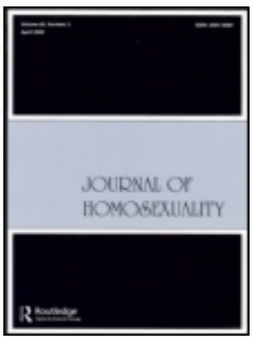

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The LGBQ Microaggressions on Campus Scale: A Scale Development and Validation Study

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Although LGBQ students experience blatant forms of heterosexism on college campuses, subtle manifestations such as sexual orientation microaggressions are more common. Similar to overt heterosexism, sexual orientation microaggressions may threaten LGBQ students' academic development and psychological wellbeing. Limited research exists in this area, in part due to lack of a psychometrically sound instrument measuring the prevalence of LGBQ microaggressions on college campuses. To address this gap, we created and tested the LGBQ Microaggressions on College Campuses Scale. Two correlated subscales were generated: Interpersonal LGBQ Microaggressions and Environmental LGBQ Microaggressions. The results indicated that the subscales demonstrate strong reliability and validity.

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Heterosexism, the system of oppression that marginalizes lesbian, gay, bisexual, and queer (LGBQ) people, persists in society, including on college campuses (Brown, Clarke, Gortmaker, & Robinson-Keilig, 2004; Rankin, Weber, Blumenfeld, & Frazer, 2010; Vaccaro, 2012; Yost & Gilmore, 2011). Although LGBQ students are subjected to physical violence and other blatant forms of heterosexism on campus, anti-LGBQ language, avoidance behaviors, and other subtle heterosexist actions are more common (Rankin et al., 2010; Woodford, Han, Craig, Lim, & Matney, 2014; Yost & Gilmore, 2011). Unlike overt heterosexist behaviors, subtle heterosexist actions are often unconscious and unintentional (Nadal, Rivera, & Corpus, 2010) and considered to be harmless (Sue, 2010a, 2010b; Sue et al., 2007), including sometimes by the LGBQ students who experience them (Fine, 2011). However, minority stress theory (Meyer, 2003) suggests that LGBQ persons experience negative outcomes when they are exposed to heterosexist behaviors and attitudes. Indeed, empirical evidence has supported this theory (Meyer, 2003), including in regard to subtle heterosexism negatively affecting LGBQ people, generally (Meyer, Ouellette, Haile, & McFarlane, 2011; Nadal et al., 2011, 2011), and sexual minority college students, specifically (Platt & Lenzen, 2013; Silverschanz, Cortina, Konik, & Magley, 2008; Woodford, Kulick, & Atteberry, 2015; Woodford, Howell, Silverschanz, & Yu, 2012). Preventing and addressing the consequences of heterosexism—in all of its manifestations—is important to fostering sexual minority students' academic development and psychosocial wellbeing.

The concept of *microaggressions*, which originated within studies of racism (Pierce, Carew, Pierce-Gonzalez, & Wills, 1977), has been applied to mundane subtle and covert discrimination against a myriad of marginalized groups, including sexual minorities (Nadal et al., 2011, 2011; Sue, 2010b; Sue & Capodilupo, 2008). Distinct from overt hostile behaviors, microaggressions generally entail everyday brief, low-intensity events that convey negative messages about the targeted group (Sue, 2010a; Sue et al., 2007). Although empirical research on the effects of sexual orientation microaggressions is growing, more is needed (Platt & Lenzen, 2013).

Given the prevalence of subtle heterosexism on college campuses, coupled with the fact that college days coincide with pivotal developmental stages (including sexual orientation) for the majority of students (Pascarella & Terenzini, 2005) and the importance of an affirming social environment and social relationships in promoting healthy sexual identity development among sexual minorities (Bilodeau & Renn, 2005; Mohr & Kendra, 2011), research on LGBQ microaggressions on college campuses is particularly important. Various forms of overt and subtle discrimination on campuses

have been examined (Rankin et al., 2010; Silverschanz et al., 2008; Woodford, Krentzman, & Gattis, 2012; Woodford et al., 2015), including the sexual orientation microaggression "that's so gay" (Woodford, Howell et al., 2012; Woodford, Howell, Kulick, & Silverschanz, 2012); however, a validated instrument to assess the frequency of experiencing sexual orientation microaggressions on college campuses is lacking. Such a scale, particularly one that assesses the prevalence of both interpersonal and environmental sexual orientation microaggressions, will advance research on LGBQ students' experiences, which can inform institutional policy and program development. It can also be useful in clinical interventions aiming to support LGBQ students as well as educational programs designed to foster awareness and acceptance of LGBQ students on campus. This study reports on the development and validation of the LGBQ Microaggressions on Campus Scale.

MICROAGGRESSIONS AND LGBQ MICROAGGRESSIONS

Conceptual Meaning and Typologies

Microaggressions are "the everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, that communicate hostile, derogatory, or negative messages to target persons based solely on upon their marginalized group membership" (Sue, 2010a, p. 3). Microaggressions have been typified into three categories: microinsults, microinvalidations, and microassaults, which are distinguished by the conscious intent of the perpetrator (or lack thereof) and the content and severity of the messages communicated (Sue, 2010a; Sue et al., 2007). Microinsults and microinvalidations tend to be unintentional and outside of the perpetrator's awareness, whereas microassaults are generally deliberate and based on consciously held prejudicial beliefs (Sue, 2010a). Microinsults involve insensitive or rude comments that degrade the target. For example, a gay man being told he is gay because his mother was too overbearing exemplifies a microinsult. Microinvalidations involve messages that erase or dismiss the experiences of oppression by members of marginalized groups. A comment such as, "We are all just people. Your sexuality doesn't matter," being said to a lesbian illustrates this kind of microaggression. Microassaults resemble old-fashioned discrimination in that the perpetrator purposefully aims to harm the target, assaults are often blatant, and they can entail "violent verbal or nonverbal attack" (Sue, 2010a, p. 8). Similar to microinsults and microinvalidations, microassaults can be covert, such as avoidant behaviors; yet other microassaults are explicit—for instance, using anti-LGBQ language (Sue, 2010b).

As these examples suggest, microaggressions can occur through interpersonal exchanges; however, they can also arise from indirect or obscured sources in the environment (e.g., media representations, advertisements,

overhearing comments in public; Sue et al., 2007). Sue and colleagues (2007) proposed environmental microaggressions as a separate category. They described them as "macro-level microaggressions, which are more apparent on systemic and environmental levels" (p. 277). An organizational climate that tolerates anti-LGBQ jokes and political campaigns against LGBQ-inclusive employment protections would be considered environmental microaggressions.

