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New Media Society published online 7 February 2014

DOI: 10.1177/1461444814521595

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new media & society

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DOI: 10.1177/1461444814521595

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Courtney Blackwell and Jeremy Birnholtz

Northwestern University, USA

Charles Abbott

Cornell University, USA

Abstract

While online spaces and communities were once seen to transcend geography, the ubiquity of location-aware mobile devices means that today's online interactions are deeply intertwined with offline places and relationships. Systems such as online dating applications for meeting nearby others provide novel social opportunities, but can also complicate interaction by aggregating or "co-situating" diverse sets of individuals. Often this aggregation occurs across traditional spatial or community boundaries that serve as cues for self-presentation and impression formation. This paper explores these issues through an interview study of Grindr users. Grindr is a location-aware real-time dating application for men who have sex with men. We argue that co-situation affects how and whether Grindr users and their behavior are visible to others, collapses or erases contextual cues about normative behavior, and introduces tensions in users' self-presentation in terms of their identifiability and the cues their profile contains relative to their behavior.

Keywords

Computer-mediated communication, gay, location, online dating, self-presentation

Corresponding author:

Jeremy Birnholtz, Department of Communication Studies, Northwestern University, 2240 Campus Drive, Evanston, IL 60208, USA.

Email: jeremyb@northwestern.edu

Introduction and context

Early scholarship on online social behavior focused on the internet as an independent space that transcends geography, thus facilitating identity experimentation and online relationships or sexual encounters (e.g., Turkle, 1995). These were particularly desirable for men who have sex with men (MSM), as online interaction allowed for meeting others with less risk of outing oneself or having to travel to gay-specific places (Campbell, 2004; Jones, 2005; Shaw, 1997; Tikkanen and Ross, 2000; Woodland, 2000).

Now that the internet pervades everyday social and work life, however, most online interaction occurs in relationships that already exist offline (Baym, 2010) or in meeting new people for local offline relationships (Ellison et al., 2012; Gudelunas, 2005; Sutko and De Souza e Silva, 2011). Rather than obviating geography as a constraint on interaction (Cairncross, 2001) and creating separate interaction spaces like chat rooms, today's internet layers physical and online spaces. In particular, the ubiquity of Global Positioning System (GPS) technology has led to location awareness in games (Licoppe and Inada, 2008), social coordination (Guha and Birnholtz, 2013; Lindqvist et al., 2011), and meeting others nearby (Sutko and De Souza e Silva, 2011).

Dating sites, one context in which location information can facilitate meeting others, have become particularly popular among MSM, with nearly 70% of same-sex couples in a recent study saying they met online (Rosenfeld and Thomas, 2012). In addition to traditional dating, Handel and Shklovski (2012) identify "location-based real-time dating" (LBRTD) applications that facilitate local, immediate social or sexual encounters. This is distinct from dating sites, which focus on meeting people in a general area and may involve weeks or months of online communication before a date. LBRTD systems draw on a history of technologies and spaces for sexual encounters among MSM, ranging from chat rooms accessed primarily via PCs (e.g., Campbell, 2004; Shaw, 1997) to dating sites (e.g., Gudelunas, 2005; Mowlabocus, 2010).

LBRTD apps are unique in that they are accessed primarily via mobile devices and use fine-grained location information to identify nearby users. This ability to identify and meet nearby MSM in ostensibly "straight" or not otherwise sexualized spaces raises novel questions around presentation and perception of identity, and more generally about the future of interactions in and around explicitly gay spaces (Bumgarner, 2013; Kapp, 2011; Sella, 2011; Woo, 2013).

In this paper we focus on Grindr, an LBRTD app for MSM. We aim to conceptualize it as a "co-situation technology". By this, we mean that Grindr aggregates individuals into a single virtual place that: (1) layers virtual and physical places in ways that affect people's visibility to each other, (2) collapses or erases contextual information that people use in discerning norms and others' intentions, and (3) creates tension in users' strategies for self-presentation as they craft positive identities in an environment where identifiability by outsiders may be perceived negatively.

Research context: Grindr

Grindr is a mobile LBRTD app released in 2009 that has over 3.5 million users in 192 countries.¹ Our characterization here is based on the experience of two of us using Grindr regularly for at least one year prior to this study.²



Figure 1. Main screen showing nearby users (left) and individual profile (right). Images courtesy of Grindr's press kit and do not, to our knowledge, show study participants.

When a user signs in to Grindr, he³ sees a grid-based arrangement of profile images for nearby users who have signed in within the last hour, arranged in ascending order of geographic proximity (Figure 1, left). Proximity is calculated based on GPS coordinates, automatically shared at login. Users of the free Grindr app can see up to 100 nearby users, while “Grindr Xtra” (US\$2.99/month) users see 200 more.

Tapping a user's photo reveals his profile (Figure 1, right), which includes a photo, brief headline, physical traits (height, weight, race), what he seeks on Grindr (e.g., friends, chat, dates), his geographic distance (in feet/miles or meters/km) from the user, and a short (< 150 characters) text blurb. All elements are optional, including proximity. When a user hides proximity, however, Grindr presents his image between those who are relatively closer and farther away. From the profile, one can start a private chat (Figure 3). Within the chat, users can share additional photos or exact location (via map “pins”). Public and group chatting are not possible.

While it is primarily geared toward seeing others nearby, Grindr provides limited contact management. One can “favorite” people, so they will be displayed even when not

nearby. This feature is unidirectional (i.e., Alex can favorite Bill without Bill favoring Alex), and no notification is provided. One can also “block” others, which is reciprocal in that the blocked and blocking users become invisible to each other. Finally, one can elect to view “recent contacts” sorted by time of last chat.

Importantly for our interest in impressions, Grindr was initially an application for seeking immediate sex (Mowlabocus, 2010). It is now used for more social purposes partly because certain vendors found sex-seeking apps undesirable (Easton, 2009) and partly because the user base has expanded. While Grindr initially had no content restrictions, it now has strict rules⁴ for profiles, and photos are reviewed before they are visible.

