

# “It’s So Difficult to Sever that Connection”: The Role of FoMO in Users’ Reluctant Privacy Behaviours

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## ABSTRACT

This paper provides empirical evidence of a link between the Fear of Missing Out (FoMO) and reluctant privacy behaviours, to help explain a gap between users’ privacy attitudes and their behaviours online (also known as the Privacy Paradox). Using Grounded Theory, we interviewed 25 participants and created a high-level empirically-grounded theory of the relationship between FoMO and reluctant privacy behaviours. We identify three main dimensions in which users feel pressured to participate even when they have privacy concerns, to avoid missing out. We discuss the implications of these results on the design of technologies, and how they may indicate systemic dark design.

## CCS CONCEPTS

• Security and privacy → Social aspects of security and privacy.

## KEYWORDS

Privacy, Fear of Missing Out, Participatory Reluctance, Privacy Paradox, Social Media, Dark Patterns, Interviews

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## 1 INTRODUCTION

The Privacy Paradox [2], which addresses differences between users’ privacy attitudes and their respective behaviours, has been observed by the privacy HCI community for some time. Several theories have been developed over the years to explain the gap between privacy attitudes and behaviours [2], but these tend to center around models which posit the user as either being uneducated about privacy risks, or as making a calculated trade for some service. Both of these stances are problematic as they put the user at fault for poor privacy practices, absolving service providers of all responsibility

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for how their platforms may be manipulating users into privacy compromising behaviours.

There are already indications that users choose online actions against their own preferences in ways that are both non-naive, yet ambivalent, suggesting that users are uncomfortable with their choices. Cassidy refers to this phenomenon as “participatory reluctance” [12]. More generally, “dark patterns” have received much attention in recent years [3] for their manipulation of users, especially in regards to hidden or hard-to-reach privacy controls, and with confusing or hard-to-interpret wording in cookie consent banners [33]. These are present even on the world’s most popular websites [15].

The exploration of specific dark patterns is an important step in identifying and reducing design choices that lead to user manipulation online. However, the focus of these dark patterns remains relatively granular and self-contained (e.g., the dark pattern of “Confirmationshaming,” which describes wording in opt-out sections of websites that guilt users into staying [9]). This means that oversight of manipulative design largely remains restricted to feature-level design, while more systemic dark design insidiously flies under the radar.

To investigate this issue of systemic dark design, we consider users’ privacy behaviours on online social platforms in relation to the Fear of Missing Out, or FoMO. FoMO has been scientifically operationalized [36] and has been investigated in a range of scientific studies, where repeatedly both its commonness and significant impact on problematic behaviours has been evidenced [19, 45]. Despite its ubiquity, literature in the field largely fails to examine the link between system design and FoMO in users, and how this may negatively impact privacy behaviours. Recently, it was suggested that this link may exist in the form of “FoMO-centric design” [44], but empirical studies remain to be done on the issue.

To address this gap in the literature, we used Grounded Theory methodology to conduct interviews with 25 participants about their experiences with joining, staying on, leaving, and participating in social media. Using the results of our interviews, we propose an empirically-backed theory to explain the connection between FoMO, reluctant participation, and privacy-compromising behaviours. We find convincing evidence that users are systemically pressured into compromising their privacy attitudes via FoMO. We present these reluctant privacy-compromising behaviours in three dimensions, and explain the important role of passive online social platform use in eventual privacy-compromising behaviour.

## 2 BACKGROUND

### 2.1 Fear of Missing Out

The *Fear of Missing Out* is defined as “a pervasive apprehension that others might be having rewarding experiences from which one is absent” [36]. This apprehension is characterized “by the desire to stay continually connected with what others are doing.” It arises from situational or chronic deficits in the satisfaction of three basic psychological needs: competence, autonomy, and relatedness [36], which leads to diminished self-regulation and psychological health [16]. This decreased self-regulation is a widespread phenomenon: studies report that between 56% and 70% of adults suffer from FoMO [24, 31]. Research has found overwhelming evidence of correlations between FoMO and social media use [19, 36, 45]. From the results of a study using their 10-item FoMO scale, Przybylski et al. [36] found a “robust” link between FoMO and high levels of social media engagement.

### 2.2 Ambivalence in Decision-Making

Przybylski et al. [36] found that users with high FoMO levels were more likely to feel *ambivalent* while using social media; that is, experience “mixed feelings” characterized by high levels of both positive and negative affect. This led users to partake in behaviours detrimental to their academic future and driving safety, despite knowing about the possible negative effects.

The presence of ambivalence amongst social media users was discussed in a privacy context by Paasonen et al. [34], who says that positive affect prompted by boredom-relieving “micro-events” drives users to continue using social media, despite feeling a “sense of creepiness” about the “default leakiness” of the platforms they use. Ambivalence is explained by the *self-discrepancy theory* [23] as a conflict between actual beliefs held by the decision-maker and idealized beliefs or beliefs the decision-maker thinks they *should* hold based on the behaviours of others. In other words, a person can be swayed to behave against their preferences when that person’s preferences conflict with the perceived norm. The effect of social norms on behaviour is already emphasized in theories such as the Theory of Planned Behaviour [1], which places subjective norms as one of three predictors of intention and behaviour, and Social Influence Theory [25], wherein behaviours are affected by a combination of compliance, identification, and internalization.

Ambivalent social media use is addressed in relation to community norms by Cassidy [12] under the name *participatory reluctance*, a term which he coined to describe continuance of social media use despite voiced objections to its interface and user base.

### 2.3 Embedded manipulation

The idea of intentional user manipulation in platforms’ designs is nothing new. Increasing evidence points to the ubiquitous existence of insidious *dark patterns* in today’s online interactions. These forms of design trigger automatic, unconscious thinking [8], leading users to partake in behaviours they might not otherwise undertake if they were in a more deliberate mindset. Dark patterns exist in the vast majority (95%) of apps on the Google Play store, and users are largely not consciously aware of their presence [17]. Despite the GDPR’s efforts to legally minimize the presence of dark

patterns in the EU, two years later less than 12% of website consent management platforms adhered to the minimum requirements [33].

On top of being ubiquitous, dark patterns have been empirically found to be highly effective in manipulating user behaviour. Nouwens et al. [33] found certain dark patterns used on consent management forms illicitly increased consent by up to 23%. Luguri and Strahilevitz [27] found that “mild” dark patterns were twice as effective, and “aggressive” dark patterns were almost four times as effective compared to a design with no dark patterns at causing participants to remain in a program in which they had been enrolled without their permission. The researchers concluded that “dark patterns are strikingly effective in getting consumers to do what they would not do when confronted with more neutral user interfaces.”