Research into campus climate for LGBQ students has examined interpersonal and environmental dimensions, such as overhearing gay jokes (Silverschanz et al., 2008), witnessing discrimination (Rankin et al., 2010; Woodford et al., 2014; Woodford, Krentzman et al., 2012), seeing anti-gay graffiti (Brown et al., 2004), and perceptions of LGBQ people (Brown et al., 2004; Rankin et al., 2010; Vaccaro, 2012). Studies have concluded that both interpersonal and environmental dimensions of campus climate can increase LGBQ students' risk for negative outcomes; however, important differences exist in their potential effects (Silverschanz et al., 2008; Woodford, Han et al., 2012; Woodford & Kulick, 2015). For example, Silverschanz et al. (2008) found that among sexual minority students, both directly experienced and witnessed forms of subtle anti-LGB discrimination were significantly positively associated with anxiety, yet only directly experienced subtle discrimination was similarly associated with depression. Their study and others reinforce the need to examine both interpersonal and environmental manifestations of microaggressions on campus. Given the commonplace use of social media among today's college students (Jacobsen & Forste, 2011) and the popularity of anti-LGBQ comments on online sources such as Twitter (http://www.nohomophobesresearch.com/), it is especially important that environmental microaggressions communicated via social media be examined.

Typologies of LGBQ Microaggressions

In understanding microaggressions targeting sexual minorities, two important theoretical frameworks are available, both of which have been partially validated through empirical research. Sue (2010b) offered a seven-category characterization of sexual orientation microaggressions: (1) oversexualization, (2) homophobia, (3) heterosexist language and terminology, (4) sinfulness, (5) assumption of abnormality, (6) denial of individual heterosexism, and (7) endorsement of heteronormative culture and behaviors. This framework was mostly corroborated through focus groups conducted with "non-heterosexual" undergraduate students about the subtle ways they are treated differently because of their sexual orientation (Platt & Lenzen, 2013); however, categories 5 and 6 were not supported, and "undersexualization" and "microaggression as humor" were added. Reflecting aspects of Sue's (2010b) typology, Nadal and associates (2010) proposed an eight-component

theoretical taxonomy of "major" microaggressions targeting lesbian, gay, bisexual, and transgender (LGBT) people in everyday life: (1) use of heterosexist and transphobic terminology, (2) endorsement of heteronormative or gender normative culture/behaviors, (3) assumption of universal LGBT experience, (4) exoticization, (5) discomfort/disapproval of LGBT experience, (6) denial of societal heterosexism or transphobia, (7) assumption of sexual pathology/abnormality, and (8) denial of individual heterosexism/transphobia. These authors included environmental macroaggressions as a separate category but did not elaborate on its meaning or implications. Findings from focus groups exploring lifetime microaggressions among LGBQ college students and community members substantiated this model in part (i.e., categories 6 and 8 were combined, and "threatening behaviors, physical attacks, and violence" was added (Nadal et al., 2011).

These typologies and the various theoretical and empirical examples of microaggressions presented in these sources shed light on the range of everyday discrimination LGBQ people generally can encounter. In developing a scale to assess LGBQ microaggressions on campus, it is important that item content be relevant to the college context and to students' experience. Given the nature of environmental microaggressions, some of these microaggressions, such as those communicated through social media, manifested in institutional policy or practices or expressed in government policy/policy debates, may threaten the development and wellbeing of students who encounter them (Fingerhut, Riggle, & Rostosky, 2011; Russell, 2000).

Studies of LGBQ Microaggressions on Campus

Few studies have investigated LGBQ microaggressions on campus. In two earlier college campus studies, the researchers examined the use of the phrase "'that's so gay' to suggest something is stupid or undesirable." The first study, concerned with the correlates of hearing this phrase among sexual minority students ages 18–25 years (i.e., emerging adults), found that hearing "that's so gay" was positively associated with feeling isolated on campus and the frequency of headaches and poor appetite (Woodford, Howell et al., 2012). The second study, in an investigation of the antecedents of perpetuating this particular microaggression among a sample of heterosexual male undergraduate students, suggested that saying "that's so gay" is not related to the perpetrator's attitudes about same-sex sexuality but rather is a contemporary tactic to police male gender expression. Results also indicated that hearing others use the term on campus is a powerful antecedent to using the phrase (Woodford et al., 2013). Similar to the broader literature on microaggressions, these studies imply that LGBQ microaggressions can have a negative effect on LGBQ students and that perpetrators are not necessarily motivated by overt sexual bias.

Supplementing and compounding the normative challenges of college (Pascarella & Terenzini, 2005), LGBQ college students face stressors related to their marginalized sexual identity, including both overt and subtle heterosexist acts. As noted previously, subtle forms of heterosexism are prevalent on campuses (Rankin et al., 2010), and they can negatively affect LGBQ students; however, very little is known specifically about LGBQ microaggressions on college campuses. Although scales measuring LGBT and homonegative microaggressions are available (Balsam, Molina, Beadnell, Simoni, & Walters, 2011; Wright & Wegner, 2012), they are not designed for use with young people or for the college environment. Further, Balsam and colleagues' instrument is designed to be used only with LGBT people of color, while Wright and Wegner's (2012) scale addresses only homonegative microaggressions, not the full diversity of experiences of microaggressions by bisexual and queer students. To address these issues, an instrument to measure LGBQ microaggressions on college campuses is needed.

To strengthen the capacity of researchers, policymakers, and practitioners to better understand the experiences of LGBQ college students and to inform the development of interventions that foster LGBQ students' inclusion and wellbeing, we developed the LGBQ Microaggressions on Campus Scale. We report the process for creating this scale and the results of the validation studies used to determine the scale's final factor structure.

METHOD

The research team includes academic researchers with expertise in LGBTQ campus climate, sexual prejudice, LGBTQ health disparities, and psychometric research and a recent graduate who, alongside engaging in campus-climate research, has rich experiences in campus-based LGBTQ and social justice activism. The frameworks and research described above guided the study, and microaggressions were operationalized according to the conceptual definition of microaggressions provided by Sue (2010a). Because cumulative exposure to minority stress (Meyer, 2003), including covert discrimination (Meyer et al., 2011; Woodford et al., 2014, 2015; Woodford, Howell et al., 2012) can increase one's risk for negative outcomes, the current study aimed to create a self-report scale that measures the frequency of exposure to various microaggressions that LGBQ college students may face related to their minority sexual orientation. While the perpetrator's intent is a central component of microaggressions (Sue, 2010a, 2010b; Sue et al., 2007), concern for the experience itself and its potential to be seen as a slight, snub, or insult that conveys "hostile, derogatory, or negative messages" to LGBQ students guided scale construction in this study (Sue, 2010a, p. 3).

