be conducted with individuals across genders, races/ethnicities, and sexual orientations. Likewise, our sample was recruited from



individuals residing in the southeastern US, an area that may not be comparable to other US regions. In terms of scale development, one of our subscales consisted of two-items. There is some debate regarding the psychometrics of a two-item subscale, however, general consensus supports the use of two-item scales (Eisinga et al., 2013) (in particular, when two-item scales are part of a larger more complex scale), and numerous studies have demonstrated the utility and reliability of these scales (e.g., Fick et al., 2015; Kroenke et al., 2009).

Findings from the current study expand the literature in multiple ways. Although we developed the HIV microaggression scale as a result of formative research specific to HIV related oppressive experiences among men living with HIV, the findings lay the groundwork for the development or adaptability of this scale for other oppressed and vulnerable populations. For example, other marginalized groups (e.g., gender minority individuals) may experience similar microaggressions (e.g., fear of being outed or being aware of laws to oppress a certain groups), and population-specific microaggression scales may be key in explaining health disparities. We also highlight the need to understand potential burdens experienced by people living with HIV that are not immediately apparent or that are difficult to articulate due to their subtle nature. Further, a critical area of future research would include a focus on the impact of intersectionality on interpreting experiences of microaggressions. Finally, it is known that stigma is a complex phenomenon and developing measures that aim to capture this complexity provides a roadmap towards addressing and ending stigma as a barrier to HIV prevention and treatment.

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#### Compliance with ethical standards

**Conflict of interest** Lisa A. Eaton, Aerielle Allen, Jessica L. Maksut, Valerie Earnshaw, Ryan J. Watson, Seth C. Kalichman declare that they have no conflict of interest.

**Human and animal rights and Informed consent** This research involved Human Subjects and was conducted with the approval of the University of Connecticut Institutional Review Board (Protocol #16-130MER) and research was conducted in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

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