Safety and Community Context: Exploring a Transfeminist Approach to Sapphic Relationship Platforms

MICHAEL ANN DEVITO, Khoury College of Computer Sciences, Northeastern University, USA

JESSICA L. FEUSTON, Department of Information Science, University of Colorado Boulder, USA

ERIKA MELDER, , Khoury College of Computer Sciences, Northeastern University, USA

CHRISTEN MALLOY, Department of Information Science, University of Colorado Boulder, USA

CADE PONDER, Department of Information Science, University of Colorado Boulder, USA

JED R. BRUBAKER, Department of Information Science, University of Colorado Boulder, USA

Relationship platforms (e.g., dating apps) are crucial tools for sapphics (trans women, cisgender women, and nonbinary people who are attracted to other sapphics). However, current platforms are not designed in a way that accounts for sapphic lived experience, especially the lived experience of sapphics who hold multiple marginalized identity characteristics. Even on platforms that do exist for sapphics, transgender women and nonbinary people are often subject to discrimination, fetishization, and stigmatization. To aid in the design of platforms that better serve the needs of multiply marginalized sapphics, we engaged a diverse group of 25 sapphics in six rounds of community discussion on key topics for relationship platform design. Based on participant discussions, we identify key challenges when designing for multiply marginalized sapphics around relationship structures, gender and sexuality classification, and safety priorities for interaction. We present two design priorities alongside community-sourced design directions which can help future designers address these challenges: identity-centric safety and community-based information formats.

1 INTRODUCTION

Queer and transgender people heavily rely on the Internet for community, identity development, health information, and social support [33, 35, 41], especially as offline queer community spaces

continue to disappear [22]. Reliance on the internet is especially heightened when it comes to trying to find connections such as a sexual or romantic partner, as all queer and trans people face a comparatively-thin dating market and are less likely to meet through traditional channels [76]. There are significant benefits to finding and being in close, and especially intimate, relationships, which include significant improvements to health and wellbeing [25]. Therefore, the online relationship platforms which facilitate queer and trans people seeking these relationships are critical to queer and trans well-being. The importance of online platforms in this context is particularly acute for sapphics, who we define here as trans women, cisgender women, and nonbinary people who are attracted to other sapphics [1]. "Sapphics" broadly includes bisexuals, pansexuals, and lesbians, who are less likely than gay men, let alone cisgender and straight people, to find partners through physical spaces [76].

Despite the heightened importance of online relationship tools to sapphics, relationship platforms[2] for this population remain a "problem area" for designers [63] due to issues ranging from identity/culturally-incongruent design which does not take sapphic lived experience into account [63, 75, 83] to heightened self-presentation pressure [27] and safety concerns [23, 27, 75]. Currently, the majority of platforms are designed with hyperlocal or swipe-centric models that embed design assumptions based on the relationship needs of heterosexuals or gay men which results in friction and unproductive outcomes for sapphic users [9, 19, 23, 27, 44, 55, 63]. For example, while apps that embed immediate physical proximity as a major factor provide a sense of being "not alone" for the urban gay men who fit the model of the platform's constructed user, sapphic users in similar settings experience these same apps as spaces of scarcity and loneliness [23]. As Hardy and Lindtner have argued, the design of dating platforms cannot assume a universal user without failing or under-serving certain communities, and it is crucial to look at the specific circumstances of each community when designing [44]. Even on platforms that do exist for sapphics, subgroups such as transgender women and nonbinary people [5, 10, 26] are often unwelcome and subject to heightened discrimination, fetishization, and stigma. Similarly, sapphics with additional identity characteristics such as neurodivergence (e.g., ADHD, autism) struggle with basic acceptance and understanding in these spaces [54]. Prior work illustrates the persistent exclusion of the least socially and emotionally supported sapphics [65]. Given the importance of these relationships and the challenges that face sapphics on current platforms, it is crucial that future designers approach the evolution of current platforms and the design of new platforms with a solid, community-sourced understanding of these problems and the bounds of what sapphics consider acceptable solutions in hand. As such, in this paper we establish high-level design considerations for relationship platforms which can inform future design work that aims to better support and empower a broad, inclusive range of sapphic users, especially those who experience multiple forms of marginalization.

In this paper, we ground ourselves in the specific experiences of a community to establish design considerations for that community – here, sapphics. In order to produce design guidance on relationship platforms for and with sapphics, in this paper we employ an online research community approach based on prior CSCW work on participatory community design for queer populations [21]. We engaged a diverse group of 25 sapphic users of dating apps in six rounds of community discussion on multiple topics related to community platform design, including: past experiences with dating apps, crucial musts and must-nots for platform design, learning from non-dating

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[1] Following recent work in lesbian studies (e.g. [46, 68, 84]), we have adopted a definition of the umbrella term "sapphic" which accounts for variety within nonbinary identities; for a discussion of this choice, see section 2.1.
[2] Here, we use the term "relationship platform" to account for both dating platforms designed exclusively to facilitate sexual or romantic relationships, such as dating apps, as well as non-dating platforms which vary in scope.

platforms, matching criteria and procedures, profile and interaction design, and resolution of in-group values conflicts. To remain focused on supporting and empowering a broad range of sapphic users, we adopted a transfeminist position to center the needs of transgender and nonbinary users while taking into account other forms of marginalization and privilege [52]. In particular, we recognize that being sapphic is just one aspect of how many sapphics are marginalized. Many sapphics also experience marginalization on the basis of other characteristics such as race and neurodivergence, and it is crucial that we faithfully represent and account for the experiences of these multiply marginalized sapphics. As such, we report on how our participants see other forms of marginalization impacting their experiences as sapphics, and the insights we generate from this sapphic community approach are not always exclusive to sapphics. Our design considerations, in turn, do the crucial work of helping future designers support the unique needs of the sapphic community, while also providing possible benefits and inspiration for better serving other communities as well.

By approaching the space of sapphic relationship platform design with an eye to multiple forms of marginalized identity, we find that sapphics have specific needs which are directly tied to their overlapping identities around relationship structures, gender and sexuality classification, and priorities for interaction that are not adequately supported by current platforms. These needs represent design challenges for current and future relationship platforms. We center participant expertise to provide multiple community-sourced design directions which represent a first step in addressing these challenges in the areas of filtering/matching and messaging/interaction. We then synthesize both participant experiences and proposed solutions into two high-level design priorities for broadly inclusive, trans-supportive sapphic technology: **identity-centric safety** that prioritizes safety across all areas of a platform while providing extended tools to the most at-risk sapphics, and **community-based information formats** that leverage sapphic community knowledge to provide key decision-making information to users making judgments about safe interactions. These design priorities can help future design work better contribute to user feelings of safety, better uplift multiply marginalized sapphics, and more easily create space for a variety of relationships unaccounted for by current platforms. Additionally, because these priorities are synthesized from community discussion, they form a useful reference window for solutions which may be more readily accepted by the sapphic community. As such, we propose that these design priorities could inform future work around both sapphic-oriented platform design and general relationship platform design which better supports marginalized groups such as sapphics.

2 BACKGROUND

Online dating apps and platforms are crucial spaces for queer and transgender people generally, as queer and transgender people are less likely overall to meet potential partners through traditional channels such as offline spaces or through family, and more likely than cis or straight people to find these types of connection via apps [76]. Moreover, while significant progress has been made in creating and examining sustainable dating apps for populations such as gay men (e.g., Grindr [8, 9, 28]), dating app design for sapphic populations such as lesbians remains a problem area, with current apps under-serving sapphic communities [63]. Additionally, while platforms for both straight people and gay men have moved forward in their design, platforms for sapphic populations have lagged behind [15], partially due to how we have approached design for sapphics in the past. Often, attempts to design for sapphics have been approached as an attempt to create a "Grindr for girls" via reskinning and repurposing designs originally meant for gay men [63]. However, a reskinning and/or repurposing approach maintains deeply-embedded structural expectations [44],

which do not match the way sapphic people approach and maintain relationships [63]. Therefore, the approaches continue to cause significant friction for sapphic users.

Considering these issues with prior approaches, in this paper we take a discussion-based approach with an exclusively-sapphic population in order to remain squarely focused on how to best design a relationship platform that is first and foremost for and by sapphics, and deeply based in sapphic lived experience. Moreover, recognizing that a major issue within sapphic spaces is the exclusion and fetishization of trans women and nonbinary people [10], we take an explicitly transfeminist stance in this work. A transfeminist stance centers transfeminine identity and the specific problem of transmisogyny, requiring us to attend to and account for multiple forms of marginalization and privilege while respecting individual identity and autonomy [52]. Additionally, we are guided by existing work on defining "trans technology" which aids and empowers trans people [42, 43], as well as work on trans-competent design which avoids harm and subverts oppressive cisgender norms [2]. To contextualize our results, we expound on these decisions in the remainder of this section.

2.1 Scoping to the Sapphic

In the prior work which has inspired this study, the general category of app or platform we discuss here is often referred to as a "women seeking women" (WSW) or "lesbian" dating app [27, 63, 83]. However, as we approached this study with the explicit goals of producing design recommendations which would help broaden these spaces to be more inclusive and supportive of marginalized identities, it was crucial to interrogate this project's relationship to both these terms and categories. In this paper, we use "sapphic' as an umbrella term for the many related but distinct identities our participants represent. We are motivated to engage this broad grouping of interrelated identities and use this umbrella term instead of terms such as "women loving women" for two reasons - one practical, one theoretical.

First, on a practical level, we recognize that the sapphic grouping is closer to the lived reality of our participants than an exclusively lesbian, exclusively bisexual, exclusively nonbinary, etc., grouping. We are guided by past dating work by Byron et al., who argue for a functionality-based categorization of dating platforms, offering the distinction between people who are likely to use Her (a primarily lesbian-focused app) and people who are likely to use Grindr (a primarily gay male-focused app) as an alternative to a female/male distinction [15]. Functionally, "women loving women" apps such as Her and Lex feature a population that includes the group of multiple interrelated identities which we are calling "sapphic." Based on this functional reality, our approach strikes a balance between Hardy and Lindtner's argument against pluralistic design for relationship platforms [44] and Zytko et al.'s argument for pluralistic design as a practical and safety testing concern [92] by avoiding isolating one identity and accounting for the interactions between different identities while also scoping down to a genuinely shared basis of identity and functional experience. Moreover, as we will discuss below, the sapphic grouping is reflective of the lived experiences of our participants.

Second, we are guided by work on the boundaries of lesbian identity (e.g., [84]) as well as past work in HCI which calls for an inclusive, experience-focused approach to bounding the category "women" around broad topics such as women's heath [50]. "Lesbian," as a category, has sometimes been defined strictly as women who are sexually attracted to other women, but the boundaries of this identity category have historically been in flux [14, 46, 84]. Much of this ongoing debate centers on who counts as a "woman," and how central a static concept of "woman" should be to lesbian identity [46, 84], and in recent years certain parts of the lesbian community have turned to a bio-

essentialism which has not been central to lesbian identity historically [46]. We reject this bio-essentialism when defining both "lesbian" and "sapphic" more broadly, and instead return to the historical core of lesbian identity: willful resistance to strictly-drawn notions of gender and sexuality [68], with the specificity of "lesbian" or "sapphic" coming not from a strict assignment of gender, but rather from how sapphics relate to and desire each other [3, 46]. "Lesbian," and by extension "sapphic," is about ways of connection, association, and exchange, not strict boundaries, biology and genetics, or following a specified, homonormative trajectory [3, 46]. As Butler, Hord, and Tate all argue, the utility in constructions like "lesbian" are their ability to provide community and a shared understanding of how discrimination works against certain marginalized people, not in strict, oppositional definitions which, in practice, limit understanding of sapphics by strictly defining them in opposition to the experiences of heterosexuals - all of which requires permeable definitional boundaries [14, 46, 84].

As noted above, in this paper we scope our population to sapphics, and define "sapphics" as "trans women, cis women, and nonbinary people who are attracted to other sapphics." This definition allows us to center this work on how participants relate to each other and how they practice attraction rather than strict gender-based categorization [3] while also specifically providing room for permeable bounds [14]. We consider these permeable bounds especially important in the case of nonbinary users, as nonbinary identities vary widely, with some nonbinary transmasculine people considering themselves part of lesbian and/or sapphic communities, and others rejecting that affiliation [88]. As such, we take what Tate refers to as a "life-course identity" approach to bounding "sapphic," recognizing that some nonbinary people have a historical and practical connection to sapphic identities and community which they wish to maintain, and leaving it entirely up to the individual nonbinary person to determine what they would like their relationship to and inclusion in sapphic communities to be [84].

