

# Drug Use and Risky Sexual Behavior In Latino Gay Men

A research proposal to the  
National Institutes of Health

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## A. Specific Aims

Latino gay/bisexual men constitute one of the most vulnerable groups in the nation for the transmission of HIV, showing some of the highest rates of seroprevalence, seroconversion, and unprotected anal intercourse with multiple partners (Coates et al, OTA Report, 1995; Lemp et al, 1994; Osmond et al, 1994). Risky sexual practices continue to occur in the presence of substantial knowledge about HIV/AIDS and, surprisingly, in the presence of relatively strong personal intentions to practice safer sex (Díaz, 1998). Our preliminary research suggests that the failure to enact safer sex intentions can be explained to a great extent by the use of drugs during sexual activity. However, even though sex under the influence of drugs appears as one of the strongest correlates of unprotected sexual practices (Díaz et al, 1996; Díaz & Ayala, 1997), no study to date has directly focused on the relation between drug use and risky sexual behavior in Latino gay/bisexual men. In fact, we know very little about specific types of drugs used during sexual activity, about attributions and expectancies of their effects on sexual behavior, about existing patterns of use and abuse in different subgroups or social networks, or about specific social contexts and interpersonal situations where drug use and sexual activity interact. As a result, there is not enough scientifically valid information to understand the observed correlations between drug use and risky sexual behavior, and much less information to guide a new generation of HIV prevention programs that would target one of the most important predictors of HIV risk in this population.

In light of the paucity of existing studies, the overall goal of the proposed research program is to gather descriptive data on social contexts and individual patterns of drug use during sexual activity, and develop a theoretical model that explains the relationship between drug use and unprotected anal intercourse (risky sex) in Latino gay/bisexual men. The theoretical question of interest is not whether drug use facilitates risky sex, but rather under what conditions -- psychological, interpersonal, situational, and cultural -- it does so.

Specifically, the proposed research aims to:

**Aim 1)** Describe the social contexts and individual patterns of recreational drug use during sexual activity among Latino gay/bisexual men in the San Francisco Bay Area, identifying the specific conditions or variables that appear to explain, mediate and moderate the relationship between drug use and risky sexual behavior in this population (Study 1).

**Aim 2)** Based on data from Study 1, develop a reliable and culturally appropriate survey instrument that measures the specified explanatory and mediational constructs in the relationship between drug use and risky sex (Study 2).

**Aim 3)** Administer the survey instrument developed in Study 2 to a venue-based representative sample of drug-using Latino gay/bisexual men, in order to assess frequency and mode of use for different types of drugs, assess prevalence of drug abuse, risky sex, and their predictors, and test quantitatively the proposed theoretical model explaining the relationship between drug use and risky sex in this population (Study 3).

A central aspect of the research program is to describe the social constructions and meanings assigned to different substances regarding their perceived power to regulate and enhance sexual activity, and how drug use may be used as a socially shared and sanctioned justification of unprotected sexual activity in this population. We will

explore the role of drug use in the sexual lives of Latino gay/bisexual men who differ in levels of acculturation to the mainstream (mostly White and middle-class) gay culture. In so doing, we will examine the contributions of culture to the association between drug use and high risk sexual behavior, a perspective that has been neglected to date in the study of this relationship.

## **B. Background and Significance**

For reasons detailed in both the Methods section and Appendix 1, we have chosen to study self-identified gay/bisexual men rather than the more inclusive population of “men who have sex with men” (MSM). However, in keeping with the CDC HIV surveillance category system, we will use the label MSM when reporting national epidemiological data on this population.

### **B.1 Latino gay/bisexual men constitute one of the most vulnerable groups in the nation for HIV transmission.**

As overlapping members of two high-risk groups -- Latinos and men who have sex with men -- Latino gay/bisexual men in the US have been highly and disproportionately affected by the AIDS epidemic. During 1997, death rates (per 100,000) for HIV-related causes was 50.6 for Latinos compared to 12.4 for Whites (CDC, 1998). By December 1997, 18% of all diagnosed AIDS cases in the country were Latino, an ethnic group that constitutes only about 10% of the U.S. population (CDC, 1998). Similarly, since the very beginning of the HIV epidemic, "men who have sex with men" (MSM) have carried the largest and most disproportionate share of AIDS cases in the nation; as of December 1997, 55% of all diagnosed AIDS cases in the US have been among MSM.

By December 1997, a total of 46,629 AIDS cases have been diagnosed among Hispanic/Latino men who have sex with men; Latino MSM thus constitute 50% of all reported Latino male AIDS cases in the nation (CDC, 1998). Percentages of Latino AIDS cases accounted for by MSM vary substantially across the three major ethnic subgroups. In 1992, for example, 70% of Cubans, 59% of Mexican, and 18% of Puerto Rican AIDS cases were among MSM (CDC, 1993). The relatively low percentage of MSM among Puerto Rican AIDS cases reflects the higher incidence of HIV transmission through injection drug use in this population. It should be noted, however, that CDC statistics on “exposure category” among Latinos in the US should be seen as conservative estimates of MSM cases. About one-fourth (24%) of all US Latino AIDS cases diagnosed in 1997 did not report risk exposure category (CDC, 1998); most likely, a large proportion of those undetermined cases occurred among MSM, but were not reported as such due to severe stigmatization of homosexuality in the Latino culture (see e.g., NCA, 1992).

In five different studies of gay/bisexual men in the US, Latinos have reported the highest rates of unprotected anal intercourse, even when compared to men from other ethnic minority groups (Doll et al., 1991; Fairbank, 1991; Lemp, 1994; NTFAP, 1993; Richwald et al., 1988). In San Francisco, where research has documented significant reductions of risky sexual behavior among gay/bisexual men (Coates, et al 1995), rates of unprotected anal intercourse among Latino men have remained relatively high. In a survey of knowledge, attitudes and behavior conducted in the summer of 1990 in San Francisco's American-Indian, Filipino and Latino gay/bisexual male communities, 35%

of Latinos reported unprotected anal intercourse during the last thirty days, as compared to 25% of Filipinos and 12% of American-Indians (Fairbank, 1991). More recently, in Lemp et al's (1993) study of young gay men in the San Francisco Bay Area, 40% of Latinos reported unprotected anal intercourse during the last six months, as compared to 38% of African-Americans and 28% of non-Latino Whites. Thus, studies of gay/bisexual men -- in San Francisco as well as in other regions of the US -- have concluded that, among gay men, being of Latino ethnicity constitutes a risk factor for HIV.

The suggestion that Latinos are at risk for HIV, while helpful in the identification of a vulnerable group that deserves special attention, offers little understanding or guidance for the design of preventive interventions targeting this population. In order to design effective interventions, we need first an understanding of group-specific barriers to safer sex practices and of variables that may promote or encourage risky sexual behavior in this population, such as drug use during sexual activity. Such information can be obtained only by examining empirically the predictors of HIV risk within samples of Latino gay/bisexual men, beyond simply analyzing ethnic group differences on variables related to risk. By studying the relation between drug use and sexual risk behavior, as well as their predictors, within a sample of Latino gay/bisexual men, the proposed project will add substantially to our understanding of HIV transmission in this vulnerable population.

## **B.2 Studies of (mostly White) gay/bisexual men indicate that substance use plays a major role in the risk for HIV.**

A number of studies have examined the relationship between substance use, unprotected sexual intercourse, and HIV seroconversion among gay men (see reviews by Leigh and Stall, 1993; Ostrow & McKirnan, 1997; and Stall, under review). Even though the relationship between substance use and risky sexual behavior is not absolute, and does not reach statistical significance in all relevant studies, reviews conclude that substance use -- and, in particular, the use of recreational drugs during sexual activity -- plays an important role in the sexual transmission of HIV among gay/bisexual men. Historically, studies of global associations between self-reported drug use and risky behavior tend to show the strongest correlations. These global correlations, however, are vulnerable to third-variable confounds, raising the argument that more convincing evidence must be presented based on event-specific analyses (Leigh & Stall, 1993). Very recently, at the 1998 International AIDS Conference in Geneva, such methodological criticisms were addressed by four separate poster presentations showing strong positive effects of substance use on risky sexual behavior, based on analyses of specific sexual events (Carey et al, 1998; Myers et al, 1998; Purcell & Parsons, 1998; Seage et al, 1998). In addition, studies of gay substance abusers have found an increased prevalence of risky sexual behavior in this population. For example, one study that examined the sexual behavior of gay men entering substance abuse treatment in San Francisco found that rates of risky sex in this population in the early 1990's approximated those found among gay men in general before the AIDS epidemic had been discovered (Paul, et al., 1993; Paul, et al., 1994).

By far, the most convincing evidence regarding the relationship between drug use and HIV risk among gay/bisexual men is found in six prospective studies that measure both drug use and the incidence of HIV seroconversion. In three of these large longitudinal studies of gay/bisexual men -- the Multicenter AIDS Cohort Study (MACS),

the Tricontinental Seroconverter Study (TSS), and the San Francisco Men's Health Study (SFMHS) -- recreational drug use has been documented as an independent predictor of both unprotected sexual practices and HIV seroconversion. In the MACS, men who combined nitrate inhalants (poppers) with other recreational drugs showed the highest risk for unprotected sex and HIV seroconversion in the sample (Ostrow et al, 1993). In the TSS, amphetamine use was independently associated with HIV seroconversion, even after controlling for the number of sexual partners in the analysis (Page-Shafer et al, 1997). Data from the SFMHS show that use of alcohol, cocaine and amphetamines were significant predictors of HIV seroconversion in the mid-1980's with consistent use of amphetamines a strong, significant predictor of HIV seroconversion among the men in the sample (Chesney, Barrett and Stall, 1998). In support of prospective studies, as might be expected, clinical samples of gay men in substance abuse treatment have yielded samples with high prevalence rates of self-reported HIV seropositivity (Paul, et al., 1993).

