"Too Gay for Facebook": Presenting LGBTQ+ Identity Throughout the Personal Social Media Ecosystem

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Most US social media users engage regularly with multiple platforms. For LGBTQ+ people, this means making self-presentation decisions not just on one platform, but many. These choices are made in the face of sometimes-overlapping platform environments, which can have consequentially different norms, audiences, and affordances. Moreover, many LGBTQ+ users face high stakes in online self-presentation, due to the risk of stigmatization of their LGBTQ+ identity, increasing the importance of self-presentation decisions that enable them to achieve their goals and avoid stigmatization. This combination of environmental complexity and high stakes is not adequately accounted for in existing work on self-presentation, but doing so is important to support and understand the experiences of LGBTQ+ and other potentially stigmatized users. We adopt an ecological approach to an interview and cognitive mapping study of 20 LGBTQ+ social media users. We find that participants employ the platforms, audiences, affordances, and norms within what we call their "personal social media ecosystems" to avoid stigmatization while still allowing for expression of their LGBTQ+ identity and the flexibility to adjust their presentation over time.

1 INTRODUCTION

Most social media users in the US now actively engage with multiple social media platforms [55]. In doing so, they must decide what content to interact with and share not just on one platform, but many social media platforms with consequentially different audiences, affordances, and

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norms [17, 55]. For users with potentially stigmatized identities, such as LGBTQ+ people (lesbian, gay, bisexual, transgender, queer and other gender and sexual minority identified individuals), these decisions are further complicated by the possible negative consequences of disclosing their LGBTQ+ identity, deliberately or inadvertently, in a non-supportive context [6, 26]. This can have potentially serious consequences, including harassment [52], reduced access to health services [41] and housing [23, 34], and employment discrimination [1, 34].

At the same time, hiding their LGBTQ+ identity is not a sustainable solution for LGBTQ+ people. A substantial literature suggests that coming out, including disclosure of one's LGBTQ+ identity, is important to psychological health [53, 56], and is associated with higher ratings of self-efficacy and relationship satisfaction, and lower rates of anxiety and depression [15, 33, 49]. This positive effect, however, can be diminished by negative reactions to the disclosure, both from known individuals and the larger community [35, 48, 56]. As such, disclosure is an ongoing part of LGBTQ+ people's lives as they choose whether and how to discuss their LGBTQ+ identity in different contexts [42]. While LGBTQ+ populations have gained increasing acceptance in the US and many other countries, some evidence suggests that even very open LGBTQ+ people spend at least some time and mental energy managing when, how, and to whom disclosure is appropriate and/or safe [43].

All of this suggests that self-presentation, or the purposeful expression of relevant facets of one's own identity to others, can be a fraught challenge for LGBTQ+ social media users. According to Goffman's classic formulation, self-presentation is an interplay between an individual's attempts to project a contextually-appropriate image of who they are, and audience reactions to this projection [25]. Contexts are referred to by Goffman as "regions," with expected variation in appropriate behaviors across the regions one encounters in everyday life, such as professional vs. casual behavior in work and social settings, respectively [25]. The rise of social media has complicated this process. Platforms vary in their affordances for self-presentation, which can affect decisions about how to project one's image, and the presence of computational actors, such as algorithmically-curated content feeds, can obscure one's audience, making it unclear what region(s) one is presenting to [17, 20]. Indeed, instead of presenting oneself to an actual audience, prior work suggests that users present themselves to a loosely-imagined idea of their potential audience [38] that is often inaccurate [5]. These characteristics of social media platforms heighten the risk of context collapse [45], or unwanted conflation of regions. In deciding how to present themselves online, users must make strategic choices about how to best deploy the features and affordances of their chosen social media platforms to achieve their self-presentation goals [17, 45, 63].

In this paper, we argue that it is helpful to consider user decisions about self-presentation as occurring within an ecosystem, in which social media platforms themselves, audiences, technical affordances, and behavioral norms are all component parts. This approach allows consideration of how users' self-presentation behavior occurs within and is shaped by a dynamic set of interrelationships between personal, structural and environmental factors [9, 60, 63]. We refer to this aggregation as the *personal social media ecosystem.*

Self-presentation within one's personal social media ecosystem, with its many platforms, audiences, affordances, and norms to choose from, is complicated in ways that are not captured by our existing models of self-presentation. For example, separating self-presentation by region and audience can be especially challenging when multiple platforms are involved and audiences are obscured [17, 20]. Similarly, in the case of LGBTQ+ users specifically, overlapping audiences and different affordances throughout the ecosystem may complicate the selection and maintenance of appropriate spaces for experimenting with self-presentation and safely exploring one's own identity without the risk of stigma, both of which have been identified as being psychologically important for this population [22].

To better reflect self-presentation and all of its attendant complexities today, particularly as experienced by populations such as LGBTQ+ people who face possibly significant consequences from missteps, we must update our theoretical models. In pursuit of this goal, we conducted

cognitive mapping exercises and semi-structured interviews with a diverse sample of 20 LGBTQ+-identifying adults about their use of social media platforms, defined broadly as apps and services that have an interactive social component. By employing the personal social media ecosystem as an interpretive frame, we find that LGBTQ+ users employ various combinations of different platforms, audiences, affordances, and norms to avoid the problems of stigmatization that may be associated with disclosing their LGBTQ+ identity, while also preserving areas of their ecosystem where they can openly present as LGBTQ+, enabling them to receive crucial social support.

2 BACKGROUND

Much prior research has focused on online self-presentation as it occurs on one platform (e.g., [6, 19, 20, 40]), but recent evidence that people use many platforms [55] limits the utility of this approach, which gives a necessarily incomplete view [61]. Like all users, albeit with a heightened sense of possible negative consequences, LGBTQ+ users must now make self-presentation choices across multiple social media platforms. Drawing on previous work in general media ecologies [60], social media ecologies [63], and self-presentation more generally [25] we define the personal social media ecosystem as the overlapping set of relationships between an individual social media user, their presentation-relevant social contexts (e.g. prior salient reactions to the LGBTQ+ identity, such as those from family relationships [3], region behavior-related norms [25]), the user's associated imagined audiences [38], the platforms these audiences are imagined to exist on, and the perceived technical properties (e.g., affordances [17]) of these platforms. We focus on online self-presentation as it occurs throughout this ecosystem.

An ecological lens focuses on the interplay between the components of an ecosystem and the ways they may affect each other [9], such as by reinforcing or dampening their mutual influence [31]. As in other ecological models (e.g., [9]), we recognize that, in practice, different individuals' personal social media ecosystems overlap and interact with one another. Nonetheless, we center our definition on the individual user so we can focus on how users perceive their own environment. This frame recognizes that user behavior is primarily driven by the user's relationships with various social and technical aspects of the ecosystem [4]. For example, social media users can only act on perceived affordances [50], and often can only imagine audiences, given that they may not have access to information about the actual audience for their content [37]. In this paper, we are concerned with how the interplay of the elements within each user's personal social media ecosystem allow them to selectively disclose potentially-stigmatizing information in pursuing their self-presentation goals.

In the remainder of this section, we will first review two key factors identified in prior work [19, 63] as important to self-presentation, especially for LGBTQ+ individuals: imagined audiences and technical affordances. We will then illustrate how an ecological lens can help us better understand LGBTQ+ self-presentation online more generally.

2.1 Key Self-Presentation Factors

Affordances and audiences have been previously identified as factors important in online self-presentation [17, 19, 63], and are also likely important in LGBTQ+ users' self-presentation decisions. Recent work by Zhao et al. [63] on how users who do not identity as part of a sexual or gender minority group manage multiple social media platforms indicates that the ability to partition audiences, in tension with the ability to distribute one's content to multiple audiences, affects individuals' content-related choices. Meanwhile, in her study of LGBTQ+ identity disclosure on social media, Duguay [19] found that, on Facebook, disclosure practices were shaped by preexisting social conditions (e.g., family acceptance) and the user's perception of technical affordances for preventing context collapse. Duguay also notes that privacy-related affordances, in particular, led some participants to segment their presentation by platform, though this behavior was not explored in detail. Both studies suggest that examining the interplay between

these two factors throughout a user's personal social media ecosystem, and how this interplay may affect other factors within the ecosystem, would extend our understanding of LGBTQ+ self-presentation choices. Here, we will briefly review the relevant literature on both audiences and affordances in order to motivate our first research question.

