

Hookup app use and sexual behavior among adolescent men who have sex with men

Principal investigator:

Kathryn Macapagal, PhD
Research Assistant Professor, Department of Medical Social Sciences
Northwestern University Feinberg School of Medicine
Institute for Sexual and Gender Minority Health and Wellbeing
625 N. Michigan Avenue, Suite 1400
Chicago, Illinois 60611
312-503-3605

Co-investigators:

David Moskowitz, PhD
Research Assistant Professor, Department of Medical Social Sciences
Northwestern University Feinberg School of Medicine
Institute for Sexual and Gender Minority Health and Wellbeing
625 N. Michigan Avenue, Suite 1400
Chicago, Illinois 60611
312-503-0055

Jeremy Birnholtz, PhD
Associate Professor, Department of Communication Studies
Northwestern University
2240 Campus Drive
Evanston, IL 60208
846-467-3688

Brian Mustanski, PhD
Professor, Department of Medical Social Sciences
Northwestern University Feinberg School of Medicine
Director, Institute for Sexual and Gender Minority Health and Wellbeing
625 N. Michigan Avenue, Suite 1400
Chicago, Illinois 60611
312-503-5421

Abstract

Geosocial networking applications ('hookup apps') to meet men for sex are widely used among men who have sex with men (MSM) in the United States. To date, however, research on MSM's use of these technologies has been conducted exclusively with adult samples, perhaps in part because users are typically required by apps' terms of service (TOS) to be over age 18 and because of researcher reluctance to conduct sex research with minor adolescents. As such, it is not known whether minor adolescent MSM (AMSM) also use these apps to meet sex partners. Exploratory research in this area is needed given that AMSM's use of these apps poses various ethical, legal, and sexual health concerns (e.g., violations of apps' TOS agreements, inability to legally consent to sex with partners over 18, risk of acquiring HIV/STIs). The proposed study will recruit 400 sexually experienced adolescent MSM who will complete online survey questions assessing their use of MSM-specific hookup apps (e.g., Grindr), app-related sexual behaviors, and sexual partner characteristics. Then, a subset of 75 participants who reported having had sex with partners met through a hookup app will be invited to participate in an online focus group to explore app use and sexual behavior in more depth, as well as investigate how AMSM present themselves in their online profiles (e.g., how old do they say they are), negotiate meeting partners for sex, ascertain their safety in these sexual encounters, and navigate conversations about consent and HIV/STI prevention with these partners. Findings from this project will establish foundational knowledge on AMSM's use of hookup apps to meet men for sex and can guide sexual health education and HIV prevention efforts for these youth.

Geosocial networking applications such as Grindr and SCRUFF (‘hookup apps’) are widely used among men who have sex with men (MSM) in the United States to meet men nearby for sex and dating.^{1,2} Empirical research on MSM’s use of hookup apps is relatively new, and studies have focused primarily on characterizing patterns of app use and associations with HIV risk behavior among adult MSM.³⁻⁷ Anecdotal evidence indicates that adolescent MSM under 18 (AMSM) also use these apps to seek sexual partners;⁸⁻¹⁰ however, no published work on hookup app use among MSM has included this age group. Potential reasons for this may include the fact that the apps’ terms of service (TOS) require users to be over 18 and concerns related to asking AMSM about sex with adult partners. However, this is a critical gap in our knowledge. AMSM are disproportionately affected by HIV, accounting for 77% of diagnoses among teenagers,¹¹ and they are the only age group in which HIV incidence is rising.¹² Yet in comparison to research on adult MSM, considerably less attention has been paid to AMSM’s sexual behavior and the unique sexual contexts that may increase their HIV risk. Basic research is needed to establish the scope of AMSM’s hookup app use and app-related sexual behavior, which can shed light on their sexual health needs¹³ and the role of app use in their sexual and identity development.