2.1.1 Respecting and Accounting for Complex Sapphic Identities

As we describe in detail in section 3.1 and the beginning of section 4, the lived experiences of our participants required that we consider multiple, overlapping forms of marginalization. This is aligned with our transfeminist design stance and goals, which motivate us to deliberately highlight the experiences of multiply marginalized sapphics [52]. During our analysis, this required that we account for aspects of identity that are not strictly related to gender or sexuality, but which may have an impact on how one instantiates or experiences relationships. For example, it was crucial to include race in our analysis, as sapphics of color regularly face discrimination from within the sapphic community itself on the basis of race [56, 66]. It was also crucial to include marginalized or stigmatized aspects of identity that frequently co-occur with queer identity. For example, queer women, transgender, and nonbinary people are more likely to also be polyamorous [7, 62], a relationship style which is widely stigmatized [48, 81]. Similarly, it was crucial to account for neurodivergence such as Autism and ADHD as they functionally operate as core aspect of one's own identity [6, 82], are more common in queer and trans people [36, 37], and have direct impacts on relationships and sex [54]. Here, we are heavily influenced by recent work in disability studies which holds that a crucial part of making systems more inclusive is accounting for not just disability but disability in the broader context of one's whole identity [57]. Importantly, all of these aspects of identity which sit alongside a sapphic identity were a heavy and entirely emergent focus of our participant discussions, suggesting the community's own recognition of the importance of accounting for these multiple aspects of identity; we will further explore this in the Findings.

2.2 Sapphic Experiences on Relationship Platforms

While queer and trans people overall face a thin dating market and lessened likelihood of finding a partner via traditional avenues, these issues are particularly pronounced for queer women, for whom online dating and relationship platforms now form the primary means of meeting prospective partners [76]. Dating apps are also crucial for reconstituting offline queer spaces, which have been lost to forces such as gentrification and forming broader communities [75]. Moreover, in cases where the goal was to better integrate sapphics into general-purpose dating platforms, sapphic users reported consistent tension, cultural mismatches, a sense of overcrowding, and safety issues around non-sapphic users such as cisgender men [23, 27]. These tensions may be related to the need for these platforms to balance what would be safe for women and nonbinary users against what cis men will tolerate regarding behavioral standards and restrictions [92]. This reality creates an outsized pressure for sapphic users to conform to a primarily-lesbian, stereotype-based self-presentation in order to even be read as sapphic [23, 27, 45], with people using conformity to stereotypes as a way to gauge safety [75]. In turn, this conformity creates even more pressure for those who exist outside of these stereotypical norms, effectively othering and excluding bisexual, transgender, and nonbinary sapphics [27]. To combat this pressure, genderfluid, nonbinary, and bisexual people are forced to repeatedly explain and validate their identity or present with an unwanted level of femininity, while certain groups of sapphics, such as butch women, must hypersexualize themselves in order to have any chance at attracting a partner [27, 45]. Additionally, certain sapphics, such as bisexuals and those in relationships with transmasculine people, are often not seen as queer due to their current partners, creating an additional burden of justifying and defending their identity [4, 12, 51, 69, 86]. As such, for sapphics, current platforms effectively range from places where success is highly limited to places where one is expected to present inauthentically and in ways that may not reflect one's true gender or sexual identity in order to get any traction at all. Moreover, these issues are further compounded for sapphics who are also marginalized on the basis of race, neurodivergence, and disability, as these groups often face additional discrimination and challenges within sexual and relationship contexts [31, 54, 64, 72, 78].

In addition to these general sapphic issues, sapphic trans women and nonbinary people face additional challenges. People are far less willing to date trans people than cis people, and trans women are more often excluded from sapphic spaces and from consideration as a potential partner when compared to other types of trans and nonbinary people [10]. Trans, nonbinary, and genderfluid people are often specifically excluded from sapphic spaces, especially those that are primarily lesbian [27], and butch trans women in particular are generally unwelcome [77]. Moreover, key features of the trans experience, such as fluidity of identity [42], are seen as suspicious by certain sapphics who, due to the pressures described above, expect and prefer a static identity [27]. Even when accepted as potential partners and valid users to be in a sapphic space, trans and nonbinary sapphics face higher rates of discrimination, fetishization, and stigma from potential partners, and have to deal with the unique problem of "chasers," or those who specifically pursue trans or nonbinary people, often with the intent of disrespectfully fetishizing their gender presentation and/or genital arrangement [5]. Moreover, all trans people face outsized difficulties around identity disclosures, as the consequences of not disclosing, or of disclosing trans identity at what the other party considers the "wrong" time, can range from rejection-induced dysphoria to serious physical harm [26]. These additional difficulties also play out on a background of overall social precarity for AMAB trans and nonbinary people, who generally receive less social and peer support, are more impacted by social negatives, and face more in-community discrimination than AFAB trans and nonbinary people [65, 71]. For trans and nonbinary sapphics, current platforms are

just as ineffective as they are for cis sapphics, with an additional layer of discrimination, isolation, and stigmatization.

2.3 Designing Transfeminist Technology

Considering the difficulties faced by sapphics detailed in the previous section, there is a clear need for work on platforms which can better support sapphic experiences generally, and an urgent need to attend to the specific issues facing trans women and nonbinary people within sapphic spaces. Here, we take an approach based on the transfeminist principles specified by Koyama. Transfeminism takes the position that to make progress for all marginalized people, we must center and address trans issues, especially those issues that are compounded by anti-trans sentiment, while also attending to other kinds of marginalization and privilege which exist within and alongside trans identity [52]. Essentially, we must center trans identity while also recognizing privilege along other lines, such as race or neurodivergence. Practically, this commits us to rejecting strict definitional debates around terms, prioritizing respect for gender identity/expression, and honoring individual choice and bodily autonomy [52].

Our efforts to center trans and nonbinary identity are also guided by prior work on trans technology and trans-competent interaction design. As Haimson et al. have argued, "trans technology" is, at the most basic level, technology for trans people, which honors and supports the trans experience by providing key functionalities and affordances which directly support trans-specific needs [42, 43]. For example, in comparison to the currently-dominant cis technology, trans technology must afford more information separation functionality to help protect against higher rates of unwanted disclosure and stigmatization, and must also provide functionality which supports fluidity of identity, change over time, and a secure openness and realness around identity issues, all of which are crucial for trans identity development and safety [42, 43]. Additionally, as Ahmed has argued, in order for design to be "trans-competent" it must address the specific concerns of trans users while actively avoiding harm and subverting dominant cissexist social structures [2]. All of these principles guide our analysis.

Importantly, both our current understanding of trans technology and current guidelines for trans-competent interaction design require the direct inclusion of trans voices and experiences into the design process, as design that is directed at but does not involve trans people generally leads to systems that further harm and marginalize trans people in unexpected ways [2, 42, 43]. Moreover, a commitment to community involvement where researchers act primarily as facilitators and consider themselves accountable to community needs and impacts over designer intent is crucial to designing just systems generally [17]. As such, we instantiate our transfeminist approach through group discussions among a trans-inclusive community of sapphics using an approach based on DeVito et al.'s adaptation of asynchronous remote community (ARC) method to the context of queer platform design values [20].

3 METHODS

We convened an online group of 25 sapphic users of relationship platforms for a series of six discussions using a modified ARC method which has previously been deployed for community-based design value work on general social platforms for queer and trans people [20]. ARC overall is a method out of medical informatics which allows the formation and study of an asynchronous community around a topic of interest, and was originally developed to study isolated or potentially stigmatized community experiences [59, 60, 73]. ARC has since been modified for work in social computing contexts, on topics ranging from queer intracommunity conflict [86] to the protective

adaptation of marginalized people to changing social platforms [20]. The formulation of ARC we use here is heavily based on the form of ARC used by DeVito et al. for their work on queer platform design. This formulation is a deployment framework for participatory, value-sensitive, community-based design work [21], including the kind of empirically-focused value elicitation suggested by Le Dantec [53] and the kind of participatory input into the design process specified by Borning and Muller [11]. This study was approved by our institution's Institutional Review Board.

3.1 Participants

As discussed in section 2.1, our population of interest is sapphic people, or trans women, cis women, and nonbinary people who wish to be included in this designation, who are attracted to other sapphics. Other than self-identifying as sapphic, the only other requirement for participation was being at least 18 years of age. We initially considered bounding participation to those that had recently used dating apps or platforms, but following both DeVito et al. [21] and the earlier Friedman et al. [34], we recognize the importance of including both direct stakeholders who are active participants in current platforms and indirect stakeholders who might participate in and benefit from a platform designed based on sapphic-specific needs.

Recruiting took place across multiple social platforms including Facebook, Twitter, Instagram, and TikTok, with the first four authors distributing ads via their personal networks, which include a variety of spaces for queer cis and trans women and nonbinary people. The first author also ran recruiting videos on her research TikTok account, which focuses on sapphic and transgender research and culture, including a primary recruiting video which reached over 11,100 people and was shared 245 times. 86% of the video's viewers came from the algorithmically driven For You feed, suggesting that our recruiting reached significantly beyond our personal networks. Potential participants were directed to a form collecting key demographic information. We received 942 responses; 823 of these responses were legitimate.

Taking into account our transfeminist goal of recognizing multiple axes of privilege and discrimination even while specifically centering trans identities [52], it was crucial for us to populate our research community with a group of participants who represented varied life experiences. In particular, it was crucial to include the voices of individuals who varied on key characteristics that differentiate queer and trans experiences, such as race [13], age [18], sexual orientation [87], gender [24], and environmental population density [40]. As such, our initial demographic screening survey asked about these key demographic details, including participant age, gender identity, sexual/romantic orientation, current and childhood environmental population density, racial/ethnic background, and if the potential participant had used the class of applications under study within the last six months. Additionally, we included an open text box which solicited additional personal and identity characteristics which the participant thought might be relevant to their online dating experiences (further discussed in section 3.1.1). We drew our sample from the resulting potential participant pool using Trost's statistically nonrepresentative sampling technique to stratify our sample across these axes of diversity, while also avoiding the pitfalls of a pure convenience sample [85].

After sampling, we sent 65 invitations to participate; 35 of these invitations were accepted, and 29 participants ultimately started the study. Four participants eventually dropped out, resulting in a sample of 25 participants. Participants were compensated for contributing to at least four of our six research discussions with a $20 gift card of their choice. Participants could earn an additional $20 for substantively commenting on other participants' posts and engaging in sustained discussion; all but one participant received the full $40.

3.1.1 Demographics

To respect and capture the diversity of terminology and self-identification within the queer and trans population, we used open text in our recruiting survey for gender and sexuality. As a roughly-classified overview, which we present here for convenience but did not employ during recruiting or analysis, our group of participants was 24% transgender women, 20% cisgender women, and 56% nonbinary people[3]. In their own words, our participants were variously transgender women, cisgender women, non-binary trans women, transmasculine nonbinary people, nonbinary AFAB[4] people, AMAB[5] demigirls[6], nonbinary women, genderfluid[7] people, AFAB trans nonbinary people, AMAB nonbinary women, nonbinary questioning people, demigender people, and transfeminine nonbinary people. Our participants also ranged in sexualities, including, in their own words, lesbian, bisexual, pansexual, aromantic pansexual, dyke, queer, lesbian gray-sexual[8], sapphic asexual, T4T[9], panromantic demisexual, biromantic asexual, and bi lesbian. 36% of participants were on the aromantic/asexual spectrum.

Our participant group was racially diverse, including 25% Asian, 29% Hispanic, 12% Indigenous, 17% Black, and 17% white participants; 44% of these participants were of mixed race. Ages ranged from 18 to 45 years old (M=29 years old; SD=8 years). Our participants also share experiences situated in diverse environments, growing up 20% rural, 16% urban, and 64% suburban, and currently living in 20% rural, 38% urban, and 42% suburban environments.

In addition to these standard demographics, we encouraged participants to share additional identity information that they found relevant to the topic at hand. Based on the responses to this open field, as well as discussion in the research group, our participant group includes people who are neurodivergent (including ADHD and Autism neurodivergence), people who have disabilities, and polyamorous people. These characteristics were not specifically sampled on, but were emergent points of importance in our research discussions, as we will expand on in the Findings.

3.2 Procedure

Throughout data collection, we followed the modified ARC format from DeVito et al., which features two weeks of lived experience- and design-focused discussions which cumulatively build on each other [21]. In any ARC, researchers invite participants to join a research-specific online space, usually within a social platform such as Facebook [59, 60, 73]. For this study, we did not wish to limit participation to users of a single social platform and wished to provide potentially stigmatized participants with a space which would not be tied explicitly to their offline identity, so we set up a dedicated Slack instance to host the study. Slack is an online communication platform popular in professional settings which separates discussions into channels, similar to a Discord. We provided intro materials including videos and writeups that familiarize participants with the platform (see Supplemental Materials B3), and a study staff member performed a setup check, ensuring each participant was properly registered for the platform, had set up their account and profile, and was complying with our privacy guidelines before the participant began posting to ensure that they were ready to fully participate.