2.1.1 The Imagined Audience

Audience is a central concern in self-presentation, as individuals present themselves differently to different audiences [25]. Prior work has suggested that, on social media platforms, users conceptualize an *imagined audience* – people the user believes they are likely to be communicating or sharing content with – instead of relying on direct knowledge of an actual audience, which may not be available [37]. Users imagine their audience based on factors ranging from goals and individual psychological tendencies to past experiences, and the imagined audience itself can range from *abstract* (e.g., everyone on the internet, or no specific group of people) to *targeted* (e.g., based on one's existing ties and affiliations, such as "just my close friends" or "people who like Star Wars") [37, 38]. Importantly, even when these imagined audiences are inaccurate, people still consider them in deciding what to share [5]. In fact, according to Litt and Hargittai, one's imagined audience informs strategic decisions for both reaching specific audiences and limiting one's audience [39].

Relying on imagined audiences in content sharing decisions has complicated self-presentation [37, 40, 45], perhaps more so for people with potentially stigmatized identities [6, 26]. LGBTQ+ individuals, for example, could be faced with Goffman's classic stigma problem: maintaining the gap between one's actual social identity, which can be safely shown to others unlikely to stigmatize the identity (other LGBTQ+ people, allies), and a virtual or sanitized social identity, which can be safely shared with those who might react negatively to LGBTQ+ identity [26]. This gap cannot be maintained without understanding one's audience, which may be less visible on social media [17, 38] and perhaps fragmented across multiple platforms [45, 55]. In particular, the well-differentiated regions discussed by Goffman [25] are now more likely to overlap or bleed, a primary cause of context collapse [19, 45]. Taking an ecological approach could allow us to see how these regions overlap and separate on and between platforms, how the distribution of audiences throughout the ecosystem influences behavior on each platform, and how all of this comes to bear on an individual's self-presentation decisions.

2.1.2 Social Media Affordances

Prior work has shown that users' perceptions of a platform are affected by its affordances, or possibilities offered to the user [17]. In turn, these perceptions affect decisions about using platforms and sharing information on them [17, 20, 21, 59]. In considering self-presentation, prior work has shown that user perceptions of platform affordances influence strategies for avoiding context collapse and preserving self-presentation regions [19, 20, 62]. Considering affordances as characteristics of a users' entire personal social media ecosystem, rather than of individual platforms, allows us to more holistically examine how users maintain divisions between self-presentation regions and the audiences they may be associated with. Additionally, it allows us to examine how affordances on one platform in the ecosystem may affect behavior on other platforms.

It stands to reason that LGBTQ+ individuals would be concerned about what [17 p. 742] call visibility control, defined as "the extent to which a platform affords individual determination of what persona-linked content is visible to others," given that the visibility of LGBTQ+ content brings with it the risk of stigmatization [3, 26]. Some prior studies of single platforms support this. Duguay found LGBTQ+ users employing heavily tailored privacy settings, selective acceptance of contact/friend requests, extensive use of Facebook friend lists (an audience management tool), and tag approval (which requires approval before content from other users, such as tagged photos, is visible) to manage visibility of their LGBTQ+-related content within a single platform [19]. Duguay also noted that, for some users, turning to additional platforms was

a complementary strategy [19]. Taking an ecological approach allows us to more fully explore how the distribution of visibility control affordances throughout one's personal social media ecosystem impacts self-presentation strategies.

Similarly, it stands to reason that another relevant concern for LGBTQ+ users is what [17 p. 742] call identity persistence, defined as "the extent to which a platform affords the identification of content with an individual persona over time," which relates to possibilities for relative anonymity or pseudonymity. This is supported by both Duguay's work [19] as well as recent HCI work on LGBTQ+ individuals (e.g., [6, 29]). Specifically, perceived anonymity has been shown to affect both identity disclosure [19] and also the extent to which online spaces are useful to LGBTQ+ individuals for learning, growing, and exploring sexual identity [22]. Using an ecological lens allows us to better understand how differential perceived identity persistence throughout one's personal social media ecosystem motivates the segmentation of LGBTQ+-related content. For example, [22] found that platforms with what we would call low identity persistence, and therefore high possible anonymity, are important spaces for exploring and experimenting with presenting LGBTQ+ identity. An ecological approach allows us to understand how experimentation in these low identity persistence spaces relates to eventual LGBTQ+ self-presentation on less anonymous platforms.

In addition to better understanding how the effects of single affordances play out within one's personal social media ecosystem, an ecological approach also allows examination of how the interplay between affordances across platforms affects self-presentation behavior. Accordingly, we asked:

RQ1: *How does the interplay between imagined audience and perceived affordances influence how LGBTQ+ users present their LGBTQ+ identities across their personal social media ecosystem?*

2.2 Self-Presentation and the Personal Social Media Ecosystem

Presenting oneself on multiple social media platforms [17, 55, 63] shares many characteristics with domains studied using ecological lenses (e.g. [14, 57]). A user's self-presentation behavior can be conceptualized as depending on interplays between components of their personal social media ecosystem as they exist both on specific platforms and throughout the ecosystem. As mentioned above, affordances are often considered as platform attributes and affect platform-specific behavior [17], but can also be seen as a larger constellation of affordances that influence behavior across the social media ecosystem [63].

Similarly, how a user conceives of their online audience may be associated with who they imagine to be seeing their content on individual platforms [38], but can also be as general as an aggregated superset of anyone looking at any of their content online. Additionally, individual-level self-presentation factors such as self-monitoring ability and web skills can interplay with factors at other levels of analysis, such as platform affordances [17] or the attitude of one's family towards LGBTQ+ individuals [3]. An ecological lens allows us to focus on the interplay between layers of influences, as well as the interplay between factors within the same layer.

In turn, by better accounting for influences and behavior throughout the ecosystem, we can better understand how users utilize their personal social media ecosystems to accomplish their self-presentation goals. Individuals generally self-present with goals in mind, employing specific tactics to accomplish them [2]. These goals can vary, ranging from the relatively unfiltered presentation of one's day-to-day life to the highly-manicured, filter-focused artistry of an Instagram influencer, to those who simply do not want to "rock the boat" among their followers [16]. Tactics vary as well, from heavy privacy tool use to paying attention to posting times, tagging key individuals, and chasing currently-popular topics [16, 40] in the belief that these actions will increase visibility. As we have established, LGBTQ+ users may face increased stakes in accomplishing their self-presentation goals [6], and prior work has suggested that, in some cases, one platform may not be enough for LGBTQ+ users to safely pursue their goals [19]. As such, it is essential to look holistically at a user's personal social media ecosystem to better

understand how LGBTQ+ users accomplish their self-presentation goals while protecting themselves from negative outcomes. We asked:

RQ2: How does a user's personal social media ecosystem allow them to manage the disclosure and presentation of their LGBTQ+ identity?

3 METHODS

We conducted semi-structured interviews with 20 LGBTQ+-identifying participants who use social media at least three times a week. Interviews were conducted in-person and took 60 to 90 minutes (M=68, SD= 15.4) and centered around a cognitive mapping activity.

3.1 Participants

Participants were recruited through posting flyers in LGBTQ+-friendly places, such as well-known gay neighborhoods, libraries, and community centers in a major Midwestern city and around the suburban campus of a nearby university. Additionally, we recruited through posts on LGBTQ+ Meetup groups and craigslist in the same area.