In recent years, increased attention has been given to the use of methamphetamines (speed/crystal) among gay/bisexual men in western regions of the US, with the conclusion -- in both the popular press and the research literature -- that speed use has reached epidemic proportions among this population (Laird, 1998; Gorman et al, 1997). For example, in a study of young gay men in the San Francisco Bay Area, 30% of study participants reported using speed during the last year (Gorman, 1994). In addition, an over-representation of gay/bisexual men has been found among IDU methamphetamine users in a NIDA-sponsored study of three US cities (Morgan, 1993). The concern with methamphetamines is not only about its increased use among young gay/bisexual men in the West, but also about its reported impact on potentially risky sexual activity. In Morgan's three-city study, for example, gay /bisexual men "tended to describe heightened and prolonged sexual activity as a major rationale for their methamphetamine use. For gay males, methamphetamine was reported as the first drug of choice for sex -- whether with a regular partner, a 'trick,' or at a sex club. Some male homosexuals stated that methamphetamine increased their desire for anal sex, and attributed the prevalence of 'fisting' and other aggressive, high-risk sex practices to the effects of methamphetamine" (Morgan, 1993, p. 404).

Even though a relationship between drug use and HIV risk among gay/bisexual men has been documented in both quantitative and qualitative research, none of the studies done to date have focused on the population of Latino gay/bisexual men in the western US. Therefore, it is not clear whether or how the observed increases in speed use among gay/bisexual men, for example, and the increased concerns of intertwining epidemics of drug use and risky sex in the gay community, apply to the situation of Latino gay/bisexual men. The proposed research addresses gaps in current research by studying the relationship between drug use and risky sex, in the context of event-specific analyses, among Latino gay/bisexual men who vary in their level of acculturation and integration to the mainstream gay community.

### **B.3 Studies of (mostly heterosexual) Latinos indicate important relations between substance use and cultural variables.**

Studies that have compared rates of substance use among different ethnic minority groups in the US typically conclude that Hispanics/Latinos have lower rates of drug use, except for cocaine, than their Anglo-White or African-American counterparts.

Those comparisons, however, are seriously confounded by the fact that Cubans, as an economically empowered Latino subgroup in the US, have substantially lower estimates of substance use. When data are examined separately for Puerto Ricans in the East and Mexican-Americans in the West, Latinos tend to show higher rates of substance use – including marijuana, cocaine, inhalants and sedatives -- reflecting most likely the impact of poverty and economic migration on patterns of substance use and abuse (Booth et al, 1990). The relationship between poverty, immigration and ethnic minority status on drinking problems and substance abuse has been amply documented by studies of Puerto Rican populations in the East (Singer et al, 1992) and Mexican Americans in the western US (Vega et al, in press). As quoted by Singer et al (1992), “living with limited options, uncertainty, and violence breeds fertile grounds for ego-exalting substance use among Latinos” (De La Cancela, 1989, p 146).

Even though national surveys and research studies done to date have been conducted with primarily heterosexual populations, studies of Latino substance use have yielded three important findings that support the rationale of the proposed research with gay/bisexual men. First, when reporting reasons for substance use and abuse, Latinos indicate that substances are used primarily to cope with stresses related to minority status and acculturation to the mainstream US culture. Indeed, research has shown that substance use is higher among English-speaking Latinos who live in impoverished urban areas associated with inner-city minority groups (Vega et al, 1998). Second, substance use is seriously impacted by disruptions in family support systems, where initiation to substance use and abuse is most likely to follow after separations, conflicts and disruptions in family life (Vega & Gil, 1998). Finally, studies of alcohol use indicate that patterns of heavy drinking are associated with “machismo” ideologies, where heavy substance use is seen as a proof of masculinity or easily prompted by threats to the masculine ego (Canino and Canino, 1980; Singer et al, 1992).

To date, no study of Latino substance use has focused on or analyzed the situation of gay/bisexual men. However, Latino gay/bisexual men may be particularly vulnerable to issues of family disruption, threats to the masculine ego-ideal, and acculturation stress. For Latino gay men, family disruption is virtually guaranteed by a homosexual identification. In fact, many Latino gay/bisexual men come to this country not only in search of a social space to live their homosexuality, but more frequently to protect family and loved ones from the potential shame of a homosexual son in the family (Díaz, 1998). Similarly, acculturation stress experienced by Latino immigrants is aggravated by participation in a mainstream gay community where Latinos feel out of place and are often rejected on the basis of education, race and class (Ayala & Díaz, in press). Finally, Latino gay/bisexual men are especially vulnerable to the ideologies of machismo and the culture’s gender definition of homosexuality, where homosexuals are defined as not men or more appropriately “failed” men (Díaz, 1997, 1998). By studying drug use within the sociocultural context of Latino gay/bisexual men who vary in their degree of acculturation and integration to the mainstream gay community, the proposed research program will address important gaps in the literature on Latino drug use and target a seriously understudied Latino subpopulation.

#### **B.4 In Summary: Contributions of the proposed research**

The proposed research program on the relationship between substance use and risky sexual behavior among Latino gay/bisexual men will advance our scientific

knowledge on three different fronts. First, we will acquire in-depth and contextualized information regarding one of the most important predictors of HIV risk in a vulnerable population. Second, we will gain information about patterns of drug use and abuse in a subgroup of Latinos in the US whose cultural situation makes them vulnerable to drug-related problems. And third, by conducting theoretically based explorations and analyses of sex under the influence of drugs, at the level of specific sexual events, we will advance the field regarding the impact of drug use on sexual behavior.

Very importantly, the information gathered during the proposed research activities will be available and disseminated to HIV prevention programs targeting Latino gay/bisexual men, through the proposed Community Input Group and Service Providers' Advisory Council, among others. Letters of support from different organizations that serve Latino gay/bisexual men in the San Francisco Bay Area state the need for such information, and their eagerness to access study findings to enhance programmatic development. At a national level, findings will be disseminated through networks of community-based organizations affiliated with the National Latino/a Lesbian and Gay Organization (LLEGO), of which the PI and PD are active members and frequently called consultants.

### **C. Preliminary Studies**

During the past four years, the P.I. has conducted three quantitative studies of Latino gay/bisexual men in the U.S., assessing both prevalence and predictors of sexual risk behavior. All three studies: Díaz et al (1996) conducted in Tucson, Arizona; Díaz et al (1997) conducted in San Francisco, California; and Díaz & Ayala (1997), conducted in the cities of Miami, Los Angeles, and New York (henceforth labeled the Three-City Study), indicate that sex under the influence of drugs is a strong predictor of risky sexual behavior in this population. In addition, in analyses of focus group data in the Three-City Study, we have been able to examine qualitatively men's understanding of the role of substance use in the practice of unprotected/risky sex, in response to the open-ended question: "Why are Latino gay men practicing such high rates of unsafe sex?" In what follows, we review preliminary findings in the context of our three studies to date.

#### **C.1 The Tucson Study**

In a study of 159 Latino gay men recruited from gay bars in Tucson, Arizona, Díaz et al (1996) surveyed participants' sexual practices with both monogamous and non-monogamous partners, during the last 30 days and during the past year. Results showed that, during the previous 30 days, 22% of the sample engaged in unprotected intercourse with non-monogamous partners and 51% of the sample reported at least one instance of unprotected anal intercourse during the previous year. Men who reported at least one incident of unprotected anal intercourse with a non-monogamous partner in the last 30 days were assigned to a "High-Risk" group; the rest of the sample was considered the "Low-Risk" group.

In univariate analyses, two cognitive variables (safer sex intentions and self-perceptions of sexual control) and two behavioral variables (sex under the influence of drugs and/or alcohol and anonymous sex in public places) were significantly different in the two risk groups. Men in the High-Risk group had 1) weaker intentions to practice safer sex; 2) lower perceptions of sexual control; 3) more instances of sex while intoxicated with drugs and/or alcohol; and 4) a higher frequency of anonymous sexual

encounters in public sex environments. High-risk men reported more instances of intoxication with substances during sexual encounters in the past thirty days (Means= 6.06 vs. 1.35,  $p < .05$ ). In multivariate analyses, however, sex under the influence of drugs and/or alcohol remained a strong, but only marginally significant ( $p < .08$ ) predictor of risk. The behavioral predictors of risk suggest that risky behavior in Latino gay/bisexual men may occur in situations where sexual activity is disconnected from personal conscious control (through actual or perceived influence of substances) and disconnected from interpersonal relations and interaction/negotiation (through anonymous sex in public environments).

### **C.2. The San Francisco Study**

Using a questionnaire similar to the one administered in Tucson, we conducted a survey with 109 Latino gay/bisexual men in San Francisco. Men were recruited conveniently through media advertising, bar outreach, and word of mouth for participation in "El Ambiente," an HIV risk-reduction intervention targeting Latino self-identified gay/bisexual men in San Francisco, and funded by the city's Department of Health. The data were collected as part of a pretest or baseline, prior to the intervention. As in the city of Tucson, the questionnaire assessed rates of risky sexual behavior and frequency of sex under the influence of alcohol, drugs and/or both for the last thirty days. The results suggest very high rates of substance use during sexual activity: For the last thirty days, 41% of the sample reported sex under the influence of alcohol, 20% reported sex under the influence of drugs, and 16% reported sex under the influence of both alcohol and drugs. Univariate and multivariate analyses suggested that sex under the influence of drugs, but not alcohol, is an important predictor of risk. Men in the High-Risk group reported an average of 5.05 instances of sex under influence of drugs in the past month, in comparison to an average of .88 for the Low-Risk group ( $p < .05$ ).

The convergence of findings from the Tucson and San Francisco studies suggests that drug use during sexual activity may be a major contributor to the HIV risk of Latino gay/bisexual men in the US. Moreover, the convergent findings suggest that the relationship between drug use and risky sex is true for both an AIDS "epicenter" (San Francisco), as well as for a "secondary wave" city (Tucson). The findings are limited, however, by the fact that the samples are relatively small and by the fact that the Latino men sampled were mostly highly acculturated English-speaking Latinos who participate in the mainstream (mostly White) gay community. More importantly, because neither study focused directly on substance use, no information about types of drugs, context of use, and patterns of abuse was collected.