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[3] Here, "nonbinary" is used as an umbrella term, not a distinct gender identity

[4] Assigned female at birth

[5] Assigned male at birth

[6] Demigender people feel a partial connection to a gender identity, e.g. a demigirl feels a partial connection to the identity of girl

[7] A gender identity characterized by variation over time

[8] Gray-sexuality is part of the asexual spectrum, representing identities between asexual and sexual

[9] Trans for trans, indicating a trans person who is primarily attracted to other trans people

Table 1: Overview of Discussion Prompts and Participation Rates

Discussion Focus	Participation Rate
The best and the worst experiences you've had using a dating site or app	100%
Dealbreakers: what a dating app or site must not do or allow	96%
Experiences on and things we can learn from apps that are not dating-specific	96%
How matching should work and what an ideal match looks like	92%
How profiles should work and what the rules of interaction should be	84%
Reconciliation round on key issue: how filtering should work and what criteria should be allowed	92%

We ran our study during July 2021. The lead author introduced a new conversation prompt every other day for the duration of the study, totaling six discussion activities. While the primary discussion period for each conversation was officially two days, in practice all conversations continued asynchronously throughout the duration of the study, with participants often looping back to past discussions or directly tagging those discussions as part of new discussions in subsequent activities. Activities built on each other, and prior discussions informed subsequent topics. For example, discussions 4 and 5 elicited individual priorities and values on two core aspects of relationship platforms, matching and profiles, and discussion 6 was about reconciling and prioritizing different individual needs and values on these topics for the whole group. A brief overview of conversations can be found in Table 1, with full details in Supplemental Materials A. All conversations and participant behavior were governed by our code of conduct and moderation policy (see Supplemental Materials B1-2) in order to keep conversation on-topic and to safeguard participants against unwanted discussion or behavior. Participation rates were overall in line with prior ARC studies [20, 21, 59, 60, 73], and activity-specific participation rates can be found in Table 1.

During each conversation, the authors played an active role in eliciting further information from participants on each topic, asking probing questions to start identifying and further developing emerging themes. The fourth and fifth authors prompted participants to discuss each other's posts and engage in discussion, continually re-focusing discussion on participant interaction and resolution of differential needs and values. This was crucial, as the exploration of values conflicts between participants is key to the VSD-inspired work we draw from [34].

3.3 Analysis

We took an overall grounded theory approach to analysis, as this approach directly enables our goal of this study continually centering participant lived experience [16], and ARC's multi-prompt structure has previously proven to be an excellent forum for key elements of grounded theory such as theoretical sampling [20]. Per Charmaz, analysis began during data collection and helped steer ongoing decisions about theoretical sampling [16]. Our overall theoretical sampling strategy was centered on using the data from each discussion to refine the prompts for subsequent discussions. This took several forms, including: adjusting prompts to more specifically build on and reference

the already-underway discussions and the priorities and problems participants had highlighted in order to keep the discussions maximally grounded in lived experience; research team members asking more targeted individual and group follow-up questions during discussions based on the emergent themes gleaned from prior discussions; and basing our final activity entirely on emergent themes from the first five discussions, as noted in section 3.2. The authors met regularly to discuss emerging findings and decide on theoretical sampling priorities throughout the data collection period, with the first, fourth, and fifth authors coordinating point-by-point theoretical sampling and policy enforcement decisions in real time.

The primary analysis period began after the end of data collection and included multiple rounds of coding by multiple authors. Data was piped from Slack into MAXQDA, our analysis platform, by the fourth author through Slack's export feature, which generated categorized folders by channel and date range in JSON file format. The fourth author wrote a Python script to extract necessary data from participant discussions and anonymize participants before generating a text file for import to MAXQDA (see Supplemental Materials for code). The first author served as the lead analyst throughout the study, performing open coding alongside the fourth and fifth authors, and then, after discussion with all authors, leading the fourth and fifth authors in a round of focused coding on high-level themes such as security and a need for community. This was followed by another open analysis period where the first author integrated coding and memoing from the fourth and fifth authors with discussions held by the entire author team, followed by the first author performing another focused coding round on major themes from both open coding rounds, and finally a theoretical coding round where the first author related codes to each other and existing knowledge as described throughout section 2 [16].

3.3.1 Positionality

This study is member-research, with authors variously assuming the roles of complete-member researchers (fully immersed participants in the culture and contexts under study), active-member-researchers (those who participate in and are connected to the culture under study, but are not specifically immersed in the context under study), and peripheral-member researchers (those with identities and experiences that relate to the culture and context under study, but who do not have a direct experiential connection) [1]. This member-research approach was crucial to the goals of this study, as the direct involvement of immersed community members is a core feature of trans-competent technology design [2, 42, 43].

This study was initially designed by the first and second author, who are, respectively, a lesbian transgender woman and a bisexual cisgender woman, both of whom have extensive prior experience researching online communities. The design was refined and implemented with the aid of the fourth and fifth authors, who are, respectively, a pansexual transgender woman and pansexual non-binary person. The results were reviewed and contextualized with assistance from the third author, who is a sapphic non-binary person. The first, third, fourth, and fifth authors have substantial experience as users of sapphic relationship platforms. We were also joined by the last author, who is a cisgender gay man and a longstanding expert on queer online dating studies, for analysis.

The positionality of the research team serves as both a key asset in the execution of this study and a clear limitation in terms of possible breadth of analysis. As a team, we are deeply versed in and embedded in the space of sapphic dating and dating applications, and multiple authors are active in sapphic communities, giving us useful insight into sapphic culture, relationships, and technical realities. Our team is also well positioned to have insight into each type of identity discussed by our participants, as we collectively have lived experience across sapphic cis, trans, and nonbinary identities, as well as additional characteristics brought up by participants such as neurodivergence

and polyamory. However, our positionality also suggests that we have limitations around interpreting and analyzing issues around race, as all but two members of our author team are white.

4 FINDINGS

Over the course of our five topic-based discussions, our participants repeatedly demonstrated and asserted a high-level principle which shaped our subsequent data collection and the following analysis: *creating a platform that is genuinely safe and functional for marginalized sapphics broadly requires designers to attend to marginalized identity characteristics beyond gender and sexual orientation.* As noted in section 2.1.1, there is ample theoretical and practical reason to believe that accounting for multiple, and especially multiple marginalized, aspects of identity is key to designing technology that supports users with marginalized identities. Moreover, we are also motivated by what we observed in our own study. While our study materials and prompt language called for participants to pay specific attention to issues of sexual orientation and gender, participants consistently also tied their experiences and needs as sapphics to other often-marginalized aspects of identity, most commonly race, neurodivergence, and polyamorous attraction. In turn, participant discussions regularly held these aspects of identity as co-equal with specifically-sapphic aspects of identity, with participants who did not hold additional marginalized aspects of identity regularly recognizing the importance of accounting for these other factors in their own discussion responses. As we will demonstrate throughout the following sections, this dynamic is pervasive in our data.

Instead of viewing these additional aspects of identity as an analytical complication, we have chosen to follow the lead of our participants and their lived experiences by embracing the notion that truly inclusive design for sapphic users must also be inclusive design for sapphics with multiple marginalized identities. As such, here we present three areas where our diverse, often multiply marginalized pool of sapphic participants have consequentially different needs and challenges around relationship platforms: relationship structures and goals, gender and sexuality classification, and priorities for interaction (section 4.1). We then turn to two possible approaches to addressing some of these needs and challenges which are sourced from our participant discussions: reconceptualizing filtering and matching as safety tools (section 4.2) and higher-information interaction (section 4.3). Our focus on participant-sourced design directions is motivated by design justice principles which call on researchers to hold community members as the true experts in their own needs, attending to user-sourced solutions and local knowledge over outside solutions and researcher expertise [17].

Due to the multi-stakeholder, discussion-based nature of this study, there was sometimes disagreement within the data as to what course of action to recommend, even after the final resolution discussion. In these cases, during analysis we have hewn closely to the initial transfeminist premise of the research group and this study as a whole: listening to and uplifting the most marginalized people, even within a marginalized context, with supporting trans identities as a core value. As such, when making recommendations, we attempt to ensure we have met the needs of those that are most impacted by the issue at hand. This approach allows us to ensure we are meeting the needs of the most marginalized users, while ultimately designing better systems for all sapphic users. For example, when considering features to propose, we have drawn on the needs of trans participants to assess safety impacts due to their significantly heightened risks around security [30, 32, 35]. Similarly, when considering race, we are informed by the needs of BIPOC[10] participants, paying special attention to the expressed needs of Black trans women, who are the most at-risk

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[10] Black, Indigenous, People of Color

members of the trans community [30, 31, 32, 49]. In doing so, we highlight the perspectives that might be missed in other, particularly large scale, scholarship.

In addition to this attention to identity characteristics and relative marginalization, we will also seek solutions that attend to transfeminist values and which would move any resulting design closer to the realm of "trans technology" by affording functionalities that are crucial to supporting trans identity, such as changeability, separation, identity realness, and need for transition [42, 43].

4.1 Challenges and Needs for a Diverse Group of Sapphics

Participant discussions revealed three areas where existing platforms do not match the needs of a diverse group of multiply marginalized sapphics: relationship structures and goals, gender and sexuality classification, and overall priorities for interaction. While prior work on relationship apps and platforms have addressed similar problems, existing scholarship has argued that they are largely only accounted for to the extent that they manifest for cisgender heterosexual people or cisgender gay men, with more recent studies also highlighting cisgender sapphics and noting a distinct lack of space and positionality for transgender and nonbinary people. (e.g., [23, 27, 63, 75, 83]). Here, we present an examination of how these issues specifically manifest in the context of groups that include complex, multiply marginalized identities, and how accounting for these other aspects of each sapphic person's identity complicates our current design assumptions.

4.1.1 Relationship Structures and Goals

One assumption embedded into many current platforms is that the structure of all connections is bilateral, and the goal of all connections is romantic and most likely sexual [19, 55, 63, 83]. This assumption excludes many of our participants, especially those on the asexual spectrum, such as Participant 18, who is demisexual:

> I often felt that the community on the vast majority of apps were simply trying to race to my bedroom which just never could work for me.

A quick-connecting, hookup-focused platform completely excludes people like Participant 18, who simply do not function in a way that is compatible with the dominant model. Even beyond the asexual spectrum, part of the core value of connecting via a platform for our participants is non-sexual. For this group, it is just as important for connection to foster platonic community and identity development/support. For example, Participant 8, a nonbinary trans woman, has found relationship platforms to be a key site of early identity discovery, identity play, and eventually identity work:

> Best by far has been the chances online dating has given me to discover new things about myself. Chatting in low stakes situations with other cute queer people helped me shape my identity early in my transition when things were hardest and it always just feels so comfortable to share myself in a space like that and learn from other people.

The low-stakes connection environment appears to be a crucial space for finding platonic connections who can help further identity development. Even for those more settled in their identities, though, platonic connections remained crucial, even if the initial intent for using the site was to find romantic connections as it was for most of our participants. Participants 6, 15, and 25 found some of their best platonic friends through dating platforms; Participant 9 used such platforms to find the majority of her "closest circle of platonic relationships"; Participant 8 found their Dungeons & Dragons group. For those moving to new places, these connections were equally crucial, from Participant 8's love of introducing new queer people to their city and queer community,

to Participants 3 and 4, both recently moved and in need of new friends and a tour guide in the middle of a pandemic. Importantly, for those living in more conservative areas, these platforms were a key source of both connection and comfort, as Participant 10 explained:

> Best has been finding out that there are other trans women nearby. I figured there were but even if we don't click knowing I'm not the only one in this very red state is comforting.

Clearly, it is crucial that a relationship platform focused on sapphics explicitly supports platonic relationships, both as an understood user goal and via features. However, while current platforms do sometimes result in platonic connections, the overall normative "script" behind interaction on current platforms is tuned towards sex, especially casual sex [55, 63], to the extent that some users actively look down on those using what they see as a hookup platform to make friends [9]. Moreover, this norm requires users who are simply looking for platonic connections to actively declare and defend this usage, as few platforms have features which specifically bound connections to "friendship" [15].

Even when the assumption that the user is looking for something more than friendship holds, current platforms largely understand "relationship" in a way that fails to account for the diversity in relationships within this group. For example, Participant 14 noted how uncommon it is to have separate settings for sexual and romantic identities, which effectively excludes some members of the asexual spectrum. This kind of option would help aromantic people like Participant 1, who seek serious relationships that may involve sex and nesting, but not romance:

> As a person probably on the aromantic spectrum I still want something serious for relationships. Just because I'm not looking for a romantic relationship that shouldn't categorize me as not looking for anything really.

Moreover, in the case of polyamorous people, this assumption has been further compounded by a perceived assumption that anything out of the "default" bilateral relationship structure is temporary or a "hookup," as Participant 21 explained:

> As a polyamorous person I often get comments like Oh you're polyamorous? Well I wasn't looking for anything serious anyway. It seriously grinds my gears. IM ALSO LOOKING FOR SOMETHING SERIOUS I'm just not looking for something MONOGAMOUS - and the devaluation of my relationship in their eyes is seriously insulting to me.