In recruiting participants, and in the rest of this study, we were guided by the principle of intersectionality, which holds that people's life experiences are influenced by an overlapping set of identity and societal factors, including age, gender, race, class and sexuality [13]. Recent work in HCI has noted the importance of accounting for these differences when studying identity in particular [54]. As such, we aimed to sample broadly, to capture the wide diversity of LGBTQ+ experience [41].

Participants were directed to an online survey to capture characteristics used in balancing our sample to ensure diversity, including demographics (age, race, sexual orientation, gender identity) and outness. Full details on the diversity of the sample can be found in Table 1.

3.2 Procedure

We started each interview with a cognitive mapping exercise in which participants were given paper and colored markers and asked to draw a map of how they present their LGBTQ+ identity online, however they wished to do so and with encouragement to be creative. They typically included the platforms, audiences, and interplays between different components of the ecosystem. This exercise served as a way to allow people to mentally visualize the relationships and interdependencies that exist within their larger social media ecosystems [24], in their own terms and without a forced external structure, prior to discussing these issues in the interview. As can be seen in Figure 1, this resulted in a range of responses, from simple spectrums (e.g., "queer" to "not queer") and network-like structures to artistic renderings.

The cognitive maps were used as a guide for discussion in the remainder of the interview, with interviewers first prompting the participant to explain their map. Next, participants were asked about experiences such as their coming out process, and finally completed a short questionnaire that included validated scales for outness to family and friends [47] and self-monitoring ability [36]. These scales were all multi-item, and, per their original authors, items were averaged to create the final outness ratings included in Table 1.

All interviews took place between June and September 2017, and were audio recorded and transcribed. Cognitive maps were preserved and scanned.

3.3 Analysis

For our analysis, we used Charmaz's approach to constructivist grounded theory [11, 12]. Using Dedoose software for qualitative coding, the research team iteratively coded, wrote memos, and performed constant comparison with the interview transcripts, in order to develop emergent themes. Throughout the data gathering period, our research team frequently discussed the emergent concepts, and adjusted our interview protocols to more fully explore areas of conceptual interest and engage in theoretical sampling.

Table 1. Participant Demographics and Characteristics

P	Age	Ethnicity	Outness to World	Outness to Family	Gender Identity	Sexual Orientation	Platforms Discussed
1	21	Hispanic	5.2	4.5	genderqueer	gay	Fb,Ig,Tw,Rd,Tu
2	29	Hispanic	6.4	7.0	female	gay	Ms,Fb,Ig,Sc,Tu, Gr,Sf
3	22	multiracial	5.2	7.0	male	gay	Ig,Tw,Fb,Ms,Sc, Pi
4	20	Middle Eastern	2.8	4.3	female	gay	Tw,Fb,Sc,Ig
5	29	White	3.8	7.0	female	gay	Fb,Tw,Rd,Ig,Li, Sl,Ms,Ac,Sc,Tu
6	53	White	6.4	6.3	male	gay	Fb,Wp,Tw,Li,Gd
7	25	Black	2.6	4.0	female	bi	Fb,Ig,Tw,Tu,Pi, Tn,Bu,Zk,Mt
8	33	Asian	5.0	3.3	male	gay	Fb,Ig,Wa
9	57	White	4.4	4.3	female	gay	Fb,Tw
10	29	White	2.0	5.8	male	bi	Fb,Tu,Li,Ok,Fl, Lj,Tw
11	51	Black	2.8	1.3	female	gay	Cr,Fb,Li,Sc
12	22	Hispanic	4.3	5.3	male	bi	Sc,Fb,Ig,Tu
13	22	Hispanic	4.2	4.3	male	gay	Fb,Tw,Ig,Sc,Tu, Gr,Tn,Ig,Mu,Li
14	25	Asian	1.4	1.0	female	other	Fb,Rd,Tu,Tw,Ig, Gf
15	21	White	4.0	5.8	female	gay	Fb,Ig,Tw,Sc
16	32	Asian	3.8	1.5	genderqueer	other	Fb,Tu,Ig,Tw,Xa, Sl,Li
17	21	Black	2.6	1.0	female	bi	Fb,Ig,Sc,Tu,Tw
18	26	Black	4.6	4.7	male	gay	Xa,Ms,Fb,Nc, Tw,Tu,Tn,Gr,Sf, Jd,Oc,Cb
19	22	White	3.2	4.0	female	gay	Fb,Sc,Tn,Tw,Tu, Yt
20	24	Asian	4.2	5.3	male	gay	Fb,Ig,Sc,Jg,Gr, Cb,Tn

Notes: Outness to world and family on a 1-7 scale (1=not out, 7=fully out), from [47]. Platforms discussed key as follows: Ac=AOL Chatrooms; Bu=Bumble; Cb=Coffee Meets Bagel; Cr=craigslist; Fb=Facebook; Fl=Fetlife; Gf=GameFAQs; Gd=Goodreads; Gr=Grindr; Ig=Instagram; Jd=Jack'd; Li=LinkedIn; Lj=LiveJournal; Mt=Match.com; Mu=Musical.ly; Ms=MySpace; Nc=Namco Central; Ok=OKCupid; Oc=Out of the Closet; Pi=Pinterest; Rd=Reddit; Sf=Scruff; Sl=Slack; Sc=Snapchat; Tn=Tinder; Tu=Tumblr; Tw=Twitter; Wa=Whatsapp; Wp=WordPress; Xa=Xanga; Yt=YouTube; Zk=Zoosk.

Final analysis took place after three rounds of coding, in the structure suggested by Charmaz. First, the first two authors and an undergraduate research assistant conducted extensive open coding, which consists of purely inductive tagging of concepts which emerge directly from the interview transcripts [12]. This was followed by axial coding, where we took our open codes and related them to each other to find patterns and relationships among key themes, bringing together the trends identified in open coding to form theoretically useful codes and categories [12]. This also included a round of definition work that matched emergent concepts to existing theoretical
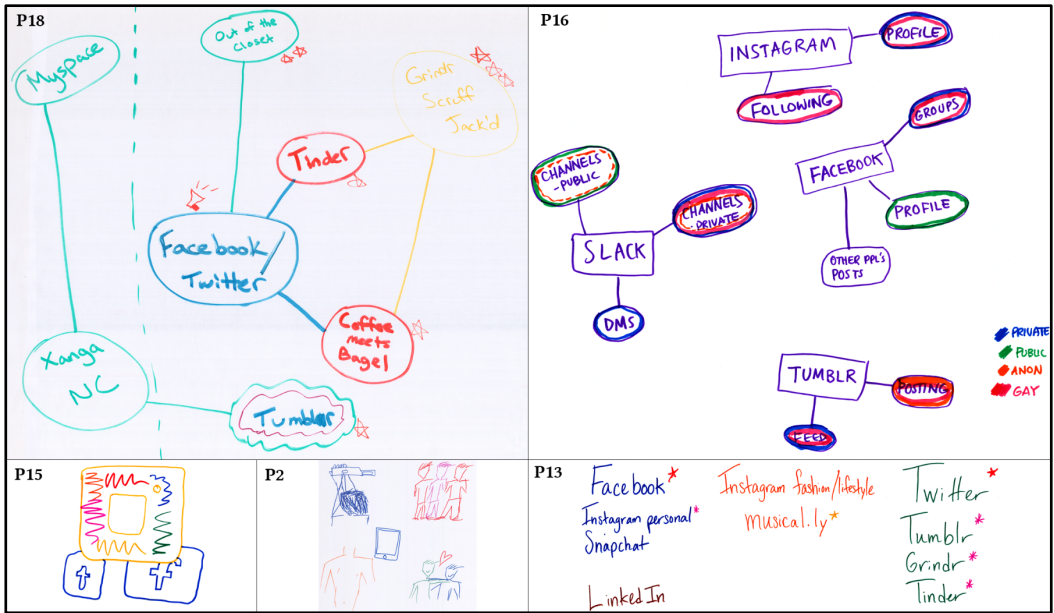
Figure 1: Selected cognitive maps. Clockwise from top left: P18 depicting pre- and post-coming out phases (green dotted line) and relative outness on platforms (number of stars); P16 breaking each platform down into functions, coded for key properties; P13 categorizing platforms into distinct spheres with red stars denoting extremes (most/least out) and pink stars representing audience considerations; P2 showing changing LGBTQ+ self-presentation in college; P15 depicting Facebook and Tumblr as platforms on which she restricts LGBTQ+ content and Instagram as a safe space for presenting as LGBTQ+.

models and empirical studies in order to preserve external and construct validity. The final focused coding round involved the paper's first two authors reading and re-coding each transcript and cognitive map based on our final focused coding criteria; a third confirmatory pass was also completed by a research assistant as a check on the work of the first two authors.

