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The Pre-Exposure Prophylaxis (PrEP) Stigma Scale: Preliminary findings from a pilot study

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Abstract

Despite being at the cornerstone of current initiatives to curtail the spread of HIV, Pre-Exposure Prophylaxis (PrEP) medication has been slow to proliferate among many “at risk” populations. This is true for men who have sex with other men (MSM), who account for the largest number of new HIV diagnoses in the United States. To try to understand why MSM are not adopting PrEP in greater numbers, the present authors have created a 22-item PrEP Stigma Scale. This paper reports findings for that scale. Methods: Purposive sampling was used to derive a sample of 273 diverse MSM. Men completed a brief questionnaire inquiring about their awareness of PrEP, willingness to avail themselves of various sources of information about PrEP, perceptions about PrEP-related stigma, and perceptions about obstacles to PrEP use. Cronbach’s alpha reliability coefficients were computed for the PrEP Stigma Scale, for the full sample and for key subgroups. Factor analysis was performed to determine whether or not subscales exist. Results: The PrEP Stigma Scale was found to be highly reliable, both in its full version (alpha=0.96) and in its shortened version (alpha=0.95). Reliability estimates were strong for all subgroups based on age, race, sexual orientation, educational attainment, relationship status, and HIV serostatus. Two subscales were identified, each with excellent reliability (alpha=0.95 and 0.94), again for the sample as a whole and for all key subgroups. Conclusions: The PrEP Stigma Scale shows great promise for aiding our understanding of why more MSM are not adopting PrEP. It was found to be reliable for all key subgroups under examination, and that is true both for the 22-item and the 11-item version of the scale.

Keywords

Pre-Exposure Prophylaxis (PrEP); men who have sex with men (MSM); gay men; scale reliability; stigma

Introduction

Men who have sex with men (MSM) comprise the largest proportion of Americans diagnosed with HIV and AIDS, accounting for more than one-half of all new HIV diagnoses (1). According to the most recent statistics released by the CDC, African American MSM

and Latino MSM alone comprised two of the top three largest groups for new HIV infections, accounting for 31% and 21%, respectively, of all Americans newly infected with HIV (2).

Amidst this backdrop, pre-exposure prophylaxis (PrEP) medications have been developed and they have been shown to be highly effective at reducing the risk of HIV infection. Current estimates suggest that regular, proper adherence to a PrEP medication regimen can reduce the risk of contracting HIV by approximately 86-93% (3-5). Such high rates of success have led the National Institutes of Health and the CDC to promote the adoption of PrEP medications as a key strategy in the ongoing effort to combat the spread of HIV, particularly among MSM.

Despite efforts to promote PrEP, evidence from the scientific community suggests that, among MSM, particularly minority MSM, both awareness and understanding of PrEP medications are low, as is actual adoption of PrEP. To date, fewer than 150,000 Americans have ever used PrEP, representing less than 9% of the persons recommended by the CDC to be regular PrEP users (6, 7). In a recent publication based on a study of gay and bisexual men, Parsons et al. (8) found that more than one-half of the men who met the CDC's criteria for being considered "PrEP eligible" failed to reach even the contemplation stage of PrEP adoption. In their study of African American and Caucasian MSM, for example, Eaton and colleagues (9) reported awareness of PrEP to be 61%, but actual usage rates of only 9%. In a different study of African American MSM attending black gay pride events, Eaton and colleagues (10) found awareness of PrEP to be 39% with actual use being less than 5%. In a study of lower socioeconomic African American MSM, Brooks and colleagues (11) reported awareness of PrEP to be 33% with not a single study participant actually using these medications. A Baltimore-based study of African American MSM (12) reported an 11% awareness figure for PrEP and a 0% usage rate. A small-scale study conducted with Latino MSM couples (13) found that awareness of PrEP was only 8%. Recent data from the CDC suggest that African Americans and Latinos account for 69% of all newly-diagnosed cases of HIV yet men from these same "at risk" populations comprise a mere 22% of all new prescriptions for PrEP (14). Recent data from New York City indicates that men of color were half as likely as their Caucasian counterparts to be prescribed PrEP (15). Rolle and colleagues (16) found that 64% of the young African American MSM in their study said that they were interested in adopting PrEP, but 46% of these men had not attended any PrEP adoption meetings, oftentimes despite repeated attempts on the part of project staff to get them scheduled. Also noteworthy from this particular study is the fact that more than one-third (38%) of the men who were prescribed PrEP medication did not actually begin using PrEP.