For many of our participants, serious relationships are multilateral, and as Participant 21 showed us, assuming bilateral as the default excludes polyamorous sapphics, but also effectively insults them. Moreover, even within these distinctions, there are many different structures, levels of seriousness, and relationship goals. For example, Participants 4, 10, 13, and 25 engaged in discussion about the need for a way to specify relationship structure within the wider umbrella of polyamory, as there are many differing kinds of polyamory.

Diversifying what a relationship is on relationship platforms opens space to properly support asexual, aromantic, and polyamorous relationship structures, goals, and users and also opens up room for nuance within these structures. That room for nuance is crucial to the goal of making a relationship platform rise to the level of trans technology, as this is the room in which identity realness is allowed [42]. Consider that without this nuance, in our current platforms, people with more complex or specific connection needs and desires must essentially decide on a persona that's a best-fit to their actual desires and goals, cutting out key cues to fit a platform's limited structure. Trans technology aims to eliminate the need for a persona and provide space for what a person might consider their more "real" self [42], and that "real" self needs room for fine-grained

distinctions beyond hookups vs long-term relationships. Moreover, this nuance around relationship structures and goals can also help address a practical problem many of our participants noted: unicorn hunters.

Unicorn hunters are generally male/female couples who are looking for a third (the "unicorn"), usually on a very temporary basis, and sometimes in an offensively objectifying fashion. For example, a straight couple might hunt for a female "unicorn" with the intent to engage in purely performative sapphic (and especially lesbian) acts to satisfy the gaze and desires of the male partner. For our participants, for whom sapphic acts are far from performative, the perception of unicorn hunting ranged from "exhausting" (Participant 6) to "gross" (Participant 17), with many participants asking for a way to filter out the practice entirely. One of the primary complaints around unicorn hunting was a perceived dishonesty about structure, as Participant 9 explained:

> I hate those unicorn seeking advances too!!! Especially when it isn't stated in the profile that's what they want. It's like a profile of only one of the partners.

Participant 9 lacked key cues around both the expectations of the unicorn hunter, as well as the relationship structure the unicorn hunter is embedded within, as none of this nuanced information is reflected in current profile formats. This set up the wrong expectations, resulting in frustration and, over time, resentment in the behavior overall. And consider: some individual people are, in fact, looking to hook up casually with a couple. We can look at this situation as "unicorn hunters are bad actors, ban them" or we can recognize the sapphic user's need for systems that support a broader range of relationship structures and goals, allowing the correct expectations, true to the user, to be set at the outset across the board.

4.1.2 Gender and Sexuality Classifications

Participants also consistently called attention to a reality of current platform design: reliance on binary gender as the core mechanism behind matching and filtering regardless of the options presented to users, resulting in what prior work has called "uncritical replication" of traditional assumptions about gender [58]. Participant 4 explained:

> The worst experience for me is having to pick between binary genders in my profile. Even on the apps that give users non-binary gender options I have to say whether I want to show up when people are looking for men or women. It feels like I tell the app what my gender is and then they ask "but what are you really?"

Participant 4 and many other participants saw the ultimate reduction of gender to a binary, regardless of the variety of options provided at a surface level, as highly problematic. Participant 8 described this as "being reduced back down to the binary after every other label is roughly slapped on top," while Participants 1 and 3 both called this system behavior a "dealbreaker," and Participant 19 labeled the act of providing options at only a surface level "performative." Most participants in the study were clear that they would need extensive options around gender, and even more clear that these options are useless, and even somewhat offensive, if they are ultimately translated back into a fully binary, heteronormative model.

Participants also noted overreliance on the assumption that gender and sexuality can be reduced down to mutually exclusive categories, something which Participant 2 called out:

> I feel like folks should have the option to select more than one identifier if they want to. For example someone might want to select "woman" "trans" and "NB" and that should be fine!

Moreover, systems often also embed the assumption gender and sexuality can be cleanly linked, as Participant 15 explained:

> I think this one is complicated and usually doesn't include the nuance of identities under the nonbinary and metagender[11] umbrellas. For example a genderfluid lesbian might be excluded from a search done by a cis lesbian that may have been interested unintentionally by filtering out men and/or nonbinary people. But another genderfluid person may only want a bi/pan partner who recognizes their manhood and womanhood and other parts of their identities in different ways. I think ideally the implementation has to account for the fact that people can have multiple complex gender identities and that most people don't define their attraction to persons by those complex identities.

For our participants, gender, sexuality, and attraction itself are far less singular and tightly coupled than current systems recognize or support. This is particularly problematic in light of our transfeminist commitments, which require us to recognize and address the fact that gender and sex are both socially constructed [52], and not any kind of natural bounding on experience or attraction. A system that assumes that all lesbians must be women excludes nonbinary transmasculine people who consider themselves part of the lesbian community; a system that assumes one must have a singular, binarily classifiable gender identity to allow a classification of "gay" or "straight" may completely fail genderfluid people. Moreover, such a system would fail many queer people and most trans people if it assumed that any of these classifications will remain static, as one of the most key requirements for trans technology is that it afford changeability of identity to account for growth, exploration, and self-discovery [42].

4.1.3 Priorities for Interaction

Finally, our participants appear to have shared, high-level goals around matching, filtering, and interaction which do not always align with the more common focus on hookups, physical proximity, visual attraction, and rapid, high-pressure interaction supported by the currently-dominant swipe model [19, 27]. Our participant concerns were more aligned with what has been noted in prior scholarship: our constituent populations are often more focused on ensuring emotional safety and ethical alignment in potential matches compared to heterosexual and even non-sapphic queer people [75]. In particular, many of our participants were primarily focused on avoiding negative, identity-threatening, insulting, or potentially dangerous interactions. The goal here is not throughput but rather safe, non-harmful interactions, as captured by Participant 22's response when asked to define a "good match":

> What I would most appreciate in a matching algorithm is to not put me in the same [online] space as people that are transphobic, misogynistic, racist, or ableist. the same considerations that go into creating safe spaces for marginalized communities irl.

Overall, participants highlighted that good matches ensure safety and acceptance around basic identity issues, or where, as Participant 16 puts it, "you don't have to justify just being you." This criteria also extends beyond matching and filtering, as multiple participants pointed to an absence of this kind of atmosphere of safety and acceptance around identity as a major problem in interaction, especially messaging.

Throughout the course of the research group, participants repeatedly returned to this notion of safety from identity-based harm and acceptance of identity as a primary motivation behind our

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[11] Metagender generally refers to gender identities that are neither cis nor trans.

research discussions. Indeed, even the above two issues (relationship structures and gender/sexuality classification) ultimately point back to a desire to have one's identity respected and actively supported by the platform itself in order to better avoid invalidation and unwanted and harmful experiences. As such, in the remainder of our findings we turn to two potential approaches to addressing the issues raised by participants: filtering and matching as safety tools (4.2), and explicit, education-based interaction bounding (4.3). While both of these approaches are promising in terms of better recognizing varied relationship structures, genders, and sexual orientations, they both do so by attempting to hew to the high-level user goal of acceptance and freedom from negative interaction.

4.2 Reconceptualizing Filtering and Matching as Safety Tools

Considering that many of the high-level issues identified by participants relate to matching, filtering, and classification, this area was a heavy focus of data collection, especially for the later parts of the research group which were based in theoretical sampling around emergent themes. On most modern apps and platforms centered around making new, potentially romantic or sexual connections, matching and filtering have straightforward purposes: the matching systems are meant to deliver hopefully-compatible individuals for users to evaluate, and the filtering systems are meant to allow users to find other users with specific characteristics to connect with. While these functions are still important in our context, most of our participants explicitly conceptualized filtering and matching tools as ways to ensure safety - both safety from potential harm and the safety of shared identity and community. However, many participants were also aware that these tools could represent an avenue for discrimination, requiring a balanced approach to reconceptualizing these tools.

4.2.1 Matching and Filtering for Protection, Community, and Shared Identity

While matching and filtering were still seen by participants as primary avenues of connection, participants expressed a need for tools which are first and foremost protective. Consider Participant 22's definition of "good matching" from above and how it centered around avoiding interaction with transphobic, misogynistic, racist, and ableist people, or Participant 16's desire to not have to justify one's basic identity. For trans users, that lack of need to justify identity sometimes manifests as a desire to filter out cisgender people entirely, as Participant 12 explained:

> I guess my thought process was that filtering out cis people was a shortcut to talking to folks who arent going to ask me weird questions or invalidate my identity!

This desire to filter out cis people was the most common in our data, but the desire to filter based on identity also applies beyond sexuality and gender, to other characteristics such as race and neurodivergence. For example, Participant 14 asked for a similar filtering around race, while recognizing potential objections:

> I would really love to be able to hide from white people. Maybe there could be a hide me from for all/many dominant identity groups? Some folks might call reverse-isms but if theres a context of being explicitly anti-oppression maybe it could work? It has felt equally taxing/dangerous to be exposed to a preponderance of cishet or white or monog[amous] or abled folks (for example) at various points in my dating life.

Similarly, for Participant 22, who is transfeminine nonbinary and Latinx, the likelihood of a safe interaction is often encapsulated in a person's values and their politics around race and gender:

> A large and vocal percentage of this country [USA] defines their politics by how they
> would exclude, imprison, disenfranchise, deport, etc. me and people like me. Defending my
> right to live is not my favorite dinner conversation. Politics that center on justice and equity
> reflect on a person's established opinion that I too am a human being deserving of love and
> respect - that's a good starting point for any of my relationships.

For our participants, a good match is first and foremost someone who will not expose the user to identity-based harm. That said, participants did recognize that this is a difficult task for a matching system. For example, Participant 1, in asking for matches that avoid sexism, ableism, and transphobia, noted that a reasonable goal would be less exposure to these harmful views, not a complete absence.

Moreover, users voiced a desire to assist by taking control of creating this space themselves, and described filtering as a crucial protective tool that operates alongside the matching system. Identity-based filtering could allow users like Participant 19, who is nonbinary, Black, and Indigenous, to filter out those who experience has proved are likely to engage in the all-too-common fetishization of their racial background. Essentially, good filtering tools could allow racialized users to manually sidestep around what Participant 9, who is nonbinary and Hispanic, described as a broad "tone-deafness" from queer white people. Similarly, Participant 17, who is ADHD and autistic neurodivergent, saw identity-based filtering as a way to avoid future harm from neurotypical people who do not understand or cannot accommodate neurodivergence:

> NT [neurotypical] people see ND [neurodivergent] people as an annoyance over time and
> the things that we struggle with are never going away. It (in my experience) takes one to
> really understand and love one.

However, where filtering is concerned, protection is not just about keeping out the negative; it's also about ensuring the positive through shared identity and experience, as Participant 17 also described using filtering to find other neurodivergent people:

> For me it filters out the people who are the least likely to understand/ vibe with me. One
> of the joys of my current relationship is that we get each others ND quirks when in the
> past we have both had terrible experiences with partners that said they understood but
> really didn't.

This desire to filter to find others similar to oneself is especially important to more-marginalized sapphics within our overall population. Participant 14, who is genderfluid and Black, described filtering as the key to combatting a sense of isolation and outright disrespect from more privileged users:

> My worst experiences have been... white people considering themselves the exception
> when I say QTBIPOC[12] preferred. Granted no one knows theyre not the only one to
> message me but its disheartening when I say that and *only* white people respond to that
> specific post (on Lex). Sometimes these sites seem flooded with the most privileged among
> any group: white cishet men on broad platforms like OKC [OkCupid] and white cis queer
> women on LGBTQ-specific ones. On all of them I could swipe dozens of profiles/posts and
> only see white people which feels really isolating as someone with racial trauma on top of
> marginalized gender/sexual identities and orientations.

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[12] Queer and Trans Black, Indigenous, People of Color

While race is a key example, this desire to combat isolation while avoiding disrespect and harm extended to other types of identity as well. Participant 5 noted that, as someone who is disabled, it has often been easier and safer to interact with people who already understand those struggles. Similarly, Participant 24, a trans woman early in her transition, noted that being able to filter out cisgender people who may not understand trans issues or transition would make her feel safer. Participant 12, meanwhile, highlighted a simple, practical need:

> I'd be interested in drilling down to only NB/trans folks. The pool is usually quite small so better to see ALL of us than not before branching out to cis queers.

Participant 12 wanted to be able to at least try to find a safe, T4T relationship before branching out, and filtering is a crucial tool in an environment where, by sheer numbers, trans people can get drowned out or lost in the shuffle.