Our analysis focuses on the reported experiences of our respondents, but is undeniably informed by the sensibilities of our research team. All members of the research team who conducted interviews or participated in the analysis identify as LGBTQ+ (specifically, our active research team included two bisexuals, a gay man, and a lesbian), and are regular social media users.

4 RESULTS

Our results indicate that, overall, participants employ the platforms, audiences, affordances, and norms within their personal social media ecosystems in ways that allow them to avoid stigmatization while still allowing for expression of their LGBTQ+ identity and the flexibility to adjust their presentation over time. In particular, the existence of multiple platforms with differing audiences, relevant affordances, and behavioral norms throughout one's personal social media ecosystem appears to aid in managing audiences to combat context collapse and manage self-presentation regions. In this section, we will first focus specifically on the intersection between imagined audiences and perceived affordances. We will then extend our findings using our ecological lens to paint a holistic picture of LGBTQ+ self-presentation within one's personal social media ecosystem. We share illustrative quotations, but note that we encountered relatively similar phenomena throughout the dataset.

4.1 Key Combinations: Audiences and Affordances

RQ1 asked how two aspects of one's personal social media ecosystem, imagined audiences and platform affordances, interplay in influencing LGBTQ+ users' self-presentation. Our participants appeared to consider audiences as a major factor influencing how and in what part of their personal social media ecosystem they express their LGBTQ+ identity. Importantly, our participants, in discussing audiences on platforms, often did not make a clear distinction between the two, as they did not appear to see a difference. We adopt the term "spaces" to describe this conflation of platform and audience. Perceived platform affordances appear to also influence LGBTQ+ presentation decisions, but primarily via their utility (or lack thereof) in dealing with audience concerns.

In particular, it appears that it is the range of available affordances throughout their personal social media ecosystem that allows participants to address audience-related issues so as to protect themselves from stigmatization. For example, P11 has restricted her potential audience as thoroughly as she can. She imagines that her children and grandchildren might be in her social media audience. For two of her sons, whom she is not out to and who do not approve of LGBTQ+ individuals in general, this means a complete block – she actively seeks to stop them from connecting with her online profiles, and rejects their friend requests. The high visibility control affordances P11 perceives as existing across the ecosystem of platforms she favors, including Facebook and Snapchat, directly enable this, but also allow for different audiences to have different levels of access. She has another son and a daughter who are more tolerant, and allows them to see more of her Facebook content. However, this also means strategic use of Facebook's own visibility control affordances, as P11 keeps LGBTQ+ activities somewhat discreet, fearing information will travel and be visible to "certain people I may want to tell from my mouth, and certain people I may not want to have to answer to them."

P11 described strict rules that she holds herself to for engaging with queer content. If content is vaguely pro-LGBTQ+, P11 feels comfortable commenting on it. For content which is more explicitly associated with a lesbian sexuality, or, in P11's terms, "raunchy," she is only comfortable liking the post, as P11 views comments as endorsements, and likes simply as acknowledgements. P11's own more raunchy behavior is restricted to dating apps and sites like craigslist, where she imagines a more receptive audience, and takes advantage of lower identity persistence. Additionally, what P11 perceives as high visibility control on Snapchat, e.g., Snapchat's one-to-one focus, allows her to feel like Snapchat is a totally private and strictly bounded space where she can interact with her grandchildren, and make decisions as they grow up as to how she will represent her LGBTQ+ identity to them. Here, we see P11 employing different affordances of multiple platforms within her personal social media ecosystem to effectively preserve strict self-presentation regions. She has successfully used this strategy to stay in touch with the friendlier elements of her family while avoiding stigmatization and confrontation from her own sons.

In contrast to P11's active management, we also found that this interplay between audience and affordance is crucial even before individuals begin to actively disclose their LGBTQ+ identities. For instance, while P19 was initially exploring her LGBTQ+ identity, having a personal ecosystem which included both general and specifically LGBTQ+-friendly audiences as well as platforms on which she perceives high and low identity persistence allowed her to continue to have a public presence on less controversial issues while working through her emerging identity in what she sees as a supportive space:

> It's interesting because my identity gets tied to it differently. Facebook, it's like 'these are the things I'm doing and the opinions I have', whereas Tumblr I think it's a lot more like, 'this is how I feel about things and these are tenets of my identity that aren't necessarily always on display but are on display when there's not my name attached to it.' ... I'd kind of just realized I was queer... this isn't a thing that the rest of the world

needs to know. It was like a thing that I would be scared for other people that I hadn't told, to find out.

Importantly, the anonymity granted by low identity persistence spaces allows the opportunity to discover and share with other anonymous individuals going through similar experiences that made these platforms valuable, as was the case for P1's Tumblr experience:

It was just a place where I could completely be myself, and see that there are other people who were like me. Before I knew any gay people in real life, there were people on Tumblr, and it taught me a lot about what it meant to be a part of this community.

For P1, encountering a part of her ecosystem that joined low identity persistence with an imagined audience consisting entirely of individuals who would not only be accepting, but actively supportive of LGBTQ+ identity allowed her to develop her current self-presentation style. Similarly, a seemingly-friendly audience and low identity persistence on Reddit made it a space where she could (and still does) engage in gender-related exploration and identity-based social learning. At the same time, P1 took advantage of the other platforms, such as Facebook and Instagram, in her personal social media ecosystem (see Figure 2, right) to remain connected to other audiences such as her friends and family. There, high visibility control allowed her to minimize the risk of stigmatization from content that, due to her audience, P1 says is "too gay for Facebook." From P1's example, we can see that even when one's LGBTQ+ identity is relatively public, one can still take advantage of the variety within one's personal social media ecosystem to situate different aspects of one's LGBTQ+ identity in explicitly supportive spaces.

Focusing on the interplay between audiences and affordances within people's personal social media ecosystems allowed us to elicit a more fine-grained understanding of how the interplay between these two factors enables LGBTQ+ users to avoid stigma while still presenting key aspects of their LGBTQ+ identity. This behavior can take place in a range of situations from scenarios where LGBTQ+ users are still exploring parts of their identity, to the ongoing process of disclosure maintenance across different self-presentation regions. By facilitating this behavior, the interplay between platforms and imagined audiences allows LGBTQ+ users to access spaces where they can receive social support and experience important developmental milestones, even as they maintain relationships with those whose reactions they may be unsure of.