Few explicit links exist between social factors and privacy dark patterns in past research, but several researchers acknowledge the role of digital infrastructure in the social environment and subsequently behaviour of users. Papacharissi et al. [35] state that social media creates an “environment that equates sociality with sharing” where a reduced online presence can result in social cost. “[N]etworked social environments make it challenging for individuals to be private in spaces that were designed for sharing, not privacy” [35]. These environments come with cultural norms of “minimum disclosure” [42], which users feel pressured to follow, sometimes to the point where they do not consider it a choice. Research has shown that users face negative evaluation by others when they do not meet a platform’s minimum disclosure norms [41]. These factors contribute to the “cyclical” nature of a “culture of participatory reluctance,” where users feel obliged to “keep a particular [existing] narrative going”; this happens *even in the face of* a culture that users *personally disagree with* [12]. Böhme et al. [6] found empirical evidence of “self-reinforcing” peer effects on voluntary disclosure, saying these can be strong enough that granular fixes such as privacy-friendly UI design and user education may be insufficient “to reverse dynamics of descriptive social norms.”

Docherty [18] describes Facebook’s guilt-prompting dichotomy of wellness, formed carefully through a combination of platform design and discourse, which frames user behaviour as either healthy (active) or unhealthy (passive). Investment in relationships and the cultivation of social capital on the platform are “presented as the fulfillment of natural inclination to connect with others in a shared social environment.” As such, active participation on Facebook, “rather than being viewed as the result of a designed user-experience intended to gather data for the sake of capitalist profit, can instead be presented as the result of rational user choices fulfilling innate human social needs” [18].

Docherty is not alone in acknowledging the systemic sacrifice of user well-being for the sake of profit; Paasonen [34] refers to this phenomenon as “attention-economic logic,” and Zuboff [46] considers this a key part of “surveillance capitalism.”

Through a literature review, Westin et al. [44] delved into the possible existence of systems designed to manipulate and “benefit from users’ desires to be accepted socially,” leading to users reluctantly compromising their own privacy-preserving standards. We coined this type of design *FoMO-centric design*, a term which we will continue to use in this paper.

While the literature provides strong evidence that users participate despite ambivalence, that users partake in detrimental activities due to FoMO, and that social factors are a driving force in users' decisions to share, direct empirical investigation of a combination of the three has yet to be done. We address this research gap with in the following study.

### 3 METHODOLOGY

To gain a better understanding of the situations in which users reluctantly compromise their privacy in relation to FoMO, we conducted interviews with users of online social platforms, using Charmaz' [14] *inductive grounded theory* method. By its nature, grounded theory encourages exploration over the strict validation that many other research methods offer. This allows us to naturally build an understanding of factors affecting participants, and form a theory based in real world empirical data. We received ethical clearance for this project from our university's IRB.

#### 3.1 Recruitment and Pre-Screener

We recruited participants through the following methods: (i) posts on our university research participants Facebook group and on the researcher's social media, (ii) posters on campus, in public libraries, and around the researchers' city, and (iii) emails to personal contacts. The inclusion criteria were: being over the age of 18, being comfortable giving an interview in English, and being either a current or past user of the following "online social platforms": social media, message boards, and/or online multiplayer video games.

Interested participants completed a pre-screener questionnaire on the online survey platform Qualtrics<sup>1</sup>. The pre-screener checked for inclusion criteria and included Przyblyski et al.'s [36] validated 10-item Fear of Missing Out scale, which rates participants' FoMO levels on a scale from 10 to 50. Higher scores on the FoMO scale indicate higher levels of FoMO. Using the results of this scale, we then invited participants for interviews, aiming for a reasonable distribution of participants across the FoMO scale.

#### 3.2 Participants

We interviewed 25 participants with pre-screener FoMO levels ranging from 12 to 38, and an average FoMO score of 24.72 (SD = 6.98). Figure 1 provides a graph of the final distribution. We interviewed 18 women and 7 men between the ages of 18 and 64. Most were in their twenties<sup>2</sup>, with the mean age being 25 (SD = 9.53). Genders were imbalanced due to the skew of our pre-screener pool towards female<sup>3</sup>. Participants came from a wide variety of educational and professional backgrounds, including Computer Science and IT, Humanities, Public Relations, Healthcare, Journalism, Law, Engineering, and Psychology. 36% were employed full-time, 32% were full-time students, 20% were either employed part-time or were part-time students, and 12% were not employed or identified their situation as "other."

<sup>1</sup><https://qualtrics.com/>

<sup>2</sup>The age distribution was: (18-22: 11; 23-27: 9, 28-32: 3; 33-37: 0; 38+: 2).

<sup>3</sup>Our pre-screener did not ask about gender, so we did not have that information available when inviting participants.

#### 3.3 Interview Questionnaires

The pre-interview questionnaire contained demographic questions regarding age, occupation, gender, education level, and frequency and ways that online social platforms were used. The post-interview questionnaire consisted of two parts: (i) a survey of privacy attitudes and behaviours in regard to Online Social Network (OSN) use from Krasnova et al. [26], and (ii) a repetition of the FoMO scale presented in the pre-screener questionnaire. We were curious to know if participants' FoMO scores would change pre- and post-session, so we compared the two sets of FoMO scores, but found no significant difference between them. We calculated privacy scores for participants based on their questionnaire responses, but did not find clear trends between those scores and participants' interview responses. Therefore, we do not report these scores here.

#### 3.4 Interview Sessions

Interviews were semi-structured and sessions (including pre- and post-interview questionnaires) lasted up to 60 minutes. We conducted 14 of our interviews in person on our university's campus, and 11 remotely using Skype<sup>4</sup> video-conferencing software. Participants were compensated with \$20. Interviews were audio-recorded and then uploaded to the online transcription service Trint<sup>5</sup> for transcribing. The interviews resulted in 940 minutes of audio, or 293 pages of transcripts.

Topics for the interviews were selected based on the proposed "FoMO-centric" user behaviours and motivations and design features presented by Westin et. al [44], with a main goal to uncover instances where participants experienced ambivalence. Central topics discussed in the interviews included: (i) Posting Habits, (ii) Joining and Staying on Platforms, (iii) Leaving Platforms, and (iv) Perceptions of Others' Online Habits and Expectations. An explanation of each topic and sample questions are shown in Table 1. As per Charmaz's [14] approach, central interview topics remained stable, but specific questions evolved throughout the iterative process of interviewing and analysis (See Section 3.5). This meant that not all participants were asked the same questions throughout the interview. In doing so, we aimed for theoretical, rather than quantitative, saturation. The final iteration of the interview guide can be found in Appendix B.

#### 3.5 Grounded Theory Method

In true grounded theory style, interviewing and analysis were conducted iteratively and simultaneously, by alternating between conducting interviews in batches of 5-10, coding and analyzing, and updating the interview guide for the next batch of interviews.