4.2.2 Overfiltering, Personalized Priorities, and Room to Explore

As crucial as safety-focused filtering tools were to our participants, many recognized that while identity-based filtering and matching can both protect you and help find who you're looking for, it is also potentially harmful and limiting. One major concern was overfiltering, or the filtering out of those that the user is actually interested in. As Participant 3 pointed out in the context of neurodivergence, she does not want to filter out all neurotypicals, noting "I enjoy talking to neurotypicals sometimes" even though she is overall more comfortable with other neurodivergent people. Moreover, strict identity-based filtering may accidentally include other people with latent or not yet public identity characteristics, as Participant 3 continued:

> filtering out neurotypicals would also filter out a lot of ND people who don't know they're ND or don't feel comfortable self-identifying as such.

Participant 19 echoed this concern from the point of view of someone still figuring out her own neurodivergence as well as her own nonbinary identity:

> We don't all know about our ND and we don't know how being with NT people as a ND person would be esp if we're still figuring out if we even ARE ND. My partner right now is NT and I'm still figuring out and learning about being ND and she asks really lovely questions and is trying to understand both this and my being enby [nonbinary].

Participant 3 echoed a similar concern regarding closeted identities:

> I have lots of friends that are ardently t4t and they already don't interact with cis people on dating apps [but doing that]... does exclude closeted trans people. I guess "I don't want to be seen by straight people" excludes closeted queer people too

Identity-based filtering and matching, then, is likely less useful if it is absolute, as an absolute approach may overexclude genuine allies while also leaving those who are developing into an identity behind at a time when community and connection are becoming more crucial to their own identity development. As such, **we forward two suggestions from our research group as potential solutions: 1) personalized prioritization of automatic filtering and matching systems, and 2) a "still exploring" flag.**

Personalized prioritization centers around giving the user control of how criteria is ranked whenever a system such as the matching system operates, instead of using a universal criteria. Participant 18 conceptualized this as "ranked interests and filters" to narrow down one's pool of possible matches based on how important each characteristic is to the individual being matched, in

contrast to the platform's overall notion of what a "good match" is (less coarse-grained exclusions). Participant 20 suggested a slightly expanded version of this type of system, suggesting that any algorithmic system could promote "more agency in matching" by focusing on criteria as ranked by the user, but with an allowance for one "deal breaker / maker" criteria that does include strict filtering. Either implementation would increase user control and safety, while also recognizing the key transfeminist principle of respecting individual choice [52].

For those who are still exploring, multiple participants proposed some version of what Participant 2 called a "still deciding/discovering option," which could be conceptualized as its own identity category or as a flag that rests on top of other identity categories. There are some concerns about this suggestion, as Participant 19 explained:

> I worry about having a 'still exploring' option mostly for folks who haven't been able to be with a queer partner and are exploring in that sense but also some who still might be actually learning and exploring queerness. I like the idea of being able to have that in the open but I worry that there will be some level of discrimination for those who outwardly say 'still exploring'

While this kind of exclusion is a concern, the need to support exploration and change is absolutely crucial to trans technologies, which must support transition, fluidity of identity, and changeability of identity [42, 43]. As such, we recommend the implementation of a "still exploring" flag which rests on top of the identity categories, allowing people to express that they are still exploring while also identifying into the community they feel fits them at the time.

4.2.3 Identity-Asymmetric Functionality to Support More-Marginalized Users

While being very clear about the need for extensive filtering, participants also recognized the potential for filters to be immediately weaponizable as tools for discrimination and harm. For example, Participant 24 expressed worry that trans-specific filters would enable chasers and fetishizing behavior; similarly, Participant 12 expressed concern that neurotypical bad actors could use the filters to find and target neurodivergent people for "abuse," and Participant 3 raised the additional possibility of targeting from "ND chasers." Participant 18, a nonbinary woman, pointed to her own conflict over the importance of filtering to identity and the potential for transphobic misuse:

> In a hypothetical space, I do think that I would like to see the ability to separate and filter nonbinary women etc. because I would hate to contribute to the idea of nonbinary and queer just being women-lite. I just worry about the space this creates for trans exclusionary individuals. I also am very fond of T4T dating and have had the best luck with it so I'd like to be able to filter to find other trans people but I again think the way it is presented needs to be done very carefully to prevent other-ing trans people and creating space for those who wish to see trans people excluded

Participant 21 also expressed worries that these tools would be used primarily to exclude certain marginalized identities, adding concern about reinforcing existing societal divides, especially around race:

> A race filter would lead to fetishization of races, further stereotyping about what certain races are like, and overall cause more harm than good in my opinion... removing certain races from your swipe pile completely will probably just lead to lack of exposure to certain identities. I'll be real here... as a Chinese person growing up in a majority-Asian country I grew up extremely racist because of the anti-Black beliefs my parents instilled in me and

the lack of representation/visibility of Black people around me. It took conscious unlearning for me to find Black people attractive and part of that was through seeing them represented in the media being in diverse social groups and communities and, yes, exposure on dating apps. If I had had a race filter on Tinder I would never have done the growing that I so desperately needed to do.

Participant 21 saw filters as potentially too limiting on these grounds, but other participants disagreed, as Participant 12, a Black nonbinary woman, noted in her response to Participant 21:

I dunno, as a Black person, I'm not interested in being the guinea pig for non-Black people to unlearn their anti-Blackness. If someone wants to filter us out, I say let them! They can go learn on their own time... I don't think you can stop people from being fetishists or encourage benign racists to change their views via a filter. However you CAN empower BIPOC folks to protect themselves by filtering out anyone who might be racist towards them (if that's what they feel like doing.) And you can let the overt racists quarantine themselves via the same system.

Participant 14, who is also Black, echoed this sentiment, noting the importance of taking into account practical power relationships:

This @[participant 12]:! The idea that having these filters are divisive or that they can be exploited by bigots/fetishists doesn't account for who already has the actual power to divide... it plays into that phenomenon when people hesitate on granting tools to marginalized folks because privileged folks might use them too. That's a given. That's particularly what actively bigoted people do. But starving oppressed people of resources in any context won't kill their oppressive conditions.

Ultimately, most participants who had an issue with identity-based filtering noted appropriation of the tools by more privileged groups as a primary objection, with the most frequent worry across identities (including white trans women and white cis women) being that white queer people will filter in a discriminatory manner. However, despite the concerns raised by some participants, we still recommend identity-based filtering as a way to reconceptualize filtering and matching as security tools. This is due to the fact that more marginalized participants, especially Black trans participants, expressed how crucial this kind of feature could be for self-protection and avoiding discriminatory or dangerous situations. Additionally, this kind of filtering fulfills the need for separation of identity for the purpose of safety which is crucial for trans technology [42, 43], as well as the transfeminist principle of respecting the right to freedom from discrimination on the basis of identity [52].

As to implementation, the most common solution proposed, as was the case with Participant 1, is an approach that we call *identity-asymmetric functionality,* **where tools like identity-based filtering and matching are selectively unlocked on the basis of identity itself**. While our participants considered this a promising approach, how to implement it and how to manage identity categories are still open questions.

There are many different potential practical implementations of this kind of approach, all with significant pros and cons. For example, Participant 6 proposed an implementation based on initial gatekeeping of access based on identity, where more marginalized people can make an educated decision about being seen at all, before anyone who is less marginalized sees their profile. While this is likely the most secure approach, it also creates the most work for the user, who must evaluate and approve every person who will potentially see them (many of whom will likely not be matches).

Participant 14 proposed a different mechanism, with a "hide me from" setting based on identity, where more-marginalized people would be able to select identity categories that disqualify other users from seeing their information or interacting with them - an approach that, while less labor-intensive, is most likely to result in overfiltering.

In addition to the myriad technical approaches, there are also the inherent difficulties in identity classification. On top of the problems around binary classification of gender discussed in section 4.1.3, there are also issues around other facets of identity. For example, Participant 3 pointed out the difficulties of using such a system as a person with a mixed racial background:

> I'd have a weird time with it because I'm mixed race half east asian & half white and people guess one or the other or both or neither pretty randomly. would there be a mixed race tag? or would it be a select all that apply? you'd have to be _reeeally_ careful about how exactly those tags work and i feel like it'd be easy to get them very wrong. idk if id feel comfortable being shown to people filtering to non-white. i don't want to have to err on the side of caution by erasing half my ethnicity either though...

In this case, the need to classify oneself can introduce new problems, and potentially even exacerbate one's own worries about place in community or core identity - certainly, Participant 3 is correct that any implementation must be "_reeeally_" carefully thought through with direct community involvement, perhaps through collaborative tools such as wikisurveys or a regular review process which deliberately center those with the identities that will be most impacted.

4.2.4 Identity-Asymmetric Disclosure to Safeguard Identity Information

Participants also expressed reasonable security concerns with revealing the kind of detailed profile information we advocate for above. The identity-asymmetric functionality discussed above requires several detailed pieces of identity information; however, as several participants pointed out, each piece of identity-based information is another potential way to target a marginalized person for harassment or fetishization if openly displayed. Participant 13 noted that exposing detailed identity information on a profile could "lead to more issues around fetishization/chasers," and Participant 24 has explicitly stopped exposing her identity as a trans woman:

> I went to the wlw[13] Tinder hell hole expecting transphobia and such horrendous stuff but I was met with more positive reactions. For clarifications I dont disclose the fact that Im trans anymore especially on dating apps and do so when I get closer to someone to avoid having TERFs harass me. I got the usual unicorn hunters that yall should be familiar with and one fetishistic woman who clearly overstepped my boundaries regarding genitals.

For Participant 24, exposing the fact that she is trans directly was too much of a risk. Consider that even when she put a great deal of care into disclosing her trans identity, she still encountered fetishization, and her standard for a "good experience" has evolved to assume that even if she keeps information private, there will still be negativity embedded in the process. It is reasonable for her to assume that making her transness explicit would result in even more of this, suggesting that blanket disclosure of identity characteristics on profiles is too fraught a solution for our participants' need for identity information. Moreover, a broad display-everything approach fails to afford the ambiguity that is a crucial safety-focused component of trans technologies [42, 43].

Based on participant discussions, instead of broad disclosure, **we advocate for an *identity-asymmetric disclosure* approach to identity-based profile information which would sit**

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[13] Women loving women, a common term for sapphic relationships/desire

alongside the identity-asymmetric filtering approach proposed in section 4.2.3. Participant 19 explained:

> I like having the option of having things filter-able but not always seen. So with the pieces that I'd rather talk about irl (thinking about ND abled-folks) I'm not forced to share that explicitly.

The core of this approach would be decoupling filter and display information, so that the platform can use the identity information for search, matching, and filtering, while not automatically exposing the information to anyone who may happen upon a profile. This could also help allow users to pick the level of ambiguity that they are personally comfortable with, help maintain separation on potentially-stigmatizing identity categories, and support changeability and fluidity by making display both optional and readily changeable, all of which would move a relationship platform towards fulfilling the promise of trans technology [42, 43].

There are multiple ways to implement such a feature: Participant 4 advocated hide/show options for each piece of information; Participant 2 suggested setting a list of identities that can see your identity information; Participants 3, 10, and 13 suggested that only shared identifiers are shown (e.g., expose "autistic" and "lesbian" markers only to other autistic lesbians).

4.3 Providing Context for Interactions

In addition to the computationally based asymmetric identity-based approaches we advocate above, participants also suggested interventions which are based around providing an increased level of useful information around interactions, with a particular focus on context that users find important in making safety-related decisions. For our participants, interacting with others on a relationship platform was particularly anxiety-inducing, as our data indicates that sapphics generally enter the process of reaching out with an expectation that their boundaries will likely be violated. While the asymmetric identity-based approach primarily concerns filtering and matching, participants suggested this approach to address these issues in the specific context of making decisions around direct interaction via messaging.

4.3.1 Education and Badging

Often, the violations our participants anticipated seemed to stem from ignorance. For example, Participant 1, a pansexual trans woman living in a conservative area, has repeatedly encountered ignorance of trans identity and bodies:

> I tend to get a lot of people who are not really well informed compared to what I imagine to be the case in more progressive places. Not knowing something is not a sin but it gets frustrating when I have to explain what being trans means and why ones language is considered offensive kinda often [...] In more wlw focused communities the situation is somewhat better but I didn't feel welcome as a non-op[14] trans person

Participant 1's experiences have primed her to expect the use of offensive language. Even in WLW spaces she still encountered ignorance and the potential for stigmatization around her non-op trans body. In response to Participant 1, Participant 18 pointed out how this ignorance can then lead to people ignoring boundaries and making unwanted sexual advances:

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[14] A transgender person who does not intend to get either specific or any surgeries related to their transition.

> I've had such similar experiences when I say that I'm not looking for anything physical. I've also had experiences where I explained what demisexual means and had people take that as some sort of challenge. That is very frustrating because a week later when I'm still not sexually attracted they take it to mean they somehow didn't do well enough because I won't sleep with them.