### **C.3 The Three-City Study**

During the period from December 1996 through March 1997, we interviewed a total of 293 Latino self-identified gay/bisexual men in the cities of New York, Los Angeles and Miami in the context of a NICHD-funded study of sociocultural factors and HIV risk. Men were recruited conveniently from Latino-identified gay bars or from "Latino Night" events at local mainstream gay bars. Participants were interviewed in the context of 28 focus groups; after the focus group discussions, a short self-administered individual questionnaire was given to all focus group participants. Among other variables, the short questionnaire assessed sexual risk behavior and substance use during sexual activity for the past two months. Because men were recruited in Latino-identified gay bars, we were able to sample a seldom-studied group of men in the three cities,

namely, low acculturated, mostly immigrant, Spanish-speaking men who, although self-identified as gay and/or bisexual, often feel marginalized and rarely participate in mainstream (mostly White) gay venues and activities: 86% of the sample identified themselves as gay or homosexual and 13% as bisexual; 75% were born abroad, with 39% less than 11 years in the U.S.; 83% of the sample indicated that they communicated mostly in Spanish or bilingually with their friends; only 54% of the sample was employed full time.

The results indicated high rates (31%) of unprotected anal intercourse for the last two months, with less than half of the sample (41%) reporting consistent condom use for anal sex during the same time period. Rates of unprotected intercourse were consistently higher for men who reported sex under the influence of alcohol (39% vs. 27%,  $p < .001$ ), for men who reported sex under the influence of drugs (48% vs. 28%,  $p < .01$ ), and for men who reported sex under the influence of drugs and/or alcohol (42% vs. 29%,  $p < .05$ ). Rates of sex under the influence of drugs were highest for more acculturated men, as measured by language use with friends, namely, 33% of the English-speaking men, 19% of bilingual men, and 15% of Spanish-speaking men reported sex under the influence of drugs in the past two months. This acculturation difference was true only for the use of drugs, but not for the use of alcohol or the use of both alcohol and drugs combined. Men younger than 30 years of age had higher rates of drug use during sex than their older counterparts (23% vs. 17%), but this difference was only marginally significant ( $p=.07$ ).

In the transcribed narratives of focus groups, substance use emerged as the most frequent reason reported by participants to explain sexual risk-taking. Substance use was also deeply interwoven in perceptions of identity and culture -- both Latino and Gay -- and often used as coping mechanisms to deal with oppression from homophobia, racism, poverty and AIDS.

"I used drugs to kind of run away from the world because I didn't know how to live. I didn't know how to deal in a healthy manner with confrontations. I didn't believe in myself. I didn't know who I was ... being gay ... you know, I was never supported in anything. So I kind of like was scared and running away, and what drugs did for me was kind of keep me sane in a sense. It kept me ... it was kind of like a comforter for me."

Men reported using substances during sexual encounters in order to 1) Facilitate social interactions in situations characterized by fear of rejection; 2) Facilitate the focusing of attention on pleasurable sexual sensations, away from the concerns and negative emotions -- such as fear and loss -- evoked by the AIDS epidemic; and 3) Alleviate feelings of guilt and discomfort related to same-sex behavior (internalized homophobia):

"I see a lot of men get drunk or get high in order to have sex, because they can't say -- a lot of Latino men can't say I want to have sex because I want to enjoy sex with another man. So no, the excuse is well, you know I'm kind of drunk, I'm kind of high..."

In addition, substances were normatively perceived to override clear thinking, as well as a sense of personal control and personal responsibility, giving men permission to

act in ways that are contrary to and dissociated from personal value systems, including safer sex intentions.

"If you are high on drugs, you may not be thinking straight."

"You are out of control generally, depending on what you're using."

"And when your mind is altered, you're not in full control of what you do."

"You just...you don't care at 3:00 in the morning when you're totally stoned out of your mind and you want to go to the back room and have sex. You know that is wrong, but you still do it anyway."

Finally, the qualitative data indicated that younger Latino men who are in the process of "coming out" as gay in the context of the English-speaking mainstream gay venues come out, in fact, to a culture of risk, where substance abuse is normative:

"...When I was a little bit younger, I lived at clubs. I lived and was constantly drunk and using drugs, and I just lived to go to bars, and really, you know...it didn't really matter, you know. I didn't care about myself. It didn't matter. I was just in a whole different world. I thought I was in the gay world. You know, that's what it was to be gay."

#### **C.4 In Summary**

The P.I. has conducted three different studies of Latino gay/bisexual men in five different U.S. cities; two studies were quantitative, and one study involved both quantitative data and narrative focus group data. All three studies documented strong positive correlations between drug use and unprotected sex, as well as important relationships between drug use, age, and levels of acculturation to the mainstream gay community. The qualitative data revealed the fact that the relationship between drug use and risky sex is indeed complex and is moderated by cognitive, affective, interpersonal and situational factors that are heavily influenced by cultural conceptions of both homosexual behavior and drug effects on sexual activity. In particular, negative emotions (e.g., guilt, shame, fear of rejection) around same-sex encounters and expectancies of low sexual control when under the influence of substances seem to play important moderating roles in the interaction between drug use and risky sex.

While informative, the three preliminary studies are limited in serious ways: 1) None of the studies focused directly on the relationship between drug use and sexual activity. Thus, they lack a detailed assessment or examination of variables relevant to the domain of interest. For example, none of the studies measured specific types or amounts of drug use during sexual activity, nor specific expectancies and/or attributions of sexual effects for different types of substances; 2) Two of the studies involved mostly or exclusively highly acculturated, English-speaking Latinos; 3) Quantitative findings are based on correlations between substance use and risky sex variables, measured separately and globally, rather than within the same sexual events; 4) The qualitative findings are based on focus group narratives, where accounts were mostly in the third-person, and in a normative group environment that did not encourage self-disclosure of sexual or drug using experiences. Furthermore, none of the emerging qualitative findings have been tested quantitatively to assess prevalence, generalizability or explanatory power; and 5) Samples were recruited conveniently, two of them with relatively small number of subjects and a small fraction of drug using participants. The proposed research program has been designed to address these major gaps in our knowledge.

### **C.5 About the Research Team**

We have gathered an excellent group of researchers who, as a team, are experienced in all aspects of the proposed research program. After a successful academic career in psychology and education, including a tenured faculty position at Stanford University and postdoctoral training in epidemiology, biostatistics and prevention behavioral sciences at UCSF, the PI (Díaz) has conducted several studies -- qualitative and quantitative -- on HIV risk among Latino gay/bisexual men in five different US cities. His most recent work has been funded by NIH, and he has recently authored the first book on the topic (Díaz, 1998; published by Routledge). Co-Investigator/PD (Ayala) has worked for the last two years as Project Director of the first national study of HIV risk in Latino gay/bisexual men, and also brings to the project many years of experience in community based organizations that serve the Latino population, including gay and lesbian youth. Prior to his full-time research career, Dr. Ayala was Deputy Director of the Hispanic AIDS Forum, the largest Latino organization in the country providing HIV/AIDS related services to the community. Dr. Ayala brings not only enormous expertise in community relations and administration, but also direct service experience with gay/bisexual street youth and expertise on the impact of structural variables on sexual behavior. He is the lead author of a recent paper (Ayala & Díaz, in press, Appendix 2) on the influence of race and class on sexual risk practices among Latino gay men. Dr. Ron Stall (Co-Investigator) is one of the leading figures in the field of substance abuse and HIV risk among gay men in the US, having co-authored an influential review and methodological critique of the field (Leigh & Stall, 1993). He brings to the project key methodological expertise, including recently developed strategies to elicit research participants' accounts of sexual episodes under the influence of alcohol and/or drugs. Dr. Ed Bein is currently the senior statistician for Dr. Diaz' three-city project with Latino gay/bisexual men and for Dr. Stall's project on substance use and sexual risk; both of these projects involve substantial work on measurement development. Dr. Bein has played a major role in both research teams in the construction of innovative and culturally relevant scales for reliable assessments of sexual behavior and substance use in gay/bisexual populations. For the past five years, Ms. Andrea "Andy" Williams (in-house CAPS ethnographer) has conducted participant observations in San Francisco's gay community for her doctoral dissertation, to be soon defended in the department of anthropology at Yale University. She has worked in collaboration with different members of the research team as lead ethnographer on several projects regarding substance use and HIV prevention in the gay community. Her projects include a thoughtful analysis of the sociocultural meaning of methamphetamine use among young gay men in San Francisco. Finally, the research team will be supported and enriched by the consulting participation of Dr. Merrill Singer, the lead US ethnographer in the study of drug use and HIV among Latino populations. Dr. Singer's expertise on ethnographic approaches, on drug use in Hispanic/Latino populations, and on the impact of structural factors on drug use and HIV will enhance the theoretical, methodological, and cultural components of the study.

## **D. Research Design and Methods**

### **D.1 A Working Model on the Relation between Drug Use and Risky Sex**

Most of the studies done with gay/bisexual men to date have attempted to determine whether a relationship between drug use and sexual HIV risk does indeed exist. Few studies, however, have investigated possible explanatory hypotheses that could account for the observed relationships. The most intriguing and fully developed explanatory hypothesis on the interaction between drug use and risky sex among gay/bisexual men can be found in the work of McKirnan, Ostrow and their colleagues (McKirnan & Peterson, 1989; McKirnan et al, 1996; Ostrow et al, 1997). These investigators suggest that risky sex is more likely to occur when men use substances to “cognitively disengage” from negative emotions, especially those feelings of fatigue, fatalism, and loss brought about by the impact of the AIDS epidemic in the gay community. They have proposed a theory of “sex as escape” where a combination of drug use and high-stimulation sexual settings facilitate cognitive disengagement. According to their theory, under such conditions -- drug use and high-stimulation sexual contexts -- men tend to enact more automatized sexual scripts and/or become more responsive to external pressures toward risk (Ostrow et al, 1997). In support of their theory, McKirnan & Peterson (1989) have shown that alcohol and drug use are related to sexual risk behavior, particularly among respondents who are generally motivated to use substances to decrease tension or self-monitoring in sexual situations. Above all, the work of McKirnan and Ostrow show that the relationship between drug use and sexual risk is not simple or direct, but rather it is mediated and moderated by personal and event-specific factors, such as negative emotions prior to sexual encounters, cognitive disengagement, and highly stimulating contexts of sexual activity.