Preliminary evidence also has shown that, among MSM, there may be numerous barriers to adopting PrEP, including conspiracy-related beliefs (9), stigma perceptions associated with the use of PrEP (9, 17), skepticism about taking a medication when one is not actually infected with a disease (11), concerns about the physical implications of taking an unknown medication over the long-term (11, 18), language barriers in educating non-English-speaking MSM about PrEP and how/why to use it (13), attitudes in the population-at-large regarding making PrEP more readily available to MSM (particularly MSM of color)

(19), misperceptions that using PrEP is linked with being HIV-positive (17), and concerns about affordability of PrEP medications (20, 21). Some researchers have specifically addressed the need for future studies to examine perceptions and potential barriers to PrEP adoption among MSM in general (8) and among minority MSM in particular (18) because most of the potential barriers just enumerated were identified in a limited number of published studies. More needs to be learned about this topic.

That is where the present study comes in. Here, the present authors report on the development of the PrEP Stigma Scale which, as far as the present authors have been able to discern, is the first-of-its-kind scale that assesses the extent to which people perceive there to be various types of stigma associated with the use of PrEP. The present article: 1) introduces the scale, 2) provides information about its psychometric properties and 3) demonstrates that it appears to be a viable instrument not only for MSM as a whole but for various subpopulations, based on characteristics such as age, race, educational attainment, relationship status, and HIV serostatus. This work advances the field of HIV/AIDS studies by providing a scientific way of examining perceived stigma associated with the use of PrEP in a population that has a great need for wider-spread use of this medication. This study's development of the PrEP Stigma Scale expands upon previous work by systematically examining multiple aspects of PrEP-related stigma perceptions—something that, as far as the present authors have been able to determine, has not been done by other researchers or HIV prevention practitioners.

Methods

A purposive sampling approach was used to derive the final research population for this study. By choosing this methodological approach, the principal goal was to assemble as diverse a sample of MSM as possible. In this manner, it is possible to examine differences among different subgroups of MSM—for example, Caucasians versus African Americans versus Latinos, or younger men versus older men—by virtue of each subgroup's representation in the final sample. Typically, it is this quality of purposive sampling that is cited as one of its greatest strengths and most advantageous uses (22–24), along with the fact that, when implemented properly, it yields results that are comparable to more-scientifically-sound methodological approaches even though purposive sampling itself is a nonrandom sampling approach (25).

For this study, which was conducted between November 2017 and June 2018, 273 men were recruited via four distinct yet strategically-chosen approaches: The first entailed approaching men participating in a few different social/activities/support groups for MSM and asking them to take part in the study. The second involved a research assistant asking men attending a local Gay Pride event if they would be willing to take part in the study. The third entailed posting a profile advertising the study on one particular dating/sex site targeting MSM of all ages and racial/ethnic groups, logging onto that website, and sending a generic “hello” type of message to initiate a casual conversation with anyone who visited the profile while the researcher was logged on. The fourth approach consisted of asking participants enrolled into the study via any of the first three methods to speak with friends and acquaintances of theirs,

to see if they could get some of them to take part in the study. The research protocol was approved by the institutional review board at California State University–Long Beach.

