

BEYOND “VECTORS OF TRANSMISSION” THROUGH COMMERCIAL SEX:
EXPLORING MODELS OF SEXUAL RISK TAKING WITH CLIENTS AND
CASUAL PARTNERS AMONG INTERNET BASED MALE SEX WORKERS

by

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A dissertation submitted to the Graduate Faculty in Psychology
(Sub-Program in Social Personality Psychology) in partial fulfillment of the requirements
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This manuscript has been read and accepted for the
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ABSTRACT**BEYOND “VECTORS OF TRANSMISSION” THROUGH COMMERCIAL SEX:
EXPLORING MODELS OF SEXUAL RISK TAKING WITH CLIENTS AND
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Male sex workers (MSWs) have often been portrayed as vectors of disease although most published studies have reported high rates of condom use with clients in this population. Regardless, social psychological models of sexual behavior that have been widely utilized to examine sexual risk taking in the gay and bisexual male community have not been applied to research with MSWs. Further, sexual behaviors with casual sex partners among MSWs has been absent in most reported research. More recently, the rise of barebacking (unprotected anal sex) in the gay male community has challenged assumptions that most gay and bisexual men want to have protected anal sex which form the basis of the majority of previous sexual behavior research in this population. The theory of reasoned action (TRA) has been suggested as well suited to examine barebacking; however, this model may require adaptation. Within the TRA, behavioral intentions are theorized to mediate the relationship of peer norms and attitudes for behaviors, and are directed toward what Ajzen and Fishbein frame as “reasonable behaviors.” Examination of barebacking behavior may require inclusion of other factors as temptation to engage in unprotected anal sex. A sample of 50 Internet based MSWs were recruited in NYC for the present study. Results indicate that temptation for

barebacking is the most significant predictor of barebacking when examined alongside intentions for barebacking and condom use self-efficacy. Attitudes toward barebacking were mediated by temptation across partner types (client or casual) and unprotected anal sex position (insertive or receptive). Peer norms were not predictive of behavior, however did bear a significant relationship to attitudes toward barebacking regardless of partner type or sexual position. As a result, a new theoretical model is proposed for future research: Norms-Attitudes-Temptation-Behavior (NATR).

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I can only hope to impact students as significantly as they have me.

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TABLE OF CONTENTS

ABSTRACT	iv
ACKNOWLEDGEMENTS	vi
LIST OF TABLES	vi
LIST OF FIGURES	vi
INTRODUCTION	VIII
RESEARCH QUESTIONS	13
METHODS	14
PARTICIPANTS AND PROCEDURE	14
MEASURES	16
DATA ANALYSES	18
RESULTS	20
SAMPLE CHARACTERISTICS	20
DESCRIPTIVES	21
CORRELATIONAL ANALYSES	21
IDENTIFICATION OF MEDIATORS	22
MEDIATIONAL ANALYSES	22
ADDITIONAL ANALYSES	25
TABLES	33
FIGURES	46
APPENDICES	49
APPENDIX A, RECRUITMENT FLOW CHART	50
APPENDIX B, RECRUITMENT EMAIL.....	50
APPENDIX C, KNOW YOUR RIGHTS	52
APPENDIX D, PEER NORMS FOR UNPROTECTED ANAL SEX.....	53
APPENDIX E, ATTITUDES TOWARD BAREBACKING.....	54
APPENDIX F, INTENTIONS FOR BAREBACKING.....	55
APPENDIX G, TEMPTATION FOR UNPROTECTED SEX WITH MALE SEX WORK.....	56
APPENDIX H, TEMPTATION FOR UNPROTECTED SEX WITH MALE CASUAL PARTNERS.	57
APPENDIX I, SELF EFFICACY FOR UNPROTECTED SEX WITH MALE SEX WORK.	58
APPENDIX J, SELF EFFICACY FOR UNPROTECTED SEX WITH MALE CASUAL PARTNERS. ..	59
REFERENCES	60

LIST OF TABLES

TABLE 1, DESCRIPTIVES.....	33
TABLE 2, FREQUENCIES OF RISK BEHAVIORS WITH SEXUAL PARTNERS	34
TABLE 3, CORRELATIONS: UNPROTECTED ANAL INSERTIVE (UAI) SEX WITH WORK PARTNERS	35
TABLE 4, CORRELATIONS: UNPROTECTED ANAL RECEPTIVE (UAR) SEX WITH WORK PARTNERS	36
TABLE 5, CORRELATIONS: UNPROTECTED ANAL INSERTIVE (UAI) SEX WITH CASUAL PARTNERS	37
TABLE 6, CORRELATIONS: UNPROTECTED ANAL RECEPTIVE (UAI) SEX WITH CASUAL PARTNERS	38
TABLE 7, LOGISTIC REGRESSION ANALYSES FOR COMPETING MEDIATORS FOR UNPROTECTED SEX WITH WORK PARTNERS.....	39
TABLE 8, LOGISTIC REGRESSION ANALYSES FOR COMPETING MEDIATORS FOR UNPROTECTED SEX WITH CASUAL PARTNERS.....	40
TABLE 9, MEDIATIONAL ANALYSES OF TEMPTATION FOR UNPROTECTED SEX FOR UNPROTECTED ANAL INSERTIVE SEX WITH WORK PARTNERS	41
TABLE 10, MEDIATIONAL ANALYSES OF TEMPTATION FOR UNPROTECTED SEX FOR UNPROTECTED ANAL RECEPTIVE SEX WITH WORK PARTNERS	42
TABLE 11, MEDIATIONAL ANALYSES OF TEMPTATION FOR UNPROTECTED SEX FOR UNPROTECTED ANAL INSERTIVE SEX WITH CASUAL PARTNERS	43
TABLE 12, MEDIATIONAL ANALYSES OF TEMPTATION FOR UNPROTECTED ANAL RECEPTIVE SEX WITH CASUAL PARTNERS.....	44
TABLE 13, REGRESSION ANALYSES OF PEER NORMS ON GLOBAL ATTITUDES BY SEXUAL BEHAVIOR AND PARTNER TYPE	45

LIST OF FIGURES

FIGURE 1, THEORY OF REASONED ACTION	46
FIGURE 2, PROPOSED MODELS FOR TESTING	47
FIGURE 3, THE NATR MODEL: NORMS, ATTITUDES, TEMPTATION AND RISK.....	48

INTRODUCTION

Male sex workers (MSWs) have repeatedly been investigated as vectors of transmission of sexually communicable diseases, HIV in particular (Belza et al., 2001; Joffe & Dockrell, 1995; Morse, Simon, Osofsky, Balson, & Gaumer, 1991) although the assumption is not borne out when reviewing the findings in a wider net of studies focused on MSWs (Scaccabarozzi, 2005). Many studies have also included rates of HIV prevalence among MSWs (Boles & Elifson, 1994; Rietmeijer, Wolitski, Fishbein, Corby, & Cohen, 1998; Schecter et al., 1998; Waldorf, Murphy, Lauderback, Reinerman, & Marotta, 1990; Williams et al., 2003) as a proxy measure of the risk MSWs may pose to public health (Bimbi, 2007). This is in contrast to the numerous publications in the 1990's that reported MSWs were using condoms more frequently with their male clients than with their other sex partners (Belza et al., 2001; Boles & Elifson, 1994; Davies & Feldman, 1999; Escourt et al., 2000; Estep, Waldorf, Marotta, 1992; Hickson, Weatherburn, Hows, & Davies, 1994; Pennbridge, Freese, & MacKenzie, 1992; Pleak & Meyer-Bahlburg, 1990; Rietmeijer et al., 1998; Snell, 1995; Viera de Souza et al., 2003; Weinburg, Worth, & Williams, 2001).

Many of these studies of male sex workers however, have been problematic due to multiple biases in method and a priori assumptions (Bimbi, 2007). The body of research in this area has mostly been atheoretical; both in understanding the phenomenon of male sex work and its role in the spread of sexually transmitted infections (Cochran, Mays, Ciarletta, Caruso, & Mallon, 1992; Fishbein et al., 1992). In contrast, research with gay and bisexual men has explored factors leading to the transmission of HIV in this

population using behavioral models such as the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980).

Prior research on MSWs has been strongly critiqued for over representing those who work the streets or in public spaces (Bimbi, 2007; Kaye, 2003; Salamon, 1989; Weisburg, 1985), consisting of samples that often included large proportions of non-gay or bisexually identified MSWs (Bimbi, 2007). In the last several years, social service providers and the gay press have noted that the Internet has fast become a very popular means through which MSWs reach clients (Akeret et al., 2002; Bimbi, 2007; Pettersson & Tiby, 2003; Terrance-Higgins-Trust, 2000; White, 2003). Others have observed that MSWs are gravitating toward the Internet and working other venues less frequently or leaving them altogether (Gaffney, 2003; White, 2003). Social service providers (Akeret et al., 2002, Terrance-Higgins-Trust, 2000) and police (Pettersson & Tiby, 2003) have also reported that the explosion of the Internet has hampered their traditional outreach to MSWs that was solely based on meeting them on the street where they linger waiting for potential clients. This may also impact the ability of social researchers to conveniently sample MSWs utilizing traditional methods (Bimbi, 2007). These recent changes in the modes of sex work as well as empirical curiosity may press social researchers to begin sampling MSWs through the Internet and to examine the Internet as a venue for meeting clients.

Regardless, the existing research into unprotected sex with clients among MSWs has identified several factors related to this behavior that are often a function of the MSW's sexual identity. Among non-gay/bisexually identified MSWs, drug use/dependence and survival sex have been identified as increasing the likelihood of

unprotected sex with clients (Bimbi, 2007), whereas among gay and bisexual MSWs, homosexual desire and sexual dynamics (Brown & Minichiello, 1995; DeGraaf et al., 1994; Joffe & Dockrell, 1995) have been reported to increase the likelihood of unprotected sex with clients.

