When do online sexual fantasies become reality? The contribution of erotic chatting via the Internet to sexual risk-taking in gay and other men who have sex with men

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Abstract

Seeking sexual partners online is associated with sexual risk-taking among men who have sex with men (MSM), but it is not well understood how this use of the Internet is implicated in potential sexual risks. The present study explores whether fantasizing about unprotected anal intercourse (UAI) during online chatting is associated with UAI with partners met online. An online survey of 2058 MSM in France included assessments of UAI with partners met online, responses to erotic chatting about UAI, intentions to use condoms, attitudes regarding UAI, practicing UAI with casual partners, alcohol and drug use with sex and biographical characteristics. While intentions to use condoms with casual partners were high, one-third (32.1%) of respondents reported UAI with partners met online. Responding positively to online chatting about UAI was significantly associated with UAI with partners met online, controlling for intentions, attitudes, behavior and biographical characteristics. These findings suggest that, while MSM may not go online to seek UAI, some engage in online fantasizing about UAI that is associated with possible sexual risk-taking. This speaks critically to the assumption that online fantasizing has no behavioral implications, and underscores the importance of human immunodeficiency virus prevention that addresses the dynamics of online chatting.

Introduction

The popularity and usage of the Internet among gay and other men who have sex with men (MSM) reflects as well as shapes their social and sexual lives. In addition to providing a major source of information and entertainment, online interactions enable virtual gay communities [1], which are replacing many aspects of traditional gay communities around the world [2]. For many MSM, including for young men [3] and men from developing countries [4], the Internet simultaneously is a space for social connection and support, for fulfilling sexual fantasies and maximizing the potential for causal sexual encounters [5], as well as for finding love and building long-standing sexual relationships [6]. Cyberspace also offers an expanding repository for human immunodeficiency virus (HIV) prevention, while at the same time some men use the Internet to find partners for intentional unprotected anal sex (i.e. barebacking) [7–10].

Over the past decade, the increasing popularity and use of the Internet among MSM in many post-industrial countries has coincided with an increase in rates of HIV and sexually transmitted infection diagnoses in MSM in these resource-rich nations [11–15]. A substantial number of studies have
now investigated the potential association between going online to meet sexual partners and sexual risk-taking in MSM [16–27]. While findings from individual studies have been somewhat mixed, a comprehensive meta-analysis found that MSM who use the Internet to look for sex partners are more likely to engage in unprotected anal intercourse (UAI) [28]. However, survey research among MSM in London found that, regardless of HIV status, men who looked for sex partners through the Internet were no more likely to report UAI with non-concordant casual partners they met online rather than off-line [23]. In-depth interviews with a subsample of participants further showed that some MSM mitigate the risk of HIV transmission through the reflexive use of online profiles, which may include expressions of safer sex intentions and enables the filtering of partners of the same serostatus for UAI [29].

As Davis et al. [29] note, how the use of the Internet to find sex partners may be associated with sexual practices and risk for HIV transmission among MSM is not well understood. While their own qualitative research suggests that some MSM may engage in the sophisticated construction and interpretation of online profiles to mitigate HIV-transmission risk [29, 30], it is unclear how widespread this relying on online profiles is. Furthermore, the noted filtering and serosorting through information in online profiles occurs outside of direct contact between potential sexual partners, and positions MSM who seek sexual partners online as perfectly rational actors. This leaves unaddressed what occurs during direct contact, in particular online, which may contribute to sexual practices and HIV transmission risk that differ from what is communicated and understood through online profiles. Moreover, in the current HIV epidemic some MSM may not hold categorical, pre-determined safer sex intentions, and may be open to engaging in UAI, when the perceived risk of HIV transmission is low.

Ross’ thoughtful social theory analysis of sexuality and the Internet provides valuable insights that inform our theorizing of the potential association between online chatting and sexual risk-taking among MSM [1]. According to Ross, the Internet provides a sexual space midway between fantasy and action that enables experimenting with sexual behavior by ‘engaging in it online and with another person without actually ‘doing’ it’ [1, p. 344]. The author further suggests that the expression of desires in semi-hypothetical online interactions can be seen as an externalizing of sexual fantasy [1]. Sexual fantasizing as a site of pleasure is a central aspect of human sexuality [31], and the externalization and responding to sexual fantasies is an important aspect of the erotics of online chatting [1]. The Internet in particular is an important space to explore aspects of sexuality that are less likely to be expressed in real life, for instance out of fear of embarrassment or rejection [32]. This may also pertain to explorations of UAI, as reflected in the observed linking of barebacking to the Internet [29]. Ross further notes that, while the actors in online erotic chatting may not perceive that they are engaging in real behavior as there is no direct physical contact, the crystallization of their fantasies in the texts that constitute the vehicle for their interaction is akin to the joint construction of a script [1]. Gagnon and Simon [33, 34] have shown the importance of scripts in (understanding) sexual conduct, but it remains to be investigated whether the sexual fantasies that become scripted in the heat of the moment of online chatting are related to the sexual practices that MSM engage in with partners met online.

