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Deconstructing the complexity of substance use among young men who have sex with men (YMSM) by optimizing the role of qualitative strategies in a mixed methods study

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Abstract

Qualitative data can be a powerful tool in developing interventions for substance use and other HIV-risk behaviors. Mixed-methods design offers researchers the ability to obtain data that provides both breadth and depth to their research. However, the integration of qualitative data in mixed-methods research has been limited. This paper describes the qualitative design of the Healthy Young Men's Study, a longitudinal mixed-method study with an ethnically diverse cohort of young men who have sex with men (YMSM) (N=526) in Los Angeles. Integral to this discussion is how a mixed-methods study can address common challenges such as sampling, representation and integration.

Keywords

mixed-methods; substance use; young men who have sex with men

Introduction

Researchers have commented that the “time of AIDS” created new demands for investigators to better understand substance use, the social context in which use occurs, and its relationship to sexual behavior (Rhodes & Moore, 2001). Similarly, strong recommendations have been made to strengthen mixed method approaches to studying substance use and HIV risk (Bourgois, 1999; Deren et al., 2003; McKeganey, 1995; Rhodes & Moore, 2001). Mixed methods research refers to the sequential or concurrent collection, analysis and mixing of both quantitative and qualitative data (Creswell & Plano Clark, 2007). Mixed methods has been called the “third wave” that moves past the quantitative versus qualitative debate by offering a logical and effective alternative (Johnson & Onwuegbuzie, 2004). In this paper, we describe the methods and strategies used to integrate in-depth qualitative data into a mixed methods study with a sample of ethnically diverse young men who have sex with men (YMSM), and the lessons learned along the way. We will describe the sampling techniques used to select qualitative respondents, and the ways in which these methods allowed for a more efficient, targeted and focused analysis.

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A mixed approach allows for greater effectiveness and the possibility of a more comprehensive analytical technique than does either quantitative or qualitative data analysis alone. While individual quantitative and qualitative research studies have contributed to our understanding of substance use-related behavior, prior research has not taken full advantage of the potential benefits of a fuller integration of these methods (Nichter, Quintero, Nichter, Mock, & Shakib, 2004). For example, quantitative research on these behaviors cannot always be translated into effective interventions without qualitative research. The latter provides a better understanding of the social context and the meanings individuals attribute to their behavior (Donovan, Mearns, McEwan, & Sugden, 1994). There are challenges in designing an effective mixed methods study, specifically related to sampling, representation and integration (Onwuegbuzie, 2007), which only recently have been discussed in the literature (Onwuegbuzie & Collins, 2007; Teddlie & Yu, 2007). To date, mixed methods research with this population has been largely restricted to small sample sizes (Halkitis, Parsons, & Wilton, 2003; Reece & Dodge, 2003) that have not fully triangulated the qualitative and quantitative data (Halkitis, Fischgrund, & Parsons, 2005; Halkitis et al., 2003; Parsons, Kelly, & Weiser, 2007) or that have focused on issues such as questionnaire development (Courtenay-Quirk, Wolitski, Parsons, Gomez, & The Sereopositive Urban Men's Study Team, 2006).

Qualitative methods allow for a more in-depth understanding of how different aspects of contextual spheres, such as social, familial, and political, interact and relate to substance use and/or HIV risk. While each of these spheres most certainly does not operate in isolation of the others, delving into the meanings attributed to each of these contextual areas, how they relate to each other, and identifying the other factors that may influence them, provides a more holistic understanding of an individual's universe and an insight into behavioral choices. Continuing to employ these methodologies remains important given the increasing awareness of the relationship between substance use, misuse and HIV transmission among YMSM (Stueve, O'Donnell, Duran, San Doval, & Geier, 2002). Epidemiological and behavioral research further suggest that significant numbers of YMSM continue to engage in risk behaviors associated with HIV transmission, including substance use and unprotected anal intercourse, despite substantial investments in community-based prevention interventions targeting these behaviors. As rates of HIV infections among YMSM in the United States continue to rise (Centers for Disease Control and Prevention, 2001), it is imperative that HIV prevention and intervention experts continue to explore a more nuanced understanding of the factors related to HIV-risk behaviors.

While it is now well understood that most adolescents and emerging adults will experiment with alcohol and drugs at some point during their teens and early twenties (Arnett, 2000), there is growing evidence that YMSM¹ are at particularly high risk for use of more harmful drugs (e.g., methamphetamine, cocaine, and other club drugs). Previous research has found that these drugs are associated with increased risk for involvement in HIV risk behaviors. Indeed, YMSM are more likely to report lifetime use of cocaine, crack, anabolic steroids, inhalants, and injectable drugs such as crystal methamphetamine (crystal meth) (Wolitski, Valdiserri, Denning, & Levine, 2001). Use of amphetamines, ecstasy, and amyl nitrate also has been found to be strongly associated with unprotected anal intercourse (UAI) among gay and bisexual youth. (Catania et al., 2001)

Unfortunately, the vast majority of survey research conducted to date with YMSM has been descriptive in nature and conducted with small, non-representative samples of convenience. One of the few exceptions is the Young Men's Survey (YMS), a large-scale study conducted

¹The term of YMSM is used in this paper although it is important to note that the YMSM, as well as the adult MSM populations, are heterogeneous and not homogenous groups.

in the mid-1990s with 15- to 22-year-old YMSM in seven US cities including San Francisco, Baltimore, Dallas, Los Angeles, Miami, New York, and Seattle (Valleroy et al., 2000). Findings from YMS revealed a high prevalence of lifetime, recent, and frequent illicit drug use, including stimulants, such as cocaine and amphetamines. Risk factors found to be associated with drug use in this sample included race/ethnicity (with Caucasian youth being at increased risk), sexual identity (with youth who identified as bisexual and heterosexual being at increased risk), disclosure of sexual identity (with nondisclosure associated with increased risk), history of sexual abuse, and history of homelessness. However, YMS did not include qualitative methods in its study design.

The Healthy Young Men's (HYM) Study is a mixed method longitudinal study that draws upon social (Bauman & Ennett, 1994), ecological (Bronfenbrenner, 1977, 1979, 1986) and developmental (Arnett, 2000; Bandura, 1979) theories of risk and resilience to examine the individual, familial, interpersonal, and community contexts in which drug use, HIV risk-related behaviors, and health-promoting and seeking behaviors take place among YMSM. Respondents in the HYM Study include young men who are 18 to 24 years old and who represent three different ethnicities: African American, Latino of Mexican descent and Caucasian. The HYM Study is unique in that qualitative techniques (e.g., interviews, focus groups) have been integrated into the study throughout its multiple stages of data collection. Specifically, Phase 1's formative research was designed to inform the development of Phase 2 recruitment methods and the accompanying longitudinal survey. Phase 1 utilized both semi-structured interviews and focus groups with the target population. During Phase 2, which focuses on collecting longitudinal data over two years, smaller qualitative sub-studies have been designed. These sub-studies capture more in-depth information on the constructs that appear to be directly or indirectly related to drug use, based on preliminary findings from the longitudinal survey.