Among adult MSM, hookup app use is linked with sexual risk taking and adverse sexual health outcomes,⁶ such as higher numbers of sex partners¹⁴ and greater incidence of sexually transmitted infections⁴ than in general samples of MSM. Although some studies indicate that men may be more likely to use condoms with these partners^{5,15} others suggest they are less likely.¹⁶ While hookup apps may not be directly responsible for these outcomes, they present MSM with opportunities to engage in risk behaviors. For AMSM, hookup app use poses unique legal risks as most teenagers cannot consent to sex with adult partners until they are 18. However, for MSM, hookup app use also has been associated with positive outcomes, such as

low levels of internalized homophobia and high levels of gay identity affirmation,¹⁷ and provides an avenue to explore sexual desires, meet sexual needs,³ and a sense of connectedness to the gay community.^{18,19} It is not known whether AMSM experience similar benefits and drawbacks to hookup app use, and how their experiences may be shaped by their developmental stage.

While there are geosocial networking apps marketed for LGBT individuals as young as 12 (e.g., Distinc.tt), they are limited in number and intended for non-sexual purposes. Thus, AMSM may gravitate toward hookup apps for adult MSM as a way to explore their developing sexual identities and overcome common obstacles to meeting partners, such as proximity, sexual identity disclosure, and ascertaining a prospective partner's sexual orientation.^{20,21} To begin to explore these questions, we collected pilot data from 200 sexually experienced AMSM (M age = 16.2, SD = .82 years) on their use of hookup apps to meet male partners. Indeed, participants reported using these apps because of lack of access to partners and to avoid being outed to people they knew. In addition, 52% reported having met partners for sex through the apps. Of these participants, 62% reported engaging in anal sex, and only 25% consistently used condoms with those partners. These initial data suggest that use of MSM-specific hookup apps among minor AMSM to meet partners for sex is not uncommon, and that they may engage in condomless anal sex with those partners at least as often as adult MSM app users.^{5,15,16}

While our findings paint a preliminary picture of hookup app use and sexual behavior among AMSM, other important questions remain. For instance, what are the perceived risks and benefits of using hookup apps, and what other motivations drive their use? How do AMSM present themselves on the apps, and what partner profile information is most critical in guiding decisions about partner trustworthiness and risk?²² What heuristics/assumptions (e.g., low perceived risk for HIV, “known partners are safe partners”)²³⁻²⁶ may inform sexual decision

making about partners from the apps? Finally, as nonconsensual sex and age-discrepant partnerships are linked with HIV risk among adult MSM,^{27,28} how old are the partners who AMSM meet for sex, and how do AMSM navigate consent discussions? Guided by the Information-Motivation-Behavioral Skills model of HIV preventive behaviors²⁹ and D'Augelli's model of sexual minority adolescent development,³⁰ this study expands on our pilot work by using an online survey and focus groups to examine use of hookup apps, app-related sexual behavior and sexual development, and sexual decision making in a large sample of AMSM.

APPROACH

This study will enroll 400 AMSM in the United States. Basic inclusion criteria include 1) age 13-18 (with 18 year olds being recruited to serve as a reference group), 2) sexually active, 3) cisgender male, 4) sexually attracted to male partners, 5) read English at an 8th grade level, 6) used MSM-specific hookup apps in the past year. Participants will be recruited via advertisements on social media.^{31,32} IRB approval will be obtained before initiating any study procedures. Given our focus on AMSM's sexual behavior, we will seek a waiver of parental consent for minor adolescents' participation, which our investigative team has obtained previously from the Northwestern University IRB for studies on adolescent sexual behavior and drug/alcohol use.^{20,33,34} In addition, data will not be collected from participants residing in states in which sex between an adolescent and adult partner is considered a reportable offense.³⁵ Across both phases of the study, AMSM will receive a \$30 online gift card for their participation.