In the present study, we explore the potential association among MSM between engaging in fantasizing about UAI during online erotic chatting and possible sexual risk-taking in real life with partners met online. We hypothesize that such online fantasizing about UAI is associated with a higher likelihood of engaging in UAI, and propose that this association is shaped by the dynamics of online erotic chatting, rather than merely reflecting men’s intentions not to use condoms, their favorable attitudes regarding anal sex without condoms or a generally higher likelihood to engage in UAI with casual partners. These expectations depart from both the assumption that online erotic chatting may not affect sexual behaviors in real life
[1], as well as from the inference that UAI with partners met online reflects intentional barebacking [10]. Instead, our expectations reflect an alternative understanding of the dynamics of online erotic chatting. In particular, we theorize that through the online sharing of sexual fantasies about UAI, men jointly construct possible sexual scripts that can guide expectations and sexual interactions when they meet face-to-face. Dual-systems theorizing of behavior in social psychology assumes that human behaviors are a joint function of reflective and impulsive processes [35, 36], and each of these systems of processes may be implicated in the possible association between sexual scripts that are generated during online erotic chatting and sexual practices in real life. One explanation, drawing on the role of reflective processes, is that in the course of the online chat actors decide or form an intention to engage in UAI [35, 36]. This decision may reflect additional, risk-relevant information men have exchanged and/or the accelerated intimacy and rapid development of trust afforded by the sharing of intimate details in online chatting [1,6]. Another explanation, drawing on the role of impulsive processes, is that UAI in real life can be implicitly produced by the sexual scripts, without intending to enact it, through the automatic activation of behavioral schemata [35, 36]. Furthermore, theorizing of social influence processes suggests that UAI with partners met online may reflect a general tendency to behave consistently that guides much of social interaction [37]. In particular, expressing fantasies about UAI during online erotic chatting can unintentionally engender a commitment to this behavior that shapes consistent future actions, especially when people are less likely to engage in reflective decision making [37], as when sexually aroused [38–41].

The present study reports findings from an online survey of MSM in France who reported face-to-face sexual encounters with partners they met online, and completed questions on online sexual fantasizing about UAI with potential sex partners. To test the hypothesis that an association between online sexual fantasizing about UAI and UAI with partners met online does not merely reflect barebacking or a generally higher likelihood of practicing UAI, a number of control variables are included, namely men’s intention to use condoms for anal sex with casual partners, their attitude regarding UAI with casual partners and their practicing of UAI with casual partners in general, irrespective of where they met, as well as alcohol and drug use before or during sex, age, education and HIV status.

**Methods**

**Procedures and participants**

An online cross-sectional survey was conducted among MSM in France. During August and September 2004, participants were recruited through banner ads placed on the Web site Cité-GAY.fr, a well-known and popular French language Internet site for gay men that provides information, services, entertainment as well as opportunities to meet potential sexual partners. After providing informed consent online, participants filled in an anonymous digital questionnaire; no personal information that could identify respondents was collected. The comprehensive questionnaire included 327 questions that addressed a range of themes, including biographical characteristics, sexual relationships, sexual practices and sexual risk-taking with casual partners, sexual motivations and desires, attitudes regarding unprotected sex, condom use, antiretroviral treatment and HIV prevention, as well as use of the Internet to find sexual partners, characteristics of online sexual communication and sexual practices, including sexual risk-taking, with partners met online. Average completion time was 40 min. Under French regulations, the study protocol was exempt from formal ethical review and approval. Nevertheless, the study was conducted in full compliance with the ethics code of the American Psychological Association.