4.2 Self-Presentation Throughout the Personal Social Media Ecosystem

RQ2 asked how LGBTQ+ users' personal social media ecosystems allow them to manage the disclosure and presentation of their LGBTQ+ identity. Overall, we saw users consistently employing different combinations of platforms in order to manage the different presentations of their LGBTQ+ identity to different audiences. In some cases, this appears to directly reflect efforts to preserve self-presentation regions and combat context collapse. In looking at how users manage their presentation throughout their ecosystems, we found three major motifs. First, the
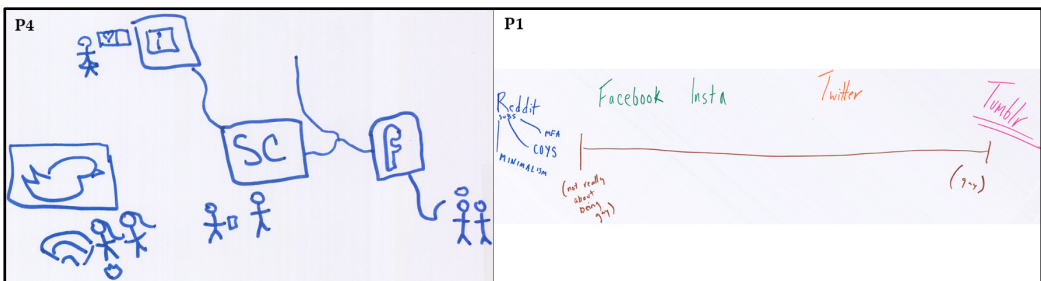

Figure 2: Example cognitive maps. Left: P4's depiction of presentation on each of her major platforms. Right: P1's spectrum of platforms from less to more gay.

ability to distribute both explicit and implied LGBTQ+ content throughout different spaces within one's personal social media ecosystem appears to allow users to protect information about potentially-stigmatized aspects of their identity in riskier settings while also preserving their ability to express their LGBTQ+ identity in safer spaces. Second, the perception of a broad range of options within one's personal social media ecosystem allows the responsive management of one's identity as life circumstances change. Third, effects and experiences encountered in one area of one's personal social media ecosystem appear to have ripple effects on behavior in other areas.

4.2.1 LGBTQ+ Identity Management Throughout the Personal Social Media Ecosystem

First, the option to strategically distribute content throughout one's personal social media ecosystem can allow LGBTQ+ users to both protect themselves from stigmatization and retain some outlet for expressing and exploring their LGBTQ+ identity. Consider the case of P4, whose family is reported to be extremely disparaging of LGBTQ+ people and identities, to the extent that it is a longstanding family joke. P4 identifies as a lesbian and is totally out to her friends at college; however, though her parents know she is gay due to an unwanted outing, they actively disapprove and have asked her not to reveal this to the rest of her extended family. We see this divide mirrored in her personal social media ecosystem. All of P4's family is on Facebook, along with many of her friends, but P4 sees Facebook as a platform with low visibility control, as her attempts to use features like tag approval and a second account failed to provide the segmentation she needed. As such, her concern over family seeing and negatively reacting to LGBTQ+-related content means that P4 must segregate out all of her queer-related content onto Snapchat and Twitter.

> When I'm in college, I'm very open... when I go home I'm very like, "oh yeah what's that, what's LGBT, what does that stand for?" And that's kind of like how the social media reflects... I guess me at home would be Facebook and then me at college would be Snapchat and Twitter.

This division is also represented in P4's cognitive map (Figure 2, left), in which she has drawn a literal halo of "good" behavior (straight behavior in her parents' eyes) on her Facebook avatar. With no perceived visibility control, queer content is essentially lost from Facebook, migrating to spaces that appear more queer-friendly. For P4 in particular, this means almost a complete bifurcation of her self-presentation and the establishment of Facebook as a purely frontstage, purely straight, family-friendly region. However, the presence of other sites with perceived affordances that are complementary to Facebook's means that P4's opportunities for LGBTQ+-related self-presentation are not lost. Looking at her behavior throughout her ecosystem allows us to see that P4 is not actually closeted online, as it would appear if looking only at Facebook; rather, P4 is actually re-claiming region behavior by spreading content into appropriate contexts throughout her ecosystem.

Similar to P4, P7 also faces the possibility of stigmatization should her identity as a bisexual person be revealed to the wrong audience, including family and members of her family's community. However, the stakes here are potentially higher; while P4 fears ridicule and mockery, P7 fears more wide-ranging consequences. P7 comes from a strictly Christian family of recent African immigrants, with significant ties back to their remaining family in Africa. Facebook, for this family, acts as a transatlantic switchboard: everyone is on it. Simply not being on Facebook is not an option for P7; it would be a conspicuous absence and would effectively cut P7 off from many family members. However, being open on Facebook about her bisexuality and dating women is also not an option, as it would "bring down a hailstorm of questions and prayers and counsel and all this stuff" (P7) that P7 does not feel ready to deal with. It would also potentially "be this giant cloud of shame over my parents and maybe even my brother" (P7) in the eyes of

family remaining in Africa. P7 adapted by employing both platform affordances on Facebook and additional platforms to establish clearly defined boundaries when needed:

> It took me two hours to do, but I basically went through all of my Facebook friends and found the ones that were family members, family friends, church members, old family friends of my parents that might not actually have those views, but if they saw that, they might tell my parents. Also, my parents are blocked from seeing things that I haven't approved before or things that have been typed in on my profile, on my timeline. That helps.

P7 essentially sealed her family off by taking advantage of Facebook's extensive privacy controls. In doing so, she can create a space in which she believes unexpected content is not allowed without approval, and lists can be used to filter who can see what type of content. However, even this heavy use of visibility control affordances on Facebook was not enough to satisfy P7's concerns over disclosure. Additionally, this heavily protective arrangement also provided no opportunities for P7 to present of herself as a bisexual person where this would actively help her move her life forward, e.g., experimenting with her own identity, receiving social support, and dating. For these psychologically-important parts of presenting her identity, it has been crucial to P7 that she does, indeed, have an entire social media ecosystem of options to draw on. For example, when initially exploring her nascent sexuality as a teen while in an explicitly hostile home and community environment, P7 took advantage of Tumblr's low identity persistence in order to experiment with different kinds of LGBTQ+ identity and how to express it, completely protected from the more actively homophobic audiences in her personal social media ecosystem. Similarly, when looking for romantic companionship, P7 looked across the full landscape of available social media options, and first tried adding Zoosk and Match.com to her personal social media ecosystem However, she quickly found that the visibility control affordances on these platforms did not serve her well. The wider, more diverse audience associated with the platforms, as well as the ability to browse through listings of many potential matches, facilitated members of her father's church seeing her profile and communicating its existence to her parents. She eventually shifted her romantic activities to Bumble, due to its association with a narrower audience and explicit focus on one-to-one matches.

Through these examples, we can see that it is this ability to look throughout one's ecosystem to find spaces with relevant and useful affordances and audiences that allows LGBTQ+ individuals to strike a workable balance between protection and disclosure of LGBTQ+ identity. Working across one's whole ecosystem allows one to protect oneself from stigma, while still reaping the benefits of being out in supportive spaces.

4.2.2 Change and the Personal Social Media Ecosystem

As the circumstances of LGBTQ+ users' lives change over time, having a broad range of options available within one's personal social media ecosystem enables users to ensure their online self-presentation keeps pace with their overall self-presentation goals and practical needs. For example, during essential periods such as the initial coming out process, users appear to employ platforms and their features across their personal social media ecosystem to help structure the presentation of their LGBTQ+ identity. P13 discussed how he used the features of multiple social media platforms throughout his ecosystem to effectively mirror his offline coming out as a continuing process of management while in high school:

> I was out to my close friends for probably a year and a half, and then I was out to everyone outside of my household for three years. Then I came out to my family and it became kind of like a game of like "I haven't come out to them, so I don't really want them to see anything like this yet." It was mostly proactive... as I progressed along with being more public with my identities is how I would constantly shift social media.

Early in his coming out process, P13 maintained distinct divisions between areas of his personal social media ecosystem. His cognitive map represents these as strictly defined categories. Initially, LGBTQ+-related content was restricted to platforms that P13 considers to be explicitly queer-friendly space (e.g., Tumblr), and platforms he considers to have low identity persistence (e.g., Twitter). As P13 has come out to more diverse audiences, the visibility controls afforded by platforms like Facebook have enabled him to engage in a sort of stepped, controlled coming out that mirrored his offline process. Using features like audience lists, P13 has been able to carefully and deliberately start incorporating content concerning his LGBTQ+ identity into his self-presentation to the more general audience of Facebook.