In search of moderating factors in our preliminary data on Latino gay/bisexual men, further analyses of the focus group narratives from the three-city study suggest that risky sex under the influence of drugs is more likely to occur when the following four conditions are present: 1) There are intense emotional need states prior to the sexual encounter that compete with the practice of safer sex, such as fear of rejection from a highly desired partner, anxiety and discomfort about homosexual encounters, or feelings of exhaustion and despair due to AIDS losses and grief; 2) Drugs are used to alleviate the existing emotional distress and focus attention on enhanced sexual feelings and physical sensations of arousal; 3) The sexual encounter occurs in the context of anonymous, public sex environments where sexual activity can be disconnected from interpersonal communication and normative influences; and 4) There is an expectancy that substances undermine clear thinking and personal control.

Therefore, based on the work of McKirnan, Ostrow and colleagues, as well as on our preliminary data, we hypothesize that the relationship between drug use and risky sex is moderated by four important event-specific types of variables: 1) Type and amount of drugs used during the encounter, and their expected effects on sexual behavior; 2) Emotional/psychological states prior to and during the sexual encounter; 3) Non-communicative and anonymous interpersonal situations that may involve highly arousing fantasy partners; and 4) Contexts of public sex and anonymous sexual activity, where drug use during sexual activity may be the norm. The working model, pictured in Figure 1 below, shows some of the hypothesized relationships under the right side column for variables identified as “Immediate/Event-Specific.” Figure 1 presents only a beginning working model, a starting point. Identifying the specific variables under each of the four types of moderators, as well as identifying additional types of moderators, will be the

focus of our investigation in Study 1. We will also investigate whether different types of event-specific moderators vary according to levels of acculturation and age, or according to other risk factors such as homelessness or commercial sex work.

The left hand side of the model representing distal (structural and cultural) as well as proximal/psychosocial variables recognizes that factors leading to drug use and risky sex are not simply reflections of individual pathology. Rather, we believe that drug use during sexual activity, as well as the moderating factors that lead to risky sex, are closely related to the sociocultural context of homosexual life in Latino communities, a context characterized by powerful oppressors such as homophobia, machismo, sexual silence, poverty and racism (Díaz, 1997; Díaz, 1998). In the model, we recognize that subjective feelings of isolation (identified as a psychosocial proximal variable) are closely related to a forced sexual silence and separation of sexuality from family life, because a son's homosexuality is a source of shame and dishonor to the Latino family (identified as a distal cultural oppressor). Similarly, feelings of anxiety about same sex encounters are exacerbated by the culture's pressure to prove masculinity (machismo) and the culture's gender definition of homosexuality stating that homosexuals are not true or "real" men. Feelings of isolation and personal shame are exacerbated by experiences of poverty and racism, such as those provoked by classist and racist ideologies in the gay community that deny Latino men full and equal participation in the gay liberation movement (Ayala & Díaz, in press). Thus, we use the label internalized oppression to underscore the fact that individual psychological variables in our model -- personal meanings, subjective experiences, and ultimately individual behavior -- cannot be separated from the sociocultural and sociopolitical oppression in the lives of Latino gay/bisexual men. This approach, although representing the work of culturally sensitive psychologists, is somewhat akin to the perspective of critical medical anthropology (Singer, et al, 1992).

In Study 1 we will expand, refine and develop the model outlined above, with the purpose of giving real-life and more specific content to the different types of constructs and variables listed in the model. Thus, the working model will be used only as a tentative guide to explore relevant contexts, perceptions, and interpersonal situations that have been suggested by preliminary work and prior literature. Variables in the model will be readily revised and/or discarded when the narratives and observations lead us in other directions.

## **D.2 Overview of the proposed research program.**

We propose to conduct three studies within a four-year period, in order to describe and explain the relationship between recreational drug use and sexual activity in the population of Latino gay/bisexual men in the San Francisco Bay Area: **Study 1** involves in-depth interviews with 90 men who report sex under the influence of recreational drugs during the past two months, and who vary in age (younger: age < 30; older: age ≥30) and degree of acculturation to the mainstream culture (Non-acculturated, predominantly Spanish-speaking; Acculturated, predominantly English-speaking; and Bilingual/Bicultural men), including men from three identified high-risk groups: Homeless street youth; Male sex workers; and Transvestite/transgender individuals. Narrative data from in-depth interviews will be contextualized and triangulated through ethnographic observations of social contexts and venues that emerge as relevant and observable in the in-depth interviews. **Study 2** involves close-ended interviews with 150 Latino gay/bisexual men who report sex under the influence of drugs during the past two

months in order to construct a culturally appropriate and reliable instrument that measures quantitatively the explanatory variables in the relation between drug use and risky sex, as identified in Study 1. Also, during recruitment for Study 2, we will pilot test a venue-based sampling frame and sampling procedures developed with the qualitative data gathered in Study 1. **Study 3** involves a quantitative survey in a venue-based representative sample (N=400) of Latino gay/bisexual men who report sex under the influence of drugs for the last two months. The survey will be administered individually using the instrument developed in Study 2. Survey participants will be recruited probabilistically, using the sampling frame and procedures developed in Study 1 and later refined and pilot tested in Study 2.

The three studies are purposefully linked and designed to describe -- qualitatively and quantitatively -- the cultural context, interpersonal settings and individual patterns of drug use and abuse during sexual activity among Latino gay/bisexual men in the San Francisco Bay Area. The studies are also designed to develop and empirically test a theoretical model that specifies the factors – drug-specific, psychological, interpersonal, situational and cultural -- that moderate the observed correlations between drug use and unprotected anal sex in this population.

#### Community Input Group

A Community Input Group (CIG) will be formed to provide guidance and input with respect to the progress of the study. Ricardo Bracho, a well respected San Francisco community organizer, educator, artist, and AIDS activist has already agreed to chair and to help convene the group (see attached letter of support). Six members of the San Francisco Latino gay community will be invited to become CIG members based on their time availability, knowledge about AIDS and substance use, as well as their personal experience using substances. The CIG will meet four times a year for project progress reports and to trouble shoot together with the PI and Project Director potential obstacles. The CIG will also assist the PI and the Project Director in the analysis of findings. CIG members will be compensated for their time and effort in the amount of \$200 at the end of each year for the duration of the project.

#### Community Providers' Advisory Council

A Community Providers' Advisory Council will be formed to provide guidance and input with respect to the progress of the study, especially with regards to dissemination and possible application of findings. Staff members from collaborating community-based organizations will be invited to participate. A diverse group of approximately 10 – 12 health educators, case managers, counselors, therapists, and outreach workers will be convened once a year when findings are ready to be reported. Members will be asked to assist the PI and Project Director in the interpretation of findings, and discuss possible incorporation of findings into existing or developing prevention intervention programs within their agencies.

### **D.3 Study 1: The Qualitative Study**

With both descriptive and theory development aims, the qualitative study involves two methods of data collection: In-depth interviews and ethnographic observations. Study participants will be sampled conveniently, utilizing a sampling frame developed by

the P.I. (Diaz, 1998) on his preliminary work in San Francisco, see Appendix 3. Ten individuals will be recruited for each of the six cells created by the 2x3 interaction of age (younger, older) and acculturation (non-acculturated; acculturated; bicultural), and the three additional cells that represent the three identified high-risk groups: Homeless street youth, male sex workers, and transvestite/transgender individuals. These latter three groups have been identified by Gorman et al (1995) as vulnerable subecologies or “niches” within the gay community, where methamphetamine use and risky sexual behavior interact. By including men who vary in age and degree of acculturation to the mainstream (mostly White and middle class) gay culture, we will be able to ascertain the contributions of Latino/Hispanic culture and the impact of increasing acculturation to the relation between drug use and risky sex.

In order to focus on the domain of interest, only individuals who report at least one instance of sex under the influence of drugs in the past two months will be included (based on our studies in five different US cities, we estimate a 20-25% prevalence of sex under the influence of drugs, within a two-month period, for venue-based samples of Latino gay men). As the in-depth interviews unfold, we will identify venues and social networks that emerge as important interpersonal contexts and settings for the relation between drug use and sexual activity. By interpersonal contexts and settings we mean not only the situations that constitute the immediate context of sexual encounters that typically occur behind closed doors or in more private settings, but also those venues and establishments where men meet, interact and negotiate with one another prior to actual sexual encounters. Anecdotal evidence suggests that the behavioral sequence that leads to sexual activity under the influence of drugs begins more properly as men take drugs to facilitate entry and participation in those venues where they meet potential sexual partners. We will then conduct ethnographic observations of those social settings and venues that are accessible to observation (e.g., gay establishments such as bars and neighborhood cafes, special events such as "Latino nights" in mainstream gay bars or Latino-identified gay parties, street corners where male hustlers congregate, and public sex environments). We will also recruit selected respondents to facilitate observers' access to those social contexts that are not directly accessible to the uninvited observer (e.g., private parties or friends gatherings where drugs are ingested prior to going out to clubs).

#### Descriptive aim

A first purpose of the qualitative study is to provide a detailed description of recreational drug use and abuse in the context of sexual activity among Latino gay/bisexual men in the San Francisco Bay Area, including detailed descriptions of expected sexual effects of drugs commonly used for sexual activity in the gay community such as methamphetamines (Speed), MDA/MDMA (Ecstasy) and nitrate inhalants (Poppers), alone or in combination with other drugs and/or alcohol. The main descriptive goal of the qualitative study is to provide answers to the following questions: What substances are being used in the context of sexual activity? Where are these substances purchased and used? How are these substances being used and/or abused? When are they being used within the sequence of sexual encounters? and Why, or for what purposes, are they being used? Answers to these five questions will help map both social contexts and individual patterns of drug use for sexual activity in Latino gay/bisexual

men. We will inquire about drug-specific patterns of use, as well as patterns of substance mixing, including the combination of drugs and alcohol, and their respective expected effects on sexual activity. We will also elicit and describe individual and socially-shared conceptualizations of the relation between drug effects and unprotected sexual activity, including participants' subjective understanding of how and under which circumstances drug use competes and interferes with the enactment of their safer sex intentions.

An obviously missing sixth question, namely, "Who is using drugs for sexual activity?," cannot be adequately addressed by the proposed research program because we will include only men who have reported sex under the influence of drugs. Nonetheless, using data from the different cells of Study 1, we will be able to identify individuals and subgroups who report increased frequencies of drug use, as well as increased conflicts (emotional/psychological, interpersonal, job-related and legal) associated with substance abuse.