Specifically, several researchers have identified being sexually attracted to clients (DeGraaf et al., 1994; Joffe & Dockrell, 1995; Simon et al., 1993), referred to as heaven trade by participants in one study (Browne & Minichiello, 1995), as a risk factor for unprotected sex with paying partners. Davies and Feldman (1997) found that unsafe sex was a function of the level of the relationship, e.g., condoms were more likely to be used with new clients compared to repeat clients. In addition, lack of feeling in control of the sex work encounter (“client control”) has been reported in several studies (Joffe & Dockrell, 1995; Morse, Simon, & Burchfiel, 1999; Simon et al., 1993). Joffe and Dockrell (1995) added that longing for intimacy with non-paying partners was also a contributing factor to unsafe sex with clients. The authors further stress that control, desire and intimacy are situational forces in all sexual interactions. The contextual situation of sex work itself may exacerbate these forces as they come into play with the client’s sexual desires, demands and requests and the sexual performance, both physical and interpersonal, required of the sex worker.

Other contextual and social factors may play a role in unprotected sex and condom use among gay and bisexual MSWs. Research focused on gay and bisexual men, peer norms for condom use (i.e., the perception of how individuals believe their friends and intimates are behaving) has consistently reported a relationship to sexual risk taking (Flowers, Sheeran, Beail, & Smith, 1997; Heckman et al., 1995; Kelly et al., 1990; Ross,

Henry, Freeman, Caughy, & Dawson, 2004). Other factors such as weak intentions for condom use (Heckman et al., 1995), attitudes toward condom use/safer sex (Flowers et al., 1997; Van de Ven et al., 1998) and situational temptation, the degree of temptation felt in different circumstances, for unprotected sex, (Gold & Skinner, 1992; Gold, Skinner, Grant & Plummer, 1991; Gold, Skinner, & Ross, 1994; Kalichman, Roffman, Picciano & Bolan, 1997; Parsons, Halkitis, Wolitski, Gomez, & the SUMS study team, 2003) have been identified to play a role in the sexual risk behaviors among gay and bisexual men.

All of the factors identified thus far are based on the implicit assumption that gay and bisexual men strive to have protected sex (Obermeyer, 2005). Unprotected anal sex among these men has typically been perceived to result from relapse from safer sex or the inability to consistently use condoms in sexual encounters due to some other factor (e.g., alcohol and drugs). Boily, Godin, Hogben, Sherr, and Bastos (2005) argue that since the beginning of the AIDS epidemic there have always been “high risk takers.” These authors propose that decreases in rates of unprotected sex among gay and bisexual men observed early in the epidemic were the result of the pool of potential partners willing to take risks shrinking due to illnesses brought on by HIV and by fear of infection. They further theorize that recent documented increases in the reported rates in unprotected sex among gay and bisexual men occurred due to the introduction of protease inhibitors in the mid 1990’s which greatly improved the potential longevity of those infected with HIV. A social “side effect” was that risk takers were able to find like-minded partners again due to decreased fears of becoming infected with HIV as well as the return to health experienced by many HIV positive men taking protease inhibitors.

Evidence for this can be found in the many articles which appeared in the mainstream gay press devoted to the “new” phenomena of the explicit desire for intentional unprotected anal intercourse among both HIV-positive, HIV-negative and untested gay and bisexual men (Gallagher, 1998; Gendin, 1997, 1999; Parsons & Bimbi, 2007; Signorile, 1998; Strub, 1997; Warner, 1997). A new vernacular emerged to describe this practice: “barebacking,” “fucking raw,” and “skin to skin” (Gendin, 1997). Although the concept of barebacking, or intentional unprotected anal intercourse (UAI), is relatively new, it has already received the attention of researchers (Bimbi, Adamson, & Parsons, 2005; Bimbi & Parsons, 2004; Bimbi, Parsons, & Nanin, 2006; Gauthier & Forsyth, 1999; Goodroad, Kirksey, & Butnesky, 2000; Grov, 2004; Grov, 2006; Grov & Parsons, 2006; Grov, Debusk, Bimbi, Golub, Nanin, & Parsons, in press; Halkitis et al., 2005; Halkitis & Parsons, 2003; Halkitis, Parsons, & Wilton, 2003; Mansergh et al., 2002; Parsons & Bimbi, 2007; Rofes, 1999; Suarez & Miller, 2001; Tewksbury, 2003) from a variety of fields such as sociology (Gauthier & Forsyth, 1999), anthropology (Junge, 2002), psychology (Mansergh et al., 2002; Suarez & Miller, 2001), and queer theory (Yep, Lovaas, & Pagonis, 2002).

Initially each discipline has operationalized barebacking, that is, intentional anal sex without a condom, however among gay and bisexual men, there are numerous conceptualizations (Halkitis, Wilton & Galatowitsch, 2005; Huebner, Proescholdbell, & Nemeroff, 2006). Parsons and Bimbi (2007) argue that the term barebacking appears to have supplanted the awkward phrases “sex without condoms” and “condomless sex” within the gay community. Notwithstanding, most published research on barebacking has focused on prevalence, definitions, and correlates of barebacking; theoretical insights

have yet to emerge. Carballo-Diequez and Bauermeister (2004) observed that many studies have employed the TRA to examine intentions for condom use; however, none thus far have explored intentions for barebacking among gay and bisexual men (including MSWs).

The main premise of the TRA (Ajzen & Fishbein, 1980) is that intentions to perform a behavior predict actual behavior quite well; therefore, the primary purpose of the theory is to understand and predict intentions for specific behaviors (Fishbein, 1993). The TRA has been utilized to study many behaviors, including health applications such as weight loss, family planning, and alcohol consumption (Ajzen & Fishbein, 1980). The theory has generated mostly positive findings in this area, particularly in regards to the relationship of attitudes and subjective norms to intentions (Zimmerman & Olson, 1994). The TRA has been extensively utilized in investigating HIV related sexual behavior (Terry, Gallois, & McCamish, 1993) and is considered a good candidate for developing theoretically based efforts in HIV prevention (Lewis & Kashima, 1993).

The conceptual underpinning of the theory is the assumption that it models “what a reasonable person would do” in a given situation (Ajzen & Fishbein, 1980). According to the TRA, a person’s intention to perform a behavior is a function of two determinants: one’s positive or negative evaluation of performing the behavior (attitude), and one’s perception of the social pressures to perform or not perform the behavior by important individuals in one’s life (subjective norms) (Ajzen & Fishbein, 1980). The impact of attitudes and subjective norms on behavior is mediated through behavioral intentions (See Figure 1). Attitudes and subjective norms have been identified as good predictors of intentions for condom use among gay men but poor predictors among heterosexual men

(Lewis & Kashima, 1993). Research with gay men has also shown support for the theory across both steady and casual male partners (Cochran, Mays, Ciarletta, Caruso, & Mallon, 1992; Fishbein et al., 1992).

In one study of HIV+ gay men, subjective norms for condom use were observed to increase condom use (Godin, Savard, Kok, Fortin, & Boyer, 1996). Another qualitative study of Dutch gay men (De Wit, Teunis, van Griensven, & Sandfort, 1994) supported the importance of motivation or intention in determining safer sex behaviors as postulated by the TRA. In a later study, De Wit, Stroebe, De Broome, Sandfort and Van Griensven (2000) assessed components of the TRA by type of partner (casual or steady partner) among gay men. The authors reported that in statistical analyses, the model for steady partners accounted for more variance than the model for casual partners (79% vs. 54%).

The TRA has been criticized, however, for its inability to account for behavior that is not under volitional control of the individual (Nucifora, Gallios, & Kashima, 1993). Ajzen and Madden (1986) concurred and adapted the theory to account for both volitional and non-volitional behaviors through the addition of a third behavioral determinant, perceived behavioral control, and renamed the model the theory of planned behavior (TPB). The TPB is often called a “special case” of the TRA; it only applies when volitional control is in question (Becker, 1990). Perceived behavioral control is theorized within the TPB to be mediated by behavioral intentions as well impacting directly on behavior. This was empirically supported in a sample of gay men in Australia (Boldero, Sanitoso, & Brain, 1999); however, Rye, Fisher and Fisher (2001) did not observe mediation in their sample of gay men. Perceived behavioral control did not contribute significantly predicting safer sex behaviors over and above intentions. In

addition, as with the TRA, the point has been raised that perceived behavioral control could be impacted by emotional factors, e.g., fear and other aversive arousal states (Bandura, 1977). Specifically, temptation to engage in a behavior has specifically been suggested by many researchers to impact an individual's ability to exercise self-control over the behavior (Boudreaux, Carmack, Scarinici, & Brantley, 1998; Gul & Pesendorfer, 2001; Parsons et al., 2003; Parsons, Halkitis, Bimbi, & Borkowski, 2000; Velicer, DiClemente, Rossi, & Prochaska, 1990).

Further, Terry and O'Leary (1995) contend that perceived behavioral control can be confounded with self-efficacy and they suggested that this concept is a more useful addition to the TRA than perceived behavioral control based given the findings of their work on safer sex promotion. Self-efficacy has demonstrated added strength to the TRA in other studies as well (White, Terry, & Hogg, 1994). Lastly, Albert Bandura has turned much of his attention in the past several years to the application of self-efficacy to HIV prevention research and reviews of studies demonstrating support for the concept (Bandura, 1994). According to Bandura (1982) self-efficacy is neither fixed nor is it simply "knowing what to do." It involves several components based upon cognitive, social, and behavioral sources of information. Bandura specifically describes vicarious experiences that are conceptually similar to subjective norms, as the expectations derived from witnessing the experiences of others.

While self-efficacy and the components of the TRA have been supported in research on condom use among gay and bisexual men, they have yet to be employed to gain insight into the barebacking phenomenon (Carballo-Diequez & Bauermeister, 2004). Further, the sexual behaviors (condom use as well as barebacking) among gay and

bisexual MSWs have not been examined using the TRA or any theoretical model – most of this work has been descriptive and atheoretical. New models may be needed because the factors that predict the adoption of safer sex practices may not be the same as factors that are responsible for high-risk sexual behaviors (Goodroad et al., 2000; Kelly & Kalichman, 1998). Kelly and Kalichman (1998) argue that the prediction of sexual HIV risk may be improved by identifying constructs associated not only with a protective health step (e.g., condom use) but also with the risk behavior itself.

Further, the TRA (and by extension the TPB) may not be an appropriate theory to apply to barebacking as its conceptual underpinning is the belief that it models “reasonable” behavior (Ajzen & Fishbein, 1980) and is focused on rational facets of sexual behavior with the assumption “that risk avoidance is a priority for everyone” (Obermeyer, 2005, p.6). Clearly, barebacking as a phenomenon challenges this basic assumption, e.g., would a reasonable person to purposely seek out unprotected sex when one is a member of identified risk group for HIV infection. Is risky sex rational (Pinkerton, Abramson, & Abramson, 1992)?

Although the rational foundation of the theory appears to come into question when examining intentional risky sex, recent reports indicate that gay and bisexual men, regardless of HIV status, have reported adopting sexual harm reduction strategies (Wolitski, 2005) when barebacking. Strategic positioning (Parsons et al., 2005; Van de Ven et al., 2002) has been identified as the practice of engaging in the type of unprotected anal sex believed by the individual to be the least likely to result in HIV transmission (e.g., HIV-negative men as the insertive partner; HIV-positive as the receptive partner). Another prevalent strategy is serosorting—limiting sexual contact to men of the same

disclosed or perceived HIV status (Cox et al., 2004; Parsons et al., 2005). These phenomena clearly indicate that strategic positioning behaviors and the HIV status of partners should be included in investigations with gay men and will require adapting measures to capture these harm reduction practices (Groves, et al., in press).

Regardless, reframing the TRA for barebacking would be in accordance with Ajzen and Fishbein's (1980) guidelines for employing their model, permitting that the measures of attitudes and norms correspond to the measure of behavior. Specifically, all questions should be framed around the risk behavior itself, barebacking, rather than condom use as suggested by Kelly and Kalichman (1998).

It is unclear if the TRA reframed as such would prove useful. Intentions may not be the most suitable mediator in this instance as many individuals may report unprotected sex that was not explicitly intentional. As previously mentioned, temptation to engage in unprotected sex has been suggested by many researchers as a risk factor for unprotected sex (Boudreaux, Carmack, Scarinici, & Brantley, 1998; Gul & Pesendorfer, 2001; Parsons et al., 2003; Parsons, et al., 2000; Velicer, DiClemente, Rossi, & Prochaska, 1990). Some researchers (Aspinwall, Kemeny, Taylor, Schneider & Dudley, 1991) have modeled temptation for unprotected sex as part of a construct called response efficacy. The degree of temptation felt in different circumstances for unprotected sex has repeatedly demonstrated a relationship to unprotected sex (Gold & Skinner, 1992; Gold et al., 1991; Gold et al., 1994; Kalichman et al., 1997; Parsons et al., 2003, Redding & Rossi, 1999). It is possible that some gay and bisexual men may have no or low intentions for unprotected sex, but may experience temptation to engage in unprotected sex, which subsequently drives their risky behaviors.

In addition, the concept of subjective norms within the TRA comes into question when examining barebacking. Clearly there has been social pressure for gay men to practice safer sex. Beliefs about others' approval or disapproval for barebacking may be a poor fit, particularly among gay men whose sexuality has developed around negotiating societal disapproval of homosexuality. Crossley (2004) offers similar insights into gay men, arguing that resistance has been a consistent feature of gay men's psyche since the beginning of gay liberation. This resistance extends toward all "restricting" cultural mores even those within the gay community. Gagnon (2000) suggests that culture messages, such as those that demonize and judge gay male sexuality, may make risky sex more attractive to some individuals.

Therefore, beliefs about what others are doing may be more relevant for investigating barebacking. This conceptualization of norms has been predictive of intentions in numerous studies (Terry & Hogg, 1996). Abraham, Sheeran and Johnston (1998) argue that such descriptive norms are just as important to consider as subjective norms and more recently Fishbein (2000) has concurred on this reframing of this component of the TRA. Further, norms in the gay community appear to have changed. Kelly et al. (1995) reported over ten years ago that among 6,000 gay men in 16 cities unprotected sex was related to the belief that safer sex was not the norm among one's peers. More recently, Morin et al. (2003) as well as Sheon and Crosby (2004) have reported that community norms among gay men have shifted in favor of barebacking.

In addition, gay and bisexual MSWs often report more sexual risk taking with their casual male partners compared to gay and bisexual men in general (Allman & Myers, 1999; Weber et al. 2001). Similar to the investigations into sexual risk taking with

work partners among MSWs, theoretical models of sexual risk taking with casual partners among MSWs have not been reported. Further, the emergence of barebacking among gay men is just beginning to be investigated and clearly this phenomenon encompasses the sexual behaviors of gay and bisexual MSWs with their casual partners and perhaps with clients. Lastly, the sexual behaviors of gay and bisexual MSWs have not been examined via any theoretical framework and two recent phenomena, barebacking and the Internet as a venue for sex work, are yet to be examined among gay and bisexual MSWs.

Given past findings, regarding sexual attraction to clients leading to unprotected sex (Browne & Minichiello, 1995; DeGraaf et al., 1994; Joffe & Dockrell, 1995; Simon et al., 1993) and the relationship between situational temptation and unprotected sex with other partner types (Aspinwall, et al., 1991; Gold & Skinner, 1992; Gold et al., 1991; Gold et al., 1994; Joffe & Dockrell, 1995; Kalichman et al., 1997; Parsons et al., 2003), temptation for unprotected sex may function as a mediator of peer norms and attitudes. Lastly, as self-efficacy for safer sex has demonstrated a relationship to sexual risk in several studies (White, Terry, & Hogg, 1994) its potential as a mediator should also be explored. Therefore, the purpose of the present study is to identify which mediator (intentions for unprotected sex, temptation for unprotected sex or self efficacy for condom use) is most predictive of unprotected sex. Further, the present study will examine the resulting modification of the TRA and the theorized mediation of attitudes toward unprotected sex and subjective norms on reported unprotected sexual behaviors (See Figure 2).

Research Questions

- 1) Among these factors, intentions for unsafe sex, temptation for unsafe sex, or self efficacy for condom use, which is most predictive of:
 - a. Unprotected insertive anal sex with clients?
 - b. Unprotected receptive anal sex with clients?
 - c. Unprotected insertive anal sex with casual partners?
 - d. Unprotected receptive anal sex with casual partners?
- 2) Will the most predictive factor for each respective behavior/partner type function as a mediator of subjective norms and attitudes toward unprotected sex?
- 3) Will different models of behavior emerged based on type of sex (insertive or receptive) and type of partner (client or casual)?

METHODS

Participants and Procedure

Data from 50 participants from the New York City metropolitan area were collected from August to October, 2000. The email addresses of 535 potential participants were identified through advertisements in local gay publications, user profiles on a popular on-line service, several escort websites and an escort review website. For recruitment, an email address (escortproject@xxxx.com) as well as a homepage were created on a popular on-line service. A letter describing the project (see appendix A) was sent to these email addresses, and men were invited to call to be screened for the study (see appendix B for overview of the recruitment procedure). Men were assured of anonymity and confidentiality. Emails were sent without return receipt. Snowball sampling also occurred inadvertently when a description of the project was posted on private escort listservs by men who had completed the study.

Fifty potential participants were emailed three times per week. After the list of potential participants was exhausted, a second invitation was sent to each email address in the same manner. The last invitations were sent out in the 10th week of the project. The spreadsheet list containing the email addresses of potential participants was then erased from the project director's computer and paper copies destroyed.

A total of 121 emails were returned from addresses that were no longer valid or accepting email. An additional 44 persons who were sent the invitation deleted the message without reading it. This was verified through the ability to check the status of email messages sent to potential participants using the same online service as the project.

Therefore, it may be assumed that *as many as* 370 men received the invitation to participate and may have read it.

Although potential participants were requested not to respond to the email invitation to protect their anonymity, many did so. Twelve men responded to directly decline participation. An additional of 54 men responded to the email expressing interest or requesting additional information.

A total of 60 phone calls were received over the ten-week recruitment period. At this time potential participants were again guaranteed anonymity and screened to determine final eligibility for participation. Four of these calls were from men who had heard about the project through friends who had already participated. Criteria for enrollment in the project were: 1) at least 18 years of age, 2) using the Internet to find clients in the last 3 months, and 3) identification as gay or bisexual. The three men who were ineligible were either no longer actively escorting, or not available for an in person interview during the study period.

Fifty-seven men were deemed eligible and scheduled for in-person appointments. Individuals who were interested and eligible were then scheduled for an in person interview. Contact information was not collected and thus this was the only interaction between the project and a potential participant until the interview. Although it was not possible to make reminder calls, only seven men failed to show for their appointment. A few others missed their appointments, but then called in on their own to reschedule.