A total of 3667 visitors accessed the introduction page of the digital questionnaire. Of these visitors,
2971 participated in the survey and 2527 of these men completed all questions (completion rate: 85.1% of those who started the survey and 68.9% of visitors to the introduction page of the survey). More than two-thirds \( (n = 2058, 69.3\%) \) of participants had had at least one face-to-face sexual encounter with a partner they met online in the previous 12 months and only these men were included in the present study. The mean age of these men was 31.6 years [median = 31.0, standard deviation (SD) = 8.2, range = 16–69], and 50.0% were aged 30 years or younger. Most participants (80.8%) self-identified as exclusively homosexual or gay, three-quarters (73.2%) had completed tertiary education and 8.3% self-reported as HIV positive.

**Measures**

**Main study variables**

‘Use of the Internet to meet sexual partners’ was assessed with several questions. Specifically, we asked men to indicate the frequency with which they used online gay dating sites, and the frequency with which they engaged in online erotic chatting with other men; for both questions, ordinal response options ranged from (1) never to (7) several times per day. Men were also asked to indicate with how many men they had met online in the previous 12 months they had had sex with in real life (absolute number), and with how many of these men they had engaged in anal sex \( (1 = \text{none}, 5 = \text{all}) \).

‘UAI with partners met online’ was assessed by asking participants with how many of the men they had met online in the previous 12 months they had engaged in receptive UAI and with how many they had engaged in insertive UAI. A dichotomous index of UAI with partners met online in the previous 12 months was constructed \( (\text{no}/\text{yes}) \).

‘Responses to online fantasizing about UAI’ was assessed by averaging responses to four items \( (\alpha = 0.81) \), related to the following question: ‘How do you react when an online chat partner started to fantasize about unprotected anal sex?’… 1) ‘you stop chatting with this man’ (reverse coded); 2) ‘you advise him that you do not accept these practices in real life’ (reverse coded); 3) ‘you let him continue to write about, or allude to, unprotected anal sex; and 4) ‘you engage in fantasizing with him about unprotected sex’. A five-point response scale was used for responses to all items \( (1 = \text{completely disagree}, 5 = \text{completely agree}) \). Participants’ responses to online fantasizing about UAI rather than their initiation thereof were assessed to assure that questions were also relevant for men who do not initiate such conversations, but could nevertheless be affected by them. In case men had no experience with partners fantasizing online about UAI, they were asked to indicate how they thought they would respond.

**Control variables**

‘Intentions to use condoms’ for anal intercourse with casual partners were assessed by averaging responses to two items \( (\alpha = 0.89) \) pertaining to intention and expectancy: ‘Suppose that you have one or more casual partners in the coming months … 1) do you intend to always use condoms during anal sex?; and 2) what is the probability that you will always use condoms during anal sex?’ Responses were given on five-point scales \( (1 = \text{completely disagree}/\text{very unlikely}, 5 = \text{completely agree}/\text{very likely}) \).

‘Attitudes regarding UAI’ with casual partners were assessed with three items for which responses were averaged \( (\alpha = 0.79) \): ‘It’s not a big deal to not always use a condom with casual partners’, ‘I allow myself to not always use a condom with casual partners’ and ‘Not using a condom with casual partners is inconceivable to me’ (reverse coded). Responses were given on five-point scales \( (1 = \text{completely disagree}, 5 = \text{completely agree}) \).

‘UAI with casual partners’ in general was assessed by asking men how many casual partners they had had in the previous 12 months, whether they had engaged in anal sex with these casual partners and whether they had engaged in UAI with any of these casual partners. Responses were summarized in a dichotomous index of UAI with casual partners in the previous 12 months \( (\text{no}/\text{yes}) \).

‘Alcohol and drug use’ before or during sex in the previous 12 months was assessed with seven
questions that asked about the use of alcohol, amyl (poppers), erectile dysfunction drugs (e.g. Viagra), marihuana, party drugs (e.g. ecstasy), use of other non-injecting drugs (e.g. cocaine) and injecting drug use (e.g. heroin). Frequency of use of these substances before or during sex in the previous 12 months was indicated on five-point scales (1 = never, 5 = always).

Statistical analyses

Descriptive statistics were calculated to assess participants’ use of the Internet to meet sexual partners, UAI with partners met online in the previous 12 months, and their responses to online fantasizing about UAI. Univariate logistic regression analyses were conducted to investigate associations between UAI with partners met online in the previous 12 months and responses to online fantasizing about UAI, intentions to use condoms with casual partners, attitudes regarding UAI with casual partners, UAI with casual partners in general, alcohol and drug use before or during sex and biographical characteristics. A multivariate logistic regression analysis was conducted to assess the independent association between responses to online fantasizing about UAI and UAI with partners met online, controlling for all other variables. Data were analyzed using PASW (formerly SPSS), version 18.