Procedures

After giving would-be participants the opportunity to ask questions about the study, informed consent was obtained before administering the questionnaire. The questionnaire took approximately 15 minutes to complete and no compensation was offered. The survey instrument consisted of a few brief sections. Basic demographic information was collected in one section. In another, familiarity with PrEP and other PrEP users was examined, as was their level of interest in obtaining additional information about PrEP. Participants were asked about their likelihood of availing themselves of various types of sources for obtaining additional information about PrEP. In the final section of the questionnaire, items comprising the PrEP Stigma Scale (described below) and the PrEP Obstacles Scale (described in a separate paper) were included. Participants who were given the opportunity to answer the questionnaire in the presence of the research assistant completed their survey manually and simply handed their completed answer sheet to that individual when they were done. Those who came to the project via contact referrals or from the dating/sex website were asked to email their completed answer sheet (or a photograph or scanned copy of their completed answer sheet) to a project-sponsored email account. Participants were told that their identity would remain private, and that their answers and email addresses (used for returning completed answer sheets to the research team) would be kept confidential and would not be shared with anyone else. When they had submitted their completed answer sheet to the appropriate member of the research team, men were thanked for their time and participation, and then asked to contact other potentially-eligible and potentially-interested MSM they knew to help expand the sample. Respondents were not asked for their name, telephone number, email address, or any other personally-identifying information, so that their participation could be as private and confidential as possible.

Measures

Demographic information collected in the questionnaire consisted of age (continuous), race/ethnicity (Caucasian, African American, Latino, Asian/Pacific Islander, Native American, or biracial/multiracial), relationship status (single, engaged or seriously involved with someone, married or involved in a long-term relationship), educational attainment (ordinal), sexual orientation (self-reported as gay, bisexual, or heterosexual), and HIV serostatus (self-reported as HIV-negative, HIV-positive, or serostatus unknown).

Knowledge of and Interest in PrEP consisted of items asking whether or not men had ever heard of PrEP prior to participating in this study (yes/no), whether or not they personally knew any PrEP users (yes/no), how accurate their understanding of PrEP was prior to participating in the study once they were given a project-provided explanation of what PrEP is (five-point ordinal measure, ranging from “not at all accurate” to “very accurate”), and how interested they were in learning more about PrEP (five-point ordinal measure, ranging from “not at all interested” to “very interested”).

PrEP Stigma was assessed via 22 items scored on a five-point Likert scale with responses ranging from “strongly agree” to “strongly disagree.” The underlying intent and focus of these items was to explore potential sources of stigma that men associated with PrEP use, in the event that they would ever decide to consider adopting it for themselves. Among others, these stigmata included a perception that using PrEP meant that one was promiscuous, concern that one’s sex partner(s) would think that one was engaging in risky sex with other men if that person were found out to be a PrEP user, concern that one’s friends and/or family members would think less highly of him if they were to discover that he used PrEP, fear of being ostracized or avoided by friends if they were to learn that the man used PrEP, concern about being treated differently in health care settings and/or during doctors’ visits if the staff found out that the person used PrEP, and fear of people sharing information about one’s PrEP use with other persons without obtaining permission to do so beforehand.

Analysis

The Statistical Analysis Software (SAS), version 9.3, was used to perform all analytical functions. Reliability coefficients (Cronbach’s alpha) were computed using the PROC CORR procedure, which also enables the user to determine which item(s) may be removed, item by item, to maximize a scale’s psychometric strength. This is important because one goal is to be able to evaluate the scale as a whole while simultaneously abiding by the rule of statistical parsimony—that is, it is best to use the fewest measures possible to accomplish the same goal, provided that the reduction in measures does not compromise the explanatory value of the overall analysis (26). As well as for the sample as a whole, reliability coefficients were derived for various subgroups of MSM so that the PrEP Stigma Scale could be examined for subpopulations based on age, race, and so forth. Additionally, a principal component factor analysis using orthogonal rotation was performed using PROC FACTOR, to identify which items from the main scale, if any, clustered together and formed statistically-defensible factors (i.e., subscales). Individual items were included in a subscale if they had a factor loading of 0.5 or greater; and a minimum eigenvalue of 1.0 was imposed in order to consider clustering items to compose a subscale.