Upon arrival the project director verbally reviewed informed consent with potential participants and stressed that the potential participant did not have to stay and complete the interview and if he did sign the informed consent form, he still had the right

to end the interview at any time. A qualitative interview was then conducted, followed by a self-administered quantitative survey that was completed in sections. Upon finishing one section, the project director would review any problems encountered and would quickly review each section for missing data as well as improbable or conflicting responses. Participants were asked to provide missing data or clarify responses as needed. Each participant received a total of \$75 for participating in the qualitative interview and the quantitative survey. Lastly, each participant was supplied with a referral list for resources related to sexual, emotional, and physical health as well as a pamphlet of legal advice created by one of the escort websites utilized for the project entitled “Know your rights” (see Appendix C). The project was conducted following the ethical guidelines of the American Psychological Association.

Measures

Demographics. Participants were asked to indicate their age, racial/ethnic identity, sexual identity and HIV status.

Subjective norms for unprotected sex. These items were developed from a preliminary qualitative study with gay men (Ross & McLaws, 1993) which suggested that gay men are influenced by the perceived behavior of their peers. Participants were asked to indicate on frequency scale (1=*none* to 5=*all or almost all*) how many other sex workers do they perceive engage in unprotected insertive and receptive anal sex with clients as well as with casual partners. This method of measuring subjective norms based upon perceived prevalence of behaviors among peers has been utilized in several studies

(Choi, Han, Hudes, & Kegeles, 2002; O'Donnell, Myint-U, O'Donnell, & Stueve, 2003; Stein, Rotheram-Borus, Swendeman, & Milburn, 2005). (see Appendix D)

Global Attitudes toward Barebacking. Attitudes and intentions toward barebacking were assessed separately by sexual position in anal intercourse. Participants were asked to indicate on a Likert scale (1=*strongly disagree*, 5= *strongly agree*) the acceptability of barebacking for receptive and insertive anal sex and intentions for those same behaviors. Barebacking was defined for the participants as sex without condoms (see Appendix E)

Global Intentions for Barebacking. These measures were developed by the author and have been used in several other studies (Bimbi & Parsons, 2004; Grov, et al., in press). Attitudes and intentions toward barebacking were assessed separately by sexual position in anal intercourse. Participants were asked to indicate on a Likert scale (1=*strongly disagree*, 5= *strongly agree*) the acceptability of barebacking for receptive and insertive anal sex and intentions for those same behaviors. (see Appendix F)

Temptation for unprotected sex and self-efficacy for condom use. These scales were originally developed to assess temptation to smoke in different situations (Prochaska, Velicer, Guadagnoli, Rossi, & DiClemente, 1991) and have since been adapted to assess temptation to engage in unprotected sex among urban college students (Bimbi, et al., 2006; Parsons et al., 2000; Redding & Rossi, 1999). The current scales assessed how frequently participants were tempted to engage in anal sex without a condom and their confidence for condom use in a set of 13 different situations. Participants rated items on a 5-point Likert scale, ranging from “*Not at all*” to “*Extremely*.” The scale was administered separately to assess temptation and self-

efficacy with clients and casual partners. Items were then summed to create a total score. In the current study, Chronbach's alpha for the temptation for unprotected sex with clients measure was .92, and .93 for temptation with casual partners. Chronbach's alphas for self-efficacy with clients, and with casual partners, were slightly higher (.96 and .95, respectively) (see Appendices G thru J).

Sexual Behavior. Participants were asked to indicate the frequency of unprotected insertive and receptive anal sex with and without ejaculation with clients and casual partners in the last three months as longer recall periods are more likely to result in unreliable reporting (McElrath, Chitwood, Griffin, & Cornerford, 1994; Samuels, Vlahov, Anthony, & Chaisson, 1992). For the present analyses data were transformed into dichotomous variables due to a high level of skewness.

Data analyses

Correlational analyses were conducted to assess if the hypothesized mediators are significantly related to reported sexual risk behaviors, peer norms and attitudes. Those mediators that demonstrated significance in the correlational analyses were standardized and then simultaneously entered into a forward conditional logistic regression analyses to identify, which, were the most significant predictor of sexual risk behaviors. Mediators identified through this procedure were then tested for mediation for each model (client and casual partner) according to the procedures set forth by Baron and Kenny (1986). Following the guidelines set forth by Baron and Kenny (1986), three regression equations were conducted for each set of analyses: Unprotected insertive sex with clients, unprotected receptive sex with clients, unprotected insertive sex with casual partners and

unprotected receptive sex with casual partners. The recommended goodness of fit index, the Sobel test, was not conducted because this test requires a large sample size (Preacher & Hayes, 2004).

The test for mediation as outlined by Baron and Kenny (1986) was conducted as follows:

Step 1: Mediator regressed on attitudes towards barebacking and peer norms for unprotected sex.

Step 2: Unprotected anal sex regressed on attitudes towards barebacking and peer norms for unprotected sex

Step 3: Unprotected anal sex regressed on mediator, attitudes toward barebacking, and peer norms for unprotected sex.

To confirm mediation, equation 1 and 2 must both be significant and the mediator must be a significant predictor in the third. Full mediation will be detected when the antecedents (attitudes toward barebacking and peer norms for unprotected sex) fail to enter the regression equation in the third step. Partial mediation will be detected if the mediator enters first followed by the antecedents.

RESULTS

Sample characteristics

The mean age of the participants was 31.76 ($SD = 6.27$) and ranged from 22 to 47. In terms of race/ethnicity, the sample included 35 White men (70%), 7 Latino men (14%), 5 African American men (10%), and 3 Asian/Pacific Islander men (6%). The majority of participants (82%, $n = 41$) identified as gay, while 18% ($n = 9$) identified as bisexual. For self reported HIV status, 80% ($n = 40$) reported testing HIV-, 16% ($n = 8$) reported being HIV+, and two participants (4%) reported never having been tested for HIV due to their stated belief (during the qualitative interview) that it was unnecessary because they had never engaged in receptive anal intercourse. A total of 17 men (34%) reported having a primary male partner or boyfriend. Overall, the sample was well educated, with 64% ($n = 32$) reporting at least a Bachelors degree.

The median income range reported from sources other than sex work was \$10,000 to \$19,999. The median income range reported from sex work was \$20,000 to \$29,999. The average length of time the sample reported working as escorts was 2.66 years ($SD = 5.03$), with a range from 3 weeks to 25 years. About half of the men ($n = 23$) reported spending at least 12 hours a week escorting or performing escorting-related activities (such as answering phone calls or communicating with potential clients online); 26% ($n = 12$) reported spending more than 20 hours a week escorting, and could be considered full time or nearly full -time sex workers. More than two-thirds of the men (70%, $n = 32$) charged \$200 an hour, with a range from \$75 for “body work” to \$250 for “full service.”

Descriptives

Descriptives for the psychosocial variables and frequencies for the behavioral variables are listed in Tables 1 and 2. To identify potential confounds for the planned analyses, correlations with age, race (white/non-white) and HIV status and all variables to be used in mediational analyses were conducted. Each of the three demographics factors demonstrated a weak correlation with one of the variables of interest: being HIV positive/any unprotected anal insertive sex with work partners ($r = .285, p < .05$), being white/intentions for anal insertive barebacking ($r = .360, p < .05$), and age/self efficacy for condom use with casual partners ($r = .361, p < .05$).

Correlational Analyses

Correlational analyses were conducted to assess the relationship between sexual risk type (unprotected insertive vs. unprotected receptive), by partner type (client vs. casual), and the psychosocial variables to identify which would be included in the mediational analyses (See Tables 3-6).

Among the potential mediators, self-efficacy for condom use with work partners was not correlated with unprotected anal insertive sex with these partners; self-efficacy for condom use with work partners was weak to moderately correlated with the other three categories of sexual behaviors/partner type (See Tables 4-6). Intentions for barebacking were weak to moderately correlated with all categories of behavior/partner type. Temptation for unprotected sex was strongly correlated with all four unprotected behaviors. Comparatively, temptation demonstrated a stronger correlation with behavior compared to all other factors in each instance.

For the factors that are conceptualized to be mediated, sex worker peer norms for unprotected anal insertive and anal receptive sex, were weakly correlated with their corresponding behaviors with work partners. Non-sex worker peer norms for unprotected insertive and receptive anal sex were not correlated with either sexual behavior with casual partners. Attitudes toward unprotected anal insertive sex and anal receptive sex were moderately correlated with their corresponding behaviors with both work and casual partners.

Identification of mediators

For each sexual behavior examined, the potential mediators correlated with each respective behavior were entered into forward logistic regression analyses to identify the strongest candidate for mediational analyses. Temptation for unprotected sex was the only factor to enter the equation in each analysis (See Tables 7-8). Intentions for anal receptive barebacking failed to enter the equations for any unprotected anal receptive sex with work or casual partners. Intentions for anal insertive barebacking failed to enter the equations for unprotected anal insertive sex with work or casual partners. In addition, self-efficacy for condom use failed to enter in each case in which it was included. (Self-efficacy was not included in the equation for any unprotected anal insertive sex with work partners as these factors were uncorrelated).

Mediational Analyses

Mediation detection testing for unprotected anal insertive sex with work partners did not include sex worker peer norms for unprotected anal insertive sex as these two

factors were uncorrelated (Table 3) and therefore failed to meet inclusion criteria for mediational analyses (Baron & Kenny, 1980). The first step in mediation analysis is to establish a relationship between the independent variable and the potential mediator (Note: the results of these analyses will be presented in the text). In this case, global attitudes for anal insertive barebacking significantly predicted temptation for unprotected sex with work partners ($R^2 = .14$, $F(1, 47) = 7.388$, $p < .05$). Next, a mediation model was run comparing prediction of the dependent variable with and without the inclusion of the mediator. These results are presented in Table 9. On its own, global attitudes for insertive anal barebacking significantly predicted any unprotected insertive anal sex with work partners, and accounted for 24% of the variance in this behavior. The addition of temptation for unprotected sex with work partners accounted for an additional 10% of the variance in unprotected insertive anal sex with work partners (*Nagelkerke* $R^2 = .34$). Both variables remained significant predictors in the final model, but the odds ratio for global attitudes were reduced slightly, suggesting partial mediation.