Results

Use of the Internet to meet sex partners and UAI with partners met online

All participants had visited gay Internet sites that facilitated meeting (sexual) partners in the previous 12 months. Most participants (85.9%) reported visiting these sites at least several times per week and 59.8% reported visiting these sites at least once per day. All participants had also engaged in online erotic chatting in the previous 12 months; 66.7% had engaged in online erotic chatting at least several times per week and 33.9% had done so at least once per day. Participants on average reported 14 face-to-face encounters with sexual partners they had met online in the previous 12 months (median = 5, SD = 30, range = 1–700). Most men (85.7%) reported engaging in anal sex with these partners, and 32.1% reported UAI with a partner they had met online in the previous 12 months.

Responses to online chatting about UAI

Participants’ mean score regarding their responses to online chatting about UAI on average was under the mid-point of the response scale (see Table I), suggesting a moderate level of openness to engaging in erotic conversations about UAI initiated by an online chat partner. Answers given to the specific items assessing men’s responses to online chatting about UAI show that one-third (33.4%) of respondents (completely) agreed that they would stop chatting with a man who initiated an online-conversation about UAI. Further, most men (80.3%) (completely) agreed that they would inform their chat partner that they would not engage in these practices in real life. Nevertheless, almost half of the respondents (48.2%) also (completely) agreed that they would let the chat partner continue to ‘talk’ about, or allude to, unprotected anal sex. A quarter (27.0%) (completely) agreed that they would also engage in fantasizing about unprotected sex with their chat partner.

Covariates of sexual risk-taking with partners met online

Descriptive statistics of control variables are presented in Table I. In univariate analysis, sexual risk-taking with partners met online in the previous 12 months was positively associated with participants’ acceptance of online chatting about UAI, as expected (see Table II). Significant univariate associations with sexual risk-taking with partners met online in the previous 12 months were also observed for a range of control variables. Specifically, sexual risk-taking with partners met online in the previous 12 months was more likely among participants who had a lower intention to use condoms with casual partners, men who had a more positive attitude regarding UAI with casual partners, men who had engaged in sexual risk-taking.
with any casual partners in the previous 12 months, men who used amyl (poppers), erectile dysfunction drugs, marihuana, party drugs, or other non-injecting drugs before or during sex, men who were 30 years or younger, men who did not complete university education and HIV-positive men. No significant univariate associations were found with the use of alcohol or the use of injecting drugs before or during sex.

A multivariate logistic regression analysis in which sexual risk-taking with partners met online...
in the previous 12 months was simultaneously regressed on responses to online chatting about UAI and the control variables showed that participants’ acceptance of online chatting about UAI remained significantly and positively associated with sexual risk-taking with partners met online in the previous 12 months (see Table II). The associations with intentions to use condoms with casual partners, attitudes regarding UAI with casual partners, sexual risk-taking with casual partners in the previous 12 months and age also remained significant in the multivariate analysis. The association with the use of marihuana before or during sex became marginally significant, while associations with the use of amyl, erectile dysfunction drugs, party drugs and other non-injecting drugs before or during sex became non-significant. The effect of the use of injecting drugs before or during sex remained non-significant. The effect of the use of alcohol before or during sex remained non-significant. The effect of the use of alcohol before or during sex became significant in the multivariate model, such that men who more frequently used alcohol before or during sex were less likely to report sexual risk-taking with partners met online in the previous 12 months.

Discussion

This paper aimed to explore cyber sexuality in MSM and to assess the association between the content of online erotic chatting and possible sexual risk-taking with partners met online. Data were obtained from a large sample of MSM in France who reported high numbers of sexual partners met online. Whereas respondents on average had a strong intention to engage in protected anal sex with casual partners, one-third of participants engaged in UAI with casual partners met online in the previous 12 months. To offer an explanation for this typical gap between intentions and behaviors [42], we explored the potential role of online chatting about UAI among MSM. Together our findings contribute novel understandings of the processes that may underlie possible sexual risk-taking among MSM who use the Internet to meet sexual partners. Firstly, we found that when a chat partner shares fantasies about UAI in online chatting, a substantial proportion of men, estimated at almost half, responds acceptingly. Secondly, we showed that responding acceptingly to fantasizing about UAI is associated with possible sexual risk-taking in real life with partners met online. Thirdly, and most importantly, we demonstrated that the association between accepting online fantasizing about UAI and UAI in real life with partners met online remains significant when controlling for men’s intentions to use condoms, their attitudes regarding UAI with casual partners, UAI with casual partners more generally (i.e. irrespective of where they met), use of alcohol and drugs before or during sex as well as biographical characteristics that have been found to be associated with sexual risk-taking (i.e. age, education and HIV status). Together these findings support our main expectation that fantasizing about UAI during online chatting may shape the potentially risky sexual practices of a wider group of men than only those who prefer UAI, do not intend to use condoms, or are generally more likely to engage in UAI with casual partners.