Results

The purposive sampling approach was highly effective at deriving a diverse research sample, consisting of 273 men. The sample ranged in age from 18 to 72 years, with a mean age of 34.4(SD = 13.1). Nearly one-half of the participants were aged 18 to 29 (48.7%), with another one-quarter of them being aged 30-39 (23.4%) and the remainder (28.8%) being aged 40 or older. Slightly more than one-third of the participants were Caucasian (37.0%), with African Americans (27.1%) and Latinos (18.3%) comprising the two next-largest groups. The remaining 17.6% of the sample was comprised by Asians and Pacific Islanders (8.8%), Native Americans or Native Alaskans (1.5%), and men who self-identified as biracial or multiracial (7.3%). Most of the men self-identified as gay (69.6%) but there was excellent representation as well from bisexual men (16.1%) and MSM who self-identified as heterosexual (14.3%). The large majority of the participants (80.6%) said that they were single and not involved in a steady relationship with anyone, compared to 8.8% who said that they were seriously dating or engaged to someone and 10.6% who said that they were

married. The large majority of the respondents (82.1%) said that they were HIV-negative at the time of interview. Approximately 1 man in 9 (11.0%) said that he had not completed high school or earned a G.E.D. This compares to 37.0% who had graduated from high school or earned a G.E.D., 34.1% who had some college education without the completion of a bachelor's degree program, 8.4% who had completed college, and 9.5% who had earned either a master's degree or a doctoral-level degree.

Reliability for the total sample and key subgroups

Table 1 provides a summary of the alpha reliability coefficients for the total sample and each subgroup. The overall reliability for the 22-item PrEP Stigma Scale was 0.96. As the first column of the table shows, every subgroup examined—regardless of their race, age, educational attainment, relationship status, or HIV serostatus—yielded a reliability coefficient of 0.88 or greater.

Shortened version of the PrEP Stigma Scale

In accordance with the rule of statistical parsimony, the present authors examined the possibility of constructing a shortened version of the PrEP Stigma Scale that would also (a) be highly reliable and (b) demonstrate acceptable reliability for various subpopulations of MSM. Table 2 provides the results of these analyses. Here, 11 of the original 22 items comprising the full PrEP Stigma Scale were retained. As the second column in Table 1 shows, the overall reliability for the 11-item PrEP Stigma Scale–Shortened Version was 0.95, and every subgroup examined yielded a reliability coefficient of 0.82 or greater.

Factor analysis

The principal component factor analysis of the overall PrEP Stigma Scale revealed that three subscales can be constructed. Further analysis of the psychometric properties of the third subscale revealed that, while it meets the present authors' pre-established criteria for considering it a subscale of its own, it performed poorly in terms of reliability. Therefore, the present authors have opted to report the results obtained only for the two more-highly-performing subscales. They are shown in Table 2, and demonstrate that a three-factor solution was obtained, with two of the factors performing very well psychometrically. Factor 1 appears to be composed of items pertaining to interpersonal concerns and evaluation by others; Factor 2 is comprised by items relevant to the issue of perceived sexual barriers to PrEP use.

Table 3 presents the findings for the reliability of Factor 1 and Factor 2, both for the sample as a whole and for the key subgroups. For Factor 1, the overall reliability of the subscale was 0.95, with all subgroups having reliability coefficients of 0.87 or greater. For Factor 2, the overall reliability of the scale was 0.94. One subgroup—namely, 18-29 year olds—had a reliability coefficient that was lower than desired but still well within the acceptable range (27,28) for this factor (0.76); and one other subgroup—namely, Latinos—scored in the marginal range (27,28), with an alpha of 0.67 on this subscale. The reliability of this subscale for all other subgroups was fine, with alpha coefficients of 0.83 or greater.

Discussion

Before discussing the implications of this research, the present authors would like to acknowledge the main limitation of this study: The findings presented in this paper are based on a research sample that was not derived via random sampling. Instead, the data were collected via a purposive sampling approach that was designed to maximize diversity within the target population, so that analyses could be performed with different subpopulations of MSM fostering comparisons of men based on their age, race, educational attainment, and so forth. The adoption of the purposive sampling approach successfully accomplished this goal, while making it impossible for us to know the extent to which these findings may or may not be generalized to MSM in general.