Consistently, our participants linked ignorance of identity with unwanted and potentially harmful interactions ranging from misgendering to inappropriate sexual advances. Moreover, our participants also experienced the harm of constantly having to explain and justify their identity, which, according to prior work, can fatigue queer users with more-marginalized identities and drive them out of spaces [86]. **As such, our participants engaged in extensive discussions around solutions and suggested a system of in-app education**, as Participant 2 explained:

> That's a fantastic idea to have an embedded link to different gender or orientation identities that would either provide a pop-up with a quick explanation/definition of the term or perhaps even open a separate page/tab with expanded information. Anything that makes it easier for folks who are unfamiliar with more nuanced identities to educated themselves. This would take so much pressure off of users in terms of having to do emotional labor and/or education work around their own identities.

Other participants built on this idea, and most suggested information could be sourced either from expert organizations or from educators within the community in question. Participant 21 suggested that this could be expanded into mini-courses on topics like polyamory, consent, and STI safety. Participant 18 suggested such education could be required of anyone who the platform regularly detects using harmful or stigmatizing language. Participant 21 also contributed one of the most universally popular suggestions, **"badges on profiles for those who have taken the course and passed it."** Such a badging system could be used for quick visual displays of useful information about a person's level of knowledge, and therefore how much ignorance-based risk messaging them could entail, while also being enjoyable. Participant 21 also added that this could help gamify appropriate behavior.

4.3.2 Context via Community-Sourced Structures

Outside of ignorance, one frequently-discussed problem in our research group was lack of context on other users, to the extent that Participant 5 noted that the lack of detail in the currently-dominant swipe approach actually slowed down their own process of evaluating potential connections, as they did not have sufficient detail on the other person to make decisions. This lack of detail was particularly problematic when it came to evaluating shared values and interests, as values and interests can be direct reflections of the safety one can expect when interacting with and especially meeting up with others. As Participant 20 explained, this is often encapsulated in one's politics:

> ...I think political views are perfectly valid to be a deal breaker. It's something that I think is a priority for me because I am often involved with my community and politics inevitably comes up. Plus I absolutely do not want to associate with people who are proudly conservative my experiences have always been that they either fetishize my race or sexuality and being online / on dating sites just brings that out.

While some platforms do include simple political affiliation and political alignment labels (e.g., conservative/moderate/liberal), our findings suggest that these labels were too simplistic for our participants needs, as Participant 14 explained:

> … most of those labels mean very different things to different people. Even among people who self identify as leftists its so hard to know whether that means someone believes in reform or abolition disability justice or low key eugenics that capitalism is the root of oppression or white supremacy. Theoretically that could be interesting to discuss but in practice finding out that someone's political beliefs throw me under the proverbial bus after we've bonded over a supposedly shared political identity has been extremely disturbing.

Participant 14 captured something of importance to most of our participants: support for nuance, as surface-level descriptions may fail to provide the depth our communities need to assess safety, tolerance, and shared identity characteristics in a connection environment full of heightened threats. However, there is also a practical concern of providing this additional depth in a way that recognizes the time required to input and maintain such depth (especially in light of the need to support change and trans temporality discussed in section 4.2.2) and the need to display information in a format which is more extensible and useful for information display than the current go-to solution for queer users, extremely long and detailed profile text [91].

One potential solution to which a number of participants suggested are what we group here as *structured templates*, as Participant 17 explained:

> I would specifically like to be able to template information that queer people tend to reference/talk about/care about in general. Like I would want to know if by feminist you mean intersectional or… not. And that would allow me to opt out if not

Participant 17 picked up on the lack-of-depth problem - a simple label will not provide adequate information here. **An approach that structures out key questions to ask, however - like what you mean by "feminist" - could lead users down the path to providing key, in-depth information without having to decide on what to say and where to provide depth from scratch, while also providing this information in a format the platform can use for quick information display.** This kind of quick information display could also address the how many participants pointed out that it is difficult to decide what to say even when an interaction seems potentially safe. Participant 19 suggested that any matches include some form of explanation of why both parties matched, and Participant 18 suggested that this could come in the form of **automatic highlighting of similarities between the user and a match - essentially a form of inline algorithmic transparency for the matching system which also highlights useful conversational information.** The kind of structured question approach described here could be the primary source a platform pulls from when providing this kind of transparency. This would allow for users to assess the similarity of a match, while preserving identity as a potential hidden criteria for matching. Moreover, this more open-ended approach could provide explicit spaces to get in-depth and personal, better affording emotional expression and identity realness, or the ability to present authentically instead of through a persona, key requirements for trans technology [42, 43]. Other participants signaled their support for this idea in discussion, with Participant 6 noting that this would also be an ideal forum for open-ended questions which help establish subtle-but-important properties such as communication style. Importantly, as Participant 17 also noted, these questions would have to be community-sourced and reviewed/replaced on a regular basis to be useful.

4.3.3 Explicit Bounding for Messages

Of course, participants also noted that some people simply ignore what a person puts on their profile and start messaging anyway. Participant 21 was extremely clear that she is polyamorous on her profile, yet regularly found herself in conversations where people become upset about her polyamory. Participant 19's profile made it clear she is not looking for hookups or any kind of sexual messages, yet she received explicitly sexual overtures that made her feel "extremely sexualized, fetishized, and demeaned" regularly. This kind of experience was typical for our participants, and again prompted extensive discussion of solutions, which coalesced around **explicit, upfront bounding for messaging**, as Participant 15 explained:

> I think the rules of the interaction should be set by the participants. How cool would it be if you could have a notification displayed at the beginning of a conversation saying if straight to the point flirting is OK or not, how much talking you want before meeting up, etc so that everyone is on the same page before even beginning.

Essentially, a system like this would make the kinds of interactions the user consents to extremely, visually explicit directly in the messaging interface. For good actors on such platforms, even those that have skimmed or skipped profiles, this would act as a very efficient way to both bound and frame conversations. Of course, some users who are bad actors may still ignore this obvious bounding - but as Participant 10 noted, this is also useful:

> That's honestly a really cool idea. Having that sort of notification would help diminish the number of one word conversations starters or at least make it easier to tell that someone didn't bother to read anything and thus can be ignored.

5 DISCUSSION

By engaging with a broad sample of the sapphic community, we have identified crucial areas in which relationship platforms can be reconsidered and redesigned to better serve sapphics generally while re-centering and providing a more inclusive experience for the most marginalized sapphics, such as trans sapphics and sapphics of color and accounting for identity characteristics which often overlap with sapphic identity, such as neurodivergence. By engaging as a group with a diverse sample of users who exist under the sapphic umbrella but hold differing identities in terms of specific sexual orientation, gender, race, romantic orientation, and neurotype, we identified a set of design challenges and needs which better account for all of these other aspects of identity while still focusing on challenges which impact all sapphics (summarized in Table 2 alongside user-sourced design directions). By addressing these challenges and needs in future design work, we can create relationship platforms which push further into the realm of trans and transfeminist technology by better supporting the core transfeminist value of creating an expectation that all identities will be respected [52], as well as core supportive features of trans technology such as openness to serious, personal detail, space for the authentic "realness" of one's full queer identity, and support for change in identity over time [42].

Notably, one major high-level theme which came from our research group is the need for safety to be considered in every part of the design of relationship platforms, including safety within the bounds of "sapphic." Our participants were clear that even within sapphic spaces, significant amounts of negative interaction and discrimination are directed at other sapphics on the basis of race, neurodivergence, bisexuality/pansexuality, and status as a transgender or nonbinary person, which, in turn, impacts how these sapphics evaluate matches and use the platform. This also reflects

a larger problem in queer online spaces, as prior work has found similar discrimination in more general spaces [70, 86]. Consistently, across all three areas of core dating site functionality we examined - filtering/matching, profiles, and messaging - our most heavily marginalized participants approached relationship platforms and other users of relationship platforms with their own safety foremost on their mind, and with the expectation that the potential for negative, discriminatory interactions was high. In addition to our participants' own accounts, prior work also suggests the practical validity of these concerns, considering the elevated rate of microaggressive interactions experienced by trans people in even friendly contexts [74], the overall prevalence of discrimination against transfeminine people even within queer contexts [27, 77], the elevated rates of past traumatic experiences generally among trans women and transfeminine nonbinary people [65], and serious safety- and stigma-based concerns around disclosure of trans identity in intimate contexts [26]. In the remainder of this section, we build on the two approaches we have described that address this need for safety (see sections 4.2 and 4.3) to contribute two priorities for future design work: **identity-centric safety** and **community-based information formats**.

Table 2: Overview of Design Challenges and Community-Sourced Design Directions

User-Sourced Design Challenges	User-Sourced Design Directions
Sapphic users have widely varied priorities in finding matches, outside the dominant focus on quick, hyperlocal hookups (4.1.1)	Personalized prioritization of algorithmic filters (4.2.2)
	Structured profile templates for key information (4.3.2)
	In-bio highlighting of why users were matched (4.3.2)
Gender, sexuality, and attraction classification are far less singular and tightly coupled than current relationship platforms assume (4.1.2)	Personalized prioritization of algorithmic filters (4.2.2)
	"Still exploring" supplementary flag as a modifier to identity labeling (4.2.2)
	On-platform education and badging system (4.3.1)
Sapphic user goals around interaction are far more focused on safety and freedom from harm and negative interactions than current relationship platforms support (4.1.3)	Refocus "good match" on matches that avoid racist, transphobic, misogynistic, ableist interactions (4.2.1)
	Explicit boundary setting around messaging prior to interaction (4.3.3)
	On-platform education and badging system (4.3.1)
Comprehensive filtering controls could be used as a tool for discrimination against sapphic users, particularly BIPOC, trans, and neurodivergent sapphic users (4.2.3)	Identity-asymmetric functionality which unlocks filter options on the basis of the user's own identity (4.2.3, 5.1)
Disclosing detailed identity information could lead to targeting and fetishization of BIPOC and trans sapphics (4.2.4)	Identity-asymmetric disclosure of profile information (4.2.4, 5.1)

5.1 Identity-Centric Safety

One safety-based approach we have advocated here is based around the concept of identity-asymmetric permissions, unlocking functionality such as extensive filtering controls (section 4.2.3) and fine-grained control over display of identity information (section 4.2.4) on the basis of the user's own identity. Our results suggest that this would enable self-protective behavior from our most marginalized users, such as transfeminine sapphics, sapphics of color, and neurodivergent sapphics, providing tools which leave not just the visibility of key information, but in fact the entire user, up to the person who is experiencing the risk. Additionally, these same tools can be used to allow the most marginalized sapphics to find safety in each other, a major priority for multiple participants who have found that true safety in intimate relationships stems from congruent experiences of marginalization, such as those who opt for T4T or ND4ND relationships. In these ways, identity-asymmetric functionality not only protects users, but also fulfills the transfeminist charge to consider and account for multiple privileges and forms of marginalization, even within marginalized groups, while honoring individual choice [52] by leaving the tools, and decisions, in the hands of those who are most at risk. Moreover, this approach would make such platforms more useful as trans technology specifically, as this functionality essentially provides tools for direct control around issues like identity separation and temporality [42], which, in turn, could make trans users feel they have enough control over their visibility to create space for key elements of trans technology, such as identity realness and openness to emotional, vulnerable discussion [42].

Importantly, identity-asymmetric functionality would raise two complicated issues: user acceptance and determination of which identities get access to which functionality. Identity-asymmetric functionality would inherently change the power dynamic on a platform, putting more power into the hands of the most marginalized, while restricting access to advanced functions for less-marginalized sapphics such as white, cisgender, neurotypical lesbians. Prior work has suggested that increased friction may be inevitable when a less-privileged group is given equal footing [29, 47, 67], and it is conceivable that allowing more functionality for some users will cause such friction. However, we are hopeful that this problem will be more minor than might be expected for two reasons. First, in this study, more privileged sapphics were vocally open to prioritizing the most-marginalized, especially during our final resolution exercise, even advocating directly for approaches such as identity-asymmetry which effectively transfer a form of computationally enabled privilege to those who most need it. Second, work on more general dating spaces has investigated approaches that go so far as to make typical dating strategies which disadvantage women difficult to enact, but has found that, even though it makes the platform less effective for the more privileged, the feature is ultimately accepted [92]. Moreover, even if an identity-asymmetric approach does discourage some more privileged users, this may be best read as another form of safety-based screening for a platform. Both our data and prior work strongly suggest that the priority for sapphics on relationship platforms is not throughput, but rather cultural, ethical, and values alignment [75], and not being willing to relinquish one's privilege in the face of a demonstrated need from the more-marginalized can be seen as a strong marker of one's values and ethics.