Phase 1: Formative Research and its Role in the HYM Study

Like many mixed method studies, the HYM Study began with a formative phase that consisted of identifying and observing venues frequented by YMSM, and conducting qualitative interviews and focus groups. The primary goal of this phase was to inform the development of the HYM longitudinal data collection instruments as well as to refine the recruitment and tracking study protocols.

Young men were determined to be eligible for the formative phase if they: 1) were 18–22 years old; 2) self-identified as African American, Asian/Pacific Islander of Filipino descent, White/Caucasian, or Latino of Mexican descent²; and 3) identified as either gay or bisexual or uncertain about their sexual orientation, and/or reported having had sex with men. To identify and recruit eligible participants, the research team (consisting of both males and females of different ethnicities – Filipino, African American, White/Caucasian, Latino) approached young men at social venues (e.g. bars/clubs) and youth programs who appeared to be the appropriate age and of one of the four-targeted ethnic populations. Also ads for recruitment were placed on the Internet. Potential respondents were asked if they would be interested in completing a “short health survey”. For those who agreed, a short screening instrument was completed to determine eligibility. For those who were determined to be eligible (based on the criteria above), study team members described the formative research requirements – specifically that the respondent would be asked to complete two qualitative

²The three largest racial/ethnic groups in Los Angeles County include Caucasians, African Americans and Latinos. Individuals classified as Latinos are a heterogeneous group including many different ethnicities (e.g., Mexican, Puerto Rican, Guatemalan), and each group differs in their experiences and cultures. Therefore, we wanted to focus on only one ethnic group within the Latino category. Individuals of Mexican descent make up the greatest proportion of Latinos in Los Angeles County and therefore were selected as the Latino group of interest of this study.

interviews of about two hours each. The result was that we recruited a total of 43 young men who completed a total of 82 interviews (four completed only one interview); six focus groups also were conducted during this phase. Additional information related to recruitment methods have been published elsewhere (McDavitt et al., in press).

Once data were collected, targeted analysis of key constructs was conducted to inform the development of the longitudinal survey. For example, in considering measures for ethnic identity, analysis of the qualitative narrative quickly revealed that offering a single option was not sufficient. Los Angeles is ethnically and culturally heterogeneous, and our respondents reflected this mix with many of the young men identified with multiple ethnicities (e.g., Mexican and White). This was exemplified by one respondent who described himself as “bi-racial”. He reported that his grandmother on the Mexican side of the family called him “guero” because of his light complexion and eye color from his mother’s ethnic characteristics. He said that “it’s always been kinda weird to be bi-racial... it’s as if society sometimes always only wants me to be White and then at other times it wants me to be Mexican”. Others identified with specific national heritages that were important to their overall identity:

My class ring [has] the Puerto Rican flag that symbolizes my father’s side of the family...and I have the Mexican flag which symbolizes my mother’s and the American flag behind the Mexican flag because this is where I was born and raised....

This finding, which validated prior research, led us to develop a survey measure that more fully captures the complexity of ethnic identity and heritage, asking respondents to select from an extensive list of different ethnic identities or national heritages with which they identify.

Likewise, analysis of narratives related to sexual behavior challenged us to critically examine the sexual partner typology used in many studies with men who have sex with men. Many of these studies examined sexual behavior through referencing “primary” or “casual” partners only. We found that these categories may not capture the considerable nuance of how young men actually characterize relationships and the relative risk within those relationships. Respondents spoke of three different types of sexual partners: 1) primary/boyfriend relationships, 2) one-night stand/single-encounter partners, and 3) sexual partners that they commonly referred to as a “fuck buddy” or a “friend with benefits” differentiated by one focus group respondent here:

I guess you could have a fuck partner, I guess that would be casual dating cause you can have a fuck partner and it’s just like, strictly sex. You know, if you causally, if you’re dating somebody that means you’re gonna go out to the movies and go to dinner and have fun and stuff.

This third category represented a type of relationship that was not commonly explored in HIV research, and the term “consistent casual” was conceived for the longitudinal survey

While this phase was certainly valuable to the overall study, the team encountered traditional challenges inherent when limiting qualitative methods to a formative phase. This was most apparent with respect to the utility of the data for local and professional dissemination. When coupled with the broad scope of constructs needed to inform the study design, the study’s timeline constraints could not allow for qualitative methods that would yield discussions of more substantive depth. Ultimately, the process reinforced the need for the study team to consider critically more efficient strategies that allow for greater integration of, and benefit from, the qualitative methods in the Phase 2 longitudinal research.

Integrating Qualitative Strategies into the Phase 2 Longitudinal Study

Recruitment and Survey Design

The second phase of the HYM study employed a mixed method design to collect both quantitative and qualitative data (for a subset of participants) over the course of two years.³ Respondents included in this study phase were recruited using a probability, venue-based sampling design. This technique has been used successfully to sample a large and accessible population of YMSM to estimate risk behaviors in the Young Men's Study (MacKellar, Valleroy, Karon, Lemp, & Janssen, 1996), and was later modified by Community Intervention Trials for Youth (Muhib et al., 2001).

Between February of 2005 and January of 2006, a total of 526 subjects were recruited into the Phase 2 longitudinal study cohort using this technique. Young men were eligible to participate in this study phase if they were: a) 18 to 24 years old; b) self-identified as gay, bisexual, or uncertain about their sexual orientation, and/or reported having had sex with a man; c) self-identified as Caucasian, African American, or Latino of Mexican descent; and d) a resident of Los Angeles County, and they anticipated living in Los Angeles for at least six months⁴. Additional descriptions of the sampling procedures and methodologies are described elsewhere (Ford et al., in press).

The survey (which requires 1 ½ to two hours to complete) measures constructs such as family structure and support; immigration status; religiosity; health and healthcare utilization; testing and history of sexually transmitted infections and HIV; peer norms; experiences of homophobia and racism; stressful life events; alcohol and drug use; and involvement in HIV risk/protective sexual behavior. The surveys were administered in both English and Spanish using audio computer-assisted self-interviewing (ACASI) technologies. ACASI technologies have been found to improve both data quality and the validity of responses, particularly to questions of a sensitive nature, such as drug use and sexual behavior (Kissinger et al., 1999; Ross, Tikkanen, & Mansoon, 2000; Turner et al., 1998).

Design of the Qualitative Studies within the Longitudinal Study

The qualitative research in Phase 2 consisted of four targeted sub-studies administered periodically throughout the two-year longitudinal data collection. Each sub-study focused on a key construct that, through analysis of the baseline survey data, was found to be associated with illicit drug use and misuse among YMSM, and for which additional contextual understanding was needed. Specifically, the constructs targeted for qualitative sub-studies were: 1) perceptions and experiences of illicit drug use; 2) sexual risk behavior; 3) religiosity/spirituality; and 4) experiences of racial and homophobic discrimination. (See Table 1 for a brief description of each sub-study.) Sub-samples of 24–36 respondents from the larger HYM cohort were purposively selected for participation in each qualitative sub-study based on their responses to key items from the survey data. All respondents who met the criteria for a specific sub-study, were identified, stratified by ethnicity, and then randomly selected for sub-study participation. Eligible qualitative respondents were contacted by their designated survey interviewer, who described the theme of the sub-study and what was required for participation. Qualitative respondents were given the option to complete their interview with their assigned survey interviewer or choose from the

³This study was funded by the National Institute of Drug Abuse for a total of 5 years, starting in the summer of 2003. Recruitment for the longitudinal study began in January 2005 and was completed over a 12-month period. Thus, longitudinal data collection began in January 2005 and ended in January 2008. Collecting five waves of data every six months was believed to be adequate to begin to understand how individuals' behavior may evolve during this developmental period of "emerging adulthood" (Arnett, 2000).

⁴Eligibility based on local residence was included to ensure that we obtained a sample of YMSM who could be tracked more easily rather than those who were on vacation or visiting Los Angeles for the summer months.

additional male or female qualitative interviewers who were available to complete this study portion. Interviews varied in length (1–3 hours), depending on the subject matter, and were digitally recorded and professionally transcribed. All interviews were conducted in the HYM project offices or at a location convenient to the respondent (e.g., coffee house or park). Those who wished to participate provided informed consent for this study portion and were provided a \$35 incentive for completing each interview.

Sub-Study #1: Contextualizing Substance Use—The first sub-study focused on a deeper understanding and contextualization of drug use among YMSM, as well as gaining an understanding of the differences between those who regularly use drugs and those who reported never having used drugs⁵. Individuals selected for this sub-study were selected based on responses to key items in waves 1 and 2 of the quantitative survey to identify YMSM who report recent drug use, as well as those with no history of use. Half (n=12) of the qualitative respondents were randomly selected from those who reported that they had used at least one drug other than marijuana in the last 30 days in both wave 1 and wave 2. This selection criterion was used to approximate more consistent illicit drug usage rather than individuals who may have experimented or had a history of minimal drug use. The other half (n=12) of the respondents (“non-users”) were randomly selected from those who reported no lifetime use of any drug (excluding alcohol and tobacco). “Non-users” were each interviewed once and “users” completed two interviews to address issues related to specific drugs and the settings in which drug use takes place. Given that the sample came from the same social context (e.g., gay-identified venues), this sub-study sought to examine what differentiated those who chose to use drugs and those who did not.

The interview guides used in this phase of the HYM Study were designed to gather in-depth information on a variety of constructs such as: perceptions of drugs and those who use them (e.g., *Now, I'd like you to tell me what you think about the following drugs and the people who use them: marijuana, cocaine, crack, crystal meth, heroin, prescription drugs. Probe: Please describe as best you can the positives and negatives of each and any thoughts or opinions you have about them.*); how respondents received and reciprocated social support from friends; family history of substance use (e.g., *I know that all families go through different kinds of experiences and handle these situations differently. I'd like to ask you some questions about the role that alcohol or drugs have played in your family.*); as well as strategies used for coping with stressful events. Respondents who reported recent use in the survey also were asked questions regarding their drug use history; negative experiences they had while using drugs; their favorite drug and related contextual information (e.g., where used, with whom); and experiences related to using drugs before or while having sex.

One of the most striking differences we found between users and non-users in their attitudes regarding drug use was the lack of information among non-users of drugs in general. Many non-users had heard of drugs such as cocaine, crystal or ecstasy, but could not describe their particular characteristics or effects. Non-users typically said that their friends did not use illicit substances and that they rarely interacted with drug users in general (Kubicek et al., 2007). Due to a dearth of personal knowledge or experiences with drug use, non-users typically spoke in generalizations. Some based their responses on family members' experiences with drugs; others drew from general beliefs and attitudes from those in their social networks such as this respondent:

⁵The survey itself collected data on lifetime, past 3 months and past 30 days use of a number of substances including marijuana, cocaine, crack, heroin, ecstasy, methamphetamine, Ketamine, LSD, mushrooms, GHB, PCP, poppers, and prescription drugs without a prescription (e.g., anti-anxiety, depressants, Viagra, opiates, attention deficit medication).

Basically we know right from wrong. We're very picky about what we do because basically we're not trying to do nothin' out of line. We stay away from trouble, we don't - none of us like trouble. So we try to stay away from that as far as possible.

Sub-Study #2: Sexual Behavior—The second qualitative study was designed to provide context for YMSM's reported perceptions of and experiences with sexual risk behaviors, such as unprotected anal intercourse (UAI). Again, respondents were selected based on their responses to specific items in the wave 2 survey (the six-month follow-up). In this case, we selected respondents who reported inconsistent or no use of condoms during anal intercourse, either receptive or insertive. Specifically, half (n=12) of the qualitative respondents were selected randomly from those who reported that they had used a condom inconsistently during anal intercourse in the prior three months; the other half (n=12) were selected randomly from those who reported having "never" used a condom during anal intercourse in the prior three months. These selection criteria were selected to ensure that all respondents had some experiences in engaging in UAI in the recent past and to achieve a deeper understanding of YMSM's perceptions and calculations of risk, as well as the circumstances in which they may engage in UAI.

The interview guide used in this phase of the HYM Study targeted a variety of themes related to sexual behavior: current and future expectations and desires regarding intimate relationships; information respondents received regarding sex and sexuality while growing up; communication with sexual partners (e.g., *Different people prefer to have different kinds of sex or prefer different positions. What types of sex do you like? Probe 1: What kinds of sex do you dislike? Probe 2: How do you share these preferences with your partner?*); respondents' definitions of high-risk sex (e.g., *Now, let's talk a little about what you would consider high risk-sex. When you think about high-risk sex – what kinds of situations come to mind?*); and narratives related to specific experiences they described as "low-risk" and "high-risk" (e.g., *Can you tell me about a time in the last six months when you had a sexual encounter that you felt was low-risk?*). Careful attention was paid to ensure that references to risk were defined by respondents and not driven by public health models or definitions suggested by the interviewer.

This strategy enabled us to explore more deeply how young men conceptualized risk and what they felt contributes to that risk. Not surprisingly, respondents described substance use, most often alcohol, as something they commonly associated with high-risk sex. While a couple of respondents also described crystal meth as something that may put them at-risk, alcohol was more commonly described as making someone "not care" about themselves or their partner enough to remember to use a condom (Kubicek et al., in press). One respondent reported that the only times he reported engaging in what he considered high-risk sex, he had been drinking. In the following scenario, he shared that he believed he contracted Chlamydia as a result of his forgetting to use a condom.

It just felt so good because I could see how much I was pleasing him, it didn't matter. And I was drunk. I was completely impaired. I wasn't my normal self if you will. I was wasted. And that's where it becomes high-risk because you don't think.

While acknowledging that alcohol can potentially contribute to a high-risk situation, some reported using alcohol as a way to relax or help them enjoy sex more. Others reported that alcohol would help them to engage in something that they might not ordinarily do. This was often related to anal sex, with some respondents reporting that alcohol helped them to relax, reduce or alleviate physical discomfort or pain, and/or make the experience more enjoyable: "I would prefer not to do it [anal sex]. Unless I'm kind of like a little bit buzzed because it, I don't know,...it just hurts."