Conclusion

Despite this limitation, the present authors believe that the present study still has much to offer. This research reported on findings pertaining to the development of a new scale—seemingly the first of its kind—to assess stigma perceptions associated with the possible use of PrEP medication in a systematic way. The present authors found the PrEP Stigma Scale, both in its full version (22 items) and in its shortened version (11 items), to be highly reliable. Not only was this true with regard to the use of the scale for the sample as a whole, but also for all major subgroups based on their age, educational attainment, race, relationship status, and HIV serostatus. This bodes well for the continued use of the PrEP Stigma Scale and the PrEP Stigma Scale—Shortened Version in future studies. This may prove to be particularly valuable to researchers and interventionists working with MSM who are engaging in high-risk sexual behaviors, but who, for whatever reasons, have not adopted PrEP or been reluctant to give PrEP a try. For public health or risk reduction initiatives targeting such individuals, both versions of the PrEP Stigma Scale may facilitate the researchers'/interventionists' efforts to understand why PrEP is not being adopted and help these persons to offer counterprogramming messages to increase PrEP adoption rates. The shortened version, in particular, may prove to be beneficial since it would take less than five minutes to administer, yet yield a wealth of useful information regarding perceptions of the stigmata associated with PrEP use/adoption.

Further analysis of the PrEP Stigma Scale revealed that the full scale can be divided into two subscales, each of which demonstrated reliability levels commensurate with the full scale. The first subscale was comprised by 11 items, which seemed to have in common an emphasis on PrEP-related stigma associated with interpersonal concerns and how the use of PrEP might be construed by persons who were important to the respondents themselves. The second subscale consisted of seven items, which generally pertained to perceived stigmata surrounding the sexual aspects of adopting PrEP medication. Both scales were found to be highly reliable (Cronbach's alpha = 0.95 and 0.94, respectively), both for the sample as a whole and for almost all subgroups within the research sample. The existence of and high reliability coefficients obtained for both subscales may make it possible for researchers and interventionists to target specific aspects of PrEP-related stigma in their particular populations of interest. That is, projects that are focusing on helping MSM to reduce their sexual risk for acquiring HIV may be more interested in utilizing the second subscale and

developing intervention content based on that, whereas programs that are working with MSM to consider PrEP through peer networking and social support systems (both of which have been shown to be effective ways of reducing risk for HIV (29–31) may find the adoption of the first subscale more advantageous to their ongoing efforts to combat HIV.

A word of caution

At present, there is no consensus surrounding the issue of how high a Cronbach's alpha reliability coefficient should be or must be in order to be considered indicative of a reliable scale, or whether or not there is such a thing as an alpha coefficient that is too high. Most researchers have adopted a convention that Cronbach's alpha values of 0.70 or greater to be considered scientifically acceptable; 0.80 or greater generally are construed as good; and those reaching 0.90 or greater are deemed as being indicative of excellent reliability (27, 28). As a general rule, thinking throughout the scientific community seems to be consistent with the notion that higher reliability coefficients indicate better, stronger, more-reliable scales. At the same time, however, numerous authors have issued cautions about the use of scales for which the alpha coefficient is too high (32, 33), which generally they have defined as 0.95 or greater. Their admonition is that very high reliability coefficients may be indicative of excessive redundancy in the measures comprising a scale, and that researchers finding themselves in this situation would be wise to double-check the inter-item correlations of their scales' components in order to make sure that they are nicely, but not too strongly, correlated with one another. Taking this latter concern to heart, the present authors examined the scale components for this very issue, focusing on magnitude of the inter-item correlations amongst items comprising the full PrEP Stigma Scale and the reduced-length PrEP Stigma Scale–Shortened Version. All appears to be nonproblematic for these scales, particularly the short version, where item redundancy is much less of an issue and reliability coefficients remain very high. This suggests that it is strong internal consistency of the scale rather than excessive redundancy in measurement that appears to be the source of the high alpha coefficients that were obtained.