We selected Grindr because: (1) it is popular and indicative of trends in online MSM interactions, (2) it is a useful case of an LBRTD application with significant consequences for self-presentation, and (3) it is familiar and we can draw on our own experience.

Literature review

Studying places, spaces and their interplay with behavior requires an empirical perspective that captures user experiences and reflections. Our interest is in understanding people’s strategies for managing challenges presented by the confluence of location awareness and online interaction. Analytically, we draw on Goffman’s (1959, 1963) theories of self-presentation and behavior in public places, which we selected for their focus on audiences and behavior. Goffman (1959) defines self-presentation as effort spent to shape others’ impressions of oneself. Such impressions are shaped via cues that can be “given” by the actor (i.e., what they say) or “given off” by their behavior (i.e., what they do). Interpretation of these cues is then affected by the context, along with the appearance and manner of the actor. These processes can become problematic in a layered environment like Grindr, as geographic and contextual boundaries are unknowingly crossed.

Places, spaces, and visibility

A key theme in work by cultural geographers on queer and sexualized spaces has been the creation of identities for urban spaces and the individuals that inhabit them (Brown, 2008). Johnston and Longhurst (2010) distinguish “communities”, which transcend geographic boundaries to bring people with shared interests together, from urban “zones”, in which geographic boundaries (e.g., queer neighborhoods, red-light districts) serve to attract people with shared interests (Brown, 2013). This separation highlights a key tension in understanding location-based technologies like Grindr in light of extant literature.

Prior work describes how MSM use technology to meet others online and for real-world relations (Campbell, 2004; Mowlabocus, 2010; Shaw, 1997), in addition to work by Gray (2009) exploring rural LGBTQ youth’s use of technology to connect with others and Gudelunas’ (2005, 2012) empirical evidence of how MSM meet for various types of encounters. However, Grindr is distinct from prior systems and spaces because users are

visible not just based on interest (i.e., only MSM are likely users) or geography (i.e., only those who are physically close are visible), but a combination of these elements (i.e., only those who are MSM/Grindr users *and* physically close are visible). While some chat rooms may have a geographic focus (e.g., “gaychicago”), participation in such rooms is a function of self-identification by joining the room. This stands in contrast to Grindr, where geography is the primary determinant of visibility to others. This combined approach means that boundaries are difficult to discern, as people are visible whether or not they are in the same neighborhood.

Location awareness, moreover, raises new questions about community and boundaries. Sutko and De Souza e Silva (2011) present a taxonomy of location-aware systems that distinguishes between types of information shared (e.g., place names vs. GPS coordinates), whether information is shared with strangers or known contacts, and the nature of communication. With Grindr, GPS coordinates are shared with a server, which keeps exact location private but uses it to calculate geographic proximity to others. Only this distance is shared with other users. This allows for meeting proximate strangers without having to identify known contacts or socially defined place names (e.g., bars or neighborhoods, see Guha and Birnholtz, 2013). At the same time, though, this means Grindr co-situates geographically proximate users in a way that transcends and conflates socially defined places and neighborhoods (Bumgarner, 2013).

Co-situation of goals and spaces

Where cultural geography is concerned with how meaning is ascribed to geographic spaces, Goffman’s (1963) work on public behavior explores how people discern what constitutes normative behavior in different contexts. This can serve to guide both one’s own behavior and impressions of others. Such norms are of particular historical importance in spaces targeted toward (or used by) MSM populations. Historically this was because homosexual encounters were considered deviant, so were initiated subtly to avoid stigma (Humphreys, 1970). In online MSM spaces, Campbell (2004) discusses the negotiation and presence of interaction norms, and the collective creation of interaction spaces for sexual topics. Jones (2005) further discusses norms around photograph exchange.

Context, however, can be a problematic construct online. Marwick and boyd (2011) discuss how “context collapse” often occurs on social network sites when people bring together different social groups (e.g., friends, colleagues) in a single online setting, and content or interactions intended for one audience may be seen and interpreted by others. In addition to contact with multiple audiences, a single online space can also facilitate a range of goals and interactions. On LBRTD apps like Grindr, for example, users may be looking for immediate sexual encounters, dates, or just chatting (Bumgarner, 2013).

While past online MSM environments brought people from multiple contexts together, the non-mobile nature of these often forced people to choose between interacting with other MSM online and interacting in social contexts face-to-face. Grindr, on the other hand, forces no such choice. It runs only on mobile devices and can be used even when one is in a social context, thus expanding existing social opportunities and rendering other nearby MSM potentially visible in a way that previous systems did

not (Bumgarner, 2013; Woo, 2013). As such, people's experiences of place and expectations about others' behaviors also become layered in complex ways. This raises questions about how context affects impression formation on Grindr and how people discern others' intentions.

Constraints on behavior and self-presentation

Another key attribute of self-presentation in any environment is control over one's identity and identifiability. Campbell (2004) discusses identity manipulation and sense among his participants that people met online would often differ substantially from expectations. On dating sites, Ellison et al. (2012) describe how profile construction affords some flexibility in self-presentation, though manipulation of attributes is constrained by the likelihood of a physical meeting. Thus, there is an incentive to present in an attractive, but plausible, light. This may be more true for Grindr given the importance of photos relative to other profile elements on MSM sites (Brown et al., 2005).

There is also an important distinction between one's presented identity in an online space and identifiability. This latter concept refers to the ease with which an online identity can be connected to a known person (Woo, 2006). As Woo notes, some data are not overtly identifying (e.g., online purchases), but can be tied to an individual. Other data, such as profile photos on dating sites are overtly identifying for those who know and recognize an individual. This latter type of information must be shared carefully, so a key consideration is how much information to disclose in one's profile.

This can be of particular concern for MSM users of LBRTD sites because both sex with men and one-time sexual encounters may be stigmatized. While broader acceptance of homosexuality has reduced concerns about stigma (Hirshman, 2012), some may nonetheless fear negative consequences from being perceived as gay (King, 2005) or as a "slut" (e.g., Conley, 2011).