### Theory development aim

A second purpose of the qualitative study is to further our theoretical understanding of the relation between substance use and risky sex in this particular population. The theoretical question of interest is not whether drug use facilitates unprotected risky sex, but rather under what conditions -- personal, interpersonal, situational, and cultural -- it does so. We believe that a positive correlation between drug use and risky sex has been amply documented, but the relation is neither absolute nor consistent. Indeed, many men are able to engage in protected safer sex under the influence of different substances and similarly, many others have reported unprotected sex in the absence of any substance use. Theory development, therefore, must focus on the circumstances or moderating factors by which different substances may compete with safer sex intentions or facilitate disengagement from personal values and commitments to practice safer sex.

In order to achieve our theory development aim, we propose to elicit detailed narratives of sexual events -- protected and unprotected, under the influence of drugs and not -- and systematically compare them in order to identify the factors that are most often present when substance use and unprotected sex co-occur. We will use a 14-code category system developed by the P.I. (Díaz, under review, see Appendix 4) to study sexual event narratives, described with greater detail below. The coding of narratives with the proposed category system also allows for an identification and quantification of presence/absence of factors that appear as theoretically relevant moderators, for example, negative emotional states prior and during the sexual episode (psychological factors), sex with a highly desired partner who wants to express masculinity through dominance and control (interpersonal factors), or a context of anonymous group sex where other participants are obviously intoxicated and not using condoms (situational factors).

Our theoretical aim in Study 1 is to identify and categorize the factors or combinations of factors that appear more frequently in the narratives of unprotected episodes under the influence of drugs, but do not tend to appear in either the protected episodes or the events that are not accompanied by substance use. When analyzing the narratives for sexual episodes, we will use our working model (Figure 1) as a starting point to guide theory development.

### Research design and sampling frame

Based on the P.I.'s qualitative and quantitative research with Latino gay/bisexual men in San Francisco (recently published as a book: Díaz, 1998, see Appendix 3), we have identified naturally-occurring subgroups defined by the interaction of age and acculturation, as well as high-risk groups with documented high rates of both drug use and unprotected sexual activity. The three acculturation groups -- non-acculturated, acculturated and bicultural -- vary in language use, immigration status, gender-based definitions of homosexuality, levels of public disclosure of homosexuality, and degree of participation in and identification with the mainstream gay community and its gay liberation ideology. The groups also vary in important sociocultural predictors of HIV risk, such as internalized homophobia, machismo, and experiences of migration, poverty and racism. In order to understand the contributions of culture, race and class to the relation between drug use and sexual activity, we must begin by identifying systematic differences within the cultural subgroups that naturally exist as a function of differences in acculturation to the dominant English-speaking culture and, in particular, acculturation to the mainstream (mostly White and middle-class) gay culture. In studies of Latinos from different Latin American countries, these acculturation differences, and the cultural and socioeconomic differences they represent, have emerged as more salient organizers of sexual attitudes and behavior than nationality (Marín et al, 1998). Also, because age has been identified as an important predictor of both drug use and unprotected/risky sexual practices among gay men, including Latinos, we will study both older (30 and above) and younger (under age 30) men from the three acculturation groups; the selection of age 30 as the dividing line between older and younger groups is based on documented statistically significant differences in outcome variables between the two age groups (Díaz & Ayala, 1997; Stall et al, 1992). Ten men from each of the six cells that represent age (2 levels) by acculturation (3 levels) subgroups will be interviewed.

In addition, Study 1 will include 10 men from each of the three identified high-risk subgroups: 1) Homeless street gay/bisexual youth; 2) Men who engage in sex work; and 3) Feminine-identified transvestite/transgender individuals, many of whom are entertainers, and who may be involved in sex work with Latino heterosexually-identified working class men. In studies of substance use among gay men, these three groups have reported increased use of substances for sexual activity, in particular, methamphetamines (Gorman et al, 1995).

### Subject recruitment

Subjects will be recruited conveniently in gay-identified venues that tend to be associated with the specified subgroups, even though the assignment to different acculturation cells will involve specific criteria other than recruitment venue. For example, older acculturated men will be recruited mostly from relatively small neighborhood bars in the predominantly gay Castro district, while younger acculturated men will be recruited from popular and relatively large disco-dancing establishments south of Market street that cater mostly to young White gay men in San Francisco. In contrast, non-acculturated men will be recruited from Latino-identified gay bars in the predominantly Latino Mission district in San Francisco, while bicultural men will be most likely recruited from "Latino nights" that are periodically sponsored by some mainstream bars in the Bay Area, such as bi-monthly "Futura" dances in San Francisco's

South of Market district, "Latino Fest" every Friday night at the Bench and Bar in Oakland, and monthly "Club Papi" in San Jose.

The inclusion of Latino nights in Oakland and San Jose are important because they form an integral part of the emerging Latino-identified gay subculture of the Bay Area. Many non-acculturated and bicultural Latino gay men who live in the San Francisco Bay Area travel within the geographical triangle defined by the cities of San Francisco, Oakland and San Jose, in search of Latino-identified gay spaces. These men, especially the non-acculturated, for reasons of language and class, typically do not feel comfortable in predominantly White gay venues, and thus travel in order to find more congenial Latino-identified spaces. Many bicultural men, though competently able to function in both Latino and mainstream English-speaking cultures, tend to be keenly aware of classism and racism in the White gay community, and thus prefer to socialize with other Latinos. On the other hand, more acculturated Latino men from the Bay Area travel to San Francisco in order to socialize within the mainstream Castro district gay bars and the large discos that attract mostly young White gay men.

The three additional high-risk groups will be also recruited in their appropriate venues. For example, street youth will be recruited in the street corners of the Polk/Tenderloin and Haight Street areas, as well as in current "hang-out" areas, identified with the help of agencies that serve this population; Sex workers will be invited to participate by calling them at the numbers listed in their escort ads in the gay press, and from well-known "male hustler" bars and street corners in the city; Transvestite/transgender individuals will be recruited immediately after their entertainment shows when they socialize with audiences at different bars and establishments, and also through transgender workers in Latino agencies who provide outreach HIV/AIDS education services to this community.

Recruiters, wearing t-shirts or sweatshirts with the identifying logo of the study, will distribute pocket sized cards and talk to (but will not screen) potential participants in the selected gay venues. The cards will invite men to participate by calling the study's phone number in order to inquire about their eligibility. The card, as well as the brief conversations with recruiters, will explain the procedures and confidential nature of the study, as well as mention the \$50 incentive for their 2-2.5 hour participation in an in-depth interview at CAPS/UCSF, conveniently located in downtown San Francisco and quite accessible through public transportation for San Francisco and Oakland residents. For San Jose residents who cannot make the 1-hour car or train trip to San Francisco, we will offer interviews in selected community-based organizations that serve Latino gay/bisexual men in the San Jose area.

### Screening and Inclusion Criteria

When men call in, expressing their interest in the study, they will be administered a 5-10 minute phone screener that assesses study inclusion criteria and the necessary data to assign men to the respective nine cells of the study design. The screener will be administered in either English or Spanish according to the stated preference of the caller.

The three inclusion criteria for Study 1 are Latino, non-heterosexual identification, and at least one instance of drug use during sexual activity in the past two months, assessed in the following way:

1) Self-identification as Hispanic/Latino. Men will be asked what country they are from and, if born in the US, what country their family is from. They will be also asked about how they identify ethnically or racially. Men who were born or whose family was born in or identified as coming from a Latin American country will be eligible for the study. Men who identify by any Latin American nationality (e.g., Cuban, Colombian, Mexican) or by any commonly used Latino identifier (e.g., Latino, Hispanic, Chicano, Raza) will also be eligible for the study.

2) Self-identification as non-heterosexual. Men will be asked to state their sexual orientation and/or identification. Any self-identification that connotes homosexual desire and behavior, or expresses a sexual orientation other than heterosexual (e.g., homosexual, queer, transvestite, queen, vestida, joto, pato, maricón) will be also eligible for inclusion in the study. All men will be asked also whether they consider themselves transvestite and/or transgender, and those responding in the affirmative will be eligible for assignment to the transvestite/transgender cell.

3) Sex under the influence of drugs. Men will be asked: a) Whether they have had sex with another man; b) Whether they have had sex with a man under the influence of alcohol; and c) Whether they have had sex with a man under the influence of recreational drugs or non-prescribed substances other than alcohol. The three questions will be asked for time categories "ever" and "in the last two months." Only men who respond affirmative to question (c) for the last two months will be eligible for inclusion in the study.

4) Sex work. In order to select men for assignment into the sex worker cells (street male hustlers and male escorts), callers will be asked whether in the past two months they have exchanged sex with men for either money, drugs, food or shelter.

5) Street Youth. Two questions that identify possible participation in the street youth culture (age under 21 and frequency of nights on the street in the last two weeks) will be asked to assign participants to the street youth cells.

Once eligibility for the study has been determined by the three inclusion criteria, men will be either assigned to one of the three high-risk cells (transgender, street youth or male escort/sex worker -- in this order of inclusion) and if not eligible for any of the three high-risk groups, they will be assigned to one of the age by acculturation cells guided by the following six questions: One question about age/ birthdate and five questions regarding general language use and language use with friends (response scale ranging from predominantly Spanish to predominantly English), ethnic identity of friends, preference for ethnic composition of gay bars, and comfort in different social situations (response scale ranging from "Mostly Latino" to "Mostly non-Latino" friends, gay bars, social situations). Non-acculturated men will be selected from men who answer in the predominantly Spanish, predominantly Latino pole of the response scale on at least three of the five questions. Acculturated men will be selected from those who respond on the predominantly English, predominantly non-Latino pole of the response scale on at least three of the five questions. All others will be included in the bicultural group.

Recruitment activities will be strengthened on those venues that correspond to those cells that are more difficult to fill. Recruitment, screening and assignment procedures will stop when all ten men for each of the nine cells have been interviewed.