Of course, both the composition of one's personal social media ecosystem and how one uses it to achieve their self-presentation goals may change over time as both the platforms available online and the identity-related concerns within one's own life shift. P5 started using social media very early in his coming out process. He has continually shifted LGBTQ+-related content across his personal social media ecosystem as he has become more comfortable with his identity, similar to P13. Additionally, his strategies have shifted as platforms have waxed and waned in popularity, and as external pressures have changed how he sees different parts of his ecosystem and who he considers his likely audiences. For example, as a young teen, P5 engaged in identity exploration on MySpace and AOL Chat, the dominant platforms of the moment, where he could progressively present as more LGBTQ+ to a small, somewhat anonymous audience in one case and a one-to-one audience he perceived as safe in another. As he became comfortable identifying as gay publicly, P5's self-presentation on MySpace in particular became more expressly and identifiably gay. Later, when Facebook started to supplant MySpace, the positive audience responses he experienced on MySpace informed his choices around how to initially self-present on a new platform without obviously-established norms around LGBTQ+ issues: as an out and outspoken gay man.

Importantly, these changes over time do not always lead to broadening audiences for LGBTQ+ content. For example, after being out across a range of different social media platforms for some time, P5 took a job where the company's mission statement, values, and employees explicitly opposed LGBTQ+ identities; these identities were seen as immoral or even illegitimate. As a result, P5 completely re-evaluated his self-presentation strategy across his entire personal social media ecosystem. His new presentation goals included looking for ways to lock down his LGBTQ+ identity in now-unsafe spaces while also finding more online support for this identity to counter the negativity experienced in his workplace. For instance, P5 took advantage of visibility control affordances on Facebook for the first time to secure his previously very open Facebook. P5 restricted the visibility of his profile and denied friend requests from those who were not already known to be positively disposed to LGBTQ+ people. Additionally, he started actively seeking more connections with and social support from other LGBTQ+ individuals on platforms that were not directly linked to his offline identity and feature low identity persistence, such as Reddit. P5 was able to quickly change his self-presentation strategy while also finding new sources of social support for his LGBTQ+ identity by taking advantage of the wide variety of audiences, affordances, and norms across the platforms within his personal social media ecosystem.

In these examples, we can see that the presence of alternatives within one's personal social media ecosystem allows users to be responsive to their own ongoing process of disclosure and identity management, which we have noted above is a common aspect of the LGBTQ+ experience.

4.2.3 Ripples Throughout the Personal Social Media Ecosystem

Our third major finding relates to the effects of the interconnected nature of a personal social media ecosystem. Specifically, actions taken in and perceptions of one part of one's personal social media ecosystem have ripple effects across the personal social media ecosystem. This can have an impact on later self-presentation behaviors, and potentially influence one's perceptions

of other spaces within one's personal social media ecosystem. In our interviews, this took the form of audience perceptions affecting platform choice, previous audience reception to presenting LGBTQ+ identity affecting later presentation decisions in other spaces, and the user manipulation of linkages between different platforms within the ecosystem.

For some participants, their perceptions of the audiences associated with different platforms appears to not only influence disclosure, but the choice to incorporate platforms into one's personal social media ecosystem at all. This is true even in cases where the platform initially appears to be an excellent space in which to connect with other LGBTQ+ individuals. Both P6 and P9, for example, discussed feeling as if certain platforms on which they initially hoped to participate in LGBTQ+ community would be inappropriate for them to engage with at all; the audiences for these platforms, they surmised, were simply too young. For P6, this meant that he felt he would be unwelcome, as he recounts:

> It seemed like for the most part, it was teenagers and so it seemed like a 40-year-old person having a MySpace page was either looking for hookups with young people or just was somebody who was clinging to youth in a sad kind of way. It somehow didn't seem age-appropriate.

P9's concerns were similar, but focused more explicitly on her perception of Instagram and Snapchat as spaces that should be primarily for younger users, as her children use these platforms. In both cases, the perception of audience norms on one set of platforms led to the adoption of different platforms as the centerpieces of each participant's personal social media ecosystem. P9, assuming that the most popular, relevant content from Instagram and other platforms within the ecosystem (e.g., memes, news stories) will eventually filter onto Facebook, has made this her platform of choice. Additionally, she sees her particular Facebook audience as sympathetic to her views and LGBTQ+ identity, making Facebook a comfortable home for her. In contrast, P6, a self-avowed "boundaries queen," has had to dramatically scale back on Facebook use recently, and shift much of his presentation of his LGBTQ+ and professional identities to Twitter, as he has found it increasingly difficult to manage audiences on Facebook due to the sheer diversity of types of people using it:

> It's a mess. I got LGBT friends over here and you bleed into some old Alabama Baptists and you got some just regular lefty allies kind of folks. It's a hodgepodge of people and I guess one reason I don't do a whole lot of Facebook is like trying to find some authentic version of myself that speaks to such polarized people. It's just I feel stunned into silence sometimes.

In both of these cases, it was perceptions of an audience and associated norms in part of one's personal social media ecosystem that motivated participants' choices about where to express their LGBTQ+ identity. It is not just situation of content within one's personal social media ecosystem, however, but also the content itself that can be affected by such concerns. For example, P17, who identifies as bisexual, talked about how early experiences on Tumblr were positive in terms of helping her become comfortable with her LGBTQ+ identity:

> I think for me using Tumblr was nice, because I could kind of feel like, I'm not alone. I'm not the only person questioning kind of what their sexuality might be like, and who they might be attracted to.

At the same time, though, while receiving one kind of support, P17 also encountered negativity regarding bisexuality in particular:

> ...especially on Tumblr, there's definitely a huge community of people who are very much like, 'Bisexuality isn't real.'

As P17 got older and moved away from relying purely on Tumblr for social support, she shifted much of her presentation of her LGBTQ+ identity to Instagram, where she has a small audience that she believes to be mainly supportive of LGBTQ+ individuals. However, even though P17 is "very open about" these issues in person, with friends and even strangers, she remembers the negativity about bisexuality from Tumblr and limits what she posts about being bisexual. A photo with a girlfriend, or other similar matter-of-fact statements of LGBTQ+ identity are fine, but being explicit about being bisexual, and not clearly straight or a lesbian, gives P17 pause even on a platform where she imagines a friendly audience. Here, we can see how norms and experiences established on one platform can carry over to other platforms within one's personal social media ecosystem, even when audiences may not. This is in spite of the fact that negative or positive experiences within a space are often given valence by audience reactions to LGBTQ+ identity.

Connections between platforms can also be actively managed by LGBTQ+ individuals. One salient property of one's personal social media ecosystem is that many of the platforms within it will have mechanisms to explicitly link one platform, and therefore one potential audience, with another. This adds a layer of complexity when considering self-presentation regions, as users have the opportunity to make deliberate decisions about how and when to purposefully collapse contexts, directly bridging self-presentation regions when it serves their goals. In P10's case, this enables him to modulate his presentation of LGBTQ+ identity for each platform-based self-presentation region. This modulation allows him to maintain his overall standard of being out, but not necessarily explicitly so in all self-presentation regions.

P10 explicitly maintains his Tumblr for interacting with and contributing to the bisexual, kink, and polyamory communities; there, his LGBTQ+ identity takes center stage. P10's Facebook is more general - his LGBTQ+ identity is only part of what he is presenting there, but he will link to content he created Tumblr on a regular basis, partially collapsing his Facebook and Tumblr audiences when he wishes to present as more explicitly LGBTQ+ to his Facebook audiences. Notably, this is a unidirectional link – P10 does not post face pictures to Tumblr to maintain some level of anonymity, and would not link to his Facebook on his Tumblr as this would threaten that anonymity. By contrast, P10 has directly linked his Facebook and LinkedIn accounts to share posts between the platforms, making it very easy for members of one audience to become members of another. P10 takes advantage of this property of his personal social media ecosystem to avoid being explicitly LGBTQ+ on his LinkedIn, while also not explicitly hiding his identity for those members of his audience that are actively interested in knowing.

From these examples, we can see that the interconnected nature of the elements of one's personal social media ecosystem creates a situation in which actions within and properties of one part of the ecosystem are not necessarily isolated or isolatable. We see evidence of ripple effects, and even evidence that some LGBTQ+ individuals may be aware of and seek to take advantage of or control these ripple effects.

Overall, by using an ecological lens, we begin to see the complexity of how users manage the presentation of their LGBTQ+ identity on social media. Looking at how LGBTQ+-related content is distributed throughout the platforms and audiences in one's personal social media ecosystem, we can see how drawing inferences from one platform may not give a clear picture of LGBTQ+ self-presentation behavior as a whole. Indeed, here we see that, especially in cases where preserving and defending self-presentation regions against context collapse is a priority, it is the presence of multiple platforms with different audiences and affordances in one's personal social media ecosystem that enables protection from stigmatization.

5 DISCUSSION

Now that most US social media users engage with multiple social media platforms [55], our results suggest that, for LGBTQ+ users in particular, it is the combined use of these platforms and their associated audiences, affordances, and norms that provide the flexibility and responsiveness that allowed our participants to achieve their self-presentation goals. Considering these as an

ecosystem allows us to see how participants take advantage of a larger set of options to balance the inherent tension between using social media to derive social benefits and avoiding possible stigmatization.

5.1 Implications for Theory

One phenomenon that we saw repeatedly is the strategic preservation of self-presentation regions. Where previous work has suggested that region behavior is threatened by context collapse from computational mechanisms like Facebook's news feed [17] and reduced audience visibility [37, 38, 45], we see LGBTQ+ users separating their content for sharing in discrete spaces. They tailor the presentation of the specifically LGBTQ+ elements of their identity via affordances they see as helpful and a combination of audience awareness and targeting.

In turn, this interplay between audience and affordance enables LGBTQ+ individuals to push past simply imagining audience based on limited cues [37], and present to a more targeted, defined audience. We did not see our participants acting on abstract imagined audiences, as others have suggested [38]. Rather, participants described relying on either what Litt and Hargittai call a "targeted imagined audience" based on communal ties [38] (e.g., perceiving a space as LGBTQ+-friendly because the audience is LGBTQ+), or what we call an "outright" targeted audience, which is user-constructed via interplay between spaces and affordances throughout their personal social media ecosystem. This "outright" targeted audience represents an extension of the current audience literature, establishing an additional factor in how users construct and utilize the concept of imagined audience. Our participants had an understanding of audience that is not simply defined by the people they imagine may be present based on the interplay between social relationships and affordances that Litt has captured in her work [37, 38, 39]. Rather, platforms themselves, as part of the type of spaces defined in section 4.1, play their own role. For our participants, "spaces" as a conflation of platform and audience, beyond the sum total of one platform's affordances, were a major factor in imagining, or even specifically targeting, one's audience.

This expansion of how we conceptualize users' audience understanding allows us to reexamine some related audience management theory. Prior literature has explicitly recognized imagined audience as the fulcrum on which audience and privacy management often rests. As such, this previous research has primarily identified strategies for audience management that operate in a "local" context, or on one individual platform at a time [37, 38, 39]. By zooming out and looking at presentation not *within* a platform but rather *across* an ecosystem of platforms, and expanding our concept of audience understanding to include users' perceptions of the spaces themselves as a factor, we are able to directly interrogate the impact of the *platform* on how people conceive of their imagined audiences, and subsequently how this impacts self-presentation strategy. By capturing how users perceive platforms through the lens of spaces, we are able to look not just at the social context intended by platform designers (the type of social context discussed in Litt's imagined audience work - e.g. a knitting platform having an audience primarily composed of knitters [37]), but rather what a platform represents to the users themselves in comparison to other platforms within one's personal social media ecosystem.

In this study, our participants describe and explain their engagement in what Goffman refers to as "region-specific behavior" by using discrete spaces to limit the visibility of behavior to targeted audiences. This behavior does not primarily rely on local, platform-specific limiting and reaching strategies, such as those discussed by both Litt [39] and Marwick [45]. Rather, our participants employed strategies involving separation and segmentation of LGBTQ+-related content based on their perceptions of the spaces available, an approach that allows the participants to act in a way that more closely resembles traditional offline region behavior.

Updating our existing theories of audience perception and self-presentation behavior by taking into account how users perceive and make choices at the level of the personal social media ecosystem, rather than on a single platform, helps us more accurately represent the experiences

of LGBTQ+ users (and, possibly, users with heightened self-presentation concerns more generally). It may also, by explicitly accounting for behavior that spans multiple platforms, contribute to our understanding of some behaviors that flow from audience understanding.

Consider what our findings suggest about a commonly-discussed problem in audience and privacy research: the privacy paradox. This refers to the apparent disconnect between people's stated desire for privacy controls online and their actual behavior when presented with such tools when managing their audience [30]. Prior work has looked at this paradox in a single-platform context, but by considering platforms themselves as factors in how people are imagining and targeting their audiences, we see what may be a partial explanation for the paradox, at least in cases where the user in question has heightened privacy concerns. Our participants clearly wanted to protect their privacy, but did not primarily rely on the privacy controls of single platforms to do so. Rather, participants in our study consistently focused on situating content in appropriate spaces, used in a fashion similar to self-presentation regions. In fact, the privacy controls on some individual platforms seemed to be irrelevant in the face of contextually-dependent region behavior. For instance, participants like P4 saw Facebook, with its massive investments into privacy tools, as less safe for presenting LGBTQ+ identities and Twitter, with no fine-grained privacy controls at all, as a secure space.

Looking at the range of behaviors on platforms across an ecosystem, it appears to be perceptions of the range of available spaces, and their associated, perceived audiences, that motivate user privacy strategies. That is, for users who may be particularly sensitive to privacy violations, such as LGBTQ+ users, decisions appear to take place not at the level of the individual platform, but at a higher level of granularity: the personal social media ecosystem. Thus, the user's perception of the spaces available to them within their personal social media ecosystem appears to shape their behavior, regardless of elaborate privacy affordances at the platform level. Users are not just making privacy decisions based on a traditionally-understood imagined audience and how they can use the affordances available for managing it on one platform. Instead, these decisions are made based on the user's larger concept of how platforms (including affordances and norms) *and* audience interact across their entire personal social media ecosystem. Viewed through this lens, it appears that the presence of other spaces in which one can situate presentation of LGBTQ+ identity present a tempting alternative to relying on one platform's privacy controls to enact traditional reaching and limiting strategies for audience management. Thus, a phenomenon that seems like a paradox (privacy controls exist but are not used) when looked at through the lens of a single-platform imagining of audience now appears to be a coherent, adaptive privacy strategy. This strategy pushes past the current limits of the imagined audience into a conceptualization that more closely mirrors users' understandings of audience in the physical world: an outright targeted audience based on the characteristics of a space.

From a theoretical standpoint, space as a conflation of platform and audience also reflects an important difference between the physical and online worlds in terms of how audience composition affects the resulting utility of a platform for a particular group. This difference is not necessarily captured by single-platform studies. In the physical world, a space is geographically defined and can contain a limited number of people, so one's audience is visible and clearly defined. Participants perceived social media platforms as operating in a similar manner to the physical world, though they clearly do not.

For instance, our participants found mainstream platforms such as Tumblr and Twitter to be useful spaces for LGBTQ+ identity expression and community formation. This was true in spite of the fact that Twitter and Tumblr also host groups of users who are hostile to LGBTQ+ people. One parallel example here is Black Twitter, where organization around a Twitter hashtag has essentially created a subcultural "space" within the larger, and not universally supportive, platform of Twitter [8]. In the particular context of the LGBTQ+ community, this merits attention because, for example, our participants see Tumblr as safe not because it is free of homophobic content or harassment, but because they have freedom from their real identity and it is easy to

meet others who are in a similar position. That is, their perception of the space depends on its affordances and the audience the user is aware of and focused on, and not the audience composition of the entire platform. This becomes much clearer when we take this holistic approach.