Sub-Study #3: Religion and Spirituality—The third sub-study focused on religion and spirituality and how it may influence decision-making related to sexual behavior and drug use. This construct was chosen for additional exploration based on emerging evidence from both the formative phase and the baseline survey that suggested, in spite of a sometimes complicated relationship with religion, many respondents reported a strong connection with a religious or spiritual base. In addition, findings from the baseline survey indicate that YMSM reporting being “very religious” were less likely to report use of club drugs (e.g., cocaine, crystal, ecstasy, GHB, Ketamine, poppers and other forms of speed) (Kipke et al., 2007).

Again, sampling for this sub-study was based on responses to items on the longitudinal survey, this time the wave 3 survey (12-month follow-up). A total of 36 respondents were selected, stratified equally across the three ethnic groups. We randomly selected twelve young men from those who reported high levels of religiosity; an additional twelve who reported high levels of spirituality and low levels of religiosity; and twelve who reported low levels of both religiosity and spirituality. This last criterion was selected to explore the differences in experiences and perception of religion/spirituality among those who endorse high and low levels of religiosity and/or spirituality.

The interview guide for this sub-study included questions referring to family relationships; religious beliefs and participation in religious activities; spirituality; how religion and/or spirituality inform decision-making with regards to sexual behavior and drug use (e.g., *What kinds of things did you hear about alcohol or drugs within your religious community, either growing up or currently? Probe 1: What did you think about what you heard? Probe 2: How did this shape or inform your opinions?*); religious beliefs and practices of those in their social networks; and how respondents’ beliefs and religious practices may have changed over time (e.g., *Have you ever had any doubts about or disagreements with this religion or belief system?*). The guides were designed to be flexible so that each interview could be grounded in the respondents’ definition of religion and spirituality and allow for a deeper exploration of their individual belief system(s). While the quantitative data suggest a relationship between levels of religiosity and club drug use – the qualitative interviews revealed that messages heard in church rarely, if ever, had an impact on individuals’ choices related to substance use.

While some respondents spoke positively about the “structure” that a religious community imposed which actively discouraged drug use, most respondents spoke of multiple reasons for using or not using drugs. This finding is not surprising given that there is strong evidence that decision-making that underlies substance use is complex and related to issues at the individual, interpersonal and societal levels (Sussman, Stacy, Johnson, Pentz, & Robertson, 2004). For instance, some spoke of family histories of drug use, which negatively impacted their lives. Others spoke of a desire to maintain a healthy body, in some cases something prescribed by their religion (as in the cases of a few Seventh Day Adventists) as the primary reason they did not use drugs:

In terms of religion, I don’t really associate it with that. I feel it’s harmful for your body and you shouldn’t really harm yourself. In terms of it’s something you should or shouldn’t do because God will punish you; I don’t think about all of that.

Sub-Study #4: Racial and Homophobic Discrimination—The fourth sub-study focused on discrimination based on race/ethnicity or sexual identity, and how it may be related to engaging in HIV-risk behaviors such as substance use or high-risk sex. This construct was selected for qualitative exploration based on emerging evidence from the baseline survey indicating that a large proportion of the cohort reported experiencing some

kind of discrimination in their lifetime. Specifically, 98% reported experiencing homophobia; 80% reported social or sexual racism (e.g., discomfort in a gay bar/club, trouble finding lover relationships because of race/ethnicity); and 52% reported institutional racism (e.g., turned down for a job, police harassment) in their lifetime. African Americans were more likely to report discrimination in social/sexual contexts as well as institutional racism. At the multivariate level, gay harassment when growing up was significantly associated with drug use (Kipke, Wong, & Weiss, 2007).

Sampling for this study was based on responses to the baseline survey (as this survey included questions about experiences growing up that subsequent surveys omitted). A total of 32 respondents were selected, stratified across the three ethnic groups, with an over-sample of African American and Latino respondents, given the higher prevalence of racial/ethnic discrimination in those two groups. Survey items used to sample respondents were based on scales that measured experiences of gay discrimination, racial/ethnic discrimination and extreme homophobia (e.g., physical assault). We randomly selected eight White/Caucasian respondents who scored above the median on the gay discrimination scale; eight African Americans and eight Latinos of Mexican descent who scored above the median on both the gay and racial/ethnic discrimination scales; and four African Americans and four Latinos who experienced extreme homophobia.

The interview guide for this sub-study included questions about how respondents conceive of discrimination (e.g., *When you think of discrimination, what kinds of things come to mind? What does it look like to you?*); disclosure of sexuality (e.g., *Who in your family knows about your sexuality? Probe 1: How did they learn? Probe 2: What has been their reaction? Probe 3: Have your family's expectations for you changed?*); experiences of homophobia and racism growing up (e.g., *When you were growing up, what kinds of things did you hear about homosexuality?*), comfort level in different communities or places (e.g., *Are there certain people of places you don't feel comfortable with/in? Have you ever felt welcome/unwelcome in a gay community or gay place?*), and help seeking behavior. At the time this manuscript was written, data analysis was incomplete, and therefore findings are not available.

Benefits of the Qualitative Sub-study Design

Targeted interviews allow for a more thorough and robust analysis

Focusing on a single construct for each qualitative interview provides an opportunity to explore more deeply dimensions of that construct that a broader interview does not afford. Indeed, formative interviews lasted about two hours on average and covered four to six constructs; the more targeted sub-studies were the same length on average, and each one explored a single construct. This benefit was made apparent when studying the role that religion plays in YMSM's lives. Formative findings suggested that religion and spirituality were complicated factors to YMSM's identity that young men were still learning how to deal with: *"I'm still trying to understand it all. Like I feel like religion is one of those things that you learn. But it takes life to understand it."*

In spite of identifying this as an important construct, analysis with the qualitative data from this phase was restricted by the formative's study design, which allowed for only a limited amount of depth on the subject. Thus, further explorations to the meaning young men ascribed to religion and spirituality and how it figured into decisions about risk behavior, such as substance use, was limited.

As mentioned previously, those who reported being "very religious" in the baseline survey also associated with lower levels of club drug use (Kipke et al., 2007). This finding inspired

additional questions around how YMSM conceptualize religion and spirituality, and how that might influence their engagement in risk behaviors, such as club drug use. It was apparent that understanding religion in this context required additional exploration to disentangle the meaning of such a complex construct. To accomplish this, a qualitative sub-study was designed to examine religion and spirituality in greater depth. The iterative process between the quantitative and qualitative data, with each data source providing additional information, allowed the team to build on the strengths of each method and ultimately make strategic decisions to research and understand this construct more thoroughly.

While this sub-study did not necessarily answer the question as to how religion may influence decisions around substance use, it provided greater depth of understanding to the role that religion and/or spirituality play in these young men's lives. One of the most striking findings was related to the challenges these young men faced in attempting to maintain their religious beliefs when hearing homophobic messages from their religious leaders and community. Many described difficult and painful processes that they went through to integrate these two seemingly disparate parts of their identities. At times these processes included the use of drugs or alcohol to alleviate the stress and emotional turmoil.