Considering differences among microinsults, microinvalidations, microassaults, and environmental microaggressions and their potential differential effects on LGBQ students (Nadal et al., 2010), we set out to develop a measure that assessed each of these types of microaggressions. However, given the nature of microassaults (i.e., conscious prejudicial acts that resemble old-fashioned heterosexism, overtly or covertly manifested; Sue, 2010a) and the availability of the Sexual Orientation Victimization Questionnaire (Herek, 1993), which assesses the prevalence of overt heterosexism (e.g., insults, verbal threats, physical assaults) and has been used with sexual minority college students (Herek, 1993; Pilkington & D'Augelli, 1995), we limited our attention to assaults that might be potentially "everyday" covert indignations (e.g., avoidant behaviors). The deliberate intent (i.e., to cause harm) underlying microassaults is a defining characteristic of this type of microaggression, but because intent might be ambiguous, and thus practically impossible for intended targets to assess, microassaults and microinsults in our investigation were initially combined (items addressing microassaults were eventually removed; discussed below). Considering the character of environmental microaggressions, including their systemic nature (Sue et al., 2007), and the role social context and social media play in perpetuating these, we purposefully created items related to the overall perceived institutional environment and social media that LGBQ students might experience. At first, items addressing social policies (e.g., same-sex marriage) were included, but they were removed during the scale construction process (discussed below).

Similar to Balsam et al. (2011), we originally aimed to develop a scale that was inclusive of sexual orientation and transgender microaggressions (i.e., LGBT microaggressions). Following the initial scale validation study (described below), separate scales for sexual orientation microaggressions and transgender microaggressions were created. Also, we originally wanted to create a scale that measured microaggressions experienced by LGBTQ young adults in general (i.e., not limited to campus environments); however, following focus groups and interviews (discussed below), we focused on microaggressions judged to be especially relevant to students' experiences as students on campus, thereby making the scale useful for campus climate assessments and other institutional research. This article presents the scale measuring LGBQ microaggressions on campus. The study received approval from the University of Michigan's Institutional Review Board.

STUDY 1: ITEM GENERATION AND SCALE VALIDATION

Guided by the scholarly and empirical literature and examples of microaggressions contained therein, the research team developed an initial battery of 64 items assessing LGBTQ microaggressions experienced by LGBTQ young

people. In this process, two staff members working with the University of Michigan's Spectrum Center (LGBTQ student resource center) were consulted to provide feedback on the meaning, clarity, and comprehensiveness of the proposed items. The revised questionnaire contained 72 items, including microinvalidations (17), microinsults/assaults (44), and environmental microaggressions (11).

Focus Groups

To explore students' perspectives on the proposed scale, we conducted two focus groups (n = 14) with LGBTQ-identified students. Participants, on average, were 22 years of age (SD = 3.96), and all identified as sexual minorities (bisexual, n = 1; gay, n = 5; lesbian, n = 1; queer, n = 7). Participants were diverse across gender identities (men/male/cisgender men, n = 7; queer, n = 2; women/femme/female, n = 5) and student status (first-year, n = 2; sophomore, n = 2; junior, n = 3; senior, n = 4; graduate student, n = 3). The majority of participants identified as White (n = 10).

With assistance from Spectrum Center staff, we recruited focus group participants from campus-based LGBTQ student networks and groups. Interested students completed a brief online demographic questionnaire, and we purposefully selected participants for diversity in student status, racial identity, gender identity, and sexual orientation. Focus group discussions were recorded with permission, and notes were also taken. Participants completed a brief demographic questionnaire consisting of open-ended questions, and they were given $25 gift cards.

The first author and a member of the Spectrum Center staff co-facilitated the groups. Each group began with an overview of the study and the definition of microaggressions and each specific category. Next, starting with environmental microaggressions, participants individually reviewed each item for congruence with the domain definition, item clarity, and language accessibility, and then shared their feedback with the group. Based on their direct and indirect experiences, they also assessed the relevance of each item to LGBTQ young adults (as one community) and identified additional microaggressions. This process was repeated with microinvalidations, followed by microinsults/assaults. We also sought feedback about asking respondents to indicate the frequency of experiencing microaggression over a 12-month timeframe. Finally, we gathered feedback about the use of numerated response categories (e.g., none, 1–2 times, 3–5 times) versus a general frequency scale (e.g., never, rarely). Though consensus developed concerning various aspects of the discussion, reaching consensus was not a research objective.

RESULTS

Some items were judged by participants to equally apply to both LGBQ individuals and transgender/gender queer individuals; however, both focus groups concluded that important differences existed between sexual orientation microaggressions and transgender microaggressions. Therefore, the groups recommended that separate scales be developed. Participants also suggested that specific items be deleted, such as those addressing social policies, because it was believed that many LGBTQ youth might not be knowledgeable about LGBTQ policy issues in the larger environment. Other recommendations identified items to be revised for clarity and additional items to be added (e.g., "People avoided getting to know me better after they found out I was lesbian, gay, bisexual, or queer"). Participants supported the use of a 12-month timeframe, and the majority of students thought it would be too difficult to recall the specific number of times an incident may have occurred and favored the use of a general frequency scale. Several participants raised concerns about scale length and potential respondent burden.

Given the focus group findings, two members of the research team reviewed all items and developed separate scales addressing sexual orientation microaggressions and transgender microaggressions. With respect to the sexual orientation microaggressions scale, students' suggestions resulted in a 71-item scale. The other members of the research team reviewed the items for clarity and face validity.

Interviews and Expert Consultation

To explore the perspectives of LGBTQ young adults concerning the proposed LGBQ microaggressions scale, we interviewed LGBTQ-identified students/recent graduates (n = 4). Interviewees included two undergraduate students, one graduate student, and one alumnus. They included two gay/queer cisgender men, one queer cisgender woman, and one queer transman. One participant identified as a person of color.

Student interviewees were purposively recruited from the earlier focus groups, and the other informant was recruited through the first author's network. Interviews were not recorded; however, notes were taken. Interview participants completed a brief demographic questionnaire consisting of open-ended questions, and they were given $25 gift cards.