These findings also confirm and extend work by Zhao et al. [63] showing that, in a multiplatform environment, users will explore many platforms seeking affordances that meet their needs. Here, we see that this exploration affects the self-presentation process, especially for those with stigmatized identities, but also goes beyond affordances. Our results suggest that, in conflating platform and audience into what we've called a "space," users consider not just affordances, but also their perceptions of how safe spaces are for LGBTQ+ identities.

Finally, we observed one contrast to Zhao et al.'s suggestion that a primary motivator of content placement and platform use decisions for non-LGBTQ+ social media users is a tension between separation and permeation of audiences between platforms. Platform boundaries were important, but most of their participants also sometimes felt the need for audiences and content to flow between platforms [63]. For our LGBTQ+ participants, this tension tended significantly toward separation. Our participants tried to maintain strict boundaries between spaces, each with discrete purposes and audiences. Where permeability was desired, it was structured, one-way, and exclusive to certain content. This may reflect practical concerns of stigmatized populations have about the consequences of issues like context collapse [40], which may include physical violence [10] or relationship damage [3].

This is not to say that our participants set up permanent, ironclad regions within their personal social media ecosystems. Rather, the inherent flexibility provided by options within the personal social media ecosystem allows for regions to be responsive to changes in the individual's self-presentation goals over time, e.g., changing family attitudes or job situations. Moreover, the ecological lens allows us to see how people use social media for coming out and managing disclosure. We saw trajectories and rhythms that unfolded as life circumstances changed, such as P5's shifting job-related concerns and P6 and P13's changing family relationships. Participants recounted how these events unfolded over time, and how the audiences, affordances, and norms of platforms allowed them to be deliberate about shifting their self-presentation in response to life circumstances, such as changes in employment or family.

These shifts in presentation of LGBTQ+ identity parallel the context collisions and collusions discussed by Duguay [19], but over the longer term. However, we found that our participants primarily used these shifting strategies, as opposed to "social steganography" or other tactics whereby content is manipulated so it is intelligible only to a segment of one's audience [19, 44]. None of our participants mentioned this as a strategy, possibly because of generational differences between our samples and this earlier work, and possibly because there are simply more widely used platforms available today [18, 55].

5.2 Challenges for Design

Our findings point to three important challenges for platform designers. First, access to many possibilities within one's personal social media ecosystem is crucial to LGBTQ+ individuals as they protect themselves from stigmatization while also deriving benefits from expressing their identities. Being able to adjust one's presentation strategy, transfer focus between spaces within the ecosystem, and even jump between platforms if necessary are crucial to supporting LGBTQ+ self-presentation goals over time. As such, designs that lock individuals or content onto a single platform may possibly be damaging to LGBTQ+ individuals. As prior research has noted, lock-in ties users into a specific set of audiences, platform features/affordances, and design values [51]— circumstances that would could curtail the adaptive behaviors we saw. Of course, this must be weighed against operational concerns, as lock-in certainly has business advantages [58]. In any case, this merits caution, as design choices may have serious consequences for already-

stigmatized populations, and building in data and content flexibility may be a key way to aid LGBTQ+ users.

Second, our participants consistently reported careful thought and effort into how they present their LGBTQ+ identity. As we have established, LGBTQ+ self-presentation management is an ongoing, continuous process [42], so one might expect that LGBTQ+ users have specific preferences for privacy affordances. However, despite being asked about this, they did not mention missing features. Rather, participants consistently talked about using multiple spaces to divide audiences into regions, instead of relying on one platform's privacy features. This suggests that platform designers should think more expansively about what, exactly, "privacy tools" are and can be. It may not, in fact, serve stigmatized individuals well when platforms add complexity to their privacy tools. We encourage designers to think holistically about how their users define and experience privacy, beyond the traditional content- or account-based settings.

Third, as our results consistently showed how LGBTQ+ self-presentation goals change over time as life circumstances change, designers wishing to support LGBTQ+ individuals may want to consider how they conceptualize and implement privacy over time. As cases like P5 and P6 show, past content can quickly become problematic as contexts and outside circumstances shift; rendering previously functional privacy settings suddenly inadequate. This is likely true for all users, but represents a heightened concern for potentially-stigmatized users. Recent features like Facebook's Limit Past Posts tool, which allow selective access to past content for new connections and followers, are a possible step in the right direction. However, platforms might also allow more fine-grained controls, e.g. manipulable content groupings in the style of audience lists, for rapid post-hoc adjustment should circumstances change.

5.3 Limitations and Future Work

As with all research, we urge consideration of these limitations when interpreting our results. As is true of most qualitative exploratory work, our data is based on a deep dive with a small sample. Confirmatory, larger-scale work is necessary before generalizing from these findings. Additionally, we only sampled frequent users of social media (3x/week or more), but infrequent users may behave differently.

There are also two notable groups not accounted for in this study, which certainly merit attention in future work. First, our sample was drawn exclusively from an urban area, though some participants grew up outside of urban cores. As prior work (e.g. [27]) has established, LGBTQ+ individuals in rural areas face unique concerns. Second, our sample lacks binary-identified transgender individuals. Though we do include genderqueer respondents, binary-identified transgender individuals may have distinct concerns which merit exploration [28].

This paper also sets up next steps in both exploring ecological models of social media self-presentation, and exploring LGBTQ+ self-presentation. The ecological model we have employed, though more expansive than focusing on single platforms, still only covers the parts of self-presentation that are directly touched by social media. By pushing towards a more holistic model such as the social ecological model [9], we could also begin to account for factors such as laws, cultural values, and even changing political circumstances. Regarding future LGBTQ+ self-presentation work, this ecological model could help address questions of intra-group self-presentation. Here, we have largely focused on disclosure of LGBTQ+ identity to non-LGBTQ+ individuals. However, there are significant tensions within the LGBTQ+ community [7, 46], e.g. between bisexuals and monosexuals and trans* and cisgender individuals. Investigating disclosure of trans or bi status through an ecological lens could potentially yield a more complete picture of LGBTQ+ self-presentation overall, but could also complicate the understanding of social support we have found in our data.

Additionally, our data highlights three important areas for future study. First, while our participants touched on how LGBTQ+ self-presentation strategies enable access to social support in an online environment, and how this can sometimes involve identity formation, this was not

the primary focus of our study. Our findings, taken together with work by Fox and Ralston [22] which discusses how platforms can contribute to informal learning for LGBTQ+ individuals, suggest that future work should consider more specifically the role that online spaces might play in this identity discovery and formation process. Furthermore, our participants were clearly engaged in identity work, or the maintenance of one's existing identity, while making self-presentation decisions, but also hint at engaging more explorative/formative identity play [32]; future research could specifically consider the differences between identity work and identity play, and how online spaces may be useful in facilitating both for different populations. Second, our participants discussed how their experiences of norms in online spaces influenced their perception of other contexts, e.g. P6 and P9's hesitance to enter certain online spaces due to their age and past experiences with younger members of the LGBTQ+ community. This suggests that additional work that specifically address how online norms are not only formed on individual platforms, but how an ecological lens might help us to understand how norms in online spaces move between and exist between different platforms may be theoretically useful. Finally, we recognize that stigma is a concept which influences many different populations online. However, as stigma is socially constructed [26], the specific forms that it takes (and therefore the steps necessary to mitigate it) may look very different for different groups. Further research should consider a more in-depth comparison of how stigma functions online for different groups (e.g., people living with HIV, people experiencing homelessness, people who are considered overweight) online and the range of ways users address these issues across their own personal social media ecosystem.

6 CONCLUSION

In this paper, we have applied an ecological lens to LGBTQ+ self-presentation, allowing us to see that it is the range of options provided by an individual's personal social media ecosystem that ensures both the necessary protections from stigmatization as well as the access to social support needed by LGBTQ+ individuals. Our contributions provide guidance for researchers and designers alike in further efforts to understand and support LGBTQ+ individuals in achieving their self-presentation goals, and lay the groundwork for future in-depth work on LGBTQ+ populations in an increasingly diversifying social media space.

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