Streamlined and dynamic analysis with full integration of quantitative and qualitative methods

As previously mentioned, analysis and dissemination of the formative data were limited due to the time constraints as well as the limited depth of detail the formative interviews obtained. Focusing on a single construct ensured a more efficient data analysis plan that allowed for more timely analysis and dissemination. This design contributed to the high level of productivity in the research team, completing a number of professional manuscripts in a relatively short period of time. Initially, the Phase 2 qualitative methods were designed to collect data on multiple constructs across several waves of data collection. However, it was not possible to explore each construct with sufficient depth, nor feasible to spend a great deal of time on the interpretation of findings while also providing adequate time for dissemination. Therefore, the development of more focused interviews resulted in a more efficient coding process, thereby streamlining the analysis phase that can easily overwhelm a qualitative study.

There are many ways that data in a mixed method study can be triangulated. This design allows triangulation to be more easily achieved, providing the "big picture" of some key variables (e.g., recent and past drug use, substance use before and while having sex) and a more in-depth analysis of this behavior. For example, HYM respondents most commonly reported lifetime drug use included marijuana (64%) followed by ecstasy, cocaine and crystal methamphetamine (22%, 24% and 20% respectively). Qualitative interviews were able to provide greater insight to the population's knowledge and perceptions of drug use and how they related that use to risk. While cocaine and crystal were two of the most commonly used drugs, qualitative interviews revealed that respondents had very different levels of knowledge and perceptions of these two drugs. The little they had to say regarding cocaine use and its effects was generally positive. In contrast, they were willing and able to talk in greater detail about the detrimental and psychoactive effects of crystal methamphetamine. This was not surprising given the attention that crystal has received within the gay community. Respondents described the negative aspects of crystal in relation to social relationships and, most commonly, in relation to physical health, including facial and dental deterioration, loss of appetite and increased risk for HIV. Users and non-users both described crystal at length, usually using words such as "gross", "dirty" or "disgusting".

Crystal methamphetamine -- the devil's drug. It's one of those things I can't stand but still do. Only because it's a hook. Hook, line and sinker ... It's a substance that really, really will kill you. Or tear your body down to the point where you can't do anything

When discussed, cocaine was often described in positive terms and did not share the same stigma or negative associations as crystal. The apparent sense of glamour attached to cocaine also contributed to the more positive assessment of the drug, as it was seen as adding status to the user because of its associations with Hollywood and other attractive images (Kubicek et al., 2007).

I guess the 80's made it glamorous! Like "Scarface", the movie. It glamorizes it right there because of all the imports and the money that comes out of it and the power. That's why it would be glamorous in my head at least

Similarly, quantitative results indicate that a very small proportion of HYM respondents reported lifetime use of heroin (2%) or crack (5%); qualitative interviews revealed that respondents categorized as "users" had very negative perspectives of these drugs, describing them as "hardcore" and among the most dangerous drugs available, a "nightmare," and those who used them as "addicts" or people who "basically just don't giv[e] a fuck anymore about anything. Just lost I guess." Those categorized as "non-users" had little to no knowledge of these drugs ("Heroin... I don't even know what that is!") and were often unable to differentiate between them. These findings provided greater understanding as to why certain drugs were commonly or rarely used in this population.

Targeted sampling of qualitative respondents

Research studies that include only qualitative methods must include a recruitment phase where potential respondents are identified and enrolled into the study. This phase can be time intensive and costly, as research staff work to become visible and "accepted" in the communities. Likewise, when attempting to recruit qualitative respondents, researchers often look for individuals who meet specific criteria or a behavioral profile. Locating these individuals can take a great deal of time, especially when studying a hard-to-reach population such as YMSM or substance users. The design of the HYM Study, through its longitudinal approach, offered the research team the ability to omit this step, since the large, diverse cohort could be easily screened to identify specific respondents to meet necessary criteria (e.g., patterns of substance use, sexual risk behaviors).

One of the most beneficial aspects of integrating quantitative and qualitative methods in this way was the ability to sample qualitative respondents who fit a certain profile. Mixed methods researchers only recently have begun discussing the challenges in sampling for mixed methods studies (Onwuegbuzie & Collins, 2007; Teddlie & Yu, 2007). Sampling problems can be inherent in both quantitative and qualitative studies; mixed methods studies, by their very nature of combining both paradigms, can intensify this challenge because the researchers must deal with issues such as representativeness and validity from both designs (Collins, Onwuegbuzie, & Jiao, 2007). Utilizing the original HYM sample, we then obtained a "nested sample" with a criterion sampling scheme (Collins et al., 2007). The nested nature of this sample refers to the selection of the qualitative respondents who represent a subset of the larger quantitative sample of HYM participants.

To our knowledge, our adaptation of this sampling design has not been previously described. In the HYM Study, we selected our nested samples based on a number of criteria for each sub-study. Based on known behaviors or attitudes, this selection allowed for the identification and selection of a sample that cannot be replicated in the field when recruiting for qualitative studies. The small samples, which are often characteristic of qualitative

behavioral studies, can pose a challenge to researchers who strive to ensure that their recruited sample adequately reflects the population and behaviors of interest, such as drug use. To address this challenge, this study utilized the survey data as a recruitment tool for the qualitative sub-studies. For each sub-study, survey responses were used to target individuals reporting behavioral characteristics relevant to the primary focus of the qualitative inquiry. Thus, we were able to structure interviews far more efficiently, designing questions related to their reported behavioral profile. This tactic provided us the opportunity to immediately identify where respondents fell on the spectrum of behaviors that are the focus of the interview.

Clearly, this technique must be utilized with caution, since selection criteria must rely on the self-reported behaviors of interest from the survey data. The use of audio computer-assisted self-interviewing (ACASI) may minimize this issue as it affords respondents greater privacy when answering questions of a personal nature. Convenience sampling does allow for screening of potential respondents to meet eligibility requirements. However, screening for behaviors, such as drug use or sexual behavior, can present some challenges in the field; potential respondents may be reticent to report socially undesirable behavior. Furthermore, it should be noted that the survey data used to identify and sample respondents for the qualitative sub-studies were collected several months before the qualitative interview. Thus, while the targeted sampling plan did allow the research team to specify a behavioral profile when identifying potential qualitative respondents, it is certainly a limitation to the data analysis. This time differential is important to note, because an individual and his reported behaviors may have changed since the survey was conducted. To minimize this issue, questions used to confirm behavior were included in the qualitative interviews.

Continuity of Staff to Bolster Trust and Rapport

Success for any qualitative study requires a level of trust and rapport between interviewer and respondent. A great deal of time is typically needed to develop rapport to elicit narratives on topics of a sensitive or illegal nature, such as substance use. The HYM Study team consisted of five full-time interviewers and three part-time interviewers of varying ethnicities (e.g., Mexican, White/Caucasian, African American) and both males and females. The staffing configuration for the HYM Study was unique in that, as a longitudinal study design, respondents developed trust and rapport with the research study and interviewer over an extended period of time. While not directly related to the study's qualitative methods, we maintained a 92.5% retention rate with the cohort over the two-year timeline, speaking to the commitment and trust respondents had with the study itself.