Phase 1: Survey study. Participants will complete an online screener and those who meet inclusion criteria (n = 400) will be routed automatically to a 30-45 minute survey. Items will capture demographic information (e.g., age, race, sexual orientation), sexual history (e.g., age at sexual debut, number of sexual partners), HIV/STI testing history and status, experiences

with sex education, and other constructs that may be related to hookup app use (e.g., outness to parents, connectedness with LGBT community, perceived risk of HIV).³⁶⁻³⁸ Participants will then answer investigator-created closed- and open-ended items examining app use patterns (e.g., which apps they use, when they started using them, what they use them for); motivation for app use; self-presentation (e.g., what information they disclose in their profile); and engagement in online and in-person sexual activity with men from apps; some of these items will be drawn from our pilot study. For participants who report having had sex with partners from apps, we will assess sexual behavior with each of their last 3 partners using a partner-by-partner level measure developed by our team.³⁹ These items include the types of sexual activities engaged in and HIV/STI risk reduction behaviors with each partner, and partner characteristics. We will also adapt the Sexual Consent Scale-R to examine how consent was negotiated with partners.⁴⁰ The remaining participants will be asked questions about their reasoning behind refraining from sex with partners from hookup apps and how they would know they were ready to pursue sex with a partner from apps. Sample survey items in each domain are in Table 1 and the final pool of items will be finalized by the investigative team during the first month of the study.

Phase 2: Online focus groups. We will invite 75 AMSM from the survey who reported engaging in sex with men met on hookup apps to participate in online focus groups to allow in-depth exploration of several topics. Initial questions based on our pilot and previous research on adult MSM are in Table 1, but the focus group guide will primarily be informed by findings emerging from Phase 1. The sample size is based on guidelines for focus group research⁴¹ and is feasible based on our pilot study findings. Following methods used in our prior work,^{20,32} each focus group will enroll 8-12 participants, occur asynchronously over 2 consecutive days, be moderated by two members of the investigative team, and conducted until data reach saturation.

Data analysis. Quantitative data will be analyzed in SPSS using descriptive and inferential statistics. Group differences (e.g., < age 18 vs. age 18, out vs. not out, perceived risk of HIV) in app use behaviors and app-related sexual behaviors will be examined using chi-square tests for categorical outcomes and ANOVAs for continuous outcomes. Qualitative data from open-ended survey items and focus group transcripts will be analyzed thematically⁴² in Dedoose.

Survey domains	Focus group domains
<i>App use patterns:</i> Which apps specific to gay/bisexual guys have you used to meet other guys for sex?	<i>Progression of app use:</i> How did you learn about apps that guys use to meet guys for sex? What are the different ways you use these apps?
<i>Motivation for use:</i> I have used apps to meet other guys for dating, romantic relationships, or sex because I don't know many other gay/bisexual guys where I live; <i>for AMSM who have not used them for sex:</i> For what reasons have you chosen not to have sex with guys from these apps?	<i>Sexual identity development:</i> Some guys use these apps to explore their sexuality and sexual orientation. If you had this experience, please describe.
<i>Self-presentation:</i> What age do you put on your profile? What does your profile picture look like?	<i>Self-presentation:</i> Describe how you chose the information you have in your profile.
<i>App-specific sexual behaviors:</i> Were you more often the receptive or insertive partner during anal sex? How frequently have you and/or these partner(s) worn a condom during anal sex?	<i>Sexual decision making process/sexual risk:</i> What information did you use to decide whether it was safe to meet this partner? How long did you talk before you met in person?
<i>Sexual partner characteristics (3 most recent partners):</i> How old was this partner? What was this partner's HIV status?	<i>Benefits/drawbacks:</i> What are the benefits of using these apps? What concerns do you have about using the apps as a teenager?
<i>Consent:</i> I always verbally ask for consent before I initiate a sexual encounter.	<i>Consent:</i> Describe how you negotiated the types of sex you had with this partner.

Significance. Although our preliminary work suggests that it is not uncommon for AMSM to use hookup apps to find partners for sex, little else is known about their patterns of use, sexual behavior, and sexual decision making related to app use. The proposed project will be instrumental in establishing the empirical knowledge base on AMSM hookup app use and sexual behavior, and will expand our knowledge of sexual development and sexual identity development among AMSM. Findings will be used as a basis for a federal grant application aimed at HIV risk reduction and sexual health promotion for hookup app-using AMSM.

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