In summary

The PrEP Stigma Scale appears to be a promising instrument for aiding in efforts to understand barriers to PrEP adoption among MSM. It was found to be highly reliable, both in its full 22-item version and in its shortened 11-item version. Moreover, based on the present authors' initial testing of the instrument with this purposive sample of MSM, the PrEP Stigma Scale performed well for all subgroups of men, irrespective of their age, race, educational attainment, relationship status, or HIV serostatus. Closer analysis of the main instrument revealed evidence of two subscales, each of which can be used as a stand-alone instrument measuring different aspects of stigma perceptions surrounding PrEP use by MSM. As with the overall PrEP Stigma Scale itself, both of these stand-alone subscales performed well psychometrically, and they did so for almost all subgroups under study.

Recommendations for future research

The present authors have several recommendations for future research, emanating from the findings of the present study. First, this research would benefit from replication with a larger sample, particularly one that is more scientifically-sound than the present one. Undertaking

that would help to bolster confidence in the usefulness of the PrEP Stigma Scale and/or its subscales in future HIV risk reduction endeavors. Second, it would be beneficial if the PrEP Stigma Scale were tested with other “at risk” populations, to determine if it is just as useful and informative with those persons as it was in this MSM-based pilot study. In particular, the present authors encourage its testing among substance (ab)using persons and “at risk” heterosexual women, both of which continue to be at great risk for acquiring HIV and in need of targeted education, prevention, and intervention efforts. Third, future researchers should consider studying the factors associated with (i.e., underlying) higher scores on the PrEP Stigma Scale. This will help to highlight specific needs for education, prevention, and intervention by identifying behaviors or characteristics that seem to be particularly problematic when it comes to stigma perceptions pertaining to the adoption of PrEP. Fourth, the present authors believe that it would also be beneficial to take a careful look at the role that PrEP-related stigma perceptions play in actual HIV risk taking. Multifaceted approaches considering such diverse influences as substance (ab)use, childhood maltreatment experiences, degree of “outness,” overall riskiness of one’s sexual behaviors, and mental health functioning would all be excellent candidates for such endeavors; and they would benefit from more-sophisticated statistical examinations like structural equation modeling to help researchers identify how PrEP-related stigma perceptions factor into the overall combination of influences that shape people’s risk-taking practices.

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Table 1.

Reliability coefficients, by population subgroup

| | Reliability Coefficient (full version) | Reliability Coefficient (short version) |
|--|--|---|
| PREP Stigma Scale (entire sample) | 0.96 | 0.95 |
| Race * | | |
| Caucasian | 0.97 | 0.97 |
| African American | 0.87 | 0.89 |
| Latino | 0.88 | 0.82 |
| Sexual Orientation | | |
| Gay | 0.96 | 0.95 |
| Bisexual/Heterosexual | 0.96 | 0.95 |
| Age Group | | |
| 18-29 | 0.88 | 0.87 |
| 30-39 | 0.92 | 0.86 |
| 40+ | 0.94 | 0.93 |
| Relationship Status | | |
| Single/Uninvolved | 0.96 | 0.95 |
| Married, Engaged, or Seriously Involved | 0.94 | 0.94 |
| HIV Serostatus ** | | |
| HIV-negative | 0.95 | 0.94 |
| HIV-positive | 0.95 | 0.95 |
| Educational Attainment | | |
| High School Diploma/G.E.D. or Less | 0.93 | 0.91 |
| Some College, No Completed Bachelor's Degree | 0.94 | 0.93 |
| College Graduate or More | 0.96 | 0.95 |

* Men of other racial groups have been excluded from the reporting.

** Serostatus-uncertain persons have been excluded from the reporting.

Table 2.