All project interviewers were trained in both quantitative and qualitative interviewing techniques, allowing for assigned interviewers to conduct both surveys and open-ended interviews. Respondents were often interviewed by their assigned survey interviewer. In some instances, this was not possible, and the original interviewer contacted the selected qualitative respondent to ask whether he would complete the interview with another team member. The vast majority of qualitative respondents agreed to this arrangement, often reporting a level of trust with the research team as a whole. Qualitative interviews, in turn, benefited from this relationship, since rapport was already established between the respondent and interviewer, contributing to the unguarded and, at times, very candid interviews that addressed enormously sensitive issues. Respondents in this study expressed a level of comfort with the study team, confiding personal issues such as sexual assault, self-mutilating behaviors and HIV-status, all experiences they had not felt comfortable talking about with anyone else. One respondent offered the following during a qualitative interview:

I feel really comfortable with this study in general... I couldn't sit anywhere and tell a person who I was or what I'd been through, or what I've done intimately or

personally if I didn't feel anything there. I don't just talk to anyone... If I hadn't known how [Researcher 1] and [Researcher 2] work and how nice they were, I'd probably be sitting here with my hands crossed, sweating, talking nervous, not knowing what to say. I'd answer questions with "yes" or "no" or "uh-huh." But I feel free to speak my mind, and I feel free to tell you anything I can tell you.

Multi-disciplinary Team and Community Partnership

The HYM team includes researchers from a variety of disciplines including anthropology, psychology and public health; individuals with a history of working with and/or who represent the study population; as well as an active community advisory board (CAB) that had input in all stages of the study. Having team and community members with not only different academic backgrounds, but who also bring an "emic" perspective, supported a more scientifically rigorous and grounded use of both qualitative and quantitative strategies. The variety of perspectives also enhanced the analytic process, allowing for a richer discussion of the appropriate approaches and focus.

The CAB members remained active in the study throughout the formative and longitudinal data collection (more than three years), representing a substantial commitment on their part. Several CAB members expressed on multiple occasions that their on-going commitment and interest in the study was due in part to the study's ability to look at YMSM as "whole beings" – not just at the statistics of high-risk sex and drug use. The design of the sexual behavior sub-study took this perspective into consideration and probed into the context and meanings behind those behaviors. As community partners pointed out, to note that there is a relationship between high-risk sexual behavior and substance use is not sufficient. A better understanding of the circumstances, context and setting as well as social and emotional issues present during that time are essential to translating research into effective interventions.

To that end, understanding how young men perceive or define high-risk sex was identified as integral to better understanding in what circumstances and for what reasons YMSM may engage in risk behaviors. Ultimately, CAB members were invited to participate in the development of a manuscript that focused on understanding the differences between YMSM's conception of risk and the "professional" or public health model of high-risk sexual behavior (Kubicek et al., in press). The exchange between researchers, who analyzed and presented the findings from the young men or "folk model" (Agar, 1985), and service providers, who brought their perspective as the "professional model", was extremely valuable in understanding the qualitative data and contrasting them with the professional model of risk.

This exchange highlighted that the primary differences between the two models related to the level of detail and nuance that YMSM tend to have regarding HIV risk and prevention efforts, in particular around issues such as HIV testing and "negotiated safety" (Kippax, Crawford, Davis, Rodden, & Dowsett, 1993) within a relationship. For example, some respondents described getting tested with their partner as a kind of milestone in the relationship, sometimes as a precursor to engaging in a more committed relationship. Others described testing together as something that they would do at the beginning of a relationship, prior to engaging in any sexual activity. Respondents did not typically describe a specific "waiting period", as dictated by the professional model, that they followed with regards to testing and engaging in unprotected sex (Kubicek et al., in press). One respondent related an experience in which he had unprotected sex first and then decided to get tested with his partner to make sure that they were both "safe". During the time between testing and receiving results, they continued to have unprotected sex: *We got tested and had to wait for*

results, but kept doing it anyway because really we already did. And let's just hope that our results are negative, and they were, so it was cool.

Discussion

Qualitative methods in drug use research have been effective in providing a greater understanding to the social, psychological and contextual factors that have bearing in decision-making and risk behaviors. These factors help us to understand how and why individuals may choose to engage in drug use and other risk behaviors, as well as to provide needed perspective in developing effective interventions. Researchers and policy makers are increasingly advocating for using a combination of quantitative and qualitative research methodologies to guide research that will inform a more nuanced understanding of risk and resiliency. However, few good examples exist for how to best accomplish mixed methods studies, as the discourse on appropriate strategies for triangulation of both methods is still in its infancy (Nichter et al., 2004). A thorough and practical integration of both approaches will provide researchers and service providers with the ability to understand the “big picture” of substance use and misuse within a given population. It also will help to unpack complex contextual factors (e.g. how different experiences with belief systems and spiritual practices influence decisions around drug use) that can inform intervention development that is socially and culturally relevant to specific populations.

The strategies used in this study represent an opportunity to advance the field of drug research through an effective mixed methods design. This design addresses some of the challenges often reported by mixed methods researchers such as: the timing differential in quantitative and qualitative analysis; highly structured study designs which can be driven by one methodological approach – typically a survey instrument – with little forethought to integrating the two approaches; and a lack of specialization from the research team in both methodologies (Bryman, 2007).

Qualitative researchers engaged in mixed methods studies often find themselves at a crossroads, having contributed to the development of the research design but unable to fully take advantage of the qualitative data's value. The use of qualitative methods in formative work is certainly critical, as it can provide needed insight into the development of data collection methods and other protocols, and with addressing questions and/or constructs about which little is known. However, when utilizing qualitative methods to obtain data on a large number of constructs, it is generally unrealistic and not feasible to expect the interviews to yield rich or “thick descriptions” (Geertz, 1973) given the necessity of covering a number of topics. While useful in raising additional questions related to the group of constructs, the data are often limited in terms of the necessary depth for full dissemination to an academic audience.

Similarly, while findings to the academic audience may be limited, identifying how those findings can be integrated into effective interventions is often left undone. It should not be forgotten that one of the greatest strengths of qualitative data lies in its ability to clarify and expand upon the meanings behind certain behaviors, which is ideal for informing and developing effective interventions. It is this translation of findings to practice that is perhaps where qualitative methods can be most effective. Researchers initiating qualitative research designs should be aware of this strength and create realistic timelines to ensure that adequate time is devoted to understanding the data and translating it to practice.

We describe here, an efficient approach to integrating rich qualitative narratives with survey research that can be efficiently analyzed and disseminated. While the HYM Study offers some unique possibilities with its diverse cohort and longitudinal design, we suggest that a

modified version of this approach can be taken with smaller-scale research projects. For example, when conducting cross-sectional surveys, key questions can be included and the responses immediately analyzed to identify potential participants for a smaller-scale qualitative study. If using computer-assisted interviewing technology, those key questions can be programmed so that certain responses will immediately identify the research subject as a potential qualitative respondent. Methods such as this will provide a number of the benefits outlined here (e.g., targeted sampling, efficient data analysis, interviewer rapport).

Onwuegbuzie (2007) identified four challenges researchers face when utilizing a mixed methods design: 1) representation; 2) legitimation/validity; 3) integration; and 4) politics. It has been suggested that selecting the sampling design, including the schema and sample sizes, is a necessary and pivotal step in addressing these challenges (Collins et al., 2007). We believe that the sampling design employed and other aspects of the HYM Study adequately addresses these challenges through its targeted sampling, streamlined data integration and effective use of a multi-disciplinary team (e.g., design that originally included a strong qualitative component to augment and enhance interpretation of findings and to set the stage for intervention development).

There are certainly a number of challenges in implementing this type of research design. For example, a multi-disciplinary research team should be assembled in order to fully develop and execute both study designs (Bryman, 2007). While it is necessary to have a certain level of expertise for each methodological approach, both teams should appreciate and understand the benefits and limitations of each approach. This requires an investment in time to identify and train staff to effectively implement all aspects of a mixed methods study. Similarly, regular and on-going communication regarding findings from both qualitative and quantitative designs needs to occur, so that analysis of both datasets is informed by the other. In addition, to fully take advantage of the depth that qualitative data can bring, one must be cognizant that additional time must be allocated to the data analysis when constructing the research timeline and staffing patterns. Quantitative data are analyzed relatively quickly in comparison, and to successfully combine both methods, an understanding of a realistic timeline must be made so that both methodologies are in step with each other.

It should also be noted that it can be challenging to obtain approval from Institutional Review Boards (IRB) when integrating qualitative methods that probe in-depth into behaviors such as drug use. Our experience working with a hospital IRB that is more accustomed to providing oversight to clinical research than social/behavioral studies has been a learning process. To understand the concerns from the IRB related to studies focusing on substance use or other illicit behaviors, our research team typically engages IRB staff early on in the research design to identify issues that may be problematic and then to work with them to ensure the research is conducted in an ethical and safe manner. This investment in working with the IRB has certainly paid off, as both research and IRB staff are better versed in the requirements of the other and have developed effective working relationships. The result has been that the IRB staff works with the IRB itself to facilitate approval of studies such as the HYM Study which, just a few years ago, might have taken significantly longer time for approval.

Addressing these challenges to develop a fuller integration of methods will help to fill critical gaps in knowledge regarding, not only the extent of substance use within populations such as YMSM, but also to give a deeper understanding of the contextual and situational factors involved in one's risk and protective behaviors. It is necessary to have an understanding of both these elements to develop more efficacious prevention and risk-reduction programs for substance use and other HIV-risk behaviors.

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Glossary

Hard-to-reach Population	Populations or groups that are difficult to access for research purposes or service provision. These populations are not typically found through traditional research venues and thus different techniques for identifying and sampling them must be used. Examples of hard to reach populations include injecting drug users (IDU), men who have sex with men, sex workers, gang members and others engaged in stigmatized or illegal activities
Mixed Methods Research	A method that focuses on collecting, analyzing and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of both quantitative and qualitative approaches provides a better understanding of the research questions than either approach alone
Protective Factors	Circumstances that promote healthy or safe behaviors and decrease the chance that individuals will engage in risky behaviors. Protective factors are organized into five categories: family, individual, school, peer group, and community.
Religiosity	The degree to which one believes in and is involved in religion. Dimensions of religiosity include religious belief; religious affiliation; participation in and attendance at religious activities (organizational religiosity); engagement in non-organizational religiosity, e.g., private prayer; importance of religion in an individual's life; and religious commitment or motivation (Koenig, McCullough, & Larson, 2001)
Risk Behaviors	Circumstances that may increase youths' likelihood of engaging in risky behaviors such as substance use, violence, high-risk sex or dropping out of school

References

- Agar MH. Folks and professionals: Different models for the interpretation of drug use. *International Journal of the Addictions* 1985;20(1):173–182. [PubMed: 3997309]
- Arnett JJ. Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist* 2000;55(5):469–480. [PubMed: 10842426]

- Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review* 1979;84:191–215. [PubMed: 847061]
- Bauman KE, Ennett ST. Peer influence on adolescent drug use. *American Psychologist* 1994;49(9): 820–822. [PubMed: 7978669]
- Bourgois P. Theory, method, and power in drug and HIV-prevention research: A participant observer's critique. *Substance Use & Misuse* 1999;33(11):2323–2351. [PubMed: 9758016]
- Bronfenbrenner U. Toward an experimental ecology of human development. *American Psychologist* 1977;32:513–531.
- Bronfenbrenner, U. The ecology of human development: Experiments by nature and design. Cambridge, MA: Harvard University Press; 1979.
- Bronfenbrenner U. Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology* 1986;22:723–742.
- Bryman A. Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research* 2007;1(1):8–22.
- Catania JA, Osmond DH, Stall RD, Pollack LM, Paul JP, Blower SM, et al. The continuing HIV epidemic among men who have sex with men. *American Journal of Public Health* 2001;91(6): 907–914. [PubMed: 11392933]
- Centers for Disease Control and Prevention. HIV incidence among young men who have sex with men US cities, 1994–2000. 2001
- Collins KMT, Onwuegbuzie AJ, Jiao QG. A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of Mixed Methods Research* 2007;1:267–294.
- Courtenay-Quirk C, Wolitski RJ, Parsons JT, Gomez CA. The Sereopositive Urban Men's Study Team. Is HIV/AIDS stigma dividing the gay community? Perceptions of HIV-positive men who have sex with men. *AIDS Education and Prevention* 2006;18(1):56–67. [PubMed: 16539576]
- Creswell, JW.; Plano Clark, VL. Designing and conducting mixed methods research. Thousand Oaks, CA: Sage Publications, Inc; 2007.
- Deren S, Oliver-Velez D, Finlinson A, Robles RR, Andia J, Colón HM, et al. Integrating qualitative and quantitative methods: Comparing HIV-related risk behaviors among Puerto Rican drug users in Puerto Rico and New York. *Substance Use & Misuse* 2003;38(1):1–24. [PubMed: 12602804]
- Donovan C, Mearns C, McEwan R, Sugden N. A review of the HIV-related sexual behaviour of gay men and men who have sex with men. *AIDS Care* 1994;6(5):605–617. [PubMed: 7711093]
- Ford W, Weiss G, Kipke MD, Ritt-Olson A, Iverson E, Lopez D. The Healthy Young Men's Study: Sampling methods for enrolling a cohort of young men who have sex with men. *Journal of Gay and Lesbian Social Services: Issues in practice, policy and research*. in press.
- Geertz, C. The interpretation of cultures. New York: Basic Books; 1973.
- Halkitis PN, Fischgrund BN, Parsons JT. Explanations for methamphetamine use among gay and bisexual men in New York City. *Substance Use & Misuse* 2005;40:1331–1345. [PubMed: 16048820]
- Halkitis PN, Parsons JT, Wilton L. An exploratory study of contextual and situational factors related to methamphetamine use among gay and bisexual men in New York City. *Journal of Drug Issues* 2003;33(2):413–432.
- Johnson RB, Onwuegbuzie AJ. Mixed methods research: A research paradigm whose time has come. *Educational Researcher* 2004;33(7):14–26.
- Kipke MD, Weiss G, Ramirez M, Dorey F, Ritt-Olson A, Iverson E, et al. Club drug use in Los Angeles among young men who have sex with men. *Substance Use & Misuse* 2007;42(11):1723–1743. [PubMed: 17934992]
- Kipke, MD.; Wong, C.; Weiss, G. Broadening the study of risk & protective factors for depression, drug use, and HIV risk among YMSM. Paper presented at the American Public Health Association; Washington, DC. 2007.
- Kippax S, Crawford J, Davis M, Rodden P, Dowsett G. Sustaining safe sex: A longitudinal study of a sample of homosexual men. *AIDS* 1993;7(2):257–263. [PubMed: 8466689]

- Kissinger P, Rice J, Farley T, Trim S, Jewitt K, Margavio V, et al. Application of computer-assisted interviews to sexual behavior research. *American Journal of Epidemiology* 1999;149(10):950–954. [PubMed: 10342804]
- Koenig, HG.; McCullough, ME.; Larson, DB. *Handbook of religion and health*. New York: Oxford University Press; 2001.
- Kubicek K, Carpineto J, McDavitt B, Weiss G, Au CW, Kerrone D, et al. Integrating professional and folk models of HIV risk: YMSM's perceptions of high-risk sex. *AIDS Education and Prevention*. in press.
- Kubicek K, McDavitt B, Carpineto J, Weiss G, Iverson E, Kipke MD. Making informed decisions: How attitudes and perceptions affect club drug use among YMSM. *Journal of Drug Issues* 2007;37(3):643–674. [PubMed: 18852843]
- MacKellar DA, Valleroy LA, Karon JM, Lemp GF, Janssen RS. The Young Men's Survey: Methods for estimating HIV seroprevalence and risk factors among young men who have sex with men. *Public Health Reports* 1996;111(Supplement 1):138–144. [PubMed: 8862170]
- McDavitt B, Iverson E, Kubicek K, Weiss G, Wong CF, Kipke MD. Strategies used by gay and bisexual young men to cope with heterosexism. *Journal of Gay & Lesbian Social Services*. in press.
- McKeganey N. Quantitative and qualitative research in the addictions: An unhelpful divide. *Addiction* 1995;90:749–751. [PubMed: 7633292]
- Muhib F, Lin L, Steuve A, Miller R, Ford W, Johnson W, et al. The Community Intervention Trial for Youth (CITY) Study team: A venue-based method for sampling hard to reach populations. *Public Health Reports* 2001;116(S2):216–222. [PubMed: 11889287]
- Nichter M, Quintero G, Nichter M, Mock J, Shakib S. Qualitative research: Contributions to the study of drug-use, drug abuse, and drug use(r)-related interventions. *Substance Use & Misuse* 2004;39(10–12):1907–1969. [PubMed: 15587954]
- Onwuegbuzie, AJ. Mixed methods research in sociology and beyond. In: Ritzer, G., editor. *The Blackwell encyclopedia of sociology*. Vol. VI. Oxford, UK: Blackwell; 2007. p. 2978–2981.
- Onwuegbuzie AJ, Collins KMT. A typology of mixed methods sampling designs in social science research. *The Qualitative Report* 2007;12(2):281–316.
- Parsons JT, Kelly BC, Weiser JD. Initiation into methamphetamine use for young gay and bisexual men. *Drug and Alcohol Dependence* 2007;90(2–3):135–144. [PubMed: 17398040]
- Reece M, Dodge B. Exploring the physical, mental and social well-being of gay and bisexual men who cruise for sex on a college campus. *Journal of Homosexuality* 2003;46(1/2):111–132. [PubMed: 15086221]
- Rhodes T, Moore D. On the qualitative in drugs research: Part one. *Addiction Research & Theory* 2001;9(4):279–297.
- Ross MW, Tikkanen R, Mansoon SA. Differences between Internet and samples and conventional samples of men who have sex with men. *Social Science and Medicine* 2000;4:749–758. [PubMed: 10975234]
- Stueve A, O'Donnell L, Duran R, San Doval A, Geier J. Being high and taking sexual risks: Findings from a multisite survey of urban young men who have sex with men. *AIDS Education and Prevention* 2002;14(6):482–495. [PubMed: 12512849]
- Sussman S, Stacy AW, Johnson CA, Pentz MA, Robertson E. A transdisciplinary focus on drug abuse prevention: An introduction. *Substance Use & Misuse* 2004;39(10–12):1441–1456. [PubMed: 15587943]
- Teddle C, Yu F. Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research* 2007;1:77–100.
- Turner CF, Ku L, Rogers SM, Lindberg LD, Pleck JH, Sonenstein FL. Adolescent sexual behavior, drug use, and violence: Increased reporting with computer survey technology. *Science* 1998;280:867–873. [PubMed: 9572724]
- Valleroy LA, MacKellar DA, Karon JM, Rosen DH, McFarland W, Shehan DA. HIV prevalence and associated risks in young men who have sex with men. *JAMA* 2000;284(2):198–204. [PubMed: 10889593]

Wolitski RJ, Valdiserri R, Denning P, Levine W. Are we headed for a resurgence of the HIV epidemic among men who have sex with men? American Journal of Public Health 2001;91(6):883–888. [PubMed: 11392927]

Table 1**Phase 2 Qualitative Interview Constructs and Respondent Selection Criteria**

Primary Construct and Areas of Inquiry	Selection Criteria	Data Collection Period	N
Drug Use <ul style="list-style-type: none"> Context of use History of drug use Family history of use Perceptions/opinions of drugs Coping strategies Friends' substance use Use of drugs before/during sex 	<ul style="list-style-type: none"> Half report use of drug other than marijuana on both Waves 1 and 2 surveys Half report no drug use on both Waves 1 and 2 	June – July 2006	24
Sexual Behavior <ul style="list-style-type: none"> Relationship desires and expectations Communication with sex partners Sex and sexuality information sources Context of meeting partners Perceptions of risk Low risk sexual experience High risk sexual experience 	<ul style="list-style-type: none"> Half report inconsistent condom use for anal intercourse on Wave 2 survey Half report “never” using a condom for anal intercourse on Wave 2 survey 	October 2006 – January 2007	24
Religion and Spirituality <ul style="list-style-type: none"> Family relationships and beliefs Past and current religious practices Doubts about religion Religious messages about sex and sexuality Religious messages about drug use Exploration of other religions Difference between religion and spirituality 	<ul style="list-style-type: none"> A third report being “very” or “somewhat” religious on Wave 3 survey A third report being “very” or “somewhat” spiritual and “a little” or “not at all” religious on Wave 3 survey A third report being “a little” or “not at all” religious nor spiritual on Wave 3 survey 	April – June 2007	36
Racial and Homophobic Discrimination <ul style="list-style-type: none"> Definition of discrimination Gay role models growing up Disclosure of sexual identity Experiences of homophobia growing up Experiences of racism growing up Current life situation Comfort levels in gay and other communities Help seeking behavior and advice for YMSM 	<ul style="list-style-type: none"> Over sample of African American and Latinos 8 White/Caucasians scoring above the median on gay discrimination scale 8 African Americans and 8 Latinos scoring above the median on both the racial and gay harassment scale 4 African Americans and 4 Latinos who reported experiencing extreme homophobia 	January – February 2008	32