

**"Exploring HIV Prevention Communication Among Black Men Who Have
Sex with Men in New York City: Project BROTHA"**

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B. Statistical Methods

1. Respondent Universe and Sampling Methods

The initial 100 participants of the study (seeds) will be Black-identified men, who have had sex with another man in the past three months. Black-identification may include identification as African, African-American, African-Caribbean, African/Latino, or any other combination that includes African descent. The remaining 200 participants (network associates) will include men who have had sex with men, regardless of racial/ethnic identity.

Participants who meet the following inclusion criteria will be eligible to participate in the study:

- Biological sex of male (born male);
- At least 18 years of age;
- Report sex with a man at least once within the last 3 months;
- Seeds and network associates distinct criteria (defined below)
 - o identification as Black (of either African-American or African descent) to be eligible as a “seed”;
 - o includes all MSM as potential network associates (NA);
 - o (for network associate) submission of referral card from BSM seed
- No previous test for HIV antibodies OR no HIV antibody test within the last year,
- Ability to identify two other MSM from their social network;
- Ability to communicate in English; and
- Ability to provide informed consent.

Participants who meet the following exclusion criteria will not be eligible to participate in the study:

- Unstable, serious psychiatric symptoms identified in mental status screener;
- Currently suicidal/homicidal;
- Evidence of gross cognitive impairment;
- No report of sex with a man within the last 3 months;
- Reports limited or no ability to speak English, or
- Reports being aware of his serostatus because of HIV test within past year. Those who report being tested, but did not get results will be considered as “unknown status” as will still be eligible for our study.

2. Procedures for the Collection of Information

One hundred (100) BSM will be recruited via active and passive recruitment methods at specific venues and special community

events, such as Black Gay Pride Weekend and other popular, local events. These 100 BMSM will then recruit 200 other MSM from within their social networks to participate in the study. A total of 100 BMSM and 200 of their friends, peers, and/or sexual/intimate partners (regardless of racial/ethnic background) will be recruited to participate in the quantitative survey and qualitative interview components of the study. Our intent is to enroll at least 25 individuals per month between the two sites, CHEST in the Chelsea section of NYC and Gay Men of African Descent (GMAD) in Harlem, both of which are readily accessible by public transportation. Total enrollment time will be approximately 12-18 months.

This is an exploratory (hypothesis-generating) study. The research questions being addressed are the following:

1. What messages about HIV prevention and HIV testing are being disseminated through interpersonal communication among BMSM and other MSM members of their social networks (i.e., What is the nature of HIV prevention communication within this community?)
 - a. What are the specific contents of these messages?
 - b. What are the specific contexts in which these messages are being disseminated?
 - c. What methods are being used to disseminate these messages?
2. How is HIV prevention communication related to HIV testing intentions and actual HIV testing behaviors (at baseline and at the 3-month follow-up assessment)?
3. What methods of HIV testing are preferred by BMSM and MSM in their social networks?
4. What are barriers and facilitators to HIV testing as expressed by the BMSM and other MSM in the study sample?
5. How are psychosocial and behavioral variables (i.e., sexual identity, drug use, unsafe sex, gay-related stigma, HIV-related stigma, gay community attachment, spirituality/religiosity, and ethnic community attachment) related to message diffusion methods, HIV testing preferences, HIV testing intentions, and actual HIV testing?
6. What are HIV testing rates in the study sample?
 - a. What are the demographic and psychosocial profiles of study participants who test for HIV (immediately after assessment) compared to those who test 3 months post-assessment and those who do not test at all?
 - b. What is the relationship between HIV testing intentions and actual HIV testing?

Potential participants that call seeking information about the study will be screened using the Screening Questionnaire in Attachment 3. If eligible based on phone screening, an

appointment will be made for the participant to visit CHEST or GMAD to complete further screening.

At the appointment, research assistants (RA) will administer two brief screening interviews to establish eligibility: the Mini-Mental Status Examination (Attachment 3), and the psychotic screening section of the Structured Clinical Interview for DSM-IV (Attachment 3). These mental health measures are administered in order to exclude individuals who do not have the capacity to provide appropriate informed consent and to reduce the likelihood that a more "clinical" (i.e., diminished mental/psychological status) sample will be obtained.

After completing the screening and if the participant is eligible for participation, the RA will obtain informed consent and administer the assessment survey via computer for self-report measures (Attachment 3).

The personal interview will be conducted after the survey assessment. The interview assessment will require 75 minutes, and will be administered using a personal interview with opened-ended items (Attachment 3).

HIV testing procedures will follow guidelines for pretest and posttest counseling mandated by the New York State AIDS Institute (NYS AI) as outlined by the New York State HIV Confidentiality Law (New York State Department of Health, 1997) and the NYS AI-approved "flow chart" for implementing HIV counseling rapid testing (Attachments 7). All counseling will be undertaken by trained staff that have completed the HIV test and notification course at the New York City Department of Health and Mental Hygiene's HIV Training Institute.

At the 3-month follow-up, a participant will be asked to complete a shorter assessment that repeats the quantitative measures administered at baseline (30 minutes); the qualitative interview will only assess how and whether his communication about HIV prevention and testing has changed since the time of the initial assessment (45 minutes). After the assessment, the participant will be offered HIV testing.

The primary aims of this study are as follows:

Primary Aim 1. To determine the content and contexts of messages being disseminated about HIV prevention strategies and HIV testing among adult NYC-based BSM and MSM members of their social networks. The study team seeks to understand the messages that BSM and other MSM members of their social networks are relaying to each other to help each other understand HIV risk and HIV prevention issues (e.g., risks to unprotected anal receptive

sex, the advantages of using condoms). The study team also wants to comprehend the different methods they use to transmit these messages (e.g., one-on-one conversations, group meetings, online chats), as well as the socioenvironmental contexts (e.g., parties, dance clubs, sexual liaisons with casual partners). Producing data on the content and contexts of these conversations and exchanges (offline and online) between BSM and other MSM in their social network can be very valuable to public health programs working to improve HIV prevention efforts with BSM.

Primary Aim 2. To assess the relationship between interpersonal HIV prevention communication and receiving an HIV test. The research team also wants to understand how BSM and MSM members of their social networks perceive and communicate about issues related to HIV testing (i.e., do they encourage or discourage each other to test for HIV? Do they tell each other that the HIV test is a "waste of time," or that the results do not tell you anything about your health condition?). Related to this, the research team is interested in using the Theory of Reasoned Action (TRA) model (Sheppard, 1988) as a guide in assessing how beliefs, attitudes, subjective norms, social factors, and contextual factors influence HIV testing intentions. Interpersonal communication based on these elements (e.g., positive beliefs about HIV testing, positive attitudes about HIV testing, friends and peers who encouraging HIV testing, social environments that allow for honest conversation about HIV prevention and disclosure of HIV status) may increase HIV testing among many BSM in the study sample.

To achieve these aims, both quantitative and qualitative methods will be used, via computer-assisted survey (ACASI) and personal interviews, respectively. This phenomenological approach is beneficial in producing data to help us understand the role interpersonal communication has in disseminating important HIV prevention messages and perceptions BSM have about HIV testing that may be hindering or facilitating HIV testing behaviors. The narratives that participants share in the qualitative interviews will help provide context for the interrelationships supported by our quantitative data through our ACASI surveys.

Power Analysis. This is an exploratory study without re-determined hypotheses, so a traditional power-analysis based on an estimated effect size is not appropriate. However, in the event that specific predictor-outcome relationships emerge for statistical testing, the current sample provides sufficient power ($\alpha = .05$; $\delta = .50$) to detect a small to moderate effect size ($r = .27$) or greater (Rosenthal & Rosnow, 1991). We will limit the number of predictors / mediators to 3 for each model (determined by ANOVA/ANCOVA) in order to not overfit the data.