To the best of our knowledge, this study is the first to assess the potential association between engaging in fantasizing about UAI during online erotic chatting and possible sexual risk-taking with partners met online in MSM, and for several reasons the findings of this initial study are limited. Although the participants in this study have characteristics that are similar to what has been observed in other studies of online samples of MSM in post-industrial countries [43, 44], the sample cannot be considered representative of the population of MSM who use the Internet to meet sexual partners. Also, data were derived from a cross-sectional survey, which precludes definitive conclusions regarding causality. Furthermore, we did not provide an explicit definition of fantasizing about UAI initiated by an online chat partner, which may have been interpreted differently by participants. Also, some participants may not have experienced a partner initiating fantasizing about UAI during online erotic chatting. In addition, information regarding the dynamics, content and different uses of online chatting with potential sex partners was limited, and
no data were available to assess whether the risk for HIV transmission was mitigated in UAI with partners met online. Future research should also take into account how MSM select chat partners from extensive lists of profiles that are available [29, 30], how much time chat partners allow between online chatting and face-to-face encounters and what happens when chat partners meet face-to-face.

In spite of these limitations, our findings provide a novel perspective of the processes that may be associated with possible sexual risk-taking among MSM who use the Internet to meet sexual partners [28]. Results in particular indicate that among MSM, sharing fantasies about unprotected sex during online chatting between partners who presumably did not know each other, may contribute to possible sexual risk taking with partners met online. Our findings suggest that possible sexual risk-taking with partners met online may also occur among men who do not have a strong preference for UAI and who intend to use condoms with casual partners, and support the hypothesis that this risk-taking can be shaped by engaging in online fantasizing about UAI. This speaks critically to the assumption, which actors in online chatting may hold, that online fantasizing is not real behavior and of little consequence for real life [1].

The processes through which online fantasizing about UAI shapes sexual risk-taking in real life merit further investigation. Based on this initial study and our theorizing, we have developed some hypotheses regarding how this complex process may operate. In particular, we propose that during online erotic chatting actors are highly involved in describing contexts, sexual acts, sexual desires and subjective states and the textual nature of these online interactions may accentuate the transformation of the evolving conversation into sexual scripts that shape subsequent face-to-face interactions [1]. These sexual scripts can be seen as an invisible structure or grammar that guides sexual behaviors. The scripts that evolve during online erotic chatting may not always follow individuals’ prior attitudes, intentions and behaviors, as observed in the present study, as they are not only co-constructed but also often shaped in the heat of the moment [38–41] of the online sexual conversation [1], which may include engaging in fantasizing about UAI. The online co-construction of risky sexual scripts may in particular be the result of a process of escalation in near instantaneous online erotic chatting that can occur for various reasons. Since most online interactions are relatively anonymous, individuals may be less inhibited in online conversations. Online chatting is also a powerful context for creating intimacy [6], and chat partners may experience accelerated intimacy and trust from sharing intimate information in a limited period of time [1]. We propose that escalation of online chatting is also promoted by a belief that online fantasizing is not a reflection of and has no implications for real life.

For a decade already, HIV prevention organizations have understood the importance of conducting campaigns and interventions online, because many MSM use the Internet to meet sexual partners [17–21]. Our findings suggest that HIV prevention should also take into account that some forms of online erotic chatting may contribute to possible sexual risk taking in MSM. For various reasons, which remain to be fully addressed, a proportion of MSM fantasize about unprotected sex in online erotic chatting. The aim of HIV prevention should not and cannot be to obliterate these fantasies that are important expressions of some men’s sexuality. Rather, the aim should be to make individuals aware of the potential risks for HIV transmission associated with engaging in fantasies about UAI online with a partner they intend to meet, and to support MSM who use the Internet to find sex partners to self-regulate their sexual behaviors online and in real life in ways that balance risk and pleasure [45]. The conceptual approach offered by self-regulation perspectives of health and sexuality [46] suggests useful directions for innovative interventions that address the dynamics of online chatting among MSM [47].

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Conflict of interest statement

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References