*Coding.* To encourage a bottom-up inductive approach, our first pass of coding on initial transcripts consisted of rigorous granular level open coding. We practiced Charmaz' gerund-based coding [14] to keep the focus on the actions and experiences of participants. As we began to identify recurring themes within and across interviews with the help of a memo journal, more abstract focused codes and categories started to emerge, allowing us to create more theoretically salient focused codes. In the final stages, we conducted

<sup>4</sup><https://skype.com/>

<sup>5</sup><https://trint.com/>

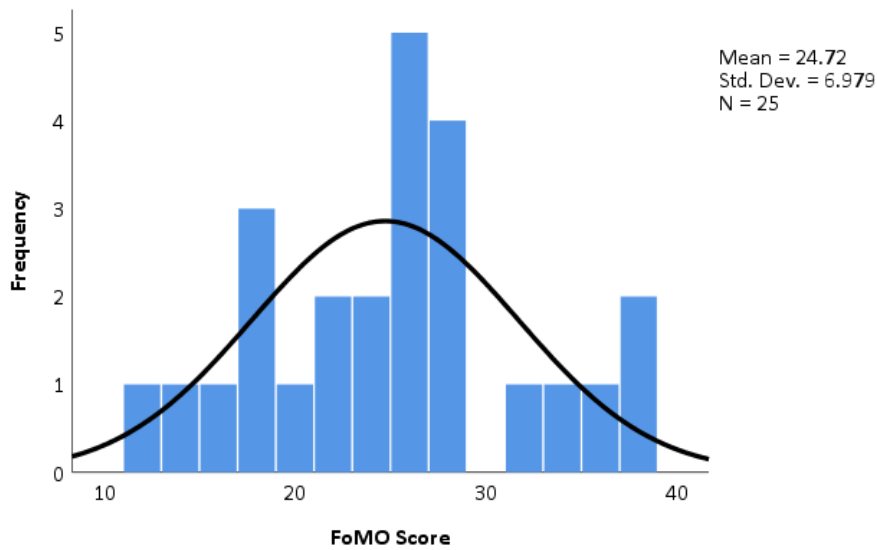


Figure 1: Distribution of pre-screener FoMO scores for interviewed participants.

Topic	Research intention	Sample questions
Posting Habits	To understand the context of the participant’s SNS usage.	What makes you post more? Less?
Joining and Staying	To learn if participants ever feel pressured to join or stay on platforms.	Can you think of a time you ever felt reluctant to sign up for a website or app?
Leaving Platforms	To uncover the factors that make participants leave platforms, or return to them.	Have you ever deactivated or deleted an account or an app?
Perceptions of Others	To understand how social norms might affect users’ attitudes or behaviours.	Do you think your friends share similar attitudes to you regarding online behaviours?

Table 1: Interview topics, intentions, and examples from the interview script.

axial coding by sorting focused codes into overarching higher-level categories and mapping their relationships, forming the basis for theory construction.

*Theoretical Sampling: Updating the Interview Guide.* As we identified and developed categories, our aim was to get a satisfactory theoretical sample by attaining sufficient depth and width in these categories (which Charmaz refers to as “saturation” [14]). To do so, we updated our interview guide to reflect new questions we had about relevant aspects of participants’ experiences, allowing us to conduct further empirical inquiry of our categories as we conducted more interviews. An affinity diagram helped us find gaps within and between categories. This iterative approach to interview guide development meant that not all participants were prompted about all themes to the same depth. As such, we do not report numbers of responses per category, to avoid the misleading quantification of data.

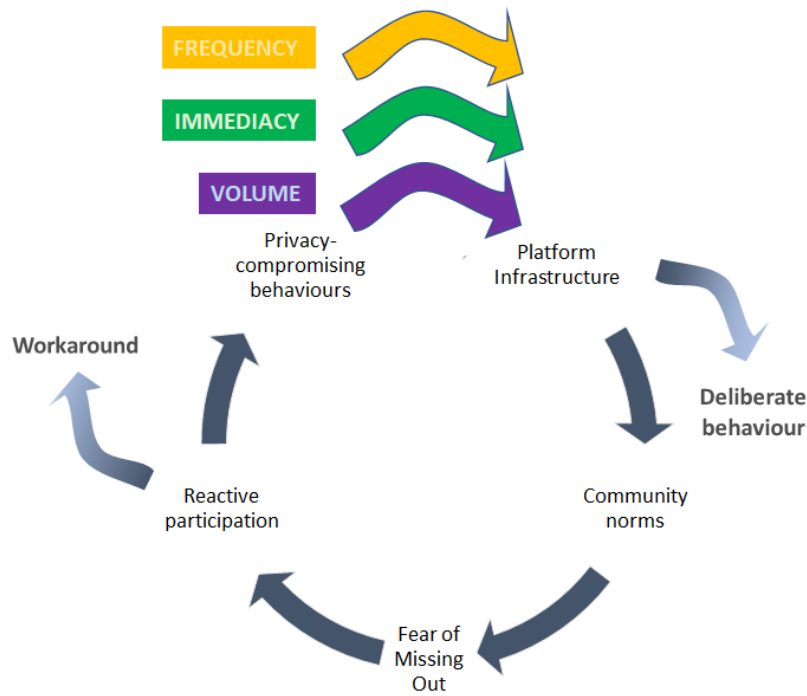
*Theory Construction.* To develop our theory, we used (i) affinity diagramming primarily for identifying and organizing categories, (ii) memo-writing for recording longer or free-flowing thoughts, and (iii) whiteboard and paper/pencil diagramming for brainstorming relationships. As a final step in theory construction and once

we had our model, we returned to the literature to see how well our theory aligned with existing research. Our final theory is presented in the following section.

## 4 RESULTS

Through analysing our grounded theory interviews, we identified three central “dimensions” of online participation which play off each other to contribute to a self-reinforcing cycle of FoMO and privacy-compromising reluctant online behaviour. We propose FoMO-centric platforms achieve this through design that encourages the quantification of social interactions in these three dimensions: users learn that if they post more information (Volume), more quickly (Immediacy), and more often (Frequency), they will be more likely to succeed by the community standards of the platform and be socially accepted, or even prosper on the platform.

These privacy-compromising behaviours become entrenched in platform norms and are thus socially enforced by users, resulting in negative social consequences for those who do not follow them. Users feel pressure to participate in platform norms and experience the Fear of Missing Out when they worry they may not be sufficiently involved in the community. The Fear of Missing Out pushes users to participate in a reactive way that may be at odds



**Figure 2: Diagram showing the proposed relationship between digital infrastructure, community norms, FoMO, and reluctant privacy-compromising behaviours.**

with their privacy attitudes (i.e., reluctant). This creates a cycle of FoMO and reluctant, privacy-compromising platform use. See Figure 2 for a diagram showing the theory relationships. While we cannot ascertain that these are fully due to dark patterns within the design of the platforms, the resulting behaviours are reminiscent of the types of outcomes seen by dark patterns.

Our focus here includes not only typically investigated *active* social platform use (such as sharing) but also *passive* use, such as checking social media. We consider the latter a crucial player in eventual privacy-compromising behaviours, because of its power to reinforce *continued* platform use with privacy-compromising norms. For easy reference, we separate factors according to whether they *reinforce continuance*, directly *prompt reactive sharing*, or both, in Table 2. We further explain the theorized role of passive use in FoMO-centric design in Section 4.1.

We also identified eight symptoms of participatory reluctance (Table 3) – or signs of discomfort surrounding online behaviour – which recurred throughout our interviews. While these may not be privacy-compromising by themselves, they characterize participants' mindset and can lead to privacy-compromising behaviours. These symptoms will be explained in more detail later in relation to our three dimensions of participation.

There are instances in which users may diverge from the cycle of FoMO-centricity in the form of either a deliberate behaviour, non-participatory behaviour, or workaround. While not the focus of our paper, these instances are discussed briefly in Section 4.4.

For descriptive purposes, each time a participant is mentioned in the following sections, they are presented in the following format: Participant ID(FoMO score).

#### 4.1 Dimension 1: Frequency

Perhaps the most relentless and hard to escape of the FoMO-centric dimensions is the community norm of high frequency of use. This keeps the user returning to the platform on a frequent and regular basis in order to increase the chance they will interact or post. Our participants feel they have to keep a certain rhythm when it comes to posting, and using the platform more generally. The suggested socially acceptable time intervals for posting ranged from once a day to at least once a month, depending on platform and participant. We show that this high frequency of posting and interacting begins at a less visible level: the frequent *passive consumption* of content on social media, through “staying in the loop.”

**4.1.1 Staying in the loop.** For our participants, checking social media is something they do often, subconsciously, and take for granted. This passive activity takes a critical role in affecting users' participatory behaviours: they are presented both with more opportunities for interaction, and are exposed to the high-frequency posting norms of other users. P12(26) checks social media “when I first wake up,” before going to bed, and at any time she feels “bored.” This was especially common amongst higher-FoMO participants, suggesting its central role in FoMO-centric dependence on the platform.

Dimension	Code category	Reinforces continuance	Prompts reactive sharing
Frequency	Staying in the loop	x	
	Avoiding “dropping off the face of the planet”	x	x
	Documenting compulsively	x	
	Posting to validate experiences	x	x
Volume	Supporting friends	x	x
	Presenting the authoritative self	x	x
	Reciprocating data type		x
	Selling yourself	x	x
	MVP: Minimum Viable Presence	x	x
Immediacy	Can't leave, won't leave	x	
	Interacting now or never		x
	Posting in the moment	x	x
	Jumping on the bandwagon		x

**Table 2: Code categories and their role in the cycle of FoMO-centric design. Categories which reinforce continuance keep the user returning to the platform even in the face of reluctance – this includes passive behaviours. Once on the platform, categories which prompt reactive sharing trigger the user to increase sharing, whether in depth and variety, audience size, or in frequency and timeliness, otherwise the user faces potential negative social consequences.**

	Symptom	Brief description
1	Taking a break	Participant takes a temporary leave of absence from the platform, then ultimately returns.
2	Romanticizing an alternative	Participant imagines a better life without the platform, or with an altered version of the platform.
3	Contradicting self	Participant makes contradictory statements when it comes to their comfort level with the platform.
4	Expressing awareness of problematic behaviours	Participant recognizes negative effect of platform on their behaviour, yet continues to use it.
5	Making moral judgments	Participant negatively judges those who do not exhibit expected behaviours in relation to social media.
6	Feeling resigned	Participant doubts the possibility of change on the platform, and/or feels tethered to its continued use.
7	Rationalizing others' behaviours	Participant attributes some people's relative independence from the platform to personality or situation.
8	Using a workaround	Participant circumvents platform infrastructure or norms while simultaneously reaping their benefits.

**Table 3: Summary of the 8 symptoms of participatory reluctance.**

The power of the passive “checking” over users’ view of social expectations is demonstrated by the fact our participants felt constantly checking social media distorts their view of reality in a way that can only be re-calibrated if they temporarily leave the platform. P23(26) describes his decision to take a break from Instagram: “It was making me feel left out most of the time. [...] It was hard to tell myself that that’s not true reality. [...] So I just tried to stop it and didn’t use it anymore. So I could sort of get away from that perspective.”

Participants mentioned they feel awkward when they are out of the loop, as this can translate into missing out on what P21(26) referred to as a “really shocking” amount—whether that be cultural references, or important events in their friends’ lives or in their community. Because of this, users can feel averse to leaving social media for any significant length of time, experiencing “dread” in catching up on the masses of content they have missed. P22(27): “I go back on and then that’s when I feel bad because I’m like, oh, I missed this, this, and this. It’s never been like I need, or I’m on the lookout for it. But that dread or that feeling comes when I’m away from it and I come back.” Once back, P22(27) then feels she

has to spend extra time on the platform to passively “catch up” so that she is “up to date” on the activities of other users.

**4.1.2 Avoiding “dropping off the face of the planet”.** Our participants also feel that they are expected to provide others with a minimum form of passive interaction so that others know what they’re up to. Some participants joked about letting others know they are still alive. P7(21) noted about Instagram: “I think maybe after a few months, I kind of feel like maybe I should just put something up there so people know that I’m still around and kicking.” P24(27) replies to group chats “once in a while; as long as I’m showing them that I’m still alive, then that’s all that really matters.” Other participants displayed a certain level of entitlement when it came to knowing about their friends’ lives on social media, complaining about those who don’t post enough. P15(38): “If you don’t post it’s like, OK, I don’t know if this person’s still alive or not. I don’t know if they have kids or a boyfriend or girlfriend or all that. So I think that’s why I think it’s kind of important.” P21(26), expressed fears over quantifiable ramifications of not posting: “[P]eople would unfollow me if I just go MIA for like two months.”

**4.1.3 Documenting compulsively.** Pressured by the fear of dropping off the face of the planet, participants feel a compulsion and an

obligation to document as much as possible for their online social platforms. This becomes especially true during holidays, special events, or while doing an activity that is perceived as high-value; everything becomes potential social media fodder. Participants used the words “should” or “had to” to describe how they’ve felt about documenting these events. On a study abroad, P14(24) said: “I almost felt like I had to record everything and share everything or, you know, how is anyone supposed to know that I was actually trying things abroad and having experiences and, you know, thriving?” Multiple participants, such as P16(28), mentioned having to make conscious efforts to suppress their compulsion to document, which takes them away from “enjoying the moment and being present.”

**4.1.4 Posting to validate experiences.** Following compulsive documentation, participants feel they have to post any time something interesting or fun happens to them, to validate the experience to others and gain social capital. These manifest tangibly on the platform in notifications of likes, shares, and comments, and may suggest the presence of dark patterns in the interaction design. This is in line with Bednar et al.’s [4] finding that users feel an experience is worth less if not digitally shared. P14(24) says only slightly sarcastically, “You have to prove you’re living your fullest life [...] And if you don’t post something, obviously, you didn’t do anything worth remembering.”

Posting experiences to validate them can go a step further into a true platform-reinforced cycle: manufacturing experiences for the sake of validation. Under the pressure to always maintain an online impression of having a full, exciting life, P22(27) says she would organize events with her friends specifically with the end goal of posting their experiences online. “I’d talk with my friends, like, ‘Oh, let’s go downtown and do this’ because I need to update my Instagram [...] I think at one point [I was doing this] once every few weeks.” This example marks the remarkable extent to which platform infrastructure can affect users’ participatory behaviours. The motivation to share their lives becomes so great that not only do participants feel pressured to post the events that organically occur; they will go out of their way to *create* life experiences for the purpose of having them validated on the platform.

**4.1.5 Supporting friends.** As much as the prominence of likes, comments, and shares can motivate participants to post their own validation-seeking content, such public metrics also motivate them to interact with the content of others. It remains an open question whether this is a result of deliberate dark patterns. Several participants mentioned they feel compelled to interact with friends’ posts to show support. A like or comment can even help save a friend from social embarrassment. P16(28): “I do know some people [who] get very upset [if you don’t like their posts]. They’ve told me, ‘If I post a photo, and it only gets this many likes, I’ll delete it because I know I look terrible.’ [...] So sometimes I do feel obligated to like those ones.” Participants also feel the need to post publicly to mark milestones, such as birthdays or wedding engagements, to show their friends they care about them. They expressed concern and frustration over unintentionally giving off the opposite impression; that of negligence, or worse, intentional shunning.

The pressure to support friends can go as far as causing users to adopt and use certain platforms despite privacy or security grievances. P24(27) finds TikTok invasive, but still keeps the app

and uses it occasionally to encourage his friends. “I don’t really like using [TikTok] all that much. [...] I think because of the controversy surrounding it towards the end of last year... of TikTok and the Chinese government and so forth, all that stuff. So I’d rather just stay away from it. [...] But some of my friends, they use TikTok. So I just have it to support them.”

## 4.2 Dimension 2: Immediacy

FoMO-centric platforms create an infrastructure where posting, interacting with posts, responding to messages, and participating in trends retroactively is considered socially questionable, and in some cases outright unacceptable. Users feel they face a choice: interact now, or not at all. Not interacting at all may lead, for instance, to the negative impressions discussed in relation to failing to *Support Friends*, so users feel pressured into the opposite: immediate interaction. This results in users interacting with content reactively, rather than in a deliberate, thoughtful way. This can lead users to post in a way they might be uncomfortable with, or later regret. “False urgency” is a related dark pattern which has already been recognized in relation to e-commerce websites [11], but to our knowledge, this is the first time it has been discussed explicitly in relation to social media.

**4.2.1 Interacting now or never.** Participants exhibited discomfort over unexpected retroactive interaction with their posts. P18(36) describes the feeling of getting notifications on old photos as “a little too creepy”: “Especially a guy going through all your stuff and you think, ‘Okay, why are you going through all of my pictures like this?’” Beyond the creepiness factor, retroactive interaction can be a disturbance to regular platform use. One friend of P18’s would frequently deactivate and reactivate his account. Each time, “we all knew because he would go through all the pictures and, say, like 30 of our pictures. [...] [My friends and I] were frustrated with him and said, ‘You know what? I am removing you. [...] We’re stuck with those notifications. We have to scroll through all these things, and we miss out on important things.’”

Users can also feel pressured to interact in a timely manner by features such as publicly displayed online statuses. P1(18) switches off her read receipts to mediate pressure to respond instantly, but points out that “unfortunately my online shows.” She wishes her online status was more opaque to others.

**4.2.2 Posting in the moment.** Most participants emphasized the importance of posting in a timely manner, driven by a high concern over the temporal relevance of their post. “Imagine me wishing people Merry Christmas in February, when everyone was saying Happy Valentine’s Day. That would be pretty irrelevant” (P18(36)). Participants also advised us on a “socially acceptable” 24-48 hours in which to post a photo after it has been taken. If a user waits longer, says P18(36), they should make that clear to their audience by tagging it with *#latergram*. Otherwise, they risk misleading or offending, by making others feel left out (“People might say, ‘You didn’t take me today’”).

Some higher-FoMO participants post even more immediately than day-of, saying they usually post in the moment, during emotional highs. P15(38): “I always post it near [the time of] the event that happened. So it’s always like, emotionally I’m here [\*holds

hand up high\*]. I never post when I'm emotionally down or at [my] baseline. I'm posting an event that depicts an emotional high." Unfortunately, the lack of foresight involved in posting in the moment can lead to regrets down the road. P21(26) recounts one such event: "I was in Cuba; the beaches are just astounding there. And I was in my swimwear and I thought, 'Why not share a photo?'" However, later on she found herself feeling "a little bit regretful" and decided to delete the photo from her social media: "I didn't want people to, like, look at my goods if you know what I mean? [...] it's just, I appreciate my privacy and I wanted to take it down. And, you know, wouldn't want other individuals lurking."

**4.2.3 Jumping on the bandwagon.** Users will sometimes change their short-term behaviour in order to participate in a current trend, to avoid the feeling of missing out. This can take the form of using certain profile picture filters, making or sharing certain posts, installing an app (such as FaceApp), or joining a new platform.

Our participants feel the need to participate in the trend within a certain time frame, to avoid "missing out." They do not know when the trend will end but know that the next trend will likely take over relatively soon, so they are motivated to participate as soon as possible and not deliberate too long.

### 4.3 Dimension 3: Volume

Now that we have explored the temporal aspects of reluctant participatory behaviours, we move onto the spatial: ways participants are pressured to increase their *volume* of posting.

We find that on top of establishing the expectation to share more often and more frequently, FoMO-centric design also creates an environment where, as P16(28) puts it, "it's getting to be the norm to share more about yourself and how you're feeling and what you're doing." Users are encouraged to quantify otherwise qualitative experiences, sharing more in terms of the level of detail of information (Depth), and the Variety (differing media or types of information). As well, they are expected to make this data available to as many people as possible (Reach). Together, these aspects create a bias towards larger audiences and a more centralized identity where everything about an individual can be found in one place.

**4.3.1 All of you in one place: presenting the authoritative "true" self.** While some platforms (including Twitter, Tumblr, and Reddit, according to our participants) have norms of anonymity, posting on other platforms such as Instagram or Facebook translate into "cementing something as part of your online and real life identity" (P14(24)). Authoritative identity norms can include expectations such as providing full real name (often supported by platform policies [20][42]) and posting photos of one's face. Audiences are also expected to be mixed context-wise. Many of our participants expected others to share their membership in at least one common platform; their go-to point of contact for new acquaintances. This results in a master audience of sorts, representing the accumulation of all the user's acquaintances.

This bias towards centrality goes counter to what many participants demonstrated: that they are interested in keeping their online identities *separate*, rather than unified. This was shown in many forms, from using built-in features to keep separate audiences on the same account (e.g., Instagram's Private Stories, selectively

blocking, or sharing certain content with only certain groups), to more creative workarounds, such as keeping multiple accounts on the same platform (e.g., personal account, work account, and/or "span" account), or keeping one's presence on certain platforms secret or anonymous (e.g., only telling trusted people about one's Twitter or Reddit account). Some participants demonstrated concern about the negative repercussions of allowing an inappropriate audience to see their content, whether it was related to getting in trouble at work, seeming unprofessional, or even jeopardizing their own safety.

However, platforms do not make it easy for users who keep multiple identities as a workaround. In an attempt to reduce what she considers unhealthy platform usage while remaining socially connected, P25(37) created a blank Facebook account – void of friends or personal content – to continue keeping track of community events. However, she reports that since Facebook's events feature relies so heavily on making recommendations based on friends, her events section remains virtually blank. Privacy-conscious users who wish to minimize their volume of digital friends are thus disadvantaged when it comes to benefiting from platform features and have to take additional steps to avoid missing out. While some might argue this is simply a limitation of the technology, it is worth asking if the limitation may be an intentional design decision – and whether events features (and other features heavily reliant on one's friend's network) could be designed in alternative ways which benefit privacy-conscious users, as well.

**4.3.2 Reciprocating data type.** Our participants are uncomfortable when they feel their responses are asymmetrical in terms of medium. Text should be met with text; photos should be met with photos. P16(28): "If someone constantly sends you back photos or videos when you're just answering by message, there are times where I feel like 'ok I should probably send a picture' so I'll send the one off picture." This can lead users to resort to workarounds to avoid fully sharing forms of data they would rather not. P22(27) tells us her boyfriend sends her pictures of his face in Snapchat conversations and expects reciprocation. However, she says, "Sometimes I just look like a bum; I don't want to show my face." In such cases, she opts for a middle ground, sending a photo of her forehead, but receives some pushback for doing so.

**4.3.3 Selling yourself.** Participants see "selling yourself" online as a requirement to both professional – and personal – life. Employers "do background checks, they do check social media," says P3(27). "You got to put yourself out there through social media before you actually go to interview and make connections." Emphasizing the importance of selling yourself, this participant suggests a *lack* of material can reflect as badly as overtly detrimental material: "It might make you look less involved in the community," putting one at a disadvantage compared to those with more complete profiles.

*Selling yourself* is important when it comes to personal contacts, as well. P18(36) accepts Instagram friend invites from strangers. With limited cues as to others' trustworthiness, she makes a judgment call based on the completeness of their profile. A full and active profile also simplifies judgments regarding friendly reciprocity, and facilitates new friendships. P11(26): "[T]here is another step of awkwardness involved in sending messages out to people who I don't know as well. So it can be a bit of a barrier to stay



in contact, because I don't know how they'll respond to it." Social media mediates this awkwardness: "You can see what's going on [...] you'd like [their] pictures and then you can see they're liking your pictures. Then maybe you're at a similar spot."

**4.3.4 MVP: Minimum Viable Presence.** As we have seen, participants feel pressured to post with a certain level of frequency and completeness on the platforms they have joined. But *joining and staying on* platforms does not feel entirely voluntary, either; participants also feel there is a minimum required level of presence in terms of platform membership to avoid violating social norms and risk isolating themselves completely. This can be an issue when users feel uncomfortable with a platform's privacy and security practices. Multiple participants continued to use platforms such as Facebook and TikTok, despite mentioning concern over how the platforms had handled users' data in the past. P24(27): "I don't really like using Facebook that much. It's because of these security things, like all the issues that go on with it, that I don't really like using it." Nevertheless, he keeps his account for the sake of events and messaging, which feel necessary to him.

Multiple participants, especially those with higher FoMO levels, mentioned a feeling or fear of being "left out" as a driving force behind either joining or staying on a platform. Being excluded from events due to not having a Facebook profile was a recurring theme. "You kind of get left out because everybody else is using it and then you're not using it so you don't get invited to things," says P20(34). P25(37) closed her Facebook account and has since experienced the same phenomenon of being left out. "Now that I've deactivated my account, I really am missing out on a lot of different events going on, that I just don't know about because I'm not connecting the same way that I used to be." She does not think leaving non-Facebook users out is intentional on users' parts, but more a force of habit. P25 has tried to work around this by asking coworkers to tell her about upcoming social events, but finds they often forget to do so. "I tell people, could you let me know when this is happening, or when there's a certain event coming up? And they're like, Yeah! For sure. And then they just don't do it. And then I feel bad if I have to follow up, I feel kind of annoying."

Users who want to leave popular platforms also face negative assumptions from other users, compounding the social exclusion they already face. P17(31) finds those without social media "suspicious" and assumes the person has something to hide. "I had one friend in high school who didn't have any social media for a long time, and it was because she got in trouble over social media. So I guess I would just look at it as they don't have it for a reason, not because they're choosing."

**4.3.5 Can't leave, won't leave.** Multiple participants explained that they *want* to leave Facebook, but feel they cannot because it would mean socially isolating themselves. P16(28): "I do find that it's difficult because I want to deactivate Facebook. [...] But it's almost the norm that people have it." She says she has received vital communications, such as wedding invitations, through Facebook, since friends expected to be able to contact her that way. Passive participation in Facebook, indicates P16(28), is the bare minimum. "You don't have to check it all the time, but you have to have it."

She romanticizes the idea of leaving, contrasting her situation to that of her cousin, who has not logged into Facebook in years.

In doing so she uses the language of liberation, betraying her view of her own use of social media as tantamount to imprisonment: "It's kind of liberating because he doesn't have that, that need. He didn't have to go on Facebook, he doesn't even care about it. [...] I think it's a bit liberating to get rid of that social media account." The following participant also feels tied to the platform despite grievances with it.

"I want to leave. I want to leave all of it so badly. I think about it all the time. But it's so difficult. It's so difficult to go against the grain and push yourself even further away from everyone else. It's so difficult to sever that connection." P25(37)

Both P16(28) and P25(37) know someone who does not use social media at all, yet they do not see leaving within their own realm of possibility. They attribute the ability to successfully remove oneself from social media to personality; this is known as dispositional attribution, a form of rationalization explained by attribution theory [22], used when faced with conflicting beliefs (social media cannot be left) and behaviours (leaving social media). This rationalization was demonstrated by several high-FoMO participants when discussing people without much online presence. P15(38): "They're just that type of person that's like, 'I want to be isolated in my own little world; worry about these things,' [rather] than what the rest of us are doing."

On top of the hurdle of rationalizing away the possibility of opting out, participants feel bound by an emotional investment in the data they have accrued online. P21(26) told us she wouldn't delete her Instagram because she would "lose everything... photos, content, followers or people I'm following... often they're really good memories, too. [...] I would have to start over, in other words." As such, many participants opt for *taking a break* from social media when they feel overwhelmed, rather than deleting it altogether. "Starting over" is too costly.

Finally, viable alternatives are hard—or impossible—to find. P13(21) finds control over her data important. "[W]ith the whole privacy issues with Facebook, privacy is something that I take quite seriously." Consequently, she was excited to join *Vero*, an alternative social media platform that she describes as "a mash between Instagram and Facebook, but you have more options as to who sees your content." However, upon realizing not many of her friends were using it, she ultimately decided it was not useful to her and deleted it, falling back on Facebook. "I mean, if not a lot of people are on the app, then it's no use if I download it anyways."

Our participants plan to keep their accounts, and the memories enclosed therein, for the long haul. Even P16(28), who had earlier expressed wishes to leave, made this declaration: "Most of us are going to grow up and keep social media forever." Our participants feel resigned to reluctantly stay on social media for the foreseeable future because the cost of missing out is too high.

#### 4.4 Non-Participatory and FoMO-Independent Participatory Behaviours

The focus of our study was on reasons why participants reluctantly compromise their privacy, but, we also made a valuable observation about participants' *non-participatory* behaviours (See Table 4 in Appendix A). That is, users' reasons for *not participating* were also

socially based: namely, to avoid embarrassment, avoid being a target of others, avoid violating community norms, and seek implicit or explicit support for their behaviours. The fact that non-participatory behaviours also rely on social factors highlights the power of social norms on users' online privacy behaviours. This might be unsurprising given that the Theory of Planned Behaviour [1] lists social norms as one of three main factors in decision-making. Participants also provided rationalizations that appeared more independent of social factors, such as justifying through one's own values, and avoiding draining activities.

We also discovered reasons for *participating* in social media that seemed relatively FoMO-*independent*, or deliberate, including: expressing the self, connecting with others over a common cause or struggle, maintaining deep or meaningful connections with others, and posting to elicit positive change. These particular behaviours appear to reclaim social interaction online as an *end in itself*, rather than reducing it to a FoMO-centric *means to an end*.

## 5 DISCUSSION

### 5.1 From Dark Patterns to Dark Infrastructure

Our work is heavily inspired by work surrounding dark patterns, which explains user behaviour through the lens of intentional manipulative designs [8]. While most literature on dark patterns concentrates on granular design decisions [9, 17, 33], our study led us to notice something interesting: that the core of the problem of user manipulation seemed to be not within isolated dark patterns, but rather at an overarching level, where the sum was greater than its parts. As such, we lay the groundwork for an understanding of systemic *dark digital infrastructure* in this paper via our grounded theory of FoMO-centricity. In our interviews, we found evidence of infrastructure laden with systemic dark design that both encourages and benefits from privacy-compromising behaviours prompted by FoMO.

FoMO-centric dark design may exploit known social and psychological propensities, but it stands apart from pre-existing structures in its ability to undermine user autonomy. Massive social media user-bases (Facebook reported over 2.7 billion users in its third quarter of 2020 [40]) offer an unprecedented stage for large-scale A/B testing of even the most minute changes, allowing for meticulous fine-tuning of user manipulation. Facebook itself has freely admitted to running covert experiments with millions of its users, including a 2012 experiment which showed users' social inclinations could be manipulated through platform design to significantly change their voting behaviour [7]. Knowing this, it is not hard to imagine how such experiments might be used as a part of a more systemic kind of dark design.

To our knowledge, our work is the first to present systemic dark design where the focus is on the intermingling parts, rather than considering each primarily in isolation. The cycle of digital infrastructure, community norms and participatory reluctance had already been proposed by Cassidy [12], but such a cycle had not yet been explored in depth. Especially given recent efforts to classify dark patterns on websites in light of the GDPR [17, 33], we believe it is crucial to consider the overall environment that a platform creates so that we can remain vigilant of the ways in which users are being manipulated. A platform may *appear* to be free of dark patterns on

a granular level—perhaps it gives users free and equal choice over privacy settings, for instance—but if we consider the overall context (i.e., being more privacy preserving results in violating platform norms and harming social relationships), then suddenly the initially innocuous pattern assumes a darker tone.

In our own data we found participants' preoccupation with avoiding becoming irrelevant online — or dropping off the face of the planet — led them to feel pressured to post with greater frequency than they might prefer. The desire to be relevant online also led participants to post in the moment when presented with an opportunity to impress others on social media — even in cases such as P21's where they would later regret it. Such behaviour, while likely reinforced by other users who behave similarly or respond positively to such behaviour, may well be amplified by platform design decisions such as showing popular or likely-to-be-engaged-with posts first [30]. Such feeds often favor frequent posters over infrequent posters, leading users to feel pressured to post more frequently to avoid the negative social consequences associated with becoming digitally irrelevant.

Other features that rely too heavily on a user's friend network, as P25 discovered with Facebook's events recommendations, can mean users are unable to benefit from platforms — and indeed key aspects of their community — without maintaining a minimum level of presence and participating in the cycle of FoMO-centricity.

Rogers et al. [37] recognize the compounding negative nature of seemingly innocuous patterns with their proposed framing of dark patterns at the “meso-level” (patterns which “can't really be identified as bad in themselves [...] but which the cumulative effect is to keep the user within the walls of the app”) and “macro-level” (patterns that together “leverage the network effects of social media and human psychological vulnerabilities” to cause damage). Our data supports this view, where the overarching effects on social media users are stronger than that which could be attributed to individual dark patterns.

### 5.2 Looking at solutions

Since 2011, the Privacy-by-Design framework (PbD) [13] has been promoting design which gives users control over their privacy, but the road to its implementation has not been smooth, with some critiquing it as being too “vague” [43]. As such, as a community we might consider making a concerted effort to offer more concrete design recommendations in response to dark design.

One example might be achieved through extrapolating Harris' concept of “useful friction” [32]. Despite the typical Silicon Valley argument that the more frictionless, the better [38], a recent study by Mejtoft et al. [29] showed that users were more satisfied and preferred design alternatives with added friction, because they preferred designs where the end result of their actions was clear. We see added friction as being especially valuable to combatting FoMO-centric design because of its prominent temporal aspect, which revolves around frequent and immediate posting. Forcing users to “slow down” and think more about their actions may help users reflect on their own FoMO and related privacy-compromising behaviours, as some of our participants demonstrated to us during the interviews. However, adding friction to an otherwise flawed system is not the ultimate answer. Ironically, many of our participants

who seemed the most self-aware of their own FoMO and/or problematic behaviours still experienced high levels of FoMO, showing the pervasive subconscious forces underlying this phenomenon. In fact, we urge caution, as we suggest that adding friction to a highly FoMO-centric environment may simply produce greater levels of cognitive dissonance and distress without actually changing users' behaviours, since the underlying driver—social pressure—still remains. Such cognitive dissonance was exhibited in Shklovski et al.'s [39] work, where participants who became aware of an app's leakiness continued using the system as before, albeit with increased levels of discomfort.

Masnick [28] has argued that the answer to data control issues relating to today's social media is a complete overhaul in digital infrastructure, ditching privately-owned platforms altogether in favour of decentralized social spaces built on open protocols. While such a drastic restructuring of online life may not be practical, it is important to consider what aspects of social media are inherent and unchangeable, and which can be improved. As shown in Section 4.3.5, many of our participants felt resigned to a bleak, reluctantly participatory future on social media. However, designers, academics, technologists, and advocates have the power to make a change and put a feeling of empowerment back in the hands of the user. Perhaps then we will be closer to closing the gap between users' privacy attitudes and their behaviours.

We strongly caution that the solution to FoMO-centric dark infrastructure is not solely one of "educating the user". While educating users can be important to gaining momentum in movements aimed at holding companies accountable (such as in the case of #DeleteFacebook following the Cambridge Analytica scandal [21]), our data shows that participants continue to participate in privacy-compromising behaviours *despite* being educated on the risks, and despite being reluctant. For this reason, responses to dark infrastructure are best advised to come from the system designer level – and if that proves inefficient, even higher – the legislative level.

### 5.3 Other factors

We acknowledge there may be other factors than those explicitly discussed here affecting users' FoMO-adjacent behaviours online. Both age and gender may play a role in users' experiences on FoMO-centric platforms; Przybylski et al. found a negative correlation between FoMO and age, and that males tend to report higher levels of FoMO [36]. Previous research has also suggested decreased self-esteem may contribute to FoMO-motivated online behaviour [10]. Other research has found that attachment style and extraversion can respectively predict social media use and addiction (FoMO predicted both) [5]. While these factors are out of the scope of this paper, they are worth considering in future work looking to gain additional insights into FoMO-centric design.

### 5.4 Future Work

Evidence gleaned from our interviews suggests that a user's decision to participate in privacy-compromising ways may be predicted by passive behaviours, such as "checking" social media, because these submerge users in the high-sharing privacy-compromising norms on the platform. This connection between passive and active

participatory behaviours is supported by Docherty [18], who suggests a combination of platform features and discourse contributes to users feeling they should actively contribute more to the platform because it is "healthier" than simply passively using the platform. Thus, as we interpret it, passively scrolling through a platform may prompt feelings of guilt and lead users into participating fully to appear more social and thus "healthier" to others. Knowing this, future work on sharing might benefit from further dissecting *passive* behaviours that lead to privacy-compromising behaviours and separating them from typical scales used to measure platform use.

In addition, our qualitative argument for the existence of FoMO-centric design could be further strengthened with the help of quantitative evidence, such as through experiments similar to Luguri et al.'s [27], comparing groups of users exposed to dark patterns versus no dark patterns. Due to FoMO-centricity's reliance on both ongoing social factors and temporal dimensions, we believe this might be best explored in a longitudinal fashion. A large scale survey of users' privacy behaviours in relation to their FoMO levels and privacy concerns could be of use to validate our qualitative findings of FoMO-aggravated reluctant privacy-compromising behaviours. These studies could also explore FoMO-centric designs relating to other forms of media (e.g., IoT devices, wearables) since these likely also employ dark patterns relating to user privacy.

### 5.5 Limitations

As with other interview-based research, our data is self-reported. Participants may have been selective in what they chose to share, they may have mis-remembered, or they may have interpreted their past actions and feelings in ways that differed from the original.

It is possible that participants may have been primed to feel more concerned about their privacy over the course of the interview. While we made an effort not to be overt about our focus on privacy, our follow-up questions when privacy did come up naturally in conversation could have skewed privacy concerns.

The gender of our participants was also largely skewed towards female. In future studies, we might recruit based on gender to ensure equal representation. We were also unable to interview any participants in the very high (40-50) range of FoMO. This could be due to the fact this range is less common amongst adults. The bulk of previous research on the Fear of Missing Out has been conducted with teen-aged or young adult participants, suggesting the highest FoMO scores may be found in teenagers. It could be interesting to run a similar study with teen participants to see if results would change.

### 5.6 Conclusion

In this paper, we explored the relationship between the Fear of Missing Out and reluctant privacy-compromising behaviours. Using Grounded Theory to conduct and analyze interviews with 25 participants, we found evidence that participants feel pressured to participate to avoid missing out, even when voicing privacy concerns. We presented an empirically-based high level theory describing the cyclical relationship between *FoMO-centric design* and privacy-related participatory reluctance, helping to fill a research gap concerning the privacy paradox and voluntary yet reluctant behaviour. These findings should be helpful in both identifying

system-level dark design in online platforms, and in generating discussion of how systems might be better designed to facilitate privacy – not just on the surface, but from the top down.

## 6 ACKNOWLEDGMENTS

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## A NON-PARTICIPATORY BEHAVIOURS

Reason	Brief description	Example
<b>Avoiding embarrassment</b>	Participant considers participating to be too embarrassing. In these cases a participant may participate partially (e.g., downloading an app or filter) but not fully (e.g., posting).	<i>P20(34): "That's just too funny. I'm not sharing that. Nope. Nobody needs to see that but me."</i>
<b>Avoiding being a target</b>	Participant wants to avoid drawing unnecessary negative attention to themselves by doing something that may be deemed controversial.	<i>P14(24): "I've seen how nasty people can get online, and it's gotten to the point where I just don't want to invite that kind of attention."</i>
<b>Avoiding violating community norms</b>	Participant doesn't want to risk using platform in a socially unacceptable way. They may worry about coming across as "annoying" to others.	<i>P12(26): "I find [giveaway posts] obnoxious [...] I don't want to be another person who shares it."</i>
<b>Social support</b>	Participant receives explicit or implicit social support from others, who share in or approve of the target non-participatory behaviour.	<i>P2(14): "[My friend] made an account with a fake name and fake information. [...] so I'm obviously not the only one who's made up fake names before."</i>
<b>Getting away with it</b>	Participant experiences lack of negative consequences from others and/or the platform itself for not participating, and uses this as rationale for further behaviour.	<i>P16(28) on unfriending a relative with whom she no longer wished to share her personal details: "It's been like two years. She hasn't noticed."</i>
<b>Avoiding draining activities</b>	Participating takes up too much of the participant's time and energy, and is lower priority than competing activities in their life. Participating may also be "draining" in that it consumes too much battery life or storage space on the participant's device.	<i>P16(28) stopped participating in a post-everyday challenge, because she found coming up with a daily idea time consuming, and was taking her away from things she enjoyed.</i>
<b>Justifying through own values</b>	Participating is at odds with the participant's own values, whether it would involve demeaning others or presenting themselves inauthentically to others.	<i>P3(27) declined joining a Q&amp;A site popular amongst his peers because he thought it encouraged bullying.</i>

**Table 4: Summary of reasons participants gave for *not participating***

## B INTERVIEW GUIDE

### Interview Guide

Today we are conducting research on people's motivations for their online behaviours and their decisions to share information online. There are no right or wrong answers – everything you say is helpful to us in learning more about how real people behave online.

The purpose is to help us understand how to improve technology to better align with people's needs. We encourage you to be open about your experiences and thoughts. If you are uncomfortable answering a question let us know and we can skip that particular question.

Any questions?

#### Introduction and posting habits

*Intent: to understand the context of the participant's online interactions.*

- I'd like to hear about the kinds of interactions you have online. What platforms do you use every day (e.g., social media/games/message boards/apps)? What platforms do you use only occasionally? (Why?) How often do you post on [platform]?
  - What makes you post more? / Less?
  - Do you find there's a certain rhythm of posting you try to keep?
  - Do you tend to post "in the moment", or later?
- How often do you interact with posts on [platform]?
  - What makes you interact more? / Less?

#### Joining and staying on websites

*Intent: to find out reasons why people join and stay on websites, and to find out if they ever feel pressured to sign up for or stay on a website.*

- What makes you sign up for a new website or download a new app?
  - (If they have trouble coming up with an answer): What made you sign up for/download [specific app/website]?
  - How much does a platform's popularity influence your decision to adopt it?
  - How much do you factor in friends also having an account/the app in your decision to adopt it?
  - Do you tend to be the first or last in your social circle to adopt a new platform?
    - Have you ever convinced other people to adopt an app or website that you joined first?
- Can you think of a time you ever felt reluctant to sign up for a website or install an app?
  - Why were you reluctant?
  - Did you sign up