On Grindr, moreover, photos are visible by default. This stands in contrast to earlier systems, where photo exchange took place after interacting (Jones, 2005). Thus, users posting identifiable photos may be immediately recognized by anybody nearby who logs in and not just those with whom they elect to share photos. This differs, too, from conventional dating sites where photos are shared in that Grindr users are most visible to those who are nearby, with proximity calculated at a much finer level of granularity.

Furthermore, simply being in a particular physical location can serve as a cue in impression formation. This is true both for being in a particular place and appearing or behaving in a certain way (Goffman, 1963; Harrison and Dourish, 1996), as well as for identifying with a particular location by checking in there on, for example, Facebook or Foursquare (Lindqvist et al., 2011). In the case of LBRTD apps that co-situate across locations, however, boundaries of traditional spaces disappear. All that remains is the app itself, which may carry its own set of setting-based cues (e.g., as a "place" for seeking sex).

This conflation of geography and multiple intentions has the potential to cause tension, as people may not wish to be immediately identifiable to anybody nearby who downloads Grindr, and may not wish to be thought of as seeking sex on a mobile app (Bumgarner, 2013).

Research questions

Based on the issues identified above, we aim to enrich understanding of interplay between self-presentation and impression formation with layered physical and virtual locations. We seek to answer three questions:

RQ1: How do Grindr users experience proximity-based co-situation, and how does this vary in different geographic spaces and places?

RQ2: What is the effect of co-situating Grindr users with multiple goals and purposes, and how do people discern the intentions of other users in such an environment?

RQ3: How do people manage identity and identifiability concerns on Grindr, an environment where only proximity is used for filtering?

Method

We conducted 36 semi-structured, 30–60 minute interviews with Grindr users. Nine interviews were conducted in Ithaca, NY between December, 2011 and March, 2012; 27 were conducted in Chicago, IL between September and December, 2012. While recruitment occurred in these two locations, participants used Grindr in other locations as well, both nationally and internationally. Participants ranged in age from 19–55 (median = 24). All but one identified as gay, with this participant identifying as straight but exploring his identity.

Participants were recruited through flyers on college campuses and on Grindr via a profile that advertised the study using our University emblem and a brief description (Figure 2). Participants could email or contact us through Grindr with questions or to participate (Figure 3).

To help preserve anonymity and ensure participant comfort in discussing potentially sensitive topics, we offered participants three interview options: in-person, telephone, or online chat. Interviews in all media used the same semi-structured protocol and participant responses were similar. Phone and in-person interviews were recorded with participant permission and transcribed, while text transcripts of online interviews were analyzed directly.

Analysis was guided by our research questions, stemming from a theoretical perspective influenced primarily by Goffman's work on self-presentation and impression formation. We used techniques for categorizing and coding described by Miles and Huberman (1994). While we did not have field notes from our initial participation in the Grindr community or consider these experiences as part of our empirical data set, we did draw on our own experiences in crafting our interview protocol and interpreting the experiences of our participants. We used our experiences to better understand and represent our participants, but do not report on our experiences directly.

To code data, two of us (one Grindr user and one non-user) closely read the transcripts, making notes and engaging in constant comparison (Glaser and Strauss, 1967). Through discussion, an open coding scheme was developed via document annotation and using a spreadsheet to track categories and data. Coding included marking relevant transcript sections with codes reflecting key themes and trends. The coding scheme was periodically refined in light of discussions among the researchers, and data were subsequently re-coded for the updated categories as necessary. Coded data were then analyzed to discern any additional themes, and these were used to drive analysis and discussion.

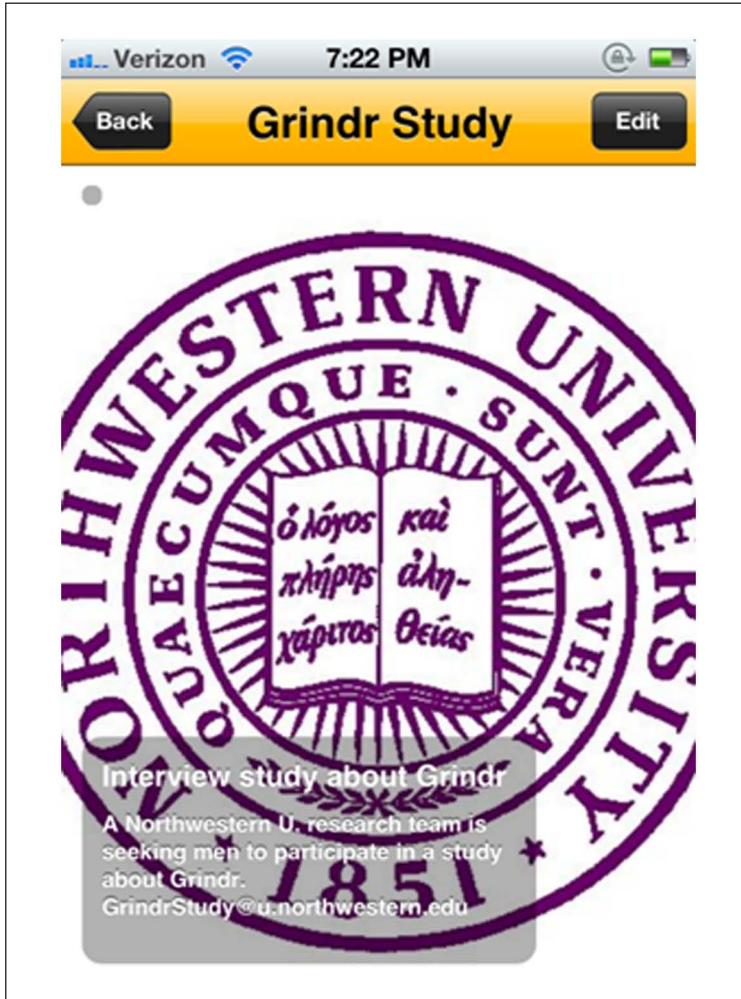


Figure 2. Screenshot of profile used to recruit participants.

As we studied a potentially vulnerable population, we carefully considered our own positionality with regard to MSM and Grindr (e.g., Weston, 1998). Two of us had previously used Grindr and drew on those experiences to shape data collection and analysis. We view this as a strength because we had “insider” knowledge of how Grindr worked and a general sense of the community.

Additionally, our positionality played a role in conducting interviews, as some (9) were conducted by a gay male Grindr user and the rest (27) were by a straight female. For the former, the researcher and several participants were familiar to each other and had interacted before both on Grindr and face-to-face. On the one hand, this familiarity – and assuming the researcher understands Grindr – could lead to openness about common



Figure 3. Sample Grindr conversation between researchers and a participant.

experiences. On the other hand, these participants could also have been more conscious of how the research would be perceived by the researcher, who was an insider. We considered these possibilities in our analyses, but observed no systematic differences between these interviews and those conducted by the same researcher with strangers from nearby cities.

For the remaining interviews, participants were sometimes surprised to learn the researcher was female, saying they expected a gay man. We believe that this “outsider” position was a strength because the researcher had not used Grindr and had no preconceived notions of it. Potential sexual attraction was also unlikely to affect participant responses (e.g., Kendall et al., 2009). This also meant some participants provided more detail about Grindr and their behavior because they believed the female researcher knew little about it. Further, participants did not hesitate to use explicit detail (e.g., discussing contracting sexually transmitted infections (STDs) and using sexually explicit language), such that a female interviewer did not seem to constrain participants’ descriptions of their experiences.

Results

How do people experience co-situation?

RQ1 asked how people experience co-situation on Grindr. A clear theme was that participants viewed Grindr as a virtual place in which they were co-situated with other MSM,

across multiple physical spaces and places. Jim (a pseudonym, as are all subsequent proper names) said:

What I like about Grindr is that it makes every space a potentially gay space... Gay men have plenty of spaces much more than other people but there's a lot of places that are still heterosexual. And Grindr gives me the chance to pull out my phone and have a gay bar in my pocket.

Jim went on to describe an experience he had at a bar where he "was feeling very very alienated from everyone else there because... it was a very very straight feeling space". However, with Grindr he was able to locate and chat with another co-situated gay man who was down the street at another straight bar. This illustrates how Grindr serves as a gay place that is accessed from and layered on top of a range of physical places. While Jim's physical setting (a primarily heterosexual bar) would not ordinarily be a cue leading others to believe he is gay, Grindr is a virtual setting in which his presence can indicate this.

For many in more rural or isolated areas, the creation of a virtual place was important because there may not be physical gay places. As Sam noted, "There isn't a consistent... gay social space here, except online, in Ithaca". Similarly, Mark said, "For people in remote areas, I think it's, it's a huge deal to be able to communicate, at least to communicate... with other gay men, when there's... no physical place to meet". Thus, Grindr is seen as a virtual place for connection even while people are in predominantly heterosexual social spaces.

Participants also described additional ways in which Grindr as a virtual setting functioned differently in different contexts, and these had important consequences for people's visibility and expectations. For example, participants in Chicago, which has a dense and widespread distribution of Grindr users, indicated that moving relatively short distances through the city (i.e., between neighborhoods) can result in significant changes in the set of visible Grindr users. As Jim said, "If I were to take the train one stop south on the red line for instance, I would meet a totally new batch of guys". This fluidity was mentioned by many participants. As John explained, "When I'm in East Lakeview and Boystown, it's your standard white guy who wants another white guy who goes to the gym all the time who has muscles... When you're here in Lincoln Park... they tend to be a little bit more discreet about their orientation or their sexual activity".

Participants in less population-dense areas, such as Ithaca, a relatively isolated university town, reported a different experience. Here the set of others on Grindr remained relatively constant even when participants moved around the general area, though the order of appearance shifted based on exact locations. Participants also saw people not nearby, as Ethan, who lives in Ithaca, described:

It's kind of boring in Ithaca... If I load more guys, the first screen is probably within Ithaca. The second screen is probably going out to Cortland, Binghamton area [10–30 miles away]. And then third screen... we're already in Syracuse [45 miles away]. And it's like, wow. There's not many people with it.

This also affected the visibility of newcomers. In a city, users can move in and out of areas without necessarily being noticed because others often see many new faces. In a

less densely populated area, however, unfamiliar users are more rare. Participants who had traveled to rural environments, such as Drew, described excited reactions from local Grindr users:

[It was] a really small little town so basically it's a pretty insulated gay world there. And so the minute I logged onto Grindr there it was like BAM! You know it was just everybody was just messaging me. And I got together with one guy at some point... and he was saying... 'you're like the new guy because we all know each other and we've all fucked each other 10 times. And all the sudden there's a new guy, you know, walking in'.

In some ways this is similar to the anonymity generally afforded by cities relative to smaller towns. What is unique here is the way in which the set of users visible on Grindr (and the visibility of any user) is dependent on both geographic proximity and the density of user distribution in geographic space. In relatively dense areas, this results in each user seeing a different set of people, and this set changes as they move through the space. In isolated areas the complete set of nearby Grindr users is likely to be visible all the time, alongside varying numbers of users in nearby cities. These fluid boundaries stand in contrast to the purely topical boundaries of chat rooms or the purely location-based boundaries on apps like Foursquare.

How does co-situation of goals affect interaction and impressions?

RQ2 asked about the effects of co-situating individuals with a range of goals and objectives. In the absence of clear social notions of place and physical boundaries, Grindr can make it harder to determine the intent of others using the app. There was consensus from participants that regardless of where they used Grindr, there were others signed in with different intentions. As John described, "people who are looking to hook up, people who are looking for dates, and people who are just looking for chats and [to] make friends".

While Grindr does have a "looking for" space in the profile, this indicator does not always communicate intentions effectively, partly because looking for sex is not an option. As Drew noted, "you can't explicitly say, 'I'm looking to have sex'", suggesting that more nuanced norms were often drawn on to discover others' intentions. This could be confusing sometimes. For example, participants said the term "friends" in one's "looking for" field can literally mean friends but is often interpreted to mean friendship with a sexual component.

In an effort to understand others' intentions, many participants relied on cues from profile photos, consistently describing three general types of photos that hint at emergent norms within the virtual place: face pictures, headless torsos, and landscape/blank photos. As Dan summed up:

Face pictures connote a more genuine and honest person whereas torso pictures connote secrecy and physical priority. I think [blank pictures] are cop outs and [those users] are either not out or not confident. But I don't want to interact with those people because I want someone who is comfortable with who they are.

While different profile pictures aided Grindr users in determining what others on the app were looking for, sharing a space with others who said they were using the app for different purposes sometimes created tension. As Drew described:

I get a little frustrated... when there are these guys who sort of pretend like this is somewhere like where you're supposed to meet like friends or like find dates and that sort of thing. I'm sure there are guys who use it for that, but the fact of the matter is that the majority of people on there are to fuck. And so it's almost like they're fucking the system in a way by uploading a landscape picture or no picture or some goofy or jokey kind of a picture... I kind of get annoyed when I see someone doing what I think of as fucking the whole point of Grindr.

Similarly, Chris noted that, for him, Grindr itself is sexualized, saying he does not understand why people would use it to make friends or find dates. He compared it to "going to a bathhouse to meet friends". These comments highlight the distinction between physical places or even chat rooms – in which elements of others' behavior are visible to those present – and Grindr as a virtual place in which most interaction is private. Our participants' experiences suggest that many people do successfully use Grindr to meet friends or dates, just as Chris and Drew were successful in finding sex. What is different on Grindr is that the only visible behavior is users' profiles, which may convey intent but do not show the details of private chat interactions. Thus, people in a co-situated space like Grindr can have a range of norms and expectations, with little evidence in terms of visible cues from others to confirm or refute these expectations.

Further confusing matters, there was often an underlying tension between what participants said they wanted on Grindr and their actual behavior. Many participants who primarily sought friends and chat, for example, said they sometimes also looked for sex. This affected the types of photos they were looking for and the people they talked to. John said that when he is looking for friends or relationships, "I prefer someone who I can see their face because I'm presenting myself and I want you to present yourself... but when I'm kind of just cruising to see who I can hook up with, if you have a beautiful body and it's headless, I don't care". Thus, even within individual use, intentions can change, and men did not always update their profile to reflect a temporary change in preferences. In Goffman's terms this creates a conflict between given cues (i.e., using language in a private chat that overtly seeks sex) and those given off (i.e., a profile constructed to convey friend-seeking). In other words, photos and profiles can often, but not always, be reliable indicators of others' intentions.

Thus, while Grindr enabled a shared online gay space that transcended traditional demarcations, the co-situation of users with multiple, sometimes orthogonal, goals also created a space of contention between those with different intentions and ideas about the purpose of Grindr. This was rendered more difficult in that, in contrast to chatroom-based systems such as Internet relay chat (IRC) studied in prior work (e.g., Shaw, 1997), much of others' behavior is not visible within Grindr, and profiles are not always accurate in-the-moment.

How do people manage identity and identifiability?

RQ3 asked about the tension in self-presentation between presenting a positive identity and not revealing too much identifiable information. Consistent with prior work and the

ways in which participants said above that they relied on others' photos, participants described their own photos as a critical element of self-presentation. As Max said:

You pick one [photo] that you think you'll look good in, and more importantly what will attract others... [I want others to think I am] hot. I want to be wanted, to be desired by others. You have a good picture. Something that shows off something you have, or that you think makes you look good.

Brian also described the importance of attributes in the profile, such as age, regardless of its accuracy. He said, "25 is gay death. So, you don't want to be over 25... if you can pull it off... And I believe I can". What is interesting here is that Brian sees age not as an immutable trait, but as an element of self-presentation that must be plausibly supported by evidence in the profile (e.g., a photo) and perhaps in a real-life encounter. While it is, of course, technically possible to verify age (e.g., via driver's license), no participants discussed this possibility.

Though an attractive photo and profile were important, most participants described some tension in crafting an appropriate self-presentation on Grindr. All participants wanted to be perceived positively by other users they were interested in meeting, but another common concern was revealing one's identity (and sometimes interest in sex with men) to unknown others or known others they did not wish to interact with on Grindr. As Jay noted, "I just moved back into town. I'm not out. So I don't want it all over there", suggesting he wants to keep his sexuality private in an online space open to all nearby users, some of whom he may know from other contexts. What is unique here is not the possibility of knowing those met online, but the probability of this occurring in comparison to prior online systems, given that one is most visible to those who are most nearby. To manage this tension, some participants used non-face profile pictures, such as a landscape or blank photo, to hide their identity. In doing so, however, participants realized they were at a disadvantage for meeting others given that some users, including our participants, did not click on these photos.

Some participants described themselves as "out" and were comfortable with others being aware of their sexual preferences but felt a need to separate their professional and private lives. Victor, for example, was concerned that his presence on Grindr was at odds with his job as a counselor for people with AIDS. He chose a non-face picture because he felt conflicted over presenting himself on an app (and in a virtual place) negatively perceived by some as primarily for casual hookups, when he felt he was supposed to promote safe sexual behavior at work. While Grindr is not solely used for hookups and HIV is not spread only via unsafe sex, Victor felt it important to not reveal his identity in his photo. As he said:

Since my profession now, I can't even have my picture there anymore. And that... bothers me but I work now in the gay community now so I cannot put myself out there... I'm... an advocate for them... for safe sex... And I'm helping young teenagers... I am embarrassed to put a picture up there if I work in the gay community. I cannot put myself on there.

Victor's feelings about possible stigma from being on Grindr reflect a somewhat more extreme position on an issue common among participants, particularly those who used Grindr in places where they were more likely to know other users offline, such as a small

town or a college campus. Blake, a medical student in Syracuse, NY, said he used a picture of his face and clothed upper body, noting, “God forbid, you know, I see someone on here that ends up being a patient of mine. And their first impression of me when they see me, if we’ve talked before is... a shirtless torso”.

Another related concern that participants from one college campus mentioned was “slut-shaming”, or the teasing of people perceived to be engaging in casual sex. Matt, for example, said he used a fake name and photo on Grindr:

I just like don’t want my face like plastered up there... I think there’s a lot of... slut-shaming. That sort of thing. And... I didn’t want my face to be up there and... not notice somebody from my dorm is... either a torso or on the profile and not have a chance to... block them quickly.

The latter part of Matt’s quote is illustrative in two respects. First, it highlights Matt’s concern about seeing or being visible to people very nearby (i.e., in his dorm). Second, it shows his strategy for dealing with this problem. When he saw somebody he thought he recognized, he “blocked” them on Grindr. In effect, this allowed him to disclose his photo only to select others. In contrast to network- or friend-based sites/apps, this is “opt out” rather than “opt in”. Another strategy for selective disclosure was described by Tyler, who used a non-face profile picture, but when he wants to meet somebody he sends them a face photo privately to start the conversation. This strategy, while analogous to the photo-sharing behaviors described in prior work on chat rooms, is less normative on Grindr and carries the risk of being ignored if the person being messaged does not check to see if a photo has been sent.

In addition to these strategies for selective disclosure, participants described putting significant effort into crafting their profiles to convey their intended impression and often avoid being perceived as looking just for sex. As Jake remarked, “[I want my picture to show I’m] not looking for sex and looking for more social interactions. That’s why I have a face picture and not a torso picture because that might be taken as looking for sex”. For Joey, who self-identified as straight but was using Grindr to explore his sexuality, the importance of being seen as genuine was heightened as he sought to fit into Grindr and interact with others. He used a face picture because he was “trying to give off a little less of a ‘trashy’ look”.

Not all participants, however, wanted to avoid perceptions of using the app for sex. Drew was unapologetic about his strategy for showing that he seeks to hook up:

I have all of my physical stats. And then the actual profile blurb, I think I say, ‘total top grad student’ or something like that... So by saying ‘total top’,⁵ that’s obviously like code for I’m not on here... to make friends or anything like that... I suppose the whole, the whole thing communicates that I’m like this big dominant guy... ’cause I have kind of a beard in the picture and I’m pretty big and muscular anyway and the picture certainly shows that.

Overall, co-situation on Grindr posed different tensions for users’ self-presentation than other location-aware apps. With a desire to be seen by others but maintain some level of privacy when everyone nearby can see who else is on the app, Grindr users engaged in identity-masking strategies to ensure some level of control over self-disclosure. For those

more concerned with being attractive and honest, they balanced this through their profile picture while others used the picture to subtly display their intentions for using the app.

Discussion

Cues and the layering of physical and virtual places

A key theme in our results was that proximity-based co-situation, combined with the nature of public and private behavior on Grindr, led to complex layering of virtual and physical places and conflation of their boundaries. This affected how people formed impressions of others and presented information about themselves.

One clear effect was on the visibility of behavior and other cues across multiple layered settings. When Jim, for example, was signed into Grindr from a straight bar his presence in the bar and his behavior were visible to others in that physical place. His presence on Grindr, however, was visible only to other nearby Grindr users. Unless they were also in the bar and saw him, they did not know his physical location, and others in the bar were unaware of his presence on Grindr. His interactions on Grindr, moreover, were visible only to people he was interacting with. In this way, Jim could present simultaneously to two audiences: the mostly straight bar clientele and the other nearby MSM signed into Grindr. The ability to present to multiple audiences is, of course, not unique to Grindr. What is distinct here is visibility to and interaction with nearby strangers with similar interests across fine-grained geographic boundaries (i.e., walls between adjacent bars).

Even within Grindr, users can present to multiple audiences. Their profile is visible to all others signed in. In their private interactions, however, participants could present more private cues. Sometimes these cues were consistent with their public-facing presentation, but sometimes there was tension between these (as when, for example, people nominally seeking friends were actually looking for sex in their private conversations).

All of this took place, moreover, in a physical space much larger than participants' immediate surroundings. Grindr, in contrast to prior systems used by MSM, provides a virtual setting that physically expands and contracts with the density of users. Borrowing from Harrison and Dourish's (1996) notion of "places" as socially defined overlays on geographic spaces, Grindr provides an overlay, or virtual place, that is defined more by audience size and density than by spatial boundaries. It is rooted in physical geography, as the user's and others' locations are used to determine who is visible, but the exact composition and boundaries are different for every user.

The larger effect here is that Grindr aggregates individuals across geographic spaces in ways that conflate and combine socially defined places. It also alters the relationship between place, presence and the visibility of behavior. This occurred in two ways. First, the result of co-situation was that one could present to audiences in both physical and virtual places. On its own, of course, the ability to present to multiple audiences is a feature of all online interaction (e.g., (Turkle, 1995; Wallace, 1999)). What is unique here is that the online audience is also proximate, and immediate face-to-face interaction is very often the goal.

Norms and expectations

The combined effects of co-situation and Grindr's design suggest complex answers to questions about co-situation and the future of overly gay or sexualized spaces for MSM. On the one hand, co-situation fundamentally changed the nature of participants' visibility to nearby others at an unprecedented level of geographic detail, as well as via profile photos displayed by default and the visibility of their interest in sex with men, which is not ordinarily an overtly visible trait or cue. By enabling visibility to transcend spatial boundaries, Grindr allowed our participants to connect with other MSM in a shared virtual place even when they were in an already social physical context (i.e., as opposed to chatting from home). In this way, there is some reason for concern about whether or not there is a continued need for gay bars and other spaces, particularly in areas where one might have to travel to meet others with similar interests (see e.g., Gray, 2009).

On the other hand, though, participants also expressed frustration with Grindr. While many admitted to using the application for sex, quite a few of those sought to present the opposite impression to others at least in their public profile. Some felt this went against the primary purpose of the app. Others, such as Joey, were not looking for sex and just looking to explore their identity or chat with others nearby.

Grindr can be used for all of these things in that it is easy to download and access. Merely chatting, particularly without a face, requires a relatively low level of commitment to one's Grindr identity and lacks the warranting features provided by friends, contacts, and photos in other online environments (Walther and Parks, 2002). Interestingly, newer LBRTD apps (e.g., Tinder) address this issue by requiring that profile photos be drawn from Facebook, which potentially affords some additional legitimacy. In Goffman's terms, those who shared little information in their Grindr profiles "gave off" very few cues. Most cues were "given" and occurred in private chats. These, as Goffman notes, are manipulable and not always reliable. In this way, Grindr can blur distinctions between people who are fully present in an identifiable way and those who are merely lurking or "peeking" to see who is inside, in that all of them are co-situated without regard for how much information they share. This stands in contrast both to physical spaces (e.g., bars), where one must share identity to be present and interact, and to other virtual places in that, as noted above, visibility on Grindr is affected significantly by physical proximity. With Grindr, for example, it would be quite easy to download the app and immediately see if one's next-door neighbor is also signed in with a photo, in ways that would not be true with chat rooms or conventional dating sites where a specific person might be harder to locate. Our participants were concerned about this, as evidenced by Matt blocking others in his dorm or Victor's concerns about certain people spotting him on Grindr.

In interpreting others' profiles, however, our participants were wary of or did not talk to those without face pictures. In this way, Grindr provides for easy identity experimentation and manipulation, but the visibility of others' photos and people's unwillingness to talk also provides a normative incentive to construct a coherent and attractive profile. Here, the effect of co-situation is to encourage norms within the virtual place. At the same time, however, participants also described some variation in these norms, such as the neighborhood differences that John discussed. Thus, proximity-based co-situation

can mean that geographically localized norms form even within a virtual space, as Grindr users are more likely to see and interact with those who are nearby. For example, we did not study any locations that are very conservative and might stigmatize MSM, a key topic for future study.

Limitations and future work

As with any study of this nature, there are several limitations. We studied a limited population in two places within the United States. Usage of applications like Grindr likely varies substantially in different regions, particularly in places where same-sex relationships are less socially acceptable or people simply have different goals (e.g., Gray, 2009). This likely varies within the United States and even more substantially in other countries. We urge additional investigation of different types of places and users, as well as study of non- and former users to more fully capture the range of experiences and reactions to the system.

It is also possible that participants did not accurately recall their experiences, though we have no reason to believe this to be the case, and we note further that the interview protocol referenced the participant's Grindr profile and others' profiles specifically to prime accurate recall.

In addition to exploring Grindr usage in other places, we also encourage studies to capture wider ranges of behavior on LBRTD. This could include examination of conversations, content analysis of profiles, pictures, and other shared information. Such studies could more systematically examine the role of specific profile elements and people's reactions to them as, for example, in work by Toma and Hancock (2012).

Conclusion

Prior research distinguished between online spaces defined by shared interests and existing independent of geography, and neighborhood communities defined primarily by geography. Location-aware technologies challenge this distinction in that they can layer physical and virtual spaces, enabling (or forcing) people to present to multiple audiences simultaneously, and to be visible in different ways to these audiences. We have explored co-situation and self-presentation through Grindr, an LBRTD application for MSM.

We showed how Grindr brings people together in ways that transcend geographic boundaries, often blurring boundaries around physical places and communities defined by shared interests in particular activities. This affected people's interpretation of others' intent and behavior, in that it could be difficult to tell where another user was or what they were seeking on Grindr. This was particularly evident when there were differences between publicly visible behavior such as profiles and private behavior such as chat conversations.

Co-situation also affected people's self-presentation strategies. On the one hand, they wanted to be perceived as attractive by and interact with other Grindr users. On the other hand, participants were concerned about identifiability and the possibility of negative impressions by people who might view Grindr negatively. There was thus a tension between wishing to be perceived positively by other nearby attractive Grindr users they

wanted to meet, and avoiding negative consequences or stigma from those outside this group.

Acknowledgements

We wish to thank Jed Brubaker, Nicole Ellison, Mark Handel, Lee Humphreys and the anonymous reviewers for their helpful feedback on this work. We also thank the Cornell University College of Agriculture and Life Sciences and the Northwestern University School of Communication for their support of this research.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Notes

1. <http://www.grindr.com/press>
2. In August, 2013 a new version of Grindr was released that differs in some ways from what is described here. We describe the version that our participants were familiar with.
3. As Grindr's target users and all of our participants are male, we use male pronouns.
4. <http://grindr.com/profile-guidelines>
5. "Top" is a term commonly used among MSM to describe individuals who prefer a penetrative role in sexual activity; in contrast to "bottom", which describes those who prefer to be penetrated

References

- Baym N (2010) *Personal Connections in the Digital Age*. Cambridge: Polity Press.
- Brown G (2008) Urban (homo)sexualities: ordinary cities and ordinary sexualities. *Geography Compass* 2/4: 1215–1231.
- Brown G, Maycock B and Burns S (2005) Your picture is your bait: Use and meaning of cyberspace among gay men. *Journal of Sex Research* 42(1): 63–73.
- Brown M (2013) Gender and sexuality II: There goes the gayborhood? *Progress in Human Geography*. Epub ahead of print 29 April. DOI: 10.1177/0309132513484215.
- Bumgarner B (2013) Mobilizing the gay bar: Grindr and the layering of spatial context. Paper presented at the *Conference of the International Communication Association*, London, UK, 17–21 June.
- Cairncross F (2001) *The Death of Distance: How the Communications Revolution Is Changing Our Lives*. Boston, MA: Harvard Business School Press.
- Campbell JE (2004) *Getting It on Online: Cyberspace, Gay Male Sexuality, and Embodied Identity*. New York: Harrington Park Press.
- Conley TD (2011) Perceived proposer personality characteristics and gender differences in acceptance of casual sex offers. *Journal of Personality and Social Psychology* 100: 309–329.
- Easton R (2009) Will prudish app guidelines sink the iPhone? *Xtra*, 30 December. Available at: http://www.xtra.ca/public/National/Will_prudish_app_guidelines_sink_the_iPhone-7988.aspx (accessed 11 June 2013).
- Ellison NB, Hancock JT and Toma C (2012) Profile as promise: A framework for conceptualizing veracity in online dating self-presentations. *New Media & Society* 14(1): 45–62.

- Glaser BG and Strauss AL (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Hawthorne, NY: Aldine de Gruyter.
- Goffman E (1959) *The Presentation of Self in Everyday Life*. New York: Anchor Books.
- Goffman E (1963) *Behavior in Public Places*. New York: The Free Press.
- Gray ML (2009) *Out in the Country: Youth, Media, and Queer Visibility in Rural America*. New York: New York University Press.
- Gudelunas D (2005) Online personal ads: Community and sex, virtually. *Journal of Homosexuality* 49(1): 62–87.
- Gudelunas D (2012) There's an app for that: the uses and gratifications of online social networks for gay men. *Sexuality and Culture* 16: 346–365.
- Guha S and Birnholtz J (2013) Can you see me now? Location, visibility and the management of impressions on foursquare. In: *Proceedings of MobileHCI*, Munich, Germany, 27–30 August, pp. 183–192. New York: ACM Press.
- Handel M and Shklovski I (2012) Disclosure, ambiguity & risk reduction in real-time dating sites. In: *Proceedings of the ACM conference on Group Work*, Sanibel Island, FL, 27–31 October, pp. 175–178. New York: ACM Press.
- Harrison S and Dourish P (1996) Re-place-ing space: The roles of place and space in collaborative systems. In: *Proceedings of the ACM Conference on Computer Supported Cooperative Work*, Boston, MA, 16–20 November 16–20, pp. 67–76. New York: ACM Press.
- Hirshman L (2012) *Victory: The Triumphant Gay Revolution*. New York: Harper.
- Humphreys L (1970) *Tearoom Trade: Impersonal Sex in Public Places*. London: Duckworth.
- Johnston L and Longhurst R (2010) *Space, Place and Sex*. Lanham, MD: Rowman & Littlefield.
- Jones RH (2005) 'You show me yours, I'll show you mine': The negotiation of shifts from textual to visual modes in computer-mediated interaction among gay men. *Visual Communication* 4(1): 69–92.
- Kapp M (2011) Grindr: Welcome to the world's biggest, scariest gay bar. *Vanity Fair*, 27 May. Available at: <http://www.vanityfair.com/culture/features/2011/05/grindr-201105> (accessed 6 December 2013).
- Kendall L, Sunden J and Campbell JE (2009) How do issues of gender and sexuality influence the structures and processes of qualitative research. In: Markham AN and Baym N (eds) *Internet Inquiry: Conversations About Method*. Thousand Oaks, CA: SAGE, pp.99–130.
- King JL (2005) *On the Down Low: A Journey into the Lives of 'Straight' Black Men who Sleep with Men*. New York: Three Rivers Press.
- Licoppe C and Inada Y (2008) Geolocalized technologies, location aware communities and personal territories: The Mogi case. *Journal of Urban Technology* 15(3): 5–24.
- Lindqvist J, Cranshaw J, Wiese J, et al. (2011) I'm the mayor of my house: Examining why people use foursquare – a social-driven location sharing application. In: *Proceedings of the ACM Conference on Human Factors in Computing Systems*, Vancouver, Canada, 7–12 May, pp. 2409–2418. New York: ACM Press.
- Marwick A and boyd d (2011) I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society* 13: 96–113.
- Miles MB and Huberman AM (1994) *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: SAGE.
- Mowlabocus S (2010) *Gaydar Culture: Gay Men, Technology and Embodiment in the Digital Age*. Burlington, VT: Ashgate.
- Rosenfeld MJ and Thomas RJ (2012) Searching for a mate: The rise of the Internet as a social intermediary. *American Sociological Review* 77(4): 523–547.
- Sella M (2011) Men's lives: iBone. *GQ*. Available at: <http://www.gq.com/news-politics/mens-lives/201110/blendr-straight-grindr-app-review> (accessed 6 December 2013).

- Shaw DF (1997) Gay men and computer communication: A discourse of sex and identity in cyberspace. In: Jones SG (ed.) *Virtual Culture: Identity and Communication in Cybersociety*. Thousand Oaks, CA: SAGE, pp.133–145.
- Sutko DM and De Souza e Silva A (2011) Location aware mobile media and urban sociability. *New Media & Society* 13(5): 807–823.
- Tikkanen R and Ross MW (2000) Looking for sexual compatibility: Experiences among Swedish men in visiting Internet gay chat rooms. *Cyberpsychology & Behavior* 3(4): 605–616.
- Toma C and Hancock JT (2012) What lies beneath: The linguistic traces of deception in online dating profiles. *Journal of Communication* 62 (1): 78–97.
- Turkle S (1995) *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.
- Wallace P (1999) *The Psychology of the Internet*. Cambridge: Cambridge University Press.
- Walther J and Parks M (2002) Cues filtered out, cues filtered in: Computer-mediated communication and relationships. In: ML Knapp and JA Daly (eds) *Handbook of Interpersonal Communication*. Thousand Oaks, CA: Sage, pp. 529–563.
- Weston K (1998) *Long Slow Burn*. New York: Routledge.
- Woo D (2013) *Meet Grindr: How One App Changed the Way We Connect*. Seattle, WA: Amazon Digital Services.
- Woo J (2006) The right not to be identified: Privacy and anonymity in the interactive media environment. *New Media & Society* 8(7): 949–967.
- Woodland R (2000) Queer spaces, modem boys and pagan statues: Gay/lesbian identity and the construction of cyberspace. In: Bell D and Kennedy D (eds) *The Cybercultures Reader*. New York: Routledge, pp.416–431.

Author biographies

Courtney Blackwell is a PhD candidate at Northwestern University in the Media, Technology, and Society Program. Her research focuses on information sharing and educational technology.

Jeremy Birnholtz is an assistant professor in the Communication Studies Department at Northwestern University. His research focuses on how people manage attention and impressions in an increasingly connected world.

Charles Abbott received a BA in Development Sociology from Cornell University in 2012. His Honors Thesis was awarded Distinction in Research, and titled: “‘Going to a Bathhouse to Meet Friends’: An Exploratory Study of Grindr, A Social Networking Application For Gay and Bisexual Men”. He is currently completing sommelier certification at the International Culinary Center in New York, NY.