As to determining which identities qualify one for the extended asymmetric toolset, we strongly agree with our participants that such determinations would need to be made in close consultation with the communities impacted by these decisions. In imagining this type of functionality, we have been guided by both the lived experience recounted by our participants, as well as prior data on the comparatively high level of practical challenges faced by certain subgroups of sapphics, but it is crucial to note that these are the determinations appropriate in one given population at one moment

in time. As society shifts, so does privilege and power; as such, any kind of identity-asymmetric functionality would have to be tied to a regular review process. Such a process should be based in participatory, design justice thinking that recognizes that the community members are the absolute experts here, prioritizing local knowledge over outside solutions and continually drawing on the experiences of those most negatively impacted [17].

5.2 Community-Based Information Formats

The other safety-based approach we have advocated here is providing a higher level of information around interactions to help users make better decisions about their own safety. Essentially, sapphic users need more context about each other in a format that is immediately useful and that reflects a focus on what sapphics themselves see as markers of potentially safe or unsafe people. User design suggestions from our data such as on-platform education with quick and easily understandable badging and the creation of community-sourced prompts for quick comparison and highlighting of key values could provide the kind of context our participants needed in order to safely evaluate potential partners and friends.

That said, a reliance on more community-based information formats ideas would inherently create more user labor than is generally expected on a relationship platform, and it is unlikely that users on current platforms would be interested in putting in that additional work. However, past work on online communities has established that once an online space functions as and feels like a community, members are motivated to take on major responsibilities such as moderation in order to help steer and shape communities that they personally find meaningful or topically important [38, 61, 79, 80, 89]. Conceptualizing a sapphic relationship platform as a community first could create the buy-in needed to reach critical mass around tasks like creating and maintain education systems and keeping questions templates current, while also providing a vehicle for the prioritization of local knowledge that we advocate for in section 5.1.

Additionally, approaching platform design from a community-first standpoint could also help address some of the key needs we established in section 4.1. Consider our findings around relationship structures and goals, where non-sexual, non-romantic, and fully platonic relationships were clearly crucial use cases for sapphic users, juxtaposed against the current standard of relationship-first, fast-moving swipe models which not only prioritize but valorize sexual relationships [19]. A community-first orientation would necessarily provide more space for different kinds of relationships, including non-sexual romantic relationships and purely platonic relationships. Moreover, a community-first orientation would enable such a platform to help fulfill a crucial need among sapphics to reconstitute lost offline community spaces [75],

5.3 Future Work

In this study, we have chosen to focus on sapphics due to an existing lack of design solutions in the area of relationship technology for sapphics specifically [15, 63] and especially sapphics with multiple marginalized identity characteristics, the prevalence of discrimination and exclusion towards transfeminine and nonbinary people in sapphic spaces [10], and our own positionality as a research team that is majority-sapphic. However, it is crucial to note that there are experiences outside the sapphic which are also not adequately addressed by the current literature or current approaches to relationship platform design, such as the issues which specifically impact trans men and transmasculine nonbinary people that do not consider themselves sapphic, on both general platforms and platforms generally viewed as spaces for "men who have sex with men." Research in this area is crucial to the overall liberation and protection of trans people within online spaces, and

we wish to strongly advocate for transmasculine-led work on these topics. Additionally, while we did not specifically ask about current location or nationality during our screening survey or during the research discussions, the balance of the discussion content (especially the identity language used and the specific issues surfaced as major problems) suggests that most of our participants were in in western, and especially US-based, contexts. As such, the forms of discrimination and related issues discussed in this paper are primarily based in this US/western context, and the experiences recounted by participants are based on experiences with the set of relationship platforms available to this cultural and geographic context. It is crucial that future work expand beyond this context to explore regional variation, as different cultures have different stances on and standards for certain types of relationships, and different areas have different sets of relationship platforms available, likely leading to additional or modified design needs.

Other crucial future work includes further development on the design directions presented in this paper. Our approach to design directions was motivated by design justice principles which center user input and community solutions and knowledge over researcher expertise and outside solutions [17]. As such, while we believe these directions are promising, each would benefit from further community-based design work in order to move towards implementation. In particular, recommendations which involve shifting power on the basis of specific identities, such as identity-asymmetric filtering (4.2.3) and disclosure (4.3.3), require further careful study in order to be implemented in a way which does not cause additional harm. Future design work may therefore involve testing and refining prototypes informed by these design priorities, with user studies to ensure that the proposed designs meet the stated needs of the sapphic community. These prototypes may be constructed using the range of proposed community-sourced directions offered by participants as a window of reference for implementations which may be more readily accepted by sapphic users.

Finally, future work could adapt our design recommendations to address similar phenomena that occur in marginalized groups outside of the sapphic, and to more general online communities. For instance, past work has demonstrated that dating platforms targeted towards gay men and non-LGBT people also lack sufficient detail for users to make informed contextual decisions, which has led to those users creating unconventional workarounds via repurposing existing non-dating platforms [90]. By drawing on our proposed design features which meet the needs of sapphic populations, we believe future work may be able to address similar problems regarding relationship platform design for other communities. We also believe there is also significant promise in applying our two high-level design priorities to these groups. For example, prior work suggests that there is at least some desire to form friendships and other non-sexual relationships even on hookup-focused platforms such as Grindr [9], but users find this awkward due to the platform's existing norms of interaction [15]. Future work could take our concept of re-focusing on contextual community and apply it to non-sapphic spaces to examine how different types of communities would be impacted by such a refocusing on deep context and broader connections. Similarly, identity-based marginalization even within communities of marginalized people exists outside of the context of dating, from existing discrimination against trans, nonbinary, and bisexual people within queer and even trans spaces [70, 86], to broader race-based discrimination in a variety of online spaces [13, 39]. Our identity-centric approach to safety could potentially be applied in any situation where certain members of a space have a demonstrated need to protect themselves more than others, and future work could explore such implementations - so long as such work and resulting implementations are responsive to the specific community and circumstances at hand.

6. CONCLUSION

In this paper, we approached the longstanding problem of how to design relationship platforms which adequately serve sapphics [63] via a community-based approach motivated by transfeminist and trans technology principles We presented two key design priorities, identity-centric safety and community-based information formats, and community-sourced design directions which can be used by future designers to operationalize these priorities. Importantly, by taking a transfeminist approach with a diverse sample including multiply marginalized sapphics, we were also able to account for the specific way facets of identity which exist alongside sapphic identity, such as trans identity and neurodivergence, play out within sapphic spaces, which is key to the creation of sapphic technology that is also trans technology which serves all sapphics, especially the most marginalized.

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Supplemental Materials for Safety and Community Context: Exploring a Transfeminist Approach to Sapphic Relationship Platforms

A DISCUSSION PROMPTS

1. Tell us about the best and the worst experiences you've had using a dating site or app as a queer woman or nonbinary person.

2. As a person with your identity, what features, abilities, or policies must a dating app or site have to make it worth you using? What about dealbreakers? What must a dating app or site not do or allow for it to be useful to you?

3. People meet each other all kinds of places, not just dating apps. Tell us about one or more experiences you've had meeting people for dating, relationship, or hookup purposes on a site or service that isn't built for that (e.g., Facebook, TikTok, Twitter, etc.), especially if it really worked out. What about that site or service made it possible for you to make that connection?

4. How should a dating app decide who to match you with in order to be useful for you? What would an "ideal match" be for you? What changes would you like to see from how you feel you're being matched currently, or what new ideas might you have? If you have a matching system you've seen and already like, feel free to talk about that, too.

5. Based on how we want people to be matched and how we want to express identity, how should profiles work? What about messaging? What information should be displayed, who should be able to talk to whom, and what should the overall rules of interaction be?

6. Over the past two weeks, one of the things we've talked about the most is filtering. Folks have talked about how important it is to filter people in and out, but also about how that could be misused. For our last discussion, please pick 3 of the filtering criteria in the list below - at least one should be a filter we must have, and one should be a filter we should never have. Tell us what you think about these filters, why you picked them, and why they're either a must-have or a dealbreaker.
   - Race
   - Gender Identity (beyond cis men - e.g., controls for filtering to just trans people)
   - Political views
   - Neurodivergence

B PARTICIPANT MATERIALS

B1 Code of Conduct

All posting and interactions in the research Slack must adhere to the following code of conduct. Violations of this code of conduct will be dealt with according to our moderation guidelines, which are located at the end of the code of conduct, and may result in you being withdrawn from the study with repeated or severe offenses.

You Know You, I Know Me - Try not to make assumptions about others, related to gender or otherwise. When speaking, please try to use "I" statements and avoid making generalizations or applying your own ideals to others.

What happens here stays here - Though you are welcome to share your own experiences and feelings about the study with others, you must refrain from repeating other participants' stories, names, likenesses, etc. outside of the group. Help us protect everyone's privacy, and keep the contents and members of the research group confidential.

Challenge the idea, not the person - People have a lot of different opinions - and that's great! Disagreement about different priorities is good, and some of what we are trying to learn about here is how different people want to balance those priorities. However, we want to keep discussion centered on those opinions, not the people that have them. If you disagree with an opinion, say so - but don't attack the person.

Oops/Ouch - If something offensive, problematic, or hurtful is said or done in the group, anyone may say, "ouch." The person that had been speaking should please say, "oops," and then the problems with what was said should be discussed by those persons and/or the group.

Ouch, Anon - If any person feels that an "ouch" needs to be said, but is not comfortable saying so at the moment of occurrence, this should be communicated to our moderators. If you are comfortable identifying yourself, DM one of the study team members. If you wish to report anonymously, use the form in the #help channel which will send an anonymous report to our moderator channel.

Don't Yuck My Yum - Folks here have different tastes and preferences, so avoid antagonizing language like "I hate that," or "ew." Likewise, folks have different traumas and triggers, so avoid language that belittles or trivializes their experiences.

Harassment - We are dedicated to providing a harassment-free experience for everyone. We do not tolerate harassment of participants in any form. Participants violating these rules may be removed from the study at the discretion of study staff. Refer to the moderation guidelines for more information. Harassment includes, but is not limited to:

- Comments that target other participants based on characteristics such as gender, gender identity and expression, sexual orientation, race, ethnicity, age, ability status, physical appearance, body size, or religion.
- Deliberate intimidation, stalking, or following
- Unwelcome personal attention
- Persistent, unwanted attempts to contact another study member
- Advocating for, or encouraging, any of the above behavior

Do Not DM Participants – Feel free to direct message the study staff with any concerns at any point, but refrain from direct messaging your fellow participants. DMing, especially without prior permission, will be considered harassment.

Keep Your Information Private – This is a project where you will talk to many people, but it's crucial you keep your personal information safe when doing so. Do not reveal your full name in the research Slack, either in discussions or when filling out your profile. Similarly, do not provide details in your profile regarding your phone number, job title, or any other contact information. Do not upload photos of yourself for your profile picture – keep it abstract, or use one of the images we provide.

B2 Moderation Guidelines

Level 1: Participants are encouraged to first respond to posts or responses they find problematic by employing the "Oops/Ouch" principle from our working agreements. This is especially true in cases where the intent is clearly not expressly to offend. If they are comfortable, participants are encouraged to post a short response to the comment in question indicating that they would prefer folks to avoid that type of posting and why, then lead the

topic gently back in the right direction with some substantive comment on the subject matter in discussion. In cases where offense appears to be the intent, participants are encouraged to escalate to the "Ouch, Anon" principle.

Level 2: In the case of a report from a participant (as laid out in the "Ouch, Anon" principle), or a case of obvious malicious trolling or hate speech, moderators will review the post in question and, if appropriate, record the content of the post for future analysis and remove the original from the thread. The moderator will notify the participant of this privately via direct message and explain how the response is not within the group guidelines, requesting that further responses of that nature not be entered into the group conversation.

Level 3: In the case of repeated violation of our code of conduct (e.g., 3 or more incidents), a project co-investigator will make a decision as to the offending participant's continued participation in the research community. This decision will largely be based on the participant's effect on the ongoing safety and norms of openness for the group as a whole. Repeated offenders may be asked to leave the group as a last resort, and only after following the steps outlined in the procedures above have been followed. By the time a participant is banned, it should have been made very clear to them that they are behaving unacceptably and have been informed of the terms of continued participation before they are banned. Being asked to leave the group without completing the requirements for payment will result in the forfeit of all payment.

B3 Startup Instructions

B3.1 Slack Download by Platform
Mobile

iOS:
1. On your apple device, navigate to the "**App Store**" application.
2. Find "Slack" by searching its name inside the App Store on your device.
3. Press **get** to start downloading the app.
4. For new iOS, on your home screen swipe left until you get to the "**App Library**" to view newly downloaded apps.
5. Longhold on the Slack app, then press "**Add to Homescreen**" to place the app conveniently on your Apple device's main interface.

Android:
1. *Before downloading the app, make sure you have Google Play Services on your device
2. On your Android device, navigate to the Google Play Store application.
3. Find "Slack" by searching its name inside the Google Play Store on your device.
4. Press **install** to start downloading the app.
5. Navigate to your devices home page to place your Slack app conveniently on your Android device's main interface.