Data analysis. To address our Primary Aim 1 (to determine the content and contexts of messages being disseminated about HIV prevention strategies and HIV testing among adult BSM and MSM members of their social networks in New York City), analyses will consist of simple frequency distributions as well as inferential statistics for two-way tables (e.g., Chi-Square) to evaluate differences between groups by demographic characteristics (e.g., age, sexual identity, race/ethnicity) in terms of content (i.e., topics contained in conversations and interpersonal communication between BSM and their network associates, like definitions of HIV prevention) and contexts (methods, recipients with whom, and locations where communication occurred). Exploratory data analyses to investigate distributional characteristics of participant's dependent (e.g., frequency of HIV prevention interpersonal communication, HIV testing intentions, HIV testing) and independent variables (e.g., normative beliefs about HIV testing, social engagement, drug/alcohol use, safer sex efficacy, condom comfort, and religiosity/spirituality) will occur. Distributional properties will be examined using standard summary statistics in addition to graphical summaries. For variables with continuous measurements (e.g. frequency of HIV prevention conversations) and non-normal distributions, transformations to symmetry (e.g. log and square-root) will be explored. To address Primary Aim 2 (to assess the relationship between interpersonal HIV prevention communication and receiving an HIV test), simple frequency distributions as well as logistic regression to evaluate differences between groups by HIV testing intent (measured with four quantitative items and 1 theme from qualitative interviews) and actual HIV testing in terms of frequency of interpersonal communication (i.e., conversations) will be performed. Odds ratios will be derived to determine likelihood of HIV prevention conversations occurring among BSM with varying degrees of intentions to test for HIV and likelihood to test. SPSS 14 will be the software employed for descriptive analyses.

Thematic coding will be used to analyze the data derived from the qualitative interview as per procedures outlined by Miles and Huberman (1984) and Patton (1990). A two-level approach to qualitative data analyses will be utilized. Initial themes regarding content and contexts of HIV prevention interpersonal communication will be discussed through weekly coding team meetings and an initial codebook will be developed. Second, a larger coding team (also including senior interns who have worked for more than a year on qualitative data transcription), will code the data. As such, data will be coded to identify themes and factors associated with HIV prevention and HIV testing communication and contextual factors for MSM and BSM in our study sample. Reliability will be maintained through the use of multiple coders, and reliability analyses (Kappa statistics) can

be performed to compare results. Inconsistent codes will be discussed, and revisions made until coders can maintain 90% agreement. The most frequent themes for each question will be identified and less frequent themes will be examined in order to evaluate the range of variation in participant responses. Qualitative data obtained from these interviews will be entered into NVIVO 7 computer database. The percentage of respondents endorsing each theme will be calculated and analyzed to better understand the contextual nature of HIV prevention communication. The NVIVO 7 software package will be utilized to facilitate the qualitative data analysis. Qualitative data also will be matched to the participant quantitative data, allowing information from the two sources to be merged for data analysis. Simple inferential statistics for two-way tables (e.g., Chi-square) will be used to evaluate any differences between groups (e.g., younger versus older, gay/bisexual identity versus non-gay identity) in terms of codes from the interviews.

3. Methods to Maximize Response Rates and Deal with Nonresponse

During enrollment, project staff members will ensure recruitment flyers are posted in appropriate venues that may be frequented by BMSM. Respondent driven sampling (RDS), a network-based recruitment method (Heckathorn, 1997), will be employed to try to engage additional BMSM seeds (if needed) who are part of the social network of those BMSM who initially respond. The use of tokens will facilitate enrollment for this study, based on the previous experience of the PI and local, senior mentors. Entry of new participant data will be monitored weekly to assess the ability to reach the targeted number within the given project timeline. Outreach methods (recruitment) will be assessed and revised (upon consult with CDC project staff) if targeted numbers are not reached and threaten completion of the study within the specified timeframe.

4. Test of Procedures or Methods to be Undertaken

The research team is interested in using the Theory of Reasoned Action (TRA) model as a guide in assessing how beliefs, attitudes, subjective norms, social factors, and contextual factors influence HIV testing intentions. The proposed study uses a mixed-methods approach, including computer-based quantitative surveys and a face-to face interviews, to assess HIV prevention messages discussed with partners, friends, and peers; HIV testing barriers and facilitators, attitudes and preferences; HIV testing intentions; self-perceived sexual identity, drug use, unsafe sex, gay-related stigma, HIV-related stigma, religiosity/spirituality, gay community attachment, and ethnic community attachment. These data will assist with the development of culturally tailored and

gender specific educational materials that can facilitate HIV prevention and HIV testing HIV testing efforts among BMSM in large, urban areas.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

Individuals consulted on statistical aspects are the lead scientists (Drs. Nanin and Parsons) on this project from Kingsborough Community College and Hunter College.

Name	Degree(s)	Role	Institution
Jose Nanin	Ed.D.	Principal Investigator	Kingsborough Community College & Hunter College, CHEST
Jeffrey Parsons	Ph.D.	Co-Principal Investigator/Local Senior Mentor	Hunter College, City University of New York

References:

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