Simultaneous to the interviews, we consulted a senior researcher with expertise in LGBTQ research to establish preliminary face validity and content validity, as well as to assess the clarity of the proposed items. The expert consultant was recruited from the first author's networks. Consultation occurred via e-mail.

Results

All interviewees affirmed the decision to create separate scales for sexual orientation microaggressions and transgender microaggressions. Concerning the items, they identified some items requiring clarification as well as suggesting the consolidation of a few items. All informants recommended that the scale be shortened to minimize respondent burden.

The expert's feedback indicated that scale items were measuring the proposed categories of microaggressions. Revising the wording of four items was suggested, and five additional items were recommended to increase content validity.

Item Reduction: LGBQ Microaggressions on Campus

Given the suggestion to reduce the number of items and the importance of parsimony in scale development, the research team decided to select items judged to be most relevant to the campus context, thereby focusing the scale on that environment and college students. Environmental microaggressions addressing social media were retained given the significance of social media in students' lives. Two members of the research team reviewed each item, including those suggested by the expert consultant, to identify items most applicable to the college environment. Next, they identified any conceptually redundant items and flagged them for potential removal. The remaining team members reviewed the proposed changes, and consensus was reached among the team to reduce the instrument to 45 items (11 microinvalidations, 25 microinsults/microassaults, and 9 environmental microaggressions).

STUDY 2: ITEM PERFORMANCE AND FACTOR STRUCTURE

To examine the psychometric properties of the proposed instrument, it was administered to a convenience sample of LGBQ college students and recent graduates (referred to as survey 1) drawn from a larger study assessing LGBTQ discrimination on college campuses and students' mental health (n = 417). We recruited participants through LGBTQ Listservs and networks.

To participate in the study, students had to be at least 18 years of age, be a current or recent (past year) college student, and identify as LGBTQ. After providing informed consent, participants completed an anonymous survey and could enter a raffle for a $25 gift card (12 available). The survey included, in this order: demographics; measures of psychological distress and well-being; and discrimination items, including the microaggression items. Because we were assessing a large number of discrimination incidents using the same response set through a self-administered questionnaire, for quality control reasons we included the item, "Please leave this question blank and proceed

to the next item," three times dispersed among the microaggressions questions. IBM SPSS Statistics Version 20 was used for analysis.

The analytic sample consisted of all cisgender-identified students who identified as sexual minorities and who reported residing in the United States (n = 281). Participants were on average 24 years old. Approximately 24% of the sample identified as people of color and 58% as women. The vast majority of respondents were current students (56% undergraduate) and domestic students (96%). Sexual orientation identities were well distributed across different identities, including lesbian (27%), gay (37%), bisexual (21%), and queer (15%). Most students attended college in the state of Michigan (63%); however, the sample included schools in 27 states across all regions of the United States.

The proposed 45-item scale assessing LGBQ microaggressions was included. Respondents were asked to indicate the frequency of each incident on campus over the past year or since being a college student if less than 1 year. Response options were *never, very rarely, rarely, occasionally, frequently, very frequently* (coded 0–5).

Item Performance

To develop the most concise scale possible, we completed several steps to identify items for possible removal. First, we evaluated the skew and kurtosis of each item and identified seven items scoring above ± 1.96, which indicates little variation in the data. Specifically, six items assessing microinsults/assaults (five representing possible microassaults) and one item measuring environmental microaggressions were identified. Two of the researchers examined the conceptual intent of each item and its potential contribution to the scale given other items. Based on this conceptual review, we removed six items in total (five microinsults/assaults, each of which could be interpreted as an assault, and one environmental microaggression).

Second, we reviewed the remaining items among the microinsults/assaults and decided to remove the final item representing a potential assault in order to have this subscale address only microinsults. (This item was also highly correlated with a similar item in the sexual victimization scale, r = .79, $p < .001$.)

Third, using the remaining items we conducted inter-item correlations to identify any potentially redundant items ($r \geq .80$) and any lacking a strong relationship within each domain ($r \leq .30$). No inter-item correlations exceeded $r \geq .80$, thus content redundancy was not found. However, three items were found to not meet the $r \leq .30$ (one microinvalidation and two environmental microaggressions); thus they were removed. The scale now consisted of a total of 35 items (10 microinvalidations, 19 microinsults, 6 environmental microaggressions) of the original 45.

Exploratory Factor Analysis

We first conducted principal component factor analysis (PCA) to determine the number of components using all of the 35 items. The Kaiser-Meyer-Olkin (KMO) measure was excellent at .93, indicating adequate sample size. The Bartlett's Test of Sphericity was significant, χ^2 (595) = 4,076.40, $p < .001$, indicating factor analysis is appropriate. Using Kaiser's (1960) criterion, we examined the eigenvalues for any components with a value > 1; we also examined the scree plot for the bend in the elbow. Eight components were empirically derived; however, the first two components explained most of the variance, and their eigenvalues (12.24 and 2.04) were the largest. Consistent with the extracted factors, examination of the scree plot indicated a bend of the elbow at about 2. These results, however, were contrary to the original conceptualization of the scale, which was designed as three separate conceptually related subscales that are dimensions of one latent construct (microaggressions). To determine how these items perform together, we next moved to principal axis factoring (PAF) with an oblique rotation (direct oblimin). This analysis revealed eight factors but an indiscernible pattern.

We next decided to review each subscale independently to look for possible weak items in terms of their factor loadings and crossloading items within the scale. This decision was based on the plan that these scales would be tested further in the confirmatory factor analysis. As above, we first conducted PCA, and if the observed model suggested multiple dimensions, PAF with direct oblimin rotation was conducted. Factor loadings below .40 were flagged as potential weak items along with any item that crossloaded on more than one factor.

Microinvalidations

The 10 microinvalidation items were entered using PCA. A one-factor solution was observed, accounting for 45% of the variance. All the items were retained based on a priori criteria. Table 1 displays the factor loadings.

Microinsults

First, PCA was conducted on the 19 items, which produced a two-factor solution with several items either crossloading or with factor loadings below .40. Second, we conducted PAF with direct oblimin rotation on the 19 items. A two-factor solution was generated; however, several variables either did not satisfy the .40 criterion or cross-loaded on both factors. We began by eliminating crossloading variables, which we removed one at a time and reassessed the scale. This process was continued until all crossloading variables were removed and all items were loading at .40 or above. The final scale consisted of a two-factor scale. Factor 1 contained 10 items, which reflect

TABLE 1 LGBQ microinvalidations: factor loadings tables (n = 270)

Items	Factor
Someone said or implied that all LGBQ people have the same experiences.	**.716**
I have heard people say that they were tired of hearing about the "homosexual agenda."	**.690**
People seemed willing to tolerate my LGBQ identity but were not willing to talk about it.	**.591**
I was told that being lesbian, gay, bisexual, or queer is "just a phase."	**.632**
People said or implied that I was being overly sensitive for thinking I was treated poorly or unfairly because I am LGBQ.	**.714**
I was told that I talk about discrimination against LGBQ people too much.	**.744**
Someone said they couldn't be homophobic, biphobic, or queerphobic because they have (a) lesbian, gay, bisexual, or queer friend(s).	**.643**
Other people said, "that's just the way it is" when I voiced frustration about homophobia, biphobia, or queerphobia.	**.757**
Someone said, "LGBQ people are just like straight people," or something similar.	**.478**
Someone said or implied that my sexual orientation is a result of something that went "wrong" in my past (e.g., "your mother was too overbearing.").	**.705**
Eigenvalue	4.513
% of variance	45.13

Note. Factor loadings above .40 appear in bold.

heterocentric and heteronormative expectations about LGBQ people. Factor 2 consisted of five items, which reflect LGBQ people being immoral and dangerous. The two factors correlated at .52. Table 2 displays the factor loadings after rotation.

Environmental Microaggressions

The six environmental microaggression items were analyzed using PCA. A one-factor solution was observed, explaining 42% of the variance. None of the items met criteria for removal. Table 3 presents the factor loadings.

STUDY 3: FACTORIAL VALIDITY: CONFIRMATORY FACTOR ANALYSIS (CFA)

To examine the latent factor structure of the three scales developed from the EFA, we completed confirmatory factor analysis (CFA) using structural equation modeling (SEM). Data were drawn from a sample of LGBQ individuals who participated in an online anonymous survey administered as part of the National Study of LGBTQ Student Success (http://www.lgbtqsuccess.net/). Through convenience sampling, participants were recruited from attendees at the 2013 Midwest Bisexual Lesbian Gay Transgender Ally College Conference and through LGBTQ Listservs and networks (n = 952). The survey included the 31 items comprising

TABLE 2 LGBQ microinsults: factor loadings (n = 266)

Items	Factor	
	Heterocentric and Heteronormative Expectations About LGBQ People	LGBQ People as Immoral and Dangerous
People have said that being lesbian, gay, bisexual, or queer is a sin.	−.059	**.709**
Others thought I would not have kids because they knew or assumed I am lesbian, gay, bisexual, or queer.	**.480**	.085
Others have said that LGBQ people should not be around children.	.000	**.746**
I was told I should act "less lesbian, gay, bisexual, or queer."	**.492**	.184
I was told I talk about my sexual orientation too much.	**.636**	−.092
People assumed that I have a lot of sex because of my sexual orientation.	**.614**	−.045
Straight people assumed that I would come on to them because they thought or knew I am lesbian, gay, bisexual, or queer.	**.690**	.020
Others said or implied that LGBQ people have mental health problems or need to be "cured."	−.046	**.791**
I felt pressured by others to look or dress more masculine or more feminine because of my sexual orientation.	**.555**	.028
As a compliment someone said, "I would have never known you are lesbian, gay, bisexual, or queer."	**.447**	.187
I was referred to as someone's "lesbian/gay/bisexual/queer friend" or something similar when I was being introduced.	**.640**	−.067
Strangers/acquaintances asked invasive personal questions about my sex life (e.g., "how do you have sex?").	**.733**	−.055
Someone said or implied that LGBQ people engage in unsafe sex because of their sexual orientation.	.252	**.447**
Someone told me they were praying for me because they knew or assumed I am lesbian, gay, bisexual, or queer.	.205	**.528**
I was expected to speak for all LGBQ people.	**.539**	.087
Eigenvalues	5.533	1.706
% of variance	36.96	11.37

Note. Factor loadings over .40 appear in bold.

the three LGBQ microaggressions scales identified through the EFA, as well as sexual orientation victimization items, along with demographic questions, indicators of student health and academic engagement, and socio-ecological

TABLE 3 LGBQ environmental microaggressions: Factor loadings (n = 273)

Items	Factor
I heard someone say "that's so gay" to describe something as negative, stupid, or uncool.	**.734**
I heard the phrase "no homo."	**.719**
I saw negative messages about LGBQ people on social media (e.g., Facebook, Twitter) posted by contacts or organizations, or in advertisements.	**.660**
In my school/workplace it was OK to make jokes about LGBQ people.	**.613**
I saw people holding signs with religiously based anti-LGBQ messages (e.g., "Faggots are going to hell.")	**.577**
I received information about sexual health that was limited to heterosexual sex.	**.558**
Eigenvalue	2.51
% of variance	41.88

Note. Factor loadings over .40 appear in bold.

protective factors. Items were also included assessing transgender microaggressions and victimization; two sets of screening questions (LGBQ and transgender identification as part of the study eligibility, and primary sexual and gender identity) were used to direct respondents to either the sexual orientation or gender identity/expression discrimination section; the vast majority of transgender respondents received discrimination questions related to gender. Item order was demographics, health and academic measures, protective factors, and discrimination items. The analytic sample is limited to sexual minority students who completed the sexual orientation victimization items (n = 580; referred to as survey 2). Data were analyzed with Mplus 7.0. Maximum likelihood estimation (MLE) was used to estimate model fit to the data, and the hypothesized model was based on the EFA results.

The analytic sample was, on average, 23 years old (SD = 5.60). The most common sexual orientation identities were gay/lesbian/same-gender-loving (58%), followed by bisexual/pansexual (26%), and queer (10%); others indicated they were questioning or "other" identity (6%). The sample was mostly cisgender women (54%) and also included cisgender men (43%), and 3% identified as transgender (including transgender, genderqueer, two-spirit, and "other"). The sample was predominantly non-Hispanic White (71%) and multiracial (15%), and also included Black (6%), non-White Hispanic (3%), Asian (3%), Native (<1%), and Other (<1%) respondents. Most students were not the first in their families to attend college (75%) and were domestic students (97%). The sample was predominantly undergraduate students (76%), distributed relatively evenly across years in school (first year, 14%; sophomore, 19%; junior, 18%; senior and above, 25%).

Results

We began by testing the most parsimonious model, a single-factor model with all of the items and one latent construct. Model fit to the data was poor as

evidenced by the Root Mean Square Error of Approximation (RMSEA) of .08 and the Standardized Root Mean Residual (SRMR) of .05 (RMSEA < .06 and SRMR < .05 are desirable). A Comparative Fit Index (CFI) of .87 and a Tucker-Lewis Index (TLI) of .86 also indicated that model fit to the data could be improved (CFI and TLI between .90 and .95 are considered good model fit). Results suggested that the null hypothesis should be rejected, $\chi^2(465) = 11389.52$, $p < .00001$; however, chi-square is influenced by sample size and thus not a reliable indicator alone.

Next, we tested a three-factor model based on the EFA results, which improved the model fit to the data, RMSEA of .07, SRMR of .05, CFI of .88, TLI of .87, $\chi^2(465) = 1723.65$, $p < .00001$. However, when inspecting the correlation amongst these three scales, results indicated that the microinsults and microinvalidations scales were highly correlated ($r = .98$), which suggested that these two scales were essentially measuring the same latent construct and cannot be conceptually differentiated. Given this finding along with our findings in the initial EFA that suggested a potential shared relationship among the items due to the high number of crossloadings between these two scales, we tested a model combining these scales.

This two-factor model was tested for fit to the data with two continuous variables and 31 dependent variables. Results suggested that the null hypothesis should be rejected, $\chi^2(433) = 1739.81$, $p < .00001$. The RMSEA of .07 and the SRMR of .05 suggested some model misfit. A CFI of .88 and a TLI of .87 also indicated that model fit to the data could be improved. These results were similar to the three-factor model; the correlation between the now blended microinvalidations/microinsults scale and the Environmental LGBQ Microaggressions scale was .88, which suggested a relationship between constructs, but that some difference existed between them.

Our overall goal was to create a psychometrically strong scale and to minimize respondent burden. Given this aim and the results of the initial CFA, some reduction in the number of items the scale contained was essential. We began by reviewing the factor loadings, which were good (range = .51–.79), and then turned to a review of the conceptual coverage in item content. Any items that appeared to have some similarity to one another were identified and flagged for potential removal. We then compared this list with that of the standardized factor loadings (λ), which were evaluated to determine any overlap. Eleven items in total were removed from the scale whereby one item was removed at a time, and then the analysis was re-run without that item. Each iteration of item removal changed factor loadings for each remaining item; thus, we monitored the factor loadings for possible improvements due to item removal. Model fit indices also changed as items were removed, and improved model fit occurred following each iteration of item removal. The final model was an improvement over earlier models, $\chi^2(169) = 493.30$, $p < .00001$. The final CFI and TLI were excellent (both .95). SRMR and RMSEA were also good (SRMR = .03; RMSEA = .06). The final scale included a 15-item

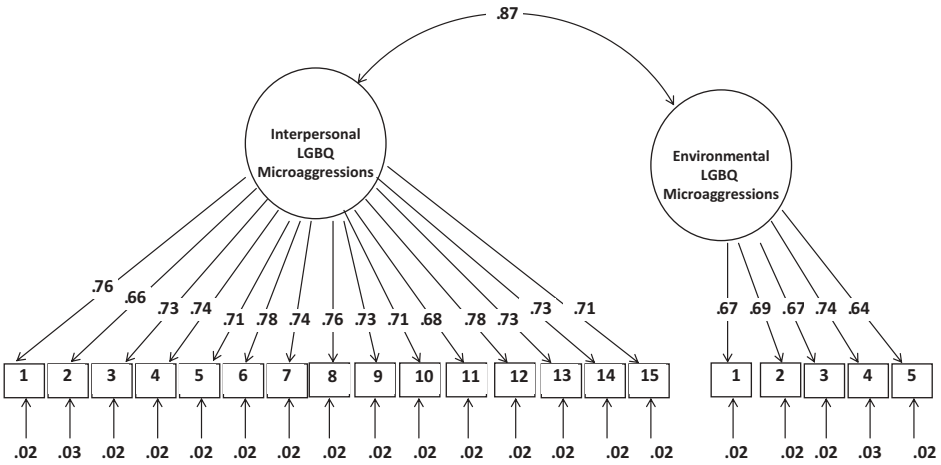

FIGURE 1 Confirmatory factor analysis of the LGBQ microaggressions on campus scale.

scale measuring Interpersonal LGBQ Microaggressions and a 5-item scale assessing Environmental LGBQ Microaggressions. The two scales are correlated, $r = .87$, which suggests they are related but not redundant. Until further testing occurs, we suggest researchers use both scales as separate subscales. Figure 1 provides the factor loadings and residuals (error) for this model. Appendix A provides the final scale items.

STUDY 4: RELIABILITY AND VALIDITY

Scoring

The scores of the subscales are to be calculated by averaging all applicable items. Higher average scores suggest experiencing more perceived microaggressions. To examine additional psychometric properties of the LGBQ Microaggressions on Campus scale, we utilized data from survey 2 (see CFA study, described above) to examine reliability and evidence of validity for the two subscales.

Reliability Analysis

To determine the internal consistency of the subscales, we performed Cronbach's alpha. The two variables were normally distributed. Scores ranged from 0 to 4.67 for the Interpersonal LGBQ Microaggressions subscale ($M = 1.39$, $SD = 1.18$) and 0 to 5.00 for the Environmental LGBQ Microaggression subscale ($M = 2.37$, $SD = 1.28$). The Cronbach's alpha indicated that the Interpersonal LGBQ Microaggressions subscale ($\alpha = .94$)

was excellent, and the Environmental LGBQ Microaggressions subscale (α = .81) was good.

Convergent and Discriminant Construct Validity

To assess the construct validity of the microaggression subscales, we examined both convergent validity and discriminant validity. Convergent construct validity examines the relationship between theoretically related variables, whereas discriminant construct validity tests the relationship between variables that are theoretically unrelated (Singleton & Straits, 2009). To test convergent construct validity and discriminant construct validity, we examined relationships between the LGBQ microaggressions subscales and subscales of Sexual Orientation Victimization questionnaire (adapted, described below), specifically subscales examining verbal abuse (e.g., called names, verbally threatened), minimal physical attack (e.g., one's personal property is damaged), and physical assault (e.g., being punched or hit), each of which represent escalating levels of severity (Pilkington & D'Augelli, 1995). Both measures (Sexual Orientation Victimization and the LGBQ Microaggressions on Campus) capture students' experiences of discrimination on campus; however, unlike microaggressions the Sexual Orientation Victimization questionnaire addresses blatant, assaultive heterosexism. Given these conceptual differences, to test convergent construct validity we hypothesized that correlations between each microaggression scale will be highest with verbal abuse and lowest for physical assault. We believe that these hypothesized relationships will also provide evidence of discriminant construct validity. However, to further demonstrate discriminant construct validity, we also examined the relationship between the microaggressions subscales and social acceptance on campus. Specifically, we hypothesized that the observed relationships will have a small correlation.

Measures

Sexual orientation victimization was measured with a 9-item scale adapted from earlier measures (D'Augelli, 1992; D'Augelli, Pilkington, & Hershberger, 2002; Herek, 1993, 1993; Pilkington & D'Augelli, 1995) to be inclusive of bisexual and queer identities. This scale assesses overt heterosexism and includes three subscales: verbal abuse, minimal physical attack, and physical assault. Similar to the microaggression items, respondents reported frequency of discrimination within the past year (or since coming to campus if less than 1 year) on a 6-point scale (0 = *never*, 5 = *very frequently*). Item scores are averaged to create a composite subscale score (verbal abuse α = .75; minimal physical attack α = .81; physical assault α = .81).

Social acceptance on campus refers to the feeling of "fitting in" or feeling comfortable among the students, staff, and faculty at one's university. To assess this construct, we used three items (α = .77) from the acceptance subscale of the General Campus Climate scale (Cortina, Swan, Fitzgerald, & Waldo, 1998). Items were measured on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*), and mean scores were generated, with higher scores indicating greater feelings of fitting in. In a previous study of campus climate conducted at a single institution, these three items were used and demonstrated good reliability among sexual minority respondents (α = .76; Woodford & Kulick, 2015).

Results

As seen in Table 4, Pearson's correlations indicate that each microaggressions subscale is positively associated with each sexual orientation victimization subscale and negatively correlated with social acceptance on campus. As was hypothesized, for both microaggression subscales, the highest correlation was found for verbal assaults, followed by minimal physical attack and physical assault. These relationships/effect sizes provide evidence of convergent and discriminant construct validity for the Interpersonal LGBQ Microaggressions subscale and the Environmental LGBQ Microaggressions subscale. Also suggesting discriminant construct validity, we found that each microaggressions subscale had a very small correlation with social acceptance on campus (given the scoring of the variables, a negative correlation was expected).

Predictive Validity

Minority stress theory posits that exposure to heterosexism can increase LGBQ individuals' risk for psychological distress and poor health (Meyer,

TABLE 4 Correlations between LGBQ interpersonal microaggressions and LGBQ environmental microaggressions and sexual orientation victimization subscales, social acceptance on campus, PHQ-9 and developmental challenge

	Interpersonal LGBQ Microaggressions	Environmental LGBQ Microaggressions
SOV Verbal Abuse	.56***	.40***
SOV Minimal Attack	.39***	.26***
SOV Physical Assault	.25***	.13**
Social Acceptance on Campus	−.10**	−.09*
PHQ = 9	.29***	.25***
Developmental Challenge	.22***	.15***

*$p < .05$. **$p \leq .01$. ***$p \leq .001$.

Notes. SOV = sexual orientation victimization. PHQ-9 = Patient Health. Questionnaire (depression symptoms).

2003), and this theory has been validated among sexual minority students (Silverschanz et al., 2008; Woodford et al., 2015; Woodford & Kulick, 2015). Research also suggests that such stressors, including subtle actions, may threaten LGBQ students' academic performance and wellbeing (Silverschanz et al., 2008; Woodford & Kulick, 2015). Therefore, to test the predictive validity of the two microaggressions subscales, we examined the relationship between respondent scores on the two microaggressions measures and depression symptoms as well as academic developmental challenge (using survey 2).

Further, given the interactional nature of the Interpersonal LGBQ Microaggressions (i.e., they happen in one's immediate social environment), whereas the Environmental LGBQ Microaggressions are in the overall social context, we hypothesized that the Interpersonal LGBQ Microaggressions will demonstrate a stronger relationship with depression scores and developmental challenge scores than the Environmental LGBQ Microaggressions. We conducted Pearson's correlations to examine these relationships.

Measures

We used the depression module of the Patient Health Questionnaire (PHQ) to assess depression disorder symptoms. This module asks respondents to indicate the frequency of experiencing 9 DSM-IV criteria during the past 2 weeks using a 4-point Likert-type response (0 = *not at all*, 3 = *nearly every day*; Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, & Williams, 1999). The summed composite score (0 –27) provides a total severity score. This scale is extensively used in practice and research, including in the Healthy Minds Study (http://healthymindsnetwork.org/hms), a national annual study of mental health and service utilization among college students. The scale demonstrated very strong internal consistency with this sample (α = .88).

Academic developmental challenge was measured using the validated 10-item developmental challenge inventory, a subscale of the Inventory of College Students' Recent Life Experiences scale (Kohn, Lafreniere, & Gurevich, 1990). This scale measures students' difficulty with academic developmental tasks in the past month (sample item: "Struggling to meet the academic standards of others"). Items are measured on a 4-point scale (1 = *not at all part of my life*; 4 = *very much part of my life*), with higher mean scores suggesting greater academic struggles. Internal reliability among this sample was strong (α = .84).

Results

As displayed in Table 4, as we hypothesized the scores on both LGBQ microaggressions subscales were positively associated with the depression

scores and developmental challenge scores. Also, as was hypothesized, although a minimal difference was observed, the Interpersonal LGBQ Microaggressions subscale had the strongest relationship with depression scores (r = .29, p < .001), compared to Environmental LGBQ Microaggressions (r = .25, p < .001). The same pattern was observed for developmental challenge (Interpersonal LGBQ Microaggressions r = .22, p < .001; Environmental LGBQ Microaggressions r = .15, p = .001). These associations suggest that more exposure to microaggressions increased students' risk for depression symptoms and increased developmental challenge.

DISCUSSION

The LGBQ Microaggressions on Campus Scale, consisting of two subscales —Interpersonal LGBQ Microaggressions and Environmental LGBQ Microaggressions—developed in this study provides higher education researchers, policymakers, and practitioners with a brief, psychometrically sound measure to assess the frequency of sexual orientation microaggressions targeting LGBQ students on college campuses. Given the often covert and ambiguous nature of contemporary heterosexism, including on college campuses (Rankin et al., 2010; Woodford et al., 2014), and the potential detrimental impact of subtle heterosexism on sexual minority students' health and wellbeing (Silverschanz et al., 2008; Woodford et al., 2014, 2015; Woodford, Howell et al., 2012), this scale addresses a critical need for a rigorous psychometric scale designed to measure this aspect of campus climate. By using this scale to measure interpersonal and environmental microaggressions, researchers, administrators, and student affairs professionals can better understand the experiences of LGBQ college students, which can inform program and policy development.

Unlike existing scales measuring sexual orientation microaggressions (Balsam et al., 2011; Wright & Wegner, 2012), the scale presented in this study was designed to examine microaggressions specifically in the context of a college environment for sexual minority students, including those who identify as bisexual or queer. Given the fluidity of sexuality (Diamond, 2008; Mock & Eibach, 2012) and the use of *queer* as a sexuality among young people (Beemyn & Eliason, 1996), the inclusive nature of our scale (i.e., LGBQ) helps to make it readily applicable to sexual minority college students. And considering the particularities of the contemporary college environment, the scale addresses the campus and online contexts, both of which are spaces where students study and live. Additionally, unlike the existing scales, our instrument addresses both interpersonal and environmental microaggressions; previous research suggests that direct and indirect heterosexism can have differential effects among sexual minority students (Silverschanz et al., 2008; Woodford et al., 2014).

The formative work completed to develop the scale items, especially the engagement of LGBTQ students, fostered validity of the final scale. The use of EFA and CFA enabled us to rigorously determine factorial validity. The testing completed thus far suggests the two subscales demonstrate sound psychometric properties. Reliability for the subscales ranged from good to excellent. Consistent with minority stress theory (Meyer, 2003), as evidence of predictive validity, we found that the scores for Interpersonal LGBQ Microaggressions and Environmental LGBQ Microaggressions were positively associated with depression symptoms severity and academic developmental challenge scores, which suggests that increased exposure to each type of microaggressions on campus may increase students' risk for psychological distress and academic challenges. In the future, it is important that researchers examine the relationship between these microaggressions and other student outcomes, including intent to persist.

Limitations

The focus group, interview, and survey samples were diverse, and the survey samples included students from an array of institutions and regions; however, the findings, though rigorous, are sample dependent. We recommend future testing with a national sample with greater representation from each region of the United States, which would enable testing that considers the role of institutional location and type, including faith-based institutions. We also suggest testing with college students in other countries. Additionally, future studies could be designed to include other tests of validity, such as test-retest. Given the correlation between the two factors in the CFA, inclusion of a CFA in a future investigation would enable further examination of this relationship.

LGBQ students are not monolithic and, indeed, expand a broad array of diversity. Measuring microaggressions among this community must be sensitive to this diversity. Our goal was to develop a scale applicable to sexual minority students as a group; however, we acknowledge that different sexual orientation identities may experience different manifestations of LGBQ microaggressions. Therefore, studies developing scales to assess sexual orientation microaggressions specific to particular sexual minority groups (e.g., gay men, bisexual women) of students are recommended. Likewise, because sexual orientation microaggressions are often coded in terms of gender and used as a means to police acceptable gender expression among cisgender men and women (Woodford et al., 2013), we suggest future scales be developed to measure microaggressions based on gender expression and not be limited to transgender identity. Last, Balsam and colleagues' (2011) study on LGBT people of Color microaggressions brought to the forefront of understanding the experiences of microaggressions experienced by LGBT people along lines

of race. We suggest that future microaggressions scales be developed that assess intersecting forms of oppression among LGBTQ students.

CONCLUSION

The two LGBQ microaggressions subscales developed in this study and the scale as a whole fill a critical void in the campus climate assessment literature. Ultimately, the LGBQ Microaggressions on Campus Scale can help to improve empirical understanding of the experiences of LGBQ college students, specifically the often-overlooked covert, mundane everyday direct and indirect slights, snubs, and insults LGBQ students encounter on college campuses due to their sexual orientation. We encourage researchers, policymakers, and practitioners to use the scale in their efforts to understand the experiences of sexual minority students and to inform the development of policies and programs aiming to support LGBQ students and create inclusive learning environments. The instrument can also be used in health and mental health assessments conducted with LGBQ students to document everyday heterosexism in their lives and to explore how such discrimination might affect their health and wellbeing. In addition, discussion of the scale can be integrated into LGBQ awareness programs to help participants understand sexual orientation microaggressions and some of the ways they can be manifested on campus. Though the scale demonstrated strong psychometric properties, future testing is recommended, especially studies that include different groups of students to establish additional validity evidence for the scale.

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APPENDIX A

LGBQ Microaggressions on Campus Scale

We are interested in your experiences of discrimination on campus. Over the PAST YEAR (or if you have been a college student for less than 1 year, since you have been a college student) how often have you experienced these incidents on campus.

Never, very rarely, rarely, occasionally, frequently, very frequently
(coded 0–5)

Subscale: Interpersonal LGBQ Microaggressions

1. Someone said or implied that all LGBQ people have the same experiences.
2. I was told I should act "less lesbian, gay, bisexual, or queer."
3. People said or implied that I was being overly sensitive for thinking I was treated poorly or unfairly because I am LGBQ.
4. Someone told me they were praying for me because they knew or assumed I am lesbian, gay, bisexual, or queer.
5. People seemed willing to tolerate my LGBQ identity but were not willing to talk about it.
6. Others thought I would not have kids because they knew or assumed I am lesbian, gay, bisexual, or queer.
7. Someone said they couldn't be homophobic, biphobic, or queerphobic because they have (a) lesbian, gay, bisexual, or queer friend(s).
8. I was told that being lesbian, gay, bisexual, or queer is "just a phase."
9. Straight people assumed that I would come on to them because they thought or knew I am lesbian, gay, bisexual, or queer.
10. I have heard people say that they were tired of hearing about the "homosexual agenda."
11. Someone said or implied that LGBQ people engage in unsafe sex because of their sexual orientation.
12. Other people said, "that's just the way it is" when I voiced frustration about homophobia, biphobia, or queerphobia.
13. Someone said or implied that my sexual orientation is a result of something that went "wrong" in my past (e.g., "your mother was too overbearing").
14. People assumed that I have a lot of sex because of my sexual orientation.
15. Others have said that LGBQ people should not be around children.

Subscale: Environmental LGBQ Microaggressions

1. I saw negative messages about LGBQ people on social media (e.g., Facebook, Twitter) posted by contacts or organizations, or in advertisements.
2. I heard the phrase, "no homo."
3. In my school/workplace it was OK to make jokes about LGBQ people.
4. I heard someone say "that's so gay" to describe something as negative, stupid, or uncool.
5. I received information about sexual health that was limited to heterosexual sex.