Mediation tests for unprotected anal receptive sex with work partners included all factors (temptation, attitudes and norms) as all were significantly correlated with this behavior. In the first step, attitude for anal receptive barebacking and sex worker peer norms for unprotected anal receptive sex with work partners were regressed on temptation for unprotected sex with work partners. Sex worker peer norms for unprotected anal receptive sex failed to reach significance and was therefore dropped from the remaining analyses. Attitudes toward unprotected anal receptive sex did significantly predict temptation for unprotected sex with work partners ($R^2 = .284$, $F(2, 45) = 8.92$, $p < .05$). Once again, a mediation model was run comparing prediction of

unprotected anal receptive sex with work partners by global attitudes toward barebacking, with and without the inclusion of temptation for unprotected sex. These results are presented in Table 10. On its own, attitude toward unprotected anal receptive sex significantly predicted any unprotected anal receptive sex with work partners (*Nagelkerke* $R^2 = .23$). The addition of temptation for unprotected sex with work partners accounted for an additional 20% of the variance (*Nagelkerke* $R^2 = .43$). In this final model, full mediation is indicated, as the coefficient for global attitude for unprotected anal receptive sex failed to reach significance ($p = .28$) when entered with temptation for unprotected sex with work partners.

As with the analyses presented above, mediational models were run comparing prediction of unprotected anal insertive and receptive sex with casual partners by global attitudes toward barebacking, with and without the inclusion of temptation for unprotected sex. Non-sexworker peer norms for both unprotected anal insertive and anal receptive sex with casual partners were not included in mediation tests as neither were correlated with temptation for unprotected sex with casual partners. In the first step of mediation analyses for both behaviors, attitudes for barebacking significantly predicted temptation for unprotected sex with casual partners; attitudes for anal insertive barebacking ($R^2 = .124$, $F(1, 44) = 7.388$, $p < .05$), attitudes for receptive anal barebacking ($R^2 = .172$, $F(1, 44) = 9.159$, $p < .05$).

In the second step of mediational analyses, on its own attitude for anal insertive barebacking significantly predicted any unprotected anal insertive sex with casual partners accounting for 27% of the variance (Table 11). In the last step, partial mediation was detected as both temptation for unprotected sex with casual partners and attitudes for

anal insertive barebacking significantly predicted any unprotected anal insertive sex with casual partners (*Nagelkerke* $R^2 = .60$) (Table 11). Similarly, for unprotected anal receptive anal sex with casual partners, attitude for anal receptive barebacking significantly predicted any unprotected anal receptive sex with casual partners accounting for a similar amount of variance (29%) (Table 12) on its own. Again, partial mediation was detected examining any unprotected anal receptive sex with casual partners; temptation for unprotected sex with casual partners and attitude for unprotected anal receptive sex were both significant, accounting for 47% of the variance (Table 12).

Additional analyses

Although peer norms failed to demonstrate a relationship with unprotected sex and was not correlated with the mediator temptation in most analyses, this factor was strongly correlated with attitudes toward barebacking (See tables 3-6). While not within the theorized framework of the TRA (Figure 1), the relationship between peer norms and global attitudes toward unprotected sex was explored. The respective peer norms (sex worker and non-sex worker) for both behaviors (unprotected anal insertive and receptive) demonstrated a significant relationship to global attitudes for unprotected anal insertive and anal receptive sex, respectively, in each instance (Table 13).

DISCUSSION

The current study sought to utilize the framework of the Theory of Reasoned Action (TRA) and its theoretical antecedents peer norms and attitudes to understand unprotected sex with clients and casual partners among Internet based male sex workers (MSWs). The TRA suggests that intentions to perform a behavior are influenced by these factors (Ajzen & Fishbein, 1980; Fishbein, 1993). Further, the TRA postulates that these factors do not have a direct influence on behavior when examined simultaneously with intentions. The relationship of peer attitudes and attitudes are mediated by intentions.

In the present study, analyses of the first research question revealed that temptation for unprotected sex bore a stronger relationship to unprotected sex regardless of partner type or sexual behavior when examined simultaneously with intentions for barebacking and self-efficacy for condom use. Thus, while inspired by the TRA and the Theory of Planned Behavior (TPB), the results of these analyses could not be labeled as such. The foundation of the TRA lay in the conceptualization of intentions as a cognitive component based in rational thinking. Temptation is an affective factor, not cognitive, therefore the present analyses only retains the antecedents of the TRA and would not answer the question “what would a reasonable person do?” Thus the main component of the TRA, intentions, may not be the best construct to examine behaviors that many would consider “unreasonable” and “rational” in a population that has clearly been identified as a group at risk for HIV infection (Pinkerton, et al., 1992). Human sexual interactions are often not guided by rational thinking, are often influenced by emotional and affective factors (Noar, 2007); this argument challenges the applicability of the TRA to examine barebacking regardless of previous recommendations (Carballo-Diequez & Bauermeister,

2004). Therefore, the results herein could not be presented as an adaptation or reformulation of the TRA.

Similarly, the results of the present study could not be presented as founded in the TPB as self-efficacy for condom use, a critical component of the TPB, did not demonstrate a significant relationship to the other factors examined nor with most unprotected behaviors examined. As this factor has been considered an important addition to the improvement of the TRA in the Theory of Planned behavior, this is also a relevant finding. This finding is not unexpected given Ajzen and Fishbein's admonition to have all measures that assess the components of the TRA focused on the same behavior (Ajzen & Fishbein, 1980).

The second research question in the present study sought to examine if peer norms for barebacking and attitudes for barebacking would be mediated by the factor most related to unprotected sex by partner type and sexual behavior (insertive and receptive anal sex). Initial correlational analyses revealed that peer norms were only related to unprotected sex with clients (regardless of sexual behavior). In the first step of mediational analyses however, peer norms failed to predict the mediator (temptation) and was therefore not included in mediation detection analyses.

Temptation for unprotected sex mediated the influence of attitudes toward for barebacking on unprotected sexual behaviors across sexual position (insertive or receptive) and partner type (work and casual). Full mediation was only indicated in the case of unprotected anal receptive sex with work partners, however, in all others, partial mediation occurred. Interpretation of these results must be viewed with caution, given the sample size. Statistical power would increase with a larger sample and it is quite possible

that partial mediation for unprotected receptive anal sex with work partners could be revealed.

The third research question in the present study was to explore if different models emerged by partner type (work vs. casual) and sexual behavior (unprotected insertive anal sex vs. unprotected receptive anal sex). Results indicate the same model regardless, however the strength as indicated by the variance accounted for within each varied. The models for unprotected sex with work partners both accounted for less variance than the models for unprotected anal sex with casual partners. Specifically, unprotected insertive anal sex with work partners accounted for the smallest amount of variance (34%) followed by unprotected anal receptive sex with work partners (43%), unprotected anal receptive sex with casual partners (47%) and unprotected anal insertive sex with casual partners (60%).

Although not included in the final models, additional analyses were conducted with peer norms as this factor was moderately correlated with attitudes. These analyses revealed that peer norms did demonstrate a significant relationship to attitudes toward barebacking for each partner type and sexual behavior indicating a potentially new model/configuration for future investigations: norms, attitudes, temptation and risk (NATR) (See Figure 3). The present analyses indicates what appears to be a linear sequence among the four factors and the NATR model/configuration makes intuitive sense. Peer norms may influence attitudes (e.g., many of my friends are sex workers), attitudes may influence temptation (e.g., sex work isn't a bad thing), which in turn influences temptation (e.g., maybe I should try sex work) and lastly leads to behavior (e.g., engaging in sex work). As mentioned previously, the small sample size in the

present study precludes making definitive statements. Exploration of the NATR model/configuration with a larger sample as well as a different population may not yield a linear model.

There are several limitations across multiple domains that should be considered when interpreting the findings presented here such as small sample size as just mentioned. Although recruitment efforts were successful, the sample was biased toward those willing to participate in such a sensitive investigation and those who clearly stated that they wanted to participate to “share their story.” It is difficult to determine how generalizable these findings might be to male Internet escorts as a group as this study was conducted in 2000. There has been marked increase in the presence of male sex workers and male sex work orientated websites (White, 2003) in years since. Further, new types of websites have emerged for sex work, particularly bulletin boards, that require less investment (e.g., fees for listing on a website) and are attracting male sex workers from a diverse variety of economic backgrounds (Bimbi, 2007).

Response bias is also of concern, as previously noted, many in the sample were eager participants. It is unknown how this may have impacted willingness to be completely truthful. As is the case with any study of self-reported “high risk” behaviors, the responses of the participants must be viewed with caution as they may not truly be estimates of the sexual behavior. Among high-risk populations, such as gay and bisexual men, many may be aware of reports in the media concerning the behavior of their group. This may lead some to underreport behavior. Regardless, the rates of risk behavior reported herein, are similar to rates of unprotected sex reported in community samples of gay and bisexual men (Bimbi & Parsons, 2004). Further, familiarity with the partners

(anonymous vs. repeat casual partner, etc.) which was reported as relevant for decisions to bareback in the qualitative component of this study (Bimbi & Parsons, 2005) was not assessed.

Additionally, the present study is limited by several issues related to measuring the behaviors and constructs examined. The assessment of sexual risk behaviors used for the present study did not distinguish between HIV seroconcordant and serodiscordant casual partners which given the influence of serosorting is a major limitation. Measures of the psychosocial factors were also limited in several regards. Intentions were did not differentiate by partner type (work vs. casual). Similarly, attitudes, while significant in the present study, were not measured by partner type and also measured by a single item. In a true adaptation of the TRA, attitudes should be measured using several semantic differential response formats (Ajzen & Fishbein, 1980) rather than simple “strongly disagree” to “strongly agree.”

As Ajzen and Fishbein recommend to have measures to be used to examine the TRA designed to focus on the same behavior (Ajzen & Fishbein, 1980) future research should reframe self-efficacy to focus on unprotected sex or barebacking as the target behavior. Further consideration in this reframing is that self-efficacy for condom use concerns a self-evaluation for a pro-active behavior, condom use, whereas self-efficacy for avoiding barebacking would assess the self-evaluation for a response. Research currently underway is exploring this adaptation (Parsons, CDC UR6 PS000422-01).

Furthermore, future research should incorporate serosorting (Cox et al., 2004; Parsons et al., 2005) and strategic positioning (Parsons et al., 2005; Van de Ven et al., 2002) for barebacking in all operationalized measures. Specifically, examination within

situation and partner, would require temptation to be measured with items such as “I am tempted to bareback as a top with hot men of the same HIV status.” Further, Azjen and Fishbein (1980) recommend that once mediation of attitudes and norms has been established, researchers should incorporate predictors of these factors into an expanded TRA. In the expanded model, attitudes are hypothesized to be influenced by *behavioral beliefs (or outcome expectancies)* for specific behaviors. These factors could be operationalized as HIV optimism (Adam et al. 2005b; Murray et al. 2001; Shernoff 2006) or as the benefits of unprotected sex (Halkitis, et al., 2003; Parsons, et al., 2000). Further, in the expanded TRA, *normative beliefs* influence peer norms that are defined as the individual’s evaluation of what the persons he or she is most inclined to comply with would do, e.g. “My close friends think that barebacking as a bottom with a man of different HIV status is a bad idea.” Development of measures for future research would benefit from formative qualitative studies of barebacking which are few (Obermeyer, 2005). Lastly, larger samples are clearly needed for reasons. Model fit testing was not possible in the present study due to the small sample size. Future research should include men across all levels of commercial sex work, e.g., the street and familiarity with partner. This would permit analysis of the context of sex work within the larger theoretical framework utilizing analyses such as structured equation modeling.

While peer norms were not significant in terms of the relationship between factors as outlined by the TRA (Azjen & Fishbein, 1980), this factor was significantly related to attitudes toward unprotected insertive and receptive anal sex. Peer norms for barebacking may be influencing attitudes for barebacking that in turn effects temptation to bareback. Therefore, the final proposed NATR model in this study provides foundation for public

health efforts aimed at gay and bisexual men.

Targeting peer norms through information campaigns as well as those designed to stimulate conversation may prove beneficial by reducing positive attitudes toward barebacking in some contexts. Recent reports found that two different public health campaigns targeting gay and bisexual men in two different cities may have been effective in increasing communication about different intervention targets (syphilis testing, methamphetamine use) within some peer groups (Nanin, Bimbi, & Parsons, 2006; Nanin, Parsons, Bimbi, Grov, & Brown; 2006). Such information campaigns aimed at gay and bisexual men would reach MSW's identified as such (Parsons & Bimbi, 2005). It is beyond the scope of the present study to make recommendations as how to best design public health efforts for non-gay or bisexually identified MSWs. Impacting peers norms and thus attitudes and risk behavior, may be accomplished by disseminating findings of research studies such as those in the present study which found that at only one-third of gay and bisexual MSWs reported any unprotected anal insertive sex with casual partners. Regardless, informing gay and bisexual men that barebacking is not the practice of most men in the community will hypothetically reduce peer norms for barebacking and possibly may impact the practice of barebacking itself.

Rogers and Shefner-Rodgers (1999) have warned, however, that HIV prevention efforts must be consistent with existing community values. Given the open debates about barebacking, this warning must be heeded if effective programs and campaigns are to be developed for gay men. Future research is clearly needed to identify what values are important to gay men, followed by developing public health campaigns targeting barebacking utilizing those values.

TABLESTable 1, Descriptives

Factor	Min	Max	Mean	SD
Global intentions for anal insertive barebacking	1	5	1.53	.960
Global attitude toward anal insertive barebacking	1	5	2.20	1.338
Global intentions for receptive anal barebacking	1	5	1.49	1.003
Global attitude toward anal receptive barebacking	1	4	1.51	.916
Sex worker peer norms for unprotected anal insertive sex	1	5	2.16	.825
Sex worker peer norms for unprotected anal receptive sex	1	4	2.10	.823
Temptation for unprotected sex with work partners	13	54	20.74	9.750
Self efficacy for condom use with work partners	16	65	52.62	14.097
Non sex worker peer norms for unprotected anal insertive sex	1	5	2.37	.906
Non sex worker peer norms for unprotected anal receptive sex	1	4	2.22	.798
Temptation for unprotected sex with casual partners	13	51	24.13	11.083
Self efficacy for condom use with casual partners	18	65	50.50	13.029

Table 2, Frequencies of Risk Behaviors with Sexual Partners

Sexual Behavior	%	<i>n</i>
Any Unprotected Anal Insertive Sex with Work Partners	24%	12
Any Unprotected Anal Receptive Sex with Work Partners	18%	9
Any Unprotected Anal Insertive Sex with Casual Partners	36%	18
Any Unprotected Anal Receptive Sex with Casual Partners	28%	14

Table 3, Correlations: Unprotected anal insertive (UAI) sex with work partners

	1	2	3	4	5	6
1. UAI with work partners	--					
2. Global intentions for anal insertive barebacking	.381**	--				
3. Self efficacy for condom use with work partners	-.152	-.018	--			
4. Temptation for unsafe sex with work partners	.418**	.440**	-.226	--		
5. Global attitude toward anal insertive barebacking	.414**	.514**	-.326*	.369*	--	
6. Sex worker peer norms for unprotected anal insertive sex with work partners	.351*	-.035	-.161	.139	.403*	--

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 4, Correlations: Unprotected anal receptive (UAR) sex with work partners

	1	2	3	4	5	6
1. UAR with work partners	--					
2. Global intentions for anal receptive barebacking	.403**	--				
3. Self efficacy for condom use with work partners	-.286*	-.097	--			
4. Temptation for unsafe sex with work partners	.568**	.624**	-.226	--		
5. Global attitude toward anal receptive barebacking	.431**	.630**	-.213	.517**	--	
6. Sex worker peer norms for unprotected anal receptive sex with work partners	.394**	.545**	-.138	.327*	.372**	--

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 5, Correlations: Unprotected anal insertive (UAI) sex with casual partners

	1	2	3	4	5	6
1. UAI with casual partners	--					
2. Global intentions for anal insertive barebacking	.510*	--				
3. Self efficacy for condom use with casual partners	-.397**	-.264	--			
4. Temptation for unsafe sex with casual partners	.641**	.428**	-.417**	--		
5. Global attitude toward anal insertive barebacking	.458**	.514**	-.225	.352*	--	
6. Non-sex worker peer norms for unprotected anal insertive sex with casual partners	-.029	-.066	-.010	.017	.328*	--

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 6, Correlations: Unprotected anal receptive (UAR) sex with casual partners

	1	2	3	4	5	6
1. UAR with casual partners	--					
2. Global intentions for anal receptive barebacking	.325*	--				
3. Self efficacy for condom use with casual partners	-.301*	-.076	--			
4. Temptation for unsafe sex with casual partners	.552**	.351*	-.417**	--		
5. Global attitude toward anal receptive barebacking	.491**	.630**	-.231	.415**	--	
6. Non-sex worker peer norms for unprotected anal receptive sex with casual partners	.278	.405**	.032	.087	.294*	--

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 7, Logistic regression analyses for competing mediators for unprotected sex with work partners

	<i>B</i>	<i>SE</i>	<i>Exp(B)</i>	<i>sig</i>
Any unprotected anal insertive sex with work partners ^a				
Temptation for unprotected anal sex with work partners	.929	.37	2.53	.012
Intentions for anal insertive barebacking	<i>na</i>	<i>na</i>	<i>na</i>	.128
Self efficacy for condom use with work partners	<i>na</i>	<i>na</i>	<i>na</i>	.608
Any unprotected anal receptive sex with work partners ^b				
Temptation for unprotected anal sex with work partners	1.473	.495	4.36	.003
Intentions for anal receptive barebacking	<i>na</i>	<i>na</i>	<i>na</i>	.749
Self efficacy for condom use with work partners	<i>na</i>	<i>na</i>	<i>na</i>	.092

^a Nagelkerke $R^2 = .219$, ($\chi^2(1) = 7.788$, $p = .005$), 77.6% of cases correctly classified

^b Nagelkerke $R^2 = .406$, ($\chi^2(1) = 14.086$, $p < .001$), 87.8% of cases correctly classified

Table 8, Logistic regression analyses for competing mediators for unprotected sex with casual partners

	<i>B</i>	<i>SE</i>	<i>Exp(B)</i>	<i>sig</i>
Any unprotected anal insertive sex with casual partners ^a				
Temptation for unprotected anal insertive sex with casual partners	1.902	.539	6.70	.001
Global intentions for anal insertive barebacking	<i>na</i>	<i>na</i>	<i>na</i>	.056
Self efficacy for condom use with casual partners	<i>na</i>	<i>na</i>	<i>na</i>	.234
Any unprotected anal receptive sex with casual partners ^b				
Temptation for unprotected anal receptive sex with casual partners	1.427	.452	4.16	.002
Global intentions for anal receptive barebacking	<i>na</i>	<i>na</i>	<i>na</i>	.223
Self efficacy for condom use with casual partners	<i>na</i>	<i>na</i>	<i>na</i>	.470

^a Nagelkerke $R^2 = .512$, ($\chi^2(1) = 21.844$, $p < .001$), 80.4% of cases correctly classified
^b Nagelkerke $R^2 = .386$, ($\chi^2(1) = 14.658$, $p < .001$), 71.7% of cases correctly classified

Table 9, Mediation analyses of temptation for unprotected sex for unprotected anal insertive sex with work partners

	<i>OR</i>	<i>95% CI</i>	<i>Wald χ^2 (df, n)</i>
Model 1			
Global attitude toward anal insertive barebacking	2.76**	1.31 - 5.81	7.2 (1, n= 49)
Model 2			
Temptation for unprotected sex with work partners	2.12*	1.04 - 4.33	4.1(1, n= 49)
Global attitude toward anal insertive barebacking	2.39*	1.08 -5.30	4.6 (1, n= 49)

* $p < .05$. ** $p < .01$

Table 10, Mediation analyses of temptation for unprotected sex for unprotected anal receptive sex with work partners

	<i>OR</i>	<i>95% CI</i>	<i>Wald χ^2 (df, n)</i>
Model 1			
Global attitude toward anal receptive barebacking	2.53**	1.27 – 5.03	7.0 (1, <i>n</i> = 49)
Model 2			
Temptation for unprotected sex with work partners	3.58*	1.26 – 10.22	5.69 (1, <i>n</i> = 49)
Global attitude toward anal receptive barebacking	1.61	.674 – 3.85	1.15 (1, <i>n</i> = 49)

* $p < .05$. ** $p < .01$

Table 11, Mediation analyses of temptation for unprotected sex for unprotected anal insertive sex with casual partners

	<i>OR</i>	<i>95% CI</i>	<i>Wald χ^2 (df, n)</i>
Model 1			
Global attitude toward anal insertive barebacking	2.81**	1.43 – 5.5	9.02 (1, <i>n</i> = 49)
Model 2			
Temptation for unprotected sex with work partners	5.10**	1.8 – 14.44	9.44 (1, <i>n</i> = 49)
Global attitude toward anal insertive barebacking	1.61*	1.11 – 7.0	4.79 (1, <i>n</i> = 49)

p* < .05. *p* < .01

Table 12, Mediation analyses of temptation for unprotected anal receptive sex with casual partners

	<i>OR</i>	<i>95% CI</i>	<i>Wald χ^2 (df, n)</i>
Model 1			
Global attitude toward anal insertive barebacking	3.0**	1.44	8.58 (1, <i>n</i> = 49)
Model 2			
Temptation for unprotected sex with work partners	3.51**	1.35 – 9.12	3.51 (1, <i>n</i> = 49)
Global attitude toward anal insertive barebacking	2.16*	1.00 – 4.65	2.16 (1, <i>n</i> = 49)

* $p < .05$. ** $p < .01$

Table 13, Regression analyses of peer norms on global attitudes by sexual behavior and partner type

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>R</i> ²
Global attitudes toward unprotected anal insertive sex					
Sex work peer norms for unprotected anal insertive sex*	.400	.134	2.99	.005	.162
Non-sex work peer norms for unprotected anal insertive sex*	.326	.138	2.35	.023	.107
Global attitudes toward unprotected anal receptive sex					
Sex work peer norms for unprotected anal receptive sex*	.371	.136	2.71	.009	.138
Non-sex work peer norms for unprotected anal receptive sex*	.294	.141	2.09	.042	.087

* $p < .05$

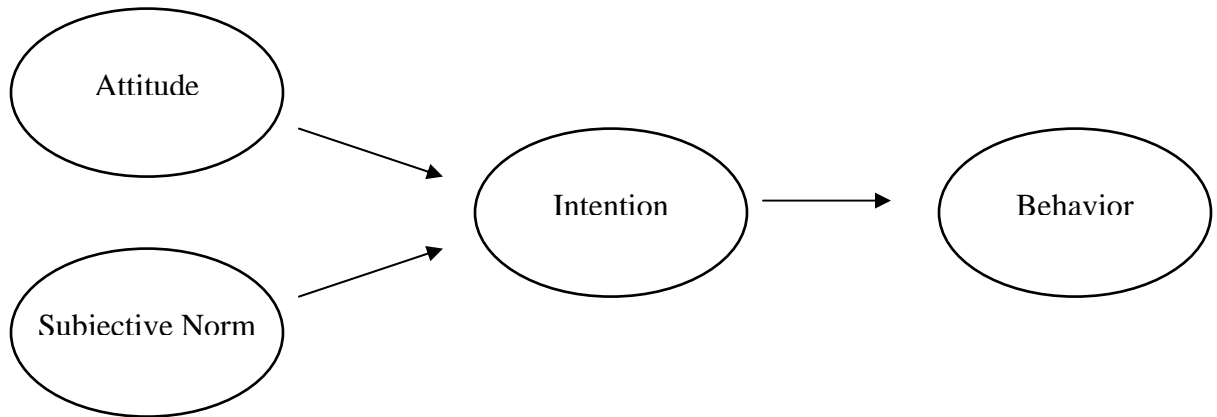
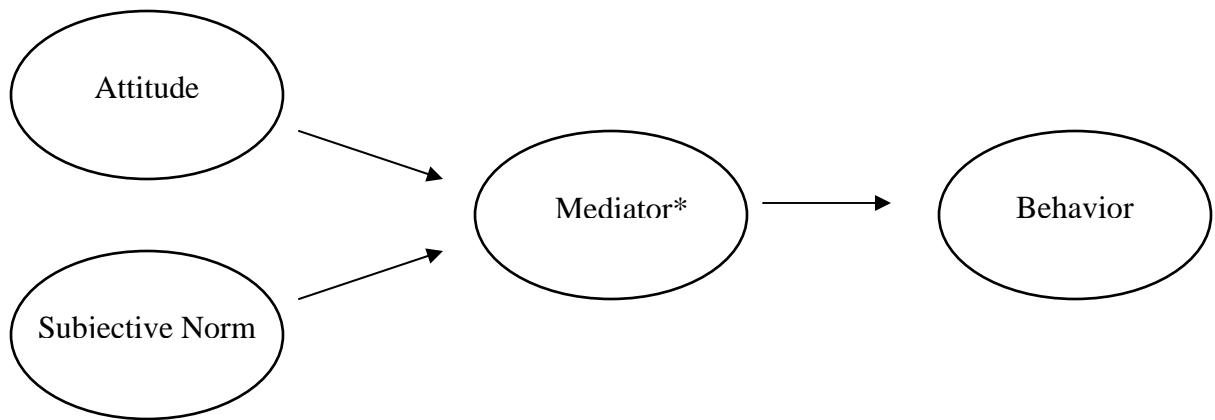
FIGURESFigure 1, Theory of Reasoned Action

Figure 2, Proposed models for testing



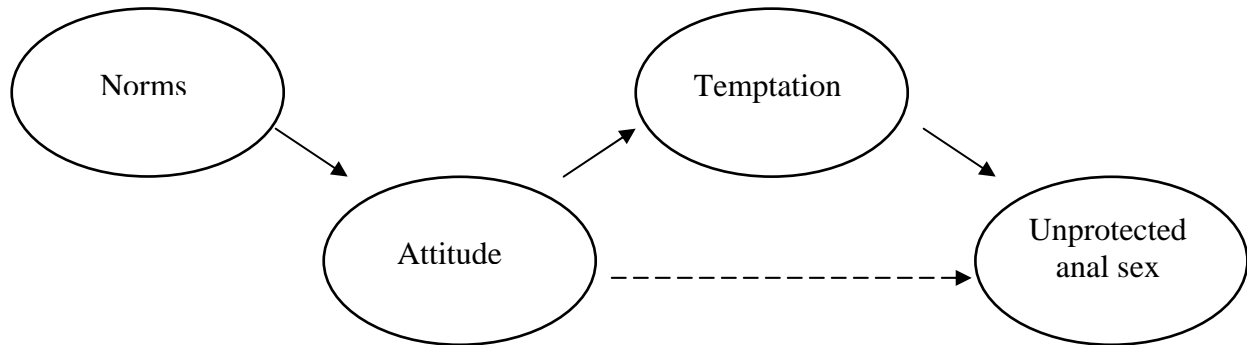
*Mediators to be tested:

Intentions for unprotected sex

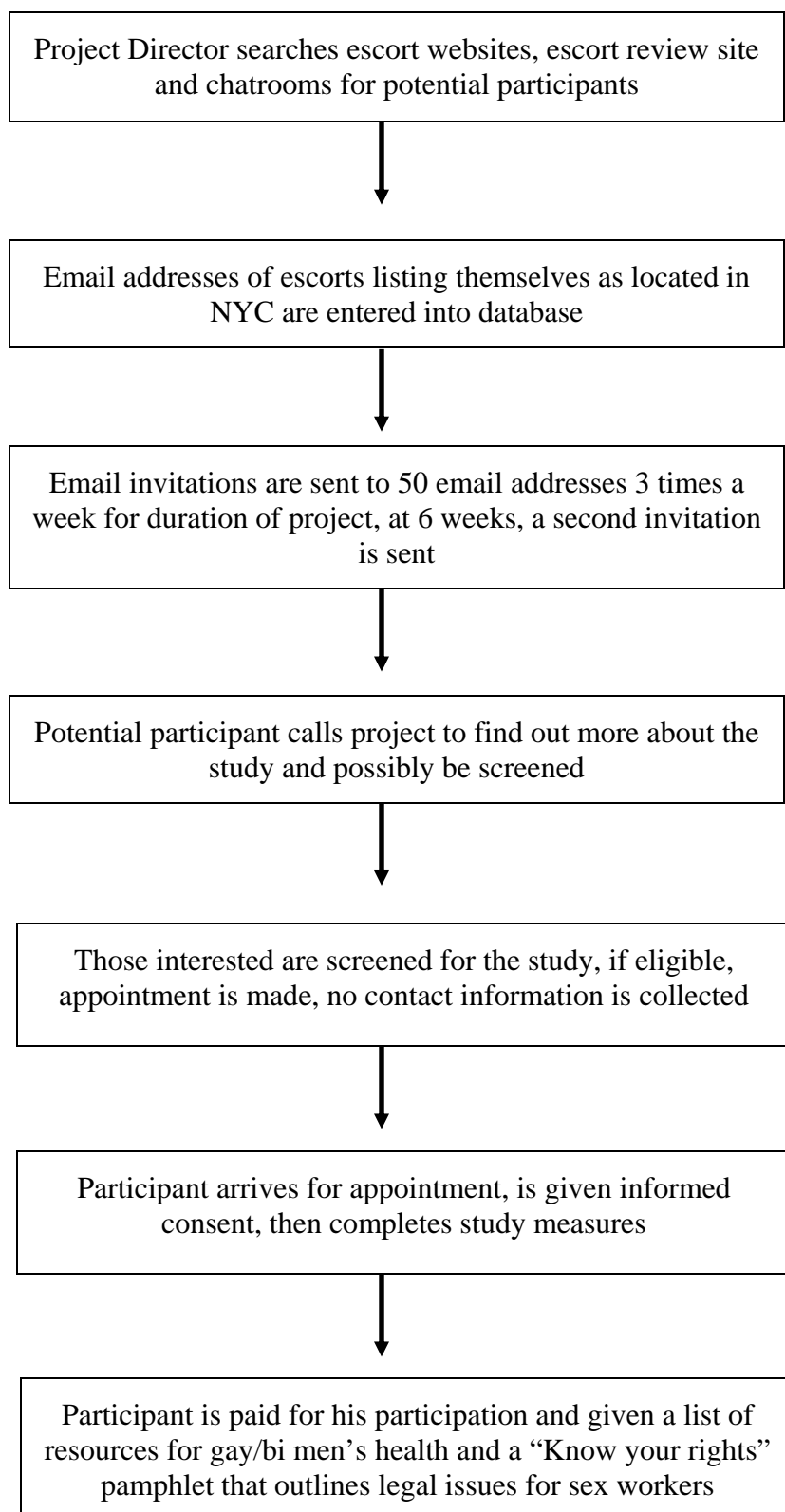
Temptation for unprotected sex

Self-Efficacy for condom use.

Figure 3. The NATR model: Norms, attitudes, temptation and risk



APPENDICES

Appendix A, Recruitment flow chart

Appendix B, recruitment email

Hi,

You are being sent this email because you have listed yourself as a male escort on the Internet or in a magazine.

We are a group of researchers from New Jersey City University interested in an exploratory study of male sex workers who advertise their services. We are interested in talking with male sex workers about a variety of issues, one of them being their feelings and experiences regarding sex work. We are interested in commercial male sex workers because there has been almost no research done with these men.

The study involves an in person interview and survey which should take just over an hour of your time. *You will not be asked for your name or any identifying information at any time.* PLEASE DO NOT RESPOND TO THIS EMAIL! WE WISH TO DO EVERYTHING IN OUR POWER TO PROTECT YOUR IDENTITY. We are not affiliated with any law enforcement agency and deeply understand the need to protect your anonymity. We will be paying participants \$75 for completing the interview and survey.

If you are interested please call 212-206-7919, ext301 to find out if you are eligible.

This is not a scam, if you are concerned about the legitimacy of this study you may call Dr. Jeffrey Parsons at 212-206-7919, ext 226 or Jo Bruno, assistant to the Vice President at New Jersey City University at 201-200-2033.

Thank you,

David S. Bimbi,
Project Director

Appendix C, Know your rights

Know Your Rights!

1. Status, e.g., being a "prostitute," is not a crime. To be arrested you must:
 - A. Commit an Unlawful act, and
 - B. have intended to commit the unlawful act
2. "Sexual Contact": any touching whether directly or through clothes, of the sexual or intimate parts of a person for the purpose of gratifying the sexual desire of either party.
3. "Prostitution": When a person engages or agrees or offers to engage in sexual conduct with another person in exchange for a fee. Definition is gender neutral.
4. "Resisting arrest": When a person intentionally prevents or attempts to prevent a police officer from effecting an authorized arrest. Includes refusing to give proof of identity.
5. "Entrapment": Defendant induced to cooperate with a public official, seeking to obtain evidence for a criminal prosecution, where the method used created a substantial risk that the offense would be committed by a person not otherwise disposed to commit it.
6. "Massage": Engaging in applying a scientific system of activity to the muscular structure of the human body by means of stroking, kneading, tapping, and vibrating with the hands or Vibrators for the purpose of improving muscle tone and circulation
7. Licensing Issues for people who advertise as massage, etc.:
 - A. Must be licensed to practice "massage"
 - B. Must be licensed to call oneself a "Masseur" or "Masseuse."

Guidelines

1. According to NYPD regulations, an undercover cop may not take off his clothes or engage in sexual contact.
2. To be a legitimate bust for prostitution there must be:
 - A. An agreement
 - B. To engage in a sexual act
 - C. For a fee.
3. Have the name and number of a lawyer with you at all times or the number of a friend who will take responsibility for contacting a lawyer.
4. Have quarters
5. Don't talk to the police without a lawyer.
6. If a caller seems suspicious, trust your instincts
7. Don't keep controlled substances or unlicensed weapons in plain view in your apartment if that is where you work.
8. Terms used by Bodyworkers:
 - "Full body massage - head to toe" is legitimate
 - "Sensual Massage" - A gray area
 - "Release", "Full Release", "Massage to release" - not acceptable
 - "Full service" - not acceptable

DISCLAIMER: The information on this page is not intended to replace legal council. This page was downloaded from Rentboy.com (who assumes no responsibility for any arrests resulting from the use of this document).

Appendix D, Peer Norms for unprotected anal sex

In your opinion, how many of the sex workers you know...
(1= *none*, 2= *few*, 3= *about half*, 4= *most*, 5= *all or almost all*)

1. Fuck work sex partners without condoms
2. Get fucked without a condom by work sex partners
3. Fuck non work sex partners without condoms
4. Get fucked without a condom by non work sex partners

Appendix E, Attitudes toward barebacking

When it comes to having sex without condoms (barebacking) how much do you agree with the following statements.

(1= *strongly disagree*, 2= *disagree*, 3=*neither*, 4= *agree* 5= *strongly agree*)

1. I don't seek out bareback sex, but if it happens that's okay—if I am on top
2. I don't seek out bareback sex, but if it happens that's okay—if I am on bottom

Appendix F, Intentions for barebacking

When it comes to having sex without condoms (barebacking) how much do you agree with the following statements.

(1= *strongly disagree*, 2= *disagree*, 3= *neither*, 4= *agree* 5= *strongly agree*)

1. I purposely seek out bareback sex—as a top
2. I purposely seek out bareback sex—as a bottom

Appendix G, Temptation for unprotected sex with male sex work.

How *TEMPTED* would you be to have anal sex without a condom...
(1= *not at all*, 2= *not very*, 3=*somewhat*, 4=*very*, 5=*extremely*)

1. When I really want sex.
2. When I really need money.
3. When he is really attractive.
4. When he SAYS he does not want to use a condom.
5. When I am angry.
6. When I think the risk of STD's is low.
7. When I think the risk for HIV (or re-infection) is low.
8. When I feel depressed.
9. When I really want him to tip me.
10. When I am drunk or high on drugs.
11. When I really just want to get the session over with.
12. When I am really sexually aroused.
13. When I really want him to become (or remain) a regular.

Appendix H, Temptation for unprotected sex with male casual partners.

How *TEMPTED* would you be to have anal sex without a condom...
(1= *not at all*, 2= *not very*, 3=*somewhat*, 4=*very*, 5=*extremely*)

1. When I really want sex.
2. When I really need affection.
3. When I am with a really hot guy.
4. When he SAYS he does not want to use a condom.
5. When I am angry.
6. When I think the risk of STD's is low.
7. When I think the risk for HIV (or re-infection) is low.
8. When I feel depressed.
9. When I THINK that he does not want to use condoms.
10. When I am drunk or high on drugs.
11. When I think stopping to get a condom will spoil the mood.
12. When I am really sexually aroused.
13. When I really want to see him again.

Appendix I, Self Efficacy for unprotected sex with male sex work.

How *confident* that you could use a condom when...

(1= *not at all*, 2= *not very*, 3=*somewhat*, 4=*very*, 5=*extremely*)

1. When I really want sex.
2. When I really need money.
3. When he is really attractive.
4. When he SAYS he does not want to use a condom.
5. When I am angry.
6. When I think the risk of STD's is low.
7. When I think the risk for HIV (or re-infection) is low.
8. When I feel depressed.
9. When I really want him to tip me.
10. When I am drunk or high on drugs.
11. When I really just want to get the session over with.
12. When I am really sexually aroused.
13. When I really want him to become (or remain) a regular.

Appendix J, Self Efficacy for unprotected sex with male casual partners.

How *confident* that you could use a condom when...

(1= *not at all*, 2= *not very*, 3=*somewhat*, 4=*very*, 5=*extremely*)

1. When I really want sex.
2. When I really need affection.
3. When I am with a really hot guy.
4. When he SAYS he does not want to use a condom.
5. When I am angry.
6. When I think the risk of STD's is low.
7. When I think the risk for HIV (or re-infection) is low.
8. When I feel depressed.
9. When I THINK that he does not want to use condoms.
10. When I am drunk or high on drugs.
11. When I think stopping to get a condom will spoil the mood.
12. When I am really sexually aroused.
13. When I really want to see him again.

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