Data collection: The in-depth interview

The individual in-depth interview will last approximately 2-2.5 hours and will cover the following topics:

1. History of coming out, initiation into homosexual activity, and development of sexual identity, including experiences of acceptance and/or rejection of homosexual feelings/choices by self, family and significant others.
2. Current participation in gay life and gay venues, for both socialization and sexual activity. This section will include a possible history of sex work as well as an assessment of race and class influences on participation in gay community and sexual activity.
3. Sources of social support and current friendship networks.
4. Homosexual lover/boyfriend romantic relationships, past and present.
5. Semi-structured history of substance use, ever and for the last six months, based on adapted instruments developed by NIDA-sponsored projects and Co-Investigator Ron Stall. Participants will be read a list of substances or categories of substances including alcohol and non-prescription recreational drugs. For each substance or category, participants will be asked if they have ever used it; if they have used it in the last six months; frequency of use; mode of acquisition; pattern of use, including mode of administration, amount, and mixing with other substances; typical contexts and reasons for use; how often they have used the substance for sex or during sexual activity; what are the expected and experienced physical, psychological, and sexual effects; and whether they can associate the use of the specific substance with different psychological states, settings and/or social situations.
6. Preferred substances for sexual activity and their expected effects. Participants will be asked to select their favorite substances or combination of substances used for sexual activity and explain why they selected them.
7. Recent history of sex under the influence, based on Timeline Follow-Back assessments developed by Dr. Stall. The assessment facilitates recall of substance use and sexual behavior episodes in the last 30 days (see Appendix 5). Participants will be also asked to recall the number and preferred characteristics of sexual partners, the type of sex that they engage in with different partners, and the characteristics of partners with whom they typically use substances.
8. Sexual events/episodes. Participants will be asked to recall in detail four sexual episodes in the most recent past (up to 12 months) that involved anal intercourse: One protected/safer sex event where substances were not used; one protected/safer sex event where recreational drugs were used; one unprotected/risky event where drugs were used; and one unprotected/risky event where no substances were involved. Interviewers will note those episode types for which participants have no recollection. It is expected that some participants will not be able to provide an episode for all four cells; those missing cells, however, will constitute important and relevant descriptive data. Participants will be asked as much as possible to recall events that are typical for them, and will be aided in their recollection by probe questions regarding emotions prior to the event, characteristics of sexual partner, setting, type of sex, type and amount of substances used, feelings and cognitions associated with the events, as well as feelings and cognitions after the event was over.

9. Conceptions of drug-sex interactions. Participants will be asked to compare sexual episodes under the influence versus not, and their opinions about the relationship between substance use and risky sex in their lives and in the lives of their friends.
10. Substance abuse. Finally, participants will be asked about the impact of drug use in their lives -- including impact on mood, relationships, employment and conflicts with the law -- in order to make an assessment of abuse and its severity for each participant in the study. Also, a personal history of substance abuse treatment and attempts at self-regulation and/or abstinence will be elicited at this time.
11. Resiliency Factors. The interview will close with an exploration of factors in men's lives that have helped them cope with sexual oppression and substance use problems, such as the availability of role models, participation in Latino- and gay-identified organizations, access to health and mental health care, and involvement in spirituality and/or self-help groups.

#### Data collection: Ethnographic observations

As the in-depth interviews unfold, members of the research team (with substantial input from Consultant Dr. Merrill Singer and CAPS Ethnographer Andy Williams) will identify and map those venues, settings, social networks and other sexual/social contexts that emerge repeatedly as relevant "niches" or subecologies for the interaction of drug use and sexual activity in the Latino gay community. A given number of characteristics will be identified for each subecology, noting both unique and shared characteristics as they appear in the transcripts of the in-depth interviews. Of particular importance would be to identify those social contexts, venues and settings, relevant to different subecologies, that men participate in as a prelude to sexual encounters or sexual activity. For sexually active gay men, the opportunity for sexual activity is often predicated on participation in settings that are either directly sexual (e.g., sex clubs and bathhouses) or in venues where individuals meet and mutually assess one another as potential sexual partners (e.g., cruising bars); we will thus attempt to identify and describe the use of drugs to facilitate participation in both types of relevant venues.

Once the relevant and observable settings are identified, we will send observers to conduct at least three different observation sessions for each identified social context or venue, for a maximum of 20 identified contexts/venues, and a maximum of ten hours of observation per context/venue (for a total of 200 hours of ethnographic observation to be conducted within a 6-month period). Ethnographic notes will then be compared to notes derived from the transcripts of in-depth interviews, searching both for validation, contextualization and making attempts to make meaning of the possible contradictions and inconsistencies.

#### Data analysis (Descriptive)

The descriptive data analysis will be guided by the five questions stated above, namely, What substances are being used in the context of sexual activity? When are they being used in the sequence of sexual activity? How are these substances being used and/or abused? Where are these substances purchased and used? and Why, or for what purposes, are they being used? Those questions will be answered for and compared qualitatively among the 9 different cells in the study design, as well as among men who participate in different subecologies identified in the in-depth interviews. The

descriptions will be contextualized and triangulated by extensive analyses of field notes gathered during the ethnographic observations. We will give special attention to those areas where narratives and observation notes seem to contradict one another, with the assumption that conflicts between subjective perceptions, cultural norms and actual behavior may yield the most interesting insights about the phenomenon under study.

#### Data analysis (Theory development)

The analysis for the development of a theory that explains the relationship between drug use and risky sex will be based on systematic comparisons among the narratives of the four types of anal sex episodes elicited: 1) Protected, under the influence of drugs; 2) Protected, with no substance use; 3) Unprotected, under the influence of drugs; and 4) Unprotected, with no substance use. All four types of narratives will be coded using the following 14-category coding system, developed by the P.I. in a qualitative study of San Francisco gay men (Díaz, under review, Appendix 4). We found that the 14-category system enabled us to code over 90% of the text in the narratives of sexual episodes described by San Francisco gay men of different ethnicities. The system includes the following 14 categories:

1. Setting / Situation
2. Partner Characteristics
3. Stated Emotions prior, during and after the episode
4. Actual Sexual Behavior
5. Associated Cognitions
6. Substance Use: Type and amount, reported effects, and attributions of influence
7. Perceptions and Assessments of HIV Risk
8. Communication: Verbal and non-verbal
9. Disclosure of HIV status
10. Gender Attributions
11. Decision-Making / Intentionality
12. Strategies to Reduce Risk
13. Attitudes Towards Condoms
14. Perceptions of Responsibility / Control

Transcribed narratives for the four types of events will be compared qualitatively and quantitatively (for presence=1 or absence=0 and for number of line units) on selected sub-codes (e.g., drug facilitation of receptive anal sex, attributions of loss of control) coded under the 14 coding dimensions. The four types of sexual events will allow for comparisons along the main effects of drug use vs. not and protection vs. not, as well as their interaction. Of special interest is to understand the particular factors or combination of factors that are different or perhaps unique for the interaction of drug use and unprotected anal sex. Following the leads of our preliminary work, special attention will be given to reported emotional states prior to the sexual event, types and amount of drugs used, attributions of their effects on sexual activity, perceptions of diminished personal control, and interpersonal settings and situations that seem to be unique to the unprotected episodes under the influence of drugs. We will use the computer program “Nud-ist” to facilitate the qualitative analyses because we have used the program

successfully in our prior qualitative research, and because the program is especially designed as a tool for theory development. The Nud-ist software allows for coding as well as counting portions of transcribed narratives, and then examining -- qualitatively and quantitatively -- existing relationships among codes in the text. The PD (Ayala) has considerable experience in the use of Nud-ist software and has lectured and trained other scientists at CAPS/UCSF in the use of the program.

Two coders will be trained jointly with a subset (no more than 10) of interview transcripts until they achieve inter-rater agreement of .80 with at least two training transcripts, as determined by Cohen's Kappa coefficient. After the training is completed, we will determine the reliability of the coding system through inter-rater agreement on independent coding of 20% of the remaining transcripts, not including the 10 training transcripts, using once again Cohen's Kappa coefficient to determine inter-rater agreement.

#### **D.4 Study 2: Scale Development Study**

Based on data from Study 1, we will develop and pilot test a reliable survey instrument that will assess quantitatively descriptive information about drug use, sexual practices, the relationship of drug use and risky sex, as well as their distal, proximal and immediate/event-specific predictors. Our aim is to develop internally consistent scales that would allow us to test empirically in Study 3 the theory on the relation between drug use and risky sexual behavior formulated and refined in our analysis of Study 1 data. For measures of distal (cultural and structural) variables as well as proximal measures of internalized oppression and resiliency, whenever possible and appropriate, we will use scales that are currently being developed in the context of a NICHD-funded study entitled "A sociocultural model of HIV risk in Latino gay men" (R.M. Díaz, P.I.). The NICHD project, being conducted in the cities of Los Angeles, Miami and New York aims to assess the impact of six sociocultural factors -- machismo, homophobia, family loyalty, sexual silence, poverty and racism -- on sexual risk behavior. See Appendix 6 for examples of relevant measures -- scales measuring experiences of homophobia, poverty and racism, as well as measures of internalized racism and internalized homophobia -- currently being developed and tested in the context of that project. The scope of the 3-city project, however, does not allow for an in-depth examination of the relation of drug use and risky sex, as proposed in the present research project. Measures developed in the NICHD study, on the other hand, will be helpful in testing the distal and proximal variables as predictors of event-specific variables in our model.

#### **Domains of Survey Measures**

We anticipate that the survey questionnaire to be developed will include measures, among others, of the following variables:

#### **OUTCOME VARIABLES:**

Sexual activity. We will assess the number of male and female sexual partners, frequency of oral and anal sex -- receptive and insertive, protected and unprotected -- with both monogamous and non-monogamous primary partners and with casual partners (for the two-month period prior to the survey). We will also obtain a more global measure of risky sex for the last year by asking men whether they had any instances of

unprotected anal intercourse in the last 12 months, approximately how many times, and whether any of those instances occurred with a non-monogamous/casual partner.

Substance use and abuse. We will ask men to give us a detailed inventory of substances used -- drugs and alcohol -- during the last two months, including different types, frequency and amount of substances used, and self-perceptions of level of intoxication. We will also include a measure of substance abuse based on the presence and severity of personal, interpersonal, financial and legal negative consequences of substance use.

Sexual activity under the influence of drugs. We will assess the frequency of sexual activity, with and without protection with primary and casual partners, under the influence of different substances for the past two months. For this measure we will use the Timeline Follow-Back assessments of sex under the influence of substances (developed by Dr. Ron Stall and described in detail in Appendix 5), adapted and refined based on lessons learned in Study 1.

#### PREDICTOR VARIABLES:

Demographic. Age, nationality, levels of acculturation, employment, education, and immigration status. We will include here measures of self-identified ethnicity and sexual orientation, as well as levels of personal comfort with those self-identifications.

Developmental. History of childhood physical and sexual abuse, family's history of substance use and abuse, and domestic violence. We will assess the history of "coming out" and degree of public identification and disclosure to significant others about own homosexuality.

Social Cognitive. We will obtain culturally appropriate measures of social cognitive predictors of safer sex, such as intentions, self-efficacy, perceptions of sexual control and peer norms for condom use. We will also include a measure of meaning of condoms specifically tailored to the situation of Latino gay/bisexual men, currently being developed in the three-city project, which will assess for example, the degree to which condoms are perceived to disrupt intimacy or as signaling disrespect with a desired partner.

Behavioral. We will ask a number of questions about current social and sexual behavior that, in other studies of Latino gay/bisexual men, have emerged as predictors of risky sexual practices, such as frequency of sexual activity in public sex environments, sex in exchange for money, drugs or other resources, and behavioral protective factors such as volunteerism, participation and activism in AIDS services organizations or community organizations that promote the rights of Latino and gay groups. We will include here measures of HIV testing, HIV status, and participation in health care system, with questions that are particularly relevant to HIV-positive individuals.

Structural, Cultural Factors, and their internalization. We will measure individuals' present situation with regard to important cultural oppressors in the life of Latino gay men, namely, machismo, homophobia, sexual silence, forced migration, poverty and racism. We will draw on relevant measures developed in the context of our NICHD 3-city project (see Appendix 6). For each cultural factor, we will measure not only individuals' experiences of victimization from external oppressors but also the internalization of oppressive ideologies. For example, for the cultural factor machismo, we will not only measure individuals' experiences of rejection for being effeminate, but

also their own internalizations regarding homosexuality as a gender category, that is, the perception that homosexuals are not “real men.” Similarly, for the factor poverty, we will not only measure individuals’ present and past history of economic hardships and struggles, but also a fatalistic view regarding the inevitability of HIV infection, so deeply woven within the culture of inner city poverty. The goal is to measure all the relevant structural and cultural factors that appear as distal and proximal predictors in our working model (Figure 1), as revised with findings of Study 1.

#### SOCIAL AND SEXUAL NETWORKS/SOCIAL SUPPORT VARIABLES:

We will ask for detailed information (including socially-shared drug use) about the last two sexual partners and the two closest friends in order to assess the types of social and sexual networks individuals participate in. Questions about friends and sexual partners will include age, ethnicity, HIV status, sexual orientation and socioeconomic status of partners, places where they met, and duration of relationships. We will include measures of perceived social support, romantic/lover relationships, and perceived degree of loneliness and social isolation.

#### EVENT-SPECIFIC MODERATORS OF THE RELATION BETWEEN DRUG USE AND RISKY SEX:

Based on the analyses of the in-depth interviews, we will identify the hypothetical constructs or conditions that moderate the relationship between drug use and risky sex, including (but not limited to) emotional states and motivations prior to sexual encounters, drug use during sex, interpersonal and situational contexts of sexual activity and expectancies of drug effect on sexual behavior. The goal is to create measures that will allow us to test the event-specific moderating variables in the relationship between drug use and risky sex, as specified in the revised model. Most of these constructs will be measured in the context of four specific sexual episodes (the respondent’s last two protected and last two unprotected sexual episodes). For example, for each event respondents will be asked to respond to a series of theory-derived questions, such as “How did you feel prior to the sexual encounter?” “Did you use drugs and/or alcohol prior/during the encounter?” “What drugs did you take prior/during the encounter?” “How high did you feel?” “Did you feel in control of the situation?” “Did you feel emotionally connected to your partner?” “How much communication did you have with your partner?” “Where did the sexual encounter take place?” and so on. The constructs measured in the context of specific sexual episodes will be used for within-subject analyses comparing protected and unprotected events along those constructs identified as moderators in the relation between drug use and risky sex. Some constructs relevant to the hypothesized relationships, such as perceived loss of control due to substance use, or degree of personal anxiety and discomfort about homosexual encounters, will be measured as scales in order to test for individual differences between drug-using individuals who are safe and those who are risky in their reported sexual practices (between-subject analyses).

The questionnaire will be translated into Spanish and then back translated into English, with appropriate inter-language adjustments and calibrations, in order to ensure correspondence of meaning for questions and response scales. The example questions for

the NICHD study in Appendix 6 show items side by side, in both English and Spanish, translated using the back translation procedures.

### **Instrument development and testing**

The development of the survey instrument will occur in four distinct phases. First, a draft questionnaire will be created by the research team, based on the data from in-depth interviews and ethnographic observations gathered in Study 1 and on the subsequently revised theoretical model, including relevant measures of distal and proximal variables developed in the NICHD three-city project. Second, the draft questionnaire will be peer reviewed by at least five researchers in the field both within and outside of CAPS. The survey instrument will then be revised according to expert input. Third, the revised but still preliminary survey will be administered in the context of individual "think aloud" sessions with 12 men (6 predominantly Spanish-speaking and 6 predominantly English-speaking) conveniently recruited from the target population. In the "think aloud" sessions, typically lasting two-three hours, respondents will be asked to answer the survey questions and verbalize any ongoing thoughts, feelings and comments in reaction to the instrument questions and response scales. Respondents will be asked to pay special attention and comment on those questions that are unclear, confusing and/or create personal discomfort. The survey instrument will then be revised according to the input from the "think aloud" sessions. In the fourth and final phase of the scale development study, we will test the instrument with 150 subjects recruited according to the procedures detailed below. Data from these 150 men will be used to further revise the survey, and more importantly, to reduce and cluster the items into scales that are internally consistent as determined by reliability analyses and Cronbach's alpha coefficient

### **Subject Recruitment and Procedures**

For the scale development study (Study 2), 150 men will be recruited in 15-20 different venues (based on venues identified in Study 1 where men either have sex under the influence of drugs or use drugs in their interactions with other men prior to sexual activity). The number of men to be recruited from each venue will be proportionally determined according to venue size. Inclusion criteria, assessed in ways similar to Study 1, will be: Latino male or transgender, non-heterosexual identification, and reported sex under the influence of drugs in the last two months. Men recruited in those venues will be given cards with the study name, logo and other identifying information. Similar to Study 1, recruiters will give brief explanations about the study, mention the \$50 incentive, and encourage potential participants to call the study phone number to determine their eligibility for the study. At recruitment time for Study 2, we will pilot test the sampling frame and probabilistic sampling procedures proposed for the survey in Study 3 (see below). Men will be interviewed individually with the pilot questionnaire, at CAPS/UCSF or at more convenient locations for San Jose residents. We expect these close-ended interviews to last approximately 1.5 hours.

### **Data analysis**

If the theoretical model developed in Study 1 resembles our working model, and all distal and proximal variables from the NICHD study could be used without further modification, then we would anticipate developing a minimum of 10 summated rating scales in order to test the relationships among the event-specific variables. Our tentative list includes: 1) Negative emotional states prior to sexual encounters; 2)

Propensity/motivations for sex as escape; 3) Substance use during sexual encounters; 4) Participation in contexts of sexual risk; 5) Levels of communication in sexual encounters; 6) Levels of cognitive disengagement in sexual encounters; 7) Choice of risky/fantasy partners; 8) Perceived sexual control under the influence; 9) Perceived impact of drugs on sexual feelings and behavior; and 10) Perceived impact of drug use on emotional states.

Scale development will proceed along standard lines in order to ensure the development of reliable and valid scales (Allen & Yen, 1979; Spector, 1992). Based on qualitative data from Study 1, pools of Likert-scale items for each scale will be compiled in a draft questionnaire that will be revised and refined with input from experts in the field and “Think Aloud” interviews with members of the target population. Assuming inter-item correlations, on average, of .3 or larger in the final scales, ten or few items per final scale would suffice to generate a coefficient alpha of .80. The initial item pools, then, will consist of approximately 20 items. These sets of items will be administered to a sample of 150 Latino gay men in order to perform item analyses. A sample of this magnitude is recommended by Spector (1992) and by Allen and Yen (1979) in order to produce reliable item analyses. These analyses will consist of selecting a subset of items from each item pool that exhibits adequate internal consistency (coefficient alpha of .80 or better) and shows a balance between positively and negatively worded items. These item subsets will then become the final scales. Exploratory factor analyses will also be performed to assess the dimensionality of each scale. Preliminary validation of these scales will consist of an examination of their concurrent validity. The 150 men in the item analysis sample will also be administered scales and questionnaires assessing behaviors and psychological constructs hypothesized to relate to the constructs assessed by the scales under development. Correlations between the scales under development and the auxiliary scales and questionnaires will be examined in order to determine whether the hypothesized relationships are present. For example, we expect that measures of internalized oppression, such as same-sex shame or internalized homophobia, will be related to reported measures of negative emotions, such as anxiety and self-consciousness, prior to sexual encounters.

#### **D.4 Study 3: Quantitative Survey of Venue-Based Representative Sample**

##### **Aims**

A first aim of Study 3 is to assess the frequency of different types of drugs (alone and in combination with other drugs and/or alcohol) used during sex, and estimate the prevalence of substance abuse and sexual risk behavior for different subgroups within this population of drug-using men. Second, the study aims to investigate demographic, developmental, social cognitive, behavioral, and both distal and proximal sociocultural predictors of risky sex under the influence of drugs. Third, the study will empirically test the hypothesized model regarding the interaction of drug use and risky sex, using both individual differences variables (between-subject analyses) and event-specific variables (within-subject analyses).

##### **Sampling and recruitment**

Based on in-depth interview and observational data collected in Study 1, we will elaborate a sampling frame that includes the most important social venues associated with

drug use and sexual activity among Latino gay men in the San Francisco Bay Area (the geographical triangle defined by San Francisco, Oakland and San José), ensuring that the selected sample of venues includes the full range of acculturation by age subgroups, as well as those venues identified by specific risk-groups such as street youth, sex workers and transgender individuals. We expect that those venues will be predominantly gay bars (Latino and non-Latino identified), Latino nights or Latino events at different bars and clubs, as well as public sex environments such as sex clubs, bathhouses, adult bookstores and “cruising” parks. Based on probabilistic bar sampling procedures developed for the NICHD study (see Appendix 7), and pilot testing of procedures in Study 2, we will draw a representative sample of men in those venues, following the steps listed below:

- 1) Through observations, we will estimate for each selected venue the days of the week and time periods when the venues are heavily attended, roughly estimating the size of crowds at those times and the percentage of Latino men in those crowds. These initial observations will yield a grid of cells indicating for each selected venue the specified times (in 2-3 hour periods) and days of the week with substantive Latino men crowds. These cells are considered potential sampling units (PSUs).
- 2) We will then randomly select a sample of no less than 20 PSUs, and will do an exact count of the number of Latino men entering the randomly selected PSUs during the given time periods. The selected PSUs are considered our sampling units (SUs). Counting of men entering the venues at the selected SUs will be done twice (on two different weeks) to get a more reliable count, taking into account fluctuations in the number of venue patrons from week to week.
- 3) Based on the counts and the total number of men needed for the study we will proportionally assign a target number to be recruited from each SU as well as a sampling rate (every Nth man entering the SU) for selection into the study.
- 4) Each Nth selected man will be asked to speak briefly with the study recruiter (who will wear an identifying T-shirt or sweat shirt) for about five minutes. During those five minutes, the potential participant will be told about the study and given a card with the study’s name, logo and phone number to call in order to determine their eligibility for the study. This step will be repeated for each SU until we interview the specified targeted number of participants for each SU.

Inclusion criteria for the study are: Latino man or transgender, non-heterosexual identification, and reported sex under the influence of drugs in the past two months. The screener will also ask basic demographic characteristics such as age, nationality and language use/level of acculturation, enabling us to collect basic demographic information of those eligible men who fail to complete the survey interview, as well as collect demographic information of those that are not eligible for the study. Information collected on the phone screening interviews for both eligible and non-eligible men will be helpful to examine prevalence rates of sex under the influence for different subgroups in the sample of men selected probabilistically to call the study number.

### **Interviewing Procedures**

Men who are recruited to participate will be asked to call the study number in order to determine eligibility and, if eligible, schedule the survey interview. The survey interview will be administered individually in English or Spanish, according to the stated language preference of the participant, by one of our bilingual research staff. We estimate that individual survey interviews will last approximately 1.5 hours and will be

conducted at interview rooms at CAPS/UCSF, conveniently located in San Francisco with easy access to the two major systems of public transportation in the Bay Area, or in selected community-based organizations in the San Jose area. Prior to the interview, participants will review and sign appropriate consent forms. After the interview, participants will receive remuneration for their time and participation (\$50), and will be given an attractive “safe-sex package” that includes information about HIV modes of transmission and means of prevention, condoms, water-based lubricants, referral information to HIV prevention agencies and substance abuse treatment agencies that serve Latino gay/bisexual men in the area, and culturally-appropriate materials about drug use and risky sex designed for Latino gay/bisexual men by Proyecto P.A.P.I. of the Gay Men’s Health Crisis in New York (see Appendix, 8).

### **Data analysis**

Assuming that the theoretical model developed in Study 1 resembles our working model in broad outline, model validation will involve three sets of analyses. The first set will test the hypothesized effects of structural (e.g., poverty, racism) and cultural (e.g., homophobia, sexual abuse) oppressors on aspects of internalized oppression (e.g., shame about sexual orientation and ethnicity), including the hypothesized ameliorating effects of resiliency moderators like social support (see Figure 1). The second set of analyses will examine the hypothesized relations between internalized oppression and elements of the hypothesized complex of affects, expectancies, and behavior that result in risky sex. The third set will test whether this hypothesized complex is indeed associated with risky sex.

The analyses of structural, cultural, and internalized oppression will consist of correlational and multiple regression analyses. The structural, cultural, and internalized constructs will be operationalized mostly by scales being developed in the NICHD 3-city study. Correlations of the structural/cultural variables with the internalized variables will be computed in order to examine bivariate relations. Prior to performing multiple regressions, a principal components analysis of the internalized variables will be performed in order to determine whether the number of internalized variables can sensibly be reduced. Multiple regressions will then be performed in order to examine relations between the set of structural/cultural variables and dependent internalized variables. Hypothesized moderating effects will be examined by including resiliency and resiliency by structural/cultural interaction terms as independent variables in the regressions and then testing the significance of the interactions (Baron & Kenny, 1986).

The analyses of internalized oppression and the affective/cognitive/behavioral complex hypothesized to be associated with risky sex will also consist of correlational and multiple regression analyses. As with the first set of analyses, correlations will be computed in order to examine bivariate relations and multiple regressions performed in order to assess the simultaneous relation of multiple internalized variables to dependent complex elements.

Whether the hypothesized affective/cognitive/behavioral complex in fact is associated with risky sex will be examined via between-subjects and within-subjects analyses. The former (between-subject) will consist of t-tests or Mann-Whitney tests (as appropriate) to compare the men in the sample who do not engage in risky sex to the men in the sample who do engage in risky sex on the individual complex variables, as well as a multiple logistic regression to predict engagement in risky sex from the set of complex variables. The latter (within-subject) will consist of McNemar tests and conditional

logistic regressions (Collett, 1991) to analyze the data base of episodes of risky and nonrisky sex under the influence of drugs. Conditional logistic regression, commonly used in matched case-control studies, can be conceived of as a multivariate extension of the McNemar test.

Recall that each man who has engaged in risky sex will be asked to respond to at least ten different model-relevant questions (i.e., emotional states, contexts of sex, drug use during the encounter, perceptions of sexual control, etc....) for each of a pair of recent episodes of sex under the influence of drugs, one in which the sex was risky and the other in which the sex was safe. McNemar tests will be used to determine whether the presence of individual complex elements (e.g., negative emotional states prior to the sexual encounter) is associated with risky sex. Conditional logistic regressions will permit the examination of the simultaneous relation of multiple complex elements to risky sexual episodes. In sum, then, the between-subjects analyses will examine *persons* (who do or do not engage in risky sex under the influence) and the within-subjects analyses will examine *situations*.

### **Power Analysis**

Power analysis for the quantitative survey is based on the number of subjects needed to detect significant differences between risky and safe episodes in the within-subject analysis. Because within-subject analyses will be conducted on the subset of the sample (estimated at 50%) that reports risky sex under the influence of drugs, our sample must include at least double the number of subjects needed to achieve adequate power in the within-subject analysis.

An N of 189 is required to have power = .80 at alpha = .05 to detect, via a McNemar test, a population difference of 15% (60% vs. 45%) in the proportion of unsafe vs. safe episodes for which negative emotion is present (Lachin, 1981). We believe this is a realistic hypothetical state of the world which would be theoretically and clinically useful to be able to detect. As described above, the within-subject McNemar tests will only involve subjects who had risky sex under the influence of drugs, which from previous studies we estimate to be 45%-50% of drug-using Latino gay/bisexual. We expect that nearly all men who had risky sex under the influence of drugs have also had at least one instance of safe sex under the influence of drugs, and so will be able to provide descriptions of a risky and a safe episode, up to the last 12 months. Our total sample size will therefore have to be approximately 400 in order to have the needed N of 189 for the McNemar analyses. A sample size of 400 would yield a power of at least .80 at alpha = .05 (two-tailed) to detect small-to-medium effects via the correlational and multiple regression analyses outlined above (Cohen, 1988). Therefore, an N of 400 would permit us to perform all of our main analyses with adequate power.

## **E. Human Subjects**

### **1. Characteristics of the Study Population**

This study will involve Latino self-identified gay/bisexual men recruited in the San Francisco Bay Area, who are sexually active and use drugs during sexual activity. Criteria for inclusion are: Latino male or transgender, non-heterosexual sexual identification, and reported sex under the influence of drugs in the last two months. In addition, Study 1 will oversample subjects in three identified high-risk groups: Street

youth, sex workers, and transvestite/transgender individuals. Inclusion criteria are justified by the fact that this is a study of drug use and risky sex among Latino male homosexuals, and the majority of questions to be asked in the study are relevant only to males who have sex with men and use drugs.

## 2. Sources of Research Material

Research material is based on three types of data to be collected from human subjects: Individual in-depth interviews, ethnographic observations of behavior in venues and public settings, and individually-administered close-ended survey questions. All interviews and observations will be conducted by Latino gay men who have in-depth knowledge and familiarity with the subject population.

## 3. Recruitment

All men will be recruited as they enter into venues that cater to the target population, such as gay bars, bathhouses and sex clubs, as well as other public sex environments such as adult bookstores and parks. Men will be approached (conveniently in Study 1 and probabilistically in Studies 2 and 3), given a study card (with study name, logo, and phone number) and a brief explanation of the study, and will be asked to call the study number in order to check if they qualify for the study. Men who call in will be screened for Study inclusion criteria in an anonymous 5-10 minute phone conversation. If men are eligible, an interview date and time will be scheduled. Interviews will be conducted in either English or Spanish, according to the stated preference of the participant. At interview time, and prior to the interview, men will be explained the details of the study procedures and asked to sign a consent form that will be available in both English and Spanish. Appendix X contains a copy of consent forms used by our research team in the past, and approved by UCSF Committee on Human Research (CHR) for similar research procedures.

## 4. Risks

A possible risk to the respondents is embarrassment or discomfort due to the personal character and sexual content of the questions.

## 5. Protections

All data to be collected will be anonymously collected and stored with no subject identifying information at any point in time. Participants will be informed about the anonymous nature of the interviews and will be told that they are free to refuse responding to any question, if they so desire. Interviews will be conducted by staff trained in professional counseling techniques, and at the end of the interviews, participants will be given information about safer sex and safe drug use, including information about available HIV prevention and substance use services in the area. All audiotapes will be destroyed after transcriptions are completed and verified, and all subject identifying information will be deleted from the transcripts.

## 6. Benefits

Subjects in this study are likely to gain some information about their sexual behavior and drug use from their participation in the interview. Ultimately, many Latino gay/bisexual men will benefit from a greater understanding of sexual risk and drug use in this sample, leading to the development of more effective HIV prevention interventions. All participants will receive a stipend for their participation in the study.