Factor analysis and the creation of subscales

| | Factor 1 | Factor 2 | Factor 3 |
|--|-----------------------|-----------------------|-----------------------|
| Eigenvalue | 6.31 | 5.97 | 2.54 |
| Reliability Coefficient | 0.95 | 0.94 | 0.62 |
| Item | Factor Loading | Factor Loading | Factor Loading |
| If I were to use PrEP, people would think that I have HIV. | 0.77 | 0.08 | 0.20 |
| My friends would think less of me if they found out I was using PrEP ^{**} | 0.72 | 0.43 | 0.22 |
| My family would think less of me if they found out I was using PrEP ^{**} | 0.78 | 0.36 | 0.15 |
| If my employer found out that I was using PrEP, I might lose my job. | 0.78 | 0.21 | 0.16 |
| People would feel uncomfortable with me if they found out that I used PrEP ^{**} | 0.71 | 0.47 | 0.24 |
| People would avoid me if they found out that I used PrEP ^{**} | 0.61 | 0.47 | 0.33 |
| The people in my doctor's office would treat me differently if they found out that I used PrEP | 0.61 | 0.40 | 0.29 |
| If I were going to use PrEP, I would feel a need to hide that from other people. | 0.71 | 0.35 | 0.30 |
| Most people would think that using PrEP is a sign of personal failure. | 0.64 | 0.33 | 0.24 |
| If I used PrEP, I would worry that people would tell others that I am using PrEP. ^{**} | 0.66 | 0.48 | 0.24 |
| I would worry about telling people that I take a medicine like PrEP for my health's sake. | 0.56 | 0.36 | 0.35 |
| If I were to use PrEP, people would think that I have sex with a lot of different people ^{**} | 0.27 | 0.84 | 0.11 |
| If I were to use PrEP, people would think that I like having strange types of sex ^{**} | 0.34 | 0.86 | 0.10 |
| PrEP is mostly meant for guys who can't use condoms ^{**} | 0.22 | 0.88 | 0.08 |
| PrEP is something used mostly by guys who don't have a lot of money ^{**} | 0.48 | 0.62 | 0.25 |
| If I were to bring up the subject of using PrEP with my partner, he/she would think that I am having risky sex with other people ^{**} | 0.42 | 0.64 | 0.26 |
| I think that my health insurance premiums would go up if my doctor prescribed PrEP for me. | 0.26 | 0.73 | 0.27 |
| PrEP is mostly meant for guys who are "bottoms" when they have sex ^{**} | 0.38 | 0.69 | 0.25 |
| There are easier ways to keep from getting HIV than taking PrEP. | 0.30 | -0.02 | 0.71 |
| Most people I know would treat me exactly the same if they found out that I used PrEP. | 0.24 | 0.25 | 0.56 |
| I would feel like a stronger person if I began using PrEP. | 0.16 | 0.28 | 0.77 |
| PrEP is mostly meant for guys who are "fems" (or more feminine) rather than guys who are "butch" (or more masculine). | 0.27 | 0.49 | 0.37 |

*
Item retained in the PREP Stigma Scale-Shortened Version.

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Table 3.

Reliability coefficients for Factor 1 and Factor 2, by population subgroup

| | Reliability Coefficient (Factor 1) | Reliability Coefficient (Factor 2) |
|--|------------------------------------|------------------------------------|
| PREP Stigma Subscale (entire sample) | 0.95 | 0.94 |
| Race * | | |
| Caucasian | 0.96 | 0.96 |
| African American | 0.87 | 0.84 |
| Latino | 0.91 | 0.67 |
| Sexual Orientation | | |
| Gay | 0.95 | 0.94 |
| Bisexual/Heterosexual | 0.94 | 0.93 |
| Age Group | | |
| 18-29 | 0.89 | 0.76 |
| 30-39 | 0.93 | 0.83 |
| 40+ | 0.93 | 0.92 |
| Relationship Status | | |
| Single/Uninvolved | 0.93 | 0.94 |
| Married, Engaged, or Seriously Involved | 0.95 | 0.92 |
| HIV Serostatus ** | | |
| HIV-negative | 0.94 | 0.92 |
| HIV-positive | 0.96 | 0.92 |
| Educational Attainment * ** | | |
| High School Diploma/G.E.D. or Less | 0.92 | 0.87 |
| Some College, No Completed Bachelor's Degree | 0.93 | 0.90 |
| College Graduate or More | 0.94 | 0.94 |

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