Downloading on Windows from the Slack Website
1. *To install the Slack app, you'll need to be running Windows 7 or above
2. Visit https://slack.com/downloads/windows.
3. Press **Download**.
4. After the download is completed, double-click the file **SlackSetup.exe** to complete installing Slack.
5. Slack will launch automatically once installed, and can be re-launched by double-clicking the Slack icon on your device.

6. Can consider left clicking the app after locating it on your system via your devices search bar, then select "**Pin to taskbar**" to make Slack easier to find on your Windows device in the future.

Downloading from the Windows Store
1. Visit https://slack.com/downloads/windows.
2. Input "Slack" into the store's search bar located on the top of the site to find the app.
3. Click on the "Slack" app to navigate to the application download page.
4. Press **Get** to begin the download.
5. Select if you'd like to sign into your account and share this app across your Windows accounts.
6. Slack should start installing automatically, but if not, click the **Install** button located where the **Get** button was.
7. After the app is done installing, search for the downloaded Slack app on your laptop by using your system's search area.
8. Double click to launch the Slack app.
9. Can consider left clicking the app, then selecting "**Pin to taskbar**" to make Slack easier to find on your Windows device in the future.

Downloading on Mac from the Apple App Store:
1. *Slack desktop only supports macOS 10.11 and later
2. On your Mac, navigate to the "**App Store**" application.
3. Find "Slack" by searching its name inside App Store on your device.
4. Click **Install**.
5. To launch Slack, open a **Finder** window, select the Applications folder in the sidebar, then find and double-click the Slack icon.

Downloading on Mac from Slack:
1. Visit https://slack.com/downloads/mac.
2. Press **Download**.
3. Once the download is complete, open a **Finder** window and select your Downloads folder.
4. Double click the **Slack.dmg** file, this will open a small window.
5. Drag and drop the Slack icon to the Applications folder in the window.
6. Open the Applications folder, and double click the Slack icon to launch the application.
7. Linux

Downloading from Slack, Ubuntu:
1. Visit https://slack.com/downloads/linux.
2. Press **Download .deb (64-bit)**, or **Download .rpm (64-bit)**.
3. Locate the file in your Downloads folder, the file name will start with "slack-desktop".
4. Double click to view Slack in the Ubuntu Software Center.
5. Click **Install**, and input your Ubuntu login password when prompted.
6. Use your computer's search function to find Slack, then double click to open the app.

Downloading from Slack, Fedora:
1. Visit https://slack.com/downloads/linux.
2. Press **Download .rpm (64-bit)**.

3. Locate the file in your Downloads folder, the file name will start with "slack".
4. Open the file in your package manager.
5. Click **Install**, and when prompted enter your Fedora login password.
6. Click **Activities**, then **Show Applications**, and double click the Slack app to launch it.

Downloading from Slack, RHEL:
1. Visit https://slack.com/downloads/linux.
2. Press **Download .rpm (64-bit)**.
3. Click **Save File**, then **OK**.
4. Open Terminal.
5. Run the following commands in your terminal:
6. wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
7. rpm -Uvh epel-release-latest-7.rpm
8. sudo yum -y install ~/Downloads/slack-3.2.1-0.1.fc21.x86_64.rpm

B3.2 Signing Into the "Workspace"
1. You will be sent an email invite from "Slack" asking you to join the "Improving Queer/Trans Online Dating Spaces" workspace.
2. **Click the join button to be redirected to the Slack sign up page.**
3. When prompted, input your name, whatever email you'd like to use to access and receive any notifications from Slack, and set your account password. *Any email from the study team will still go to the email address you gave us upon signing up. "Name" always refers to the name you want to be called by others in the study.*

*If you already use Slack and need to add a workspace, or need to add the workspace manually after registering for Slack, use the workspace URL **[link to project Slack]** in the prompt page that pops up after clicking "add a workspace" inside Slack.*

B3.3 Setting Up Your Profile
Setting Up Your Profile on Desktop:
1. Click on your profile picture in the top right.
2. Click **Edit profile**.
3. After changes are made, click **Save Changes** to update how your profile is viewed by other group members.

Setting Up Your Profile on Mobile:
1. Press **You** at the bottom of the screen.
2. Press **View Profile**.
3. Press **Edit Profile**.
4. Edit your profile, then press **Save** to update how your profile is viewed by other group members.

For this research study, we ask that you fill in basic profile information in Slack to help facilitate conversations. **However, we ask that you follow key rules about personal information from the code of conduct**, as your profile information can be seen by other participants in the study, and it is our goal to keep your personal information safe.

- Full name: enter your first name, **but not your last name**. *"Name" always refers to the name you want to be called by others in the study.*
- Display name: enter your first name, **but not your last name**.
- What I do: **leave this field blank.**

- Pronouns: To **add** your **pronouns**, simply click/tap on your photo, click Edit Profile and scroll down until you see the field.
- Phone number: **leave this field blank.**
- Time zone: select your time zone.
- Skype: **leave this field blank.**
- Profile picture: We will be supplying participants with a profile picture to use for the study to ensure everyone's privacy is respected.
    - o If you would like to use a unique profile picture, please make sure it does not show:
    - o Your physical likeness.
    - o Information/locations that could identify you or your location.
    - o The research team asks that participants using unique profile pictures use a photo of pets, random icons, or any other profile picture option that guarantees participant privacy is maintained. Participants with profile pictures that do not adhere to the guidelines will be directly messaged by a moderator to assist in replacing it with a safer option.

B3.4 What are Channels?

Slack organizes conversations into dedicated spaces called channels. We can think of channels as separate spaces dedicated to discussing specific topics, objectives, or for grouping individuals for conversation within the larger workspace. For this research study, each of the six activities will be located within a dedicated channel. There will also be a dedicated "help" channel where you can ask questions and contact the on-duty moderator or the project team.
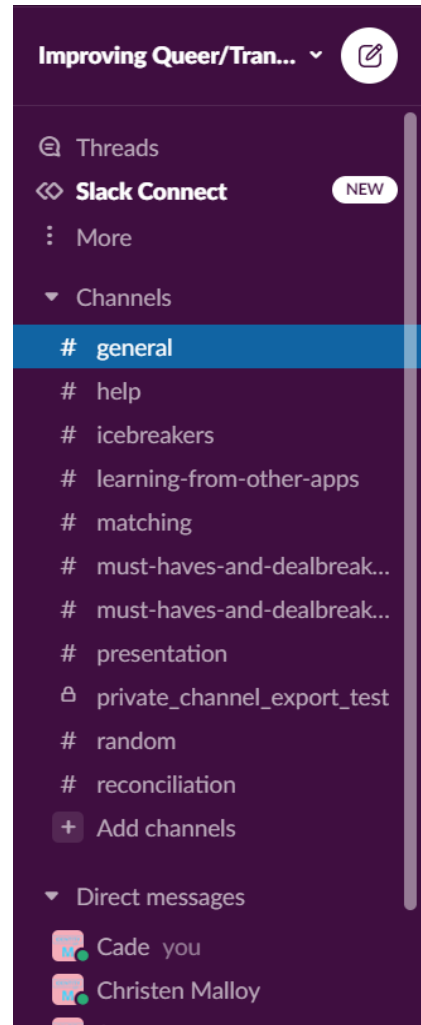
This is an example taken from Slack of how channels are displayed within the app. **When a channel's title is bold, it means there is unread content!** Unread channel content is additionally cumulated under the "unreads" section at the top of the home page on iOS, or by clicking the ⋮ tab and selecting "All unreads" to add an accessible unreads tab on desktop. **In order to switch between channels, go to the "home" page for iOS, or the left sidebar in the desktop version, and click on the channel title you'd like to engage with.**

Once you're ready to join a discussion, go to the appropriate channel and format your channel reply in the box that says "**Send a message to #(Channel Name)**", and then press the

paper plane icon , or the enter key, to send your message to all members of the channel to see. A fun way to quickly react to other's posts before you format your own response is by using **emojis**. You can leave an emoji response on someone else's response by:

1. Hovering over the message you want to react to.

2. Press the icon labeled "find another reaction" in your actions bar for that post.
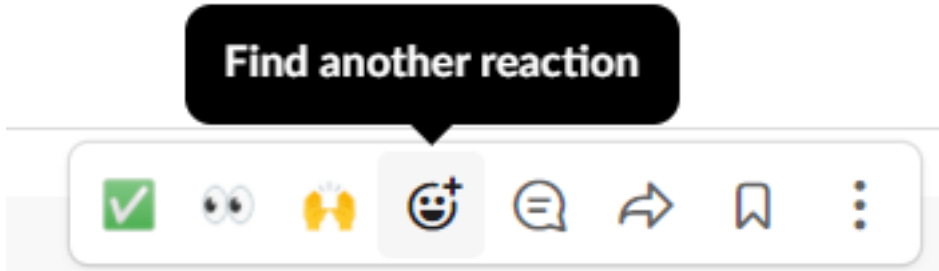
3. Search for an emoji that sums up how you feel about the post, and click it to leave a reaction on the post so others can see.

B3.5 What are Threads?

If someone says something important and you want to follow up in depth, or if the main conversation has moved on and you've got more to say on a topic, threads are how you keep that specific part of the conversation going. In the context of channels, threads allow for organized conversation depth to occur and provide a space to be considerate or have side conversations about something someone said in the channel without causing others' broader contributions, or other threaded posts, to be lost in the conversation. This allows users to jump from conversation to conversation, easily visually track all conversations via the main channel feed, and provide full space for engagement regarding the original content within its thread. There are

several ways to view or respond to a threaded conversation in Slack. We have listed several options below.
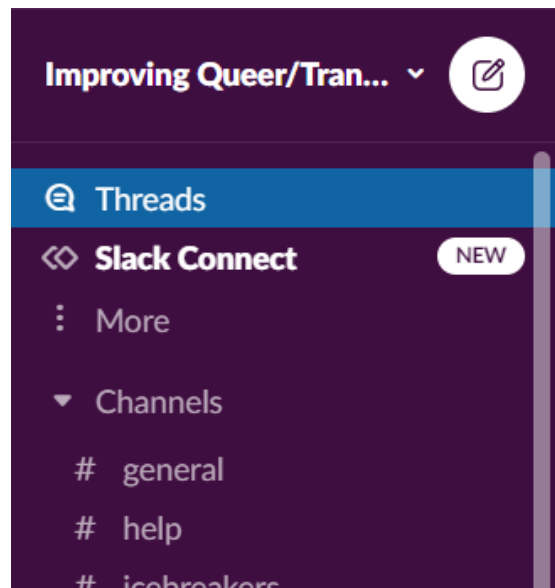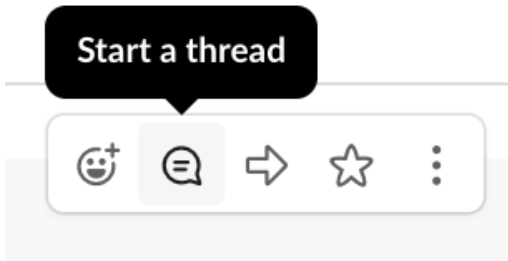
Viewing Threads:

<u>Desktop</u>

<u>Method 1</u>
1. Hover over the message you'd like to reply to.
2. Click the "Reply to thread" speech bubble icon that appears along with "emojis" and other actions. The selected channel feed will then be duel-screened on Slack with

the threads window including all conversation regarding the original post in the channel you want to add to.

Method Two: Responding in pre-existing threads
1. Hover over the existing threaded replies area under the channel post you'd like to add to.
2. Press anywhere within the "**View thread**" element box to open the threads window alongside the channel view.

iOS
1. Within the main channel, press either:
2. The message itself.
3. The "reply/replies" element below the text from the original post.
4. You will then be taken to the "Thread" window for the original post. iOS does not allow for split screening between the main channel and thread windows unfortunately.

Responding to Threads

Desktop
1. Identify channel posts you'd like to interact with.
2. Follow the previous "**Viewing Threads**" directions for desktop to access the thread window for the conversation you'd like to add to.
3. Type your reply.
4. Send your message. After sending your message, you can choose to close the "threads" splitscreen, or click on a new thread to view its content in the threads window.

iOS
1. Identify channel posts you'd like to interact with.
2. Follow the previous "Viewing Threads" directions for iOS to access the thread window for the conversation you'd like to add to.
3. Type your reply.

4. Press the **paper plane icon**   in the text box to send your message. After sending your message, you can swipe right inside the thread window, or press the "<" symbol at the top of the thread window to return to the channel feed the original post came from.

Keeping up with Threads through the Threads Tab

   To keep up with threads you have been responding to, click on the threads message bubble in the top left corner of the Slack workspace sidebar to bring up a list of each thread you are a part of and the most recent messages in each. You can respond directly to threaded messages based on the channels you are a part of on this page: