

Understanding the Role of Community in Online Dating

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ABSTRACT

Online dating sites have become a common means of finding a romantic partner. And yet, these sites differ greatly from many other socially oriented websites: perhaps most notably, the pairwise style of interaction afforded by these sites prevents a robust online community from forming. Users, however, have taken matters into their own hands by creating thriving external forums for discussion of specific dating sites. We report on a multiple methods study of two online dating services, via observation and interviews with users of the forums associated with these sites. Our findings suggest that these forums play an essential role in creating an “outsourced community” for the dating sites, and also reveal practices around how some users “game the system” in online dating, the prevalence of harassment in online dating, and users’ frustrations with current dating sites. We conclude with a number of recommendations for system design.

Author Keywords

Social computing; online dating; legitimate peripheral participation, online communities.

ACM Classification Keywords

H.3.5 [Online Information Services]: Web-based services

INTRODUCTION

Increasingly, online dating has become an accepted and even commonplace way to search for a partner. Recent surveys from the Pew Internet & American Life Project, for instance, indicate that 11% of American adults have used either an online dating website or mobile phone-based app; further, of those currently “single and looking,” this number rises to 38% [41]. 29% of Americans know somebody who has used online dating to find a spouse or long-term partner; for college graduates, this increases to 41% [41]. And, as of

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2013, the online dating industry generated around \$2 billion USD in revenue [36].

Part of the appeal of these sites is that, divorced from face-to-face indicators of attraction, both parties are free to present themselves in an idealized manner. Online dating offers a way to find potential partners you wouldn’t ordinarily meet, freer of context than in real life. Further, the online interaction is always between two individuals. In other words, while profiles are viewable by many, messages or chats are only sent from one person to another, and are not viewable by any other members of the site. This affords a privacy not easily experienced in real world contexts, where friends, family, acquaintances, and even strangers in public are often privy to the details of romantic encounters, whether firsthand or through the grapevine.

This pairwise interaction between two individuals means that dating websites are perhaps unique among socially oriented websites: unlike in other, more open, online communities, in which many people can see each others’ posts, interaction on dating sites is viewable only by the two involved parties. Further, even visibility of profiles may be restricted. For example, in heterosexual dating dynamics, absent putting forth effort to use the site in an unintended way, a user will only see profiles of the opposite gender—information that may not necessarily help that user understand how to better present his or her own profile on the site. This lack of visibility raises a number of questions: how are users learning to use these sites, and making the transition to “experts”? Are there norms that develop on particular sites, despite the fact that users cannot see a wide cross-section of behavior there? What impact does this lack of visibility have on participation on these sites?

One interesting effect of this lack of visibility is that entire “third party” user-created forums have arisen that are dedicated to providing an online community to users of specific dating sites. These forums—many of which have tens of thousands of members—facilitate sharing stories, critiquing profiles, and offering advice for success.

We were interested in both exploring the role these forums played in the culture of online dating, and in using them as a lens into behavior and practices of the dating sites—which may not have been directly visible on the dating sites themselves. In this paper we report on a multiple methods study of online dating users, involving observation of

community forums focused on two popular online dating sites, as well as interviews with users of these sites. We set out to understand:

- How lack of visibility into interactions shapes behavior, and how users move from novice to expert in online dating websites
- What social practices and norms exist around online dating, and how they are established and shared
- What design opportunities might exist for enhancing the experience of online dating

RELATED WORK

In this section, we review relevant prior work in the areas of online dating (and the design of online dating services), online communities and social networks more generally.

Self-Presentation in Online Dating

As noted in the introduction, one of the advantages of online dating sites is that they allow members to construct a carefully crafted persona to expose to potential partners. In fact, advice on “presenting your best self” has been seen as an important aspect of online dating since the earliest days of computer-mediated personals: for example, an early Usenet FAQ on online dating profiles both spoke of the benefits of being able to present one’s self to potential partners without needing to address physical attractiveness, location, or community, and tips on how to write the most advantageous profile for getting responses [6].

Dating site users appear to be well aware of the importance of self-presentation—and the role of the profile in conveying that self-presentation—in attracting potential matches [23, 44], and prior work has explored the role that deception plays in “fudging” quantifiable metrics like height and weight [42]. Physical attractiveness is also an important aspect in choosing a mate, and thus the photographs of members are highly salient to potential matches. However, previous studies have shown that around a third of photographs are rated as being “inaccurate” in their depiction of the member—and this deception is often a result of users’ desires to mediate, control, and enhance their self-presentation [25, 42].

Given the importance of the profile, it is perhaps unsurprising that roughly a quarter of online daters have been reported to have asked for outside help in creating their profile; there is, however, little data to suggest how this process works [26]. Given the widespread use of external help in crafting one’s self-presentation, we were interested in better understanding exactly how online dating site users were determining what information to present on their profiles. What affordances, if any, led to the discovery of methods to improve a profile? Additionally, we were interested to see if more sophisticated forms of deception had evolved since previous explorations in this area.

Online Dating Design

Other work has explored the designs of online dating sites, and the features that these systems provide. In a few cases, work has explored the possibility of creating more “experiential” systems with rich interaction modalities. For example, rather than focusing on text descriptions and searchable traits, some of these systems strive to create a virtual date experience [20]. Games like World of Warcraft have been appropriated to provide an immersive gaming medium for experiential online dating, for instance [43].

Much prior work has focused how online daters select potential mates, and which characteristics matter the most to them. For example, earlier studies have demonstrated the importance of homophily to online daters: most users of dating sites are generally interested in potential partners who are similar to themselves in many regards [18]. For example, similarity in education level was found to be of high importance when selecting a mate [26]. Areas of difference do exist, however. Studies and data analysis have shown that heterosexual men and women both prefer different attributes in a mate [39], with men choosing to date slightly younger women and rating attractiveness and youth as primary desirable characteristics; and women dating slightly older and preferring height and higher income as primary desirable characteristics (although men, when offered a choice, choose a mate with higher income as well) [26]. Thus, many current dating sites provide options for filtering potential mates based off attributes such as height, income, age, and so forth.

However, despite the prevalence of these mechanisms, many studies have demonstrated the shortcomings of matching and profile systems [17], and how the filtering approaches commonly used by dating sites today can be ineffectual, at least when measured by metrics such as retaining users. Current systems have poor return rates and seem to favor a male-initiated approach. Men initiate most conversations, sending 73.3% of messages; and yet 78.2% of these messages are not returned [18].

Given this body of existing work, we felt that examining a matching-based site with “open market messaging” (OkCupid) as well as a system with restricted messaging (Tinder) might lend insight into how online dating site design mediates messaging dynamics. The specifics of these particular websites and further reasons for their selection will be expanded on in “Study Design”.

The Role of Communities

The goal of online dating is, ultimately, to connect individuals in person. And, despite the concern that online dating might separate people from their real world communities and existing social networks [37], prior work has demonstrated that this may not be the case. Online dating is deeply tied to the physical world, as people use their non-dating social networks as a method to find potential partners [15, 33], and also share their profiles with real world friends [41].

However, the virtual, online communities created by the third party forums we observed clearly played an important role that was not tied to physical place, real world communities, or users' local social networks. Prior work has explored how robust online communities can promote shared understanding and innovation [13, 28, 32]. They can also serve as virtual third places [35] for wide-ranging discussions.

Thus, we were interested in understanding the role that user-created forums played in creating a virtual community of online dating users, and what purposes these sites served to their members. These sites fostered discussion at times seemingly divorced from the objective of finding a partner, and with lively participation in their own right (one community even organized offline meetups for its members, for instance).

STUDY DESIGN

To better understand the use of online dating sites and the role that external forums play in such sites, we undertook a multiple methods study, primarily focusing on third party Reddit forums associated with two specific dating sites, OkCupid and Tinder. Our insight into the importance of these third party Reddit forums came during our initial explorations into online dating: OkCupid's Terms of Service prohibit research-related activity, and while searching for alternate ways to recruit participants, we discovered that these third party forums provided a window into the dynamics of the online dating websites that would otherwise be impossible to observe.

We selected OkCupid and Tinder because they are both large, global sites, but are also fundamentally quite different. OkCupid, launched in 2004, is a matching-based online dating site. Profiles—complete with text, photographs, and a “match percentage” (which compares the compatibility of two users)—are the primary way that a user selects a potential romantic partner. Users are free to message anyone they wish.

Tinder, launched in 2012, is a location-based phone application. Profiles have photographs and a very short list of personal information. Tinder is connected to a user's Facebook profile, and shows “friends in common.” Users swipe left to dislike an individual and swipe right to like. If both users swipe right, they are matched and are permitted to communicate with each other. This contrasts greatly with OkCupid's model of allowing any user to message any other user.

The forums we focused on were hosted on Reddit, a widely used site that allows registered members to submit content, which can then be up-voted or down-voted; content is publically viewable, but may only be posted by members. Content is organized into “subreddits” focused on particular topics. The subreddits for discussion of our target dating sites—called /r/OkCupid and /r/Tinder—were large and active, with the OkCupid-focused subreddit having over

60,000 members and the Tinder-focused subreddit having over 35,000 [1, 3]

The first phase of our study used observation of these sites. A member of our research team observed public content in multiple threads over a period of approximately four months, collecting field notes and forming preliminary categories of the discourse there. /r/OkCupid is highly active—100 new threads per day with 1000 new comments among them would not be uncommon. /r/Tinder is quite active as well: 75 threads per day with 400 comments among them would not be uncommon. This period of observation allowed us to get a sense of the breadth of discussion on the sites, and to formulate a targeted interview guide for use in the second phase of the study.

In the second phase, we recruited nine participants from these subreddits (one from a thread on online dating advice on another subreddit), administered a questionnaire focused on demographic and site usage information, and conducted a semi-structured interview with participants exploring their usage and experiences with online dating. Interviews lasted approximately 30-60 minutes, and were conducted via Skype or Google Voice. Average length was ~36 minutes, and median length was ~33 minutes. Study participants were not compensated.

Following this, interviews were transcribed and the research team conducted an inductive thematic analysis [8], and merged the themes from the interviews with themes from the observational period of the study.

The age range of those interviewed was 22-45, with median of 26. Three were female, and six male. Five participants were from the United States, two from Canada, and one from Norway. All nine participants were either current or former OkCupid users, and five were current or former Tinder users.

Our interview sample was ~66% male, which may partially be due to Reddit itself: Reddit has a high proportion of male posters, so our pool of possible participants was drawn from a population that skews 74% male sitewide. Additionally, recruitment posed a number of challenges that became visible to us through observation of the subreddits. For example, despite not responding directly to recruitment requests, we observed that some users we reached out to had created threads with discussion about whether participating in the study would be worth the effort, with community members explaining that they had gotten our requests, but didn't feel it would be interesting, worthwhile, or pleasant for them to speak about their experiences.

RESULTS

Through participant interviews and forum observation, we were able to form a clearer picture of aspects of user behavior on dating sites. It became apparent that participants were using these third party forums to construct a better understanding of online dating, both generally and

site-specific, and also revealed aspects of user behavior on the dating sites themselves.

Our findings can be broken down into four categories:

- The role of forums in establishing community
- Strategies and gaming
- Anti-social behavior in online dating
- Frustrations with the experience of online dating

In the sections that follow, we present our findings organized along these themes. Throughout, we present quotes from our interviews with participants that are illustrative of the data gathered both from interviews and our forum observations.

The Role of Forums in Establishing Community

First, we consider the role that the third-party forums play in establishing the norms and culture of online dating sites, and facilitating users becoming more “expert” on these sites. As noted in the introduction, the lack of open interaction on the dating sites—set against members’ desires to learn how to most effectively participate in these sites—drove members to the third party forums. Of course, the very existence of the thriving forums we studied attests to this need, but we set out to highlight specifically what members sought from these online communities on Reddit, and what gaps in knowledge existed. We found that participants used these forums to share experience and to offer advice, and the forums played a major role in shaping how participants used the dating sites.

P3 (male, OkCupid and Tinder user) describes his first post on a third party forum asking for help due to a lack of response on Tinder:

“... I...[posted asking for help] ...once because I was so frustrated ... [that was] the day I genuinely gave up on Tinder because... [I had just been] liking everything for ...hours and hours and hours and just nothing...” –P3

Sharing of information and best practices frequently were framed as what *not* to do. P3, for instance, references subreddits dedicated to “cringe-worthy” or “creepy” personal pictures or personal messages (called PMs) encountered on dating sites; these were instructive as cautionary examples not to be followed:

“I’m also a frequent viewer of Cringepics and Creepy PMs, whichever, do you know that Reddit?...It’s a good indication of what not to type to women online, and it’s a good reference to keeping [...] your head in the game. Luckily I haven’t been doing any of those mistakes.” –P3

The forums provided a backchannel, allowing members to share examples of introductions received that were considered inappropriate or unappealing, allowing others to learn from their mistakes:

“On the Reddit subforum on Tinder [...] a lot of people have those stupid kind of dorky introduction lines. I don’t do that, I just do the general hows it going kind of thing, and that seems to be working pretty well...” –P4

Participants also shared guidance on how to structure a profile for maximum appeal. Many users, such as P5 (male, OkCupid and Tinder user), explicitly noted how the lack of visible interaction was problematic in crafting a profile. On some heterosexual dating sites, for example, one may not have access to the profiles of one’s own gender. Even when others’ profiles are visible, the “effectiveness” of those profiles is not:

“I think it’s been interesting because...most of the people that are posting on there are guys, so looking at the other guys profiles has just...seeing what other guys are doing because I wouldn’t know otherwise.” –P5

Surprisingly to us, some participants made commitments to the forums that sometimes outlasted—or even predated—their commitments to the dating sites themselves. One such user was P2 (male, OkCupid user), who might be considered a “success” and an “advanced user” of OkCupid. P2 maintained two long-term relationships and went on between 20-30 dates that resulted from connections made on the site. P2 became a user of the OkCupid subreddit *before* becoming a user of OkCupid itself:

“I think probably two and a half years ago, when I was not single, when I hadn’t used OkCupid yet I was really fascinated with the idea of it...I just liked the concept of online dating in general, and so I found this subreddit for it and I just started reading it and [was] pretty interested to read people’s experiences through it...that subreddit is... a lot of people feel very open, and talk about their experiences, they’re very interesting to read about.” –P2

At the time of our interview, P2 was no longer an active OkCupid user, but still regularly read the OkCupid subreddit and used it to offer advice to others:

“I would say giving advice, I would say, um, posting responses to stories or just, like if I find [...] some discrepancy or something nifty...” –P2

“Well I haven’t logged onto it [his OkCupid account] in the past three months, and...I mostly...just use and help my friends with OkCupid profiles at this point...I would say I’m not shy talking about it just because I feel like I’ve kind of figured out a lot about it and I think my friends can testify.” –P2

When he spoke of *how* he achieved the knowledge, the subreddit forum clearly played a strong role. This came in the form of messaging men who had posted on the OkCupid subreddit:

"[...]a lot of times they would be on the...OkCupid subreddit and I just messaged them and asked them why they chose to do things a certain way, and, I think a lot of guys would be scared to do that [...]I think that most people are very, very happy talking about themselves [...] most guys were actually very open, oh yeah I did this, I read this here, yeah, I had a girlfriend that told me this." -P2

For some users, the discovery of a forum for sharing tips about particular dating sites made the difference in whether they used the site or not. For example, P4 (male, OkCupid and Tinder user) found the Tinder subreddit in conjunction with beginning to use the smart phone app:

"Not long. I only discovered Reddit after her and I broke up, so let's say, probably in mid-July, so a month and a half, almost two months." -P4

He articulates a style of forum participation experienced by many participants, described as engagement by reading anecdotes and participating in critique. Many participants mentioned this style of engagement, as the long periods of time spent on dating websites led to downtime between profile improvements:

"I usually more of like the comedic side, like, what was your worst date, what was your most awkward sexual encounter... stuff that's just kinda gonna cheer me up and make me laugh a little bit more. [...] I do go on the Tinder one, like, help my profile, what do you do, what's a good first introduction, like I'm really interested in meeting this girl, blah blah, stuff like that, but it's usually more of the comedic side that I'm into." -P4

He also gleaned information on improving his Tinder profile and implemented changes based on this information:

"I guess I did add my height on my profile [...] people were saying that that does help, I haven't noticed an increase in traffic or whatever on that, but then, but I'm not, again, I'm not super super tall." -P4

This critical examination and exchange was not without tension, however. Critique observed on both subreddits varied from simple profile adjustments to suggesting that the person was simply not attractive enough to have success. Often this exchange would result in arguments between the user who had initially asked for critique and other users that had offered advice. P7 (female, OkCupid and Tinder user) speaks of how she felt uncomfortable with the advice offered by other /r/OkCupid members:

"I think I did, like, once or twice but when it's like very glaring, when it's, you know, maybe that's not super flattering or... something that's easy to fix. [...] It's like if they say something that's very generic language, maybe use an anecdote, but I think it's a little presumptuous to give the kind of detailed critiques like some of the other users do, 'cause when I would take

that advice I would like, attract a certain kind of demographic that I didn't want to." -P7

Strategies and Gaming

Our interviews and observations of forum participants also revealed important aspects of how they interacted on the dating sites, many of which would have been hidden or hard to detect from the sites themselves. For example, participants frequently spoke of strategizing their techniques to obtain the best chances of getting a response or date. A common phrase used was that online dating was "a numbers game." P2 speaks of a feature on OkCupid, where rating a user as 4 or 5 stars notifies them that you've rated them highly.

"I figured out that one of the key ways to improve exposure is to five star literally hundreds of people... literally hundreds of people's profiles, [...] and from that I think I got anywhere between, I would say, probably, 50 to 60 new messages each week." -P2

Users exploited the mechanics of the sites to find ways around the visibility restrictions they imposed, and to provide "plausible deniability" for unwanted social interactions. P1 (male, OkCupid user), for instance, created a fake OkCupid profile to allow him to view others' profiles without them knowing his identity, and to avoid the perceived need to respond to unwanted, unsolicited messages:

"I realized at a certain point in the last couple of years that [a fake profile the user had created] technically was still active... so I will usually use that to you know, look at other peoples' profiles when I don't want them to know that I've done so, and I think that's sometimes something I do when I get an unsolicited message I'm not going to respond to..." -P1

P8 (female, OkCupid user) spoke of searching for women on OkCupid to "view the competition," but declining to visit their profiles to prevent the impression that she was taking an interest (OkCupid has an option to allow users visibility of who has visited their profile):

"I just did a search, a cursory one to see who my competition is... I just didn't want them to think that I was checking them out! So I just looked at the photos." -P8

Participants actively rated themselves in terms of numbers of responses to their messages. Further, calculating the "response rate" allowed participants to assess the effectiveness of their strategies, such as what information to request in a message. This was such an established practice that posts in /r/OkCupid asking for advice were frequently accompanied with a numerical response rate:

"...I was interested too, so I [...] was doing the math and I'm pretty sure it's [...] at 10 percent response

rate, so... yeah, every ten messages I send I get like one response.” –P5

“I would say that everybody I’ve asked for a phone number I’ve gotten it and that would probably be [...] over 20, but actually once I get the phone number then [asked to meet them], it’s dropped off significantly, so of...let’s say 25 for example, I’ve met [...] maybe 6 tops...” –P4

Users appropriated features in the designs of these sites as a way to target specific users, sometimes for unexpected purposes. For example, OkCupid has a visual indicator of how often a given person responds to personal messages: green encodes a high response rate, red a low rate, and yellow in the middle. It’s typical for most women to have red indicators and men to have green. Members used this feature in a number of ways. For example, in forum posts on /r/OkCupid, users spoke of using the color dot system as a metric for dating value, asking if a woman with a green or yellow dot is less “valuable” to pursue than a woman with a red dot. P2 describes his attempt to understand how to improve his profile by viewing the profiles of other males with “red dots,” as their low response rate meant an unusually high level of unresponded-to female contact:

“Guys who are red dotted on OkCupid are pretty rare, and so what I did is I just went and I looked at all their profiles.” –P2

Tinder’s design has also created a common way for men to game the system. Tinder only allows for a “match” to occur if both parties have “liked” or “swiped” the other’s profile. This is meant to give an indicator of mutual attraction. However, male participants spoke of simply swiping on all the profiles, and then going to look at any women who had matched with them.

“So everybody in...I think it’s 70 kilometers...[gets] liked automatically. Um, and then after that, once I get matched with them, then I do look at their pictures, their profile.” –P4

One /r/Tinder user even built a mechanical robot for this purpose, called Tinder-o-Matic, which uses a stylus to swipe profiles on the Tinder application on a smart phone [5]. This robot was described by P3 (not the builder):

“I’ve also seen like, have you seen the machine that’s like, a finger that just automatically clicks like? That like, a robot they made, did you see that one?” –P3

Users in our observation reported manipulating the location-based features of Tinder. Members spoke of spoofing their location to both find users slightly outside of their maximum area, and to see if they would be considered as attractive in other locations.

In general, /r/Tinder members had a highly developed culture of experimentation and data collection. This included running structured experiments to see which

profile photos fared the best. The results of this experimentation were often presented in strikingly sophisticated ways, readily using statistics, developing categories, and testing their theories many times.

Anti-Social Behavior in Online Dating

Aspects of the culture of online dating sites revealed themselves through interviews and our observational data. These aspects included the prevalence of harassment and other anti-social behavior, as well as the role that the forums played in exposing it.

“Sometimes it’s easier for me to not respond than it is for me to like, hi, thanks for the message, I’m not interested.” –P1

“I’ve felt uncomfortable... I’m a minority, I’m an Indian woman, and I’m overweight, so there’s some comments about that that I like really, really don’t appreciate.” –P7

Although this behavior is visible only to the recipients on the dating sites, /r/OkCupid and /r/Tinder are filled with posts calling out this behavior. These forums provide a place to share and expose harassment to others via screenshots and text dumps. Upon experiencing harassment, P8 turned to /r/OkCupid to understand more about community norms and how to prevent that behavior in the future.

“I just wanted to get etiquette [...] to see what...I should do first about responding to people who...I wasn’t interested in and I know that they have F.A.Q.s on the sub [...] so I decided to post the interaction that I had, the screenshot of the interaction I had with a rude guy that made a message and then I asked people in the sub, like, is this common?” –P8

P8 speaks about the responses she got to her query:

“It seemed like the overwhelming majority said just don’t bother responding, if you don’t like somebody, just don’t bother. [...] They also said that it’s okay for a sender to expect like the first person who is initiating contact expect that they won’t get any confirmation of whether or not the other person is interested.” –P8

P8 also spoke of being nervous and shocked by negative interactions. Her fear of harassment and retribution was echoed by others on /r/OkCupid. Posts spoke of techniques to prevent stalking, such as never using photographs that are present on another social networking site, so that potential stalkers could not make a connection between one’s online dating profile and one’s real identity. P8 feared personal damage from rebuffed suitors:

“I don’t like that they can see my profile when I’ve blocked them.” –P8

“I just have pictures on there, and I don’t know how [...] messed up these people are, but what if they download it and do something with it and then post it

on my Twitter? [In] this situation you have somebody who is personally hurt and they can really mess things up for you if they wanted to... –P8

While every participant spoke of the significant harassment issues faced by women on online dating sites, male participants also reported experiencing harassment. These harassment cases were generally instigated by a solitary rebuffed individual. These negative experiences are confirmed in the literature—28% of online daters have said that they've been contacted in a way that made them feel uncomfortable or harassed, with a far greater proportion of females than males experiencing discomfort [41].

Frustrations with the Experience of Online Dating

Participants expressed common themes of frustration with the experience of online dating (and dating in general). These often held across OkCupid and Tinder.

Lack of novelty and lack of spontaneity in conversation came up quite often. First dates seemed stilted, and connections were difficult to make. Personal profiles were often seen as tired, clichéd, or uninformative:

"I wish there was some way to make it... before you ask them out on a date, that there was a way to just tell who someone was online without having them describe themselves, because people are not very good at describing themselves. Everyone's always fun-loving, loves to laugh, loves to travel, um, loves to hang out with friends, loves to watch Netflix or go out to the bar, [...] I wish there was some better way to get descriptions of people." –P2

A practice called catfishing, the act of using false photos to deceptively engage with site users, was also a concern. Often, this behavior went beyond the minor deception of exaggerating height or attractiveness. /r/OkCupid threads ask for advice on identifying catfish and share stories and screenshots of possible catfish. Participants mentioned using techniques like Google Reverse Image Search to determine if a profile was genuine. P3 speaks of an experience he had with a catfish profile:

"It was probably like a fake account or what they call a catfish [...] somebody posing to be someone else. [...] She was [a] really pretty girl and we had like a lot in common... [but] it was basically a joking profile, she was just fucking with people and wasting people's time..." –P3

Men also spoke of frustration at the unclear reasons why they were not receiving responses:

"So it's a lot of like... you send out a message and you never get a reply...which doesn't happen in real life, I mean, if I go to a bar and I ask a girl she will answer me regardless of what I say in some forms." –P3

"I don't know if [...] I'm really getting drowned out, like, somebody just can't even see my message cuz

they're getting so many, but it also can be like, you know, people are just getting all these like really weird messages and they get burnt out on the whole thing and they're like, ugh, here's another one, I don't want to read that one either, so I don't know." –P5

One common frustration noted by participants and /r/OkCupid posters was termed "the fade." The fade described when a potential romantic partner slowly stops responding to messages.

"I mean, you can [...] hear about people talk about the fade [...] you know, I saw they posted something on Facebook or I saw them on online dating, so I know they're not dead..." –P1

Bots, or fake automated profiles, were also a common annoyance for users of both websites.

"I think I remember the very first time I logged in, um, like somebody sent me a message but then it became really apparent that they were just another spambot." –P5

DISCUSSION

Initially, we set out to understand how online dating users were making sense of the norms and practices that worked well. While investigating this research question, we noted that online dating users do not have the privilege of being able to observe the actions of others. Messaging on these sites is hidden from all except the participants, which obscures and prevents the learning and establishment of norms that occur in robust online communities.

Much research has focused on how online communities grow in the presence of visible feedback and visible social norms. For example, Bryant, et. al. described the process of "becoming Wikipedian" through the lenses of Activity Theory and Legitimate Peripheral Participation [11]. Newcomers became advanced users by initially making small edits to articles that they had expertise in, and gradually began to view themselves as part of the Wikipedia community. Their relation to Wikipedia changed as they participated, and their as expertise increased users began to perform in managerial roles in the Wikipedia ecosystem.

Wikipedia novices learn community norms, practices, and gain expertise through clearly written instruction, policy, and through community members reverting edits. This runs in clear contrast to online dating site novices, where instructions are limited to explaining where to upload a photograph, and thus there is little room for Legitimate Peripheral Participation to play out.

And, although previous research has shown that feedback and moderation greatly influence likelihood to continue participating on a website [30], new members of online dating websites are mostly unable to receive true feedback on their actions. The only indicator of whether a profile is appropriately designed, or whether a message is cleverly

crafted, lies in the hands of another individual. A received message provides a form of feedback; a reply from a potential partner one has reached out to provides another form of feedback; if both people like each other on Tinder, the “match” provides feedback [30]. But in all of these cases, the feedback is intermittent and specific to the individual with whom the user is wishing to engage. Additionally, this “feedback” could be based on any number of factors unrelated to actual physical attractiveness: profile quality, photograph styles, message quality, and so on.

The third party forums clearly play a role here, providing a more open online community in which members can learn from one another and become socialized in the norms of the sites. Essentially, the normalizing and learning functions of a robust online community [13] are absent in online dating sites, but have been outsourced to third party forums.

With this understanding, we were able to find common ground in existing work. This “outsourcing of a community” runs parallel to Turkopticon, where Mechanical Turkers are offered an opportunity to voice their experiences with requesters [27]. Mechanical Turk is, in many ways, similar to online dating websites in terms of lack of visibility in interactions. By giving Turkers the ability to expose “good” and “bad” requesters, a community was created surrounding actions previously obfuscated.

Other “outsourced communities” exist around real-world interactions. Hollaback, a website that allows those who have been victims of street harassment to upload their stories and tag them on a map, provides a similar form of community for those whose shared experience would otherwise be hidden. Interaction between a street harasser with a harassee also lacks visibility and accountability; shifting the conversation to Hollaback both created a community where none existed before, and allowed community members to understand the harassment in a way that hadn’t been possible previously [14][7].

DESIGN IMPLICATIONS

In 2004, Fiore & Donath spoke of how technological limitations hampered the development of novel social dating systems [17]. As it is now a decade later, and there have been great advances in technology, we feel that it is time to revisit this area. The findings from our study suggest several areas in which we believe the experience of online dating might be improved. We position these by threading the relevant themes (the importance of community forums, strategies and gaming, anti-social behavior, and frustrations) through each design suggestion.

One possibility is the reintegration of the outsourced community back into the dating sites themselves. Our participants clearly expressed a need for learning best practices and normative behavior around online dating, and a forum integrated directly into the dating site might provide the elements of community missing currently. Such

a function might also afford moderation by the dating site, potentially reducing discussions of “gaming” the site (although such discussions might be merely driven elsewhere). Some dating sites have taken steps in this direction, but they are limited: for example, although OkCupid does have a community forum, newer accounts are prohibited from posting in or viewing them. Our study suggests, however, that a key question is how strongly such a feature should tie to users’ identities and profiles elsewhere on the site. By foregrounding the previously “backchannel” communication of the subreddits, we break the carefully crafted “front stage” personas visible through site profiles [21].

To address the perceived lack of “novelty” in online dating—and potentially also tackle issues of gaming the system—fruitful paths to explore might take advantage of media other than text to facilitate interaction, particularly the initial introductions between two members. Participants frequently spoke of the lack of clever, fun ways to contact matches, mentioning the stilted conversations, lengthy “letter-like” messages, and boring introductions. Online dating forum users cited a desire for fun, games, and socialization, and go to great lengths to understand the specifics of online dating systems. Games might provide a more immersive, less filtered form of dating [20, 43].

Users also spoke of putting enormous effort into messaging potential partners for very low return rates, and noted the frustration of this approach. In opposition to this *active* approach, there may be an opportunity to provide a more *calm, passive* method of connecting potential matches. As many people maintain an active presence on other social networks that are unrelated to online dating, one possibility would be to explore using these existing social networks to suggest and communicate potential matches. For example, a particularly good match might appear as a tweet in a Twitter feed. If the actual profile of the match were visible (rather than an external link to an online dating site profile) this might offer the additional benefit of painting a more complete picture of the individuals, since the connection would be with a user’s general social media profile, rather than a profile specifically created for the purpose of maximizing dating “hit rate” [22]. A tension exists here, however: connecting with users’ social media profiles is a privacy concern, especially given the prevalence of anti-social behaviors exhibited in our forum observations. Anti-social concerns might be averted by only offering this service with a “real name” or address verification system; reputation systems have been successfully used on social networks connecting strangers in face-to-face interactions [31, 34].

Crowdsourcing may also provide untapped mechanisms to provide more accurate assessments of a potential match’s personality. Prior research has shown that crowdworkers are able to discern facets of personality from social media [9]. A common tension raised by participants was that

online dating profiles did not represent the user in an accurate way. Crowdworkers might be able to review a social media profile and then determine if that person's online dating profile matched their impression of personality. Although participants spoke of asking real-world friends and family for advice on profiles, it is possible that wholly impartial parties would be superior in this area. It may also be possible to use online dating site users as crowdworkers; the ingenuity, cleverness, and motivation to "figure it out" that we observed in the behaviors of online dating forum users suggests that creative uses of this untapped resource may exist.

Gender dynamics clearly presented a huge issue in our study, not only in terms of the differential experiences between men and women, but also in the levels of harassment and anti-social behavior experienced by women. Every participant interviewed who had used OkCupid spoke of the substantially higher message receive rate for women versus men. This suggests to us that there is much more room to explore design choices with respect to messaging allowances and "the sexual marketplace." For example, these might take the form of a points system in which users earn the ability to message by exhibiting pro-social behaviors. Such allowances might reduce the prevalence of some of the gaming behaviors we observed and also help to establish better norms for interaction.

Finally, one possibility is to foster an online version of real world "matchmakers"—friends and acquaintances who serve an introductory role in the early stages of a relationship. We know that friends meet partners through friends [41], and there is the possibility to build digital systems that facilitate this pattern of interaction. Some existing systems come close to this. For example, Tinder utilizes a user's Facebook friend network to present potential matches. However, this information is used exclusively to visualize ties in common, and the two parties still interact directly with each other. Couplet [2] comes closer still, allowing a Facebook user to match two of their friends together for a date. A further extension of such a system may facilitate friends vetting the profiles of strangers, or people more distant in their networks, as potential matches. Finally, the matchmaking service might also be drawn from community forums: who better to give advice than those already invested into giving feedback?

CONCLUSION

Online dating sites have become an increasingly common means of finding a romantic partner, and yet these sites differ greatly from the online communities that have been well studied in our research field. By focusing on an "outsourced" community of the users of these sites, we gained insight into the need for the sorts of learning and establishment of social norms that exist in online dating. Further, we have shed light on some of the practices that exist in online dating—ranging from the ways in which users attempt to game the system, the prevalence of

widespread anti-social behavior, and users' frustrations with the sites. We believe that these findings suggest a rich lode of opportunity for future system design work to enhance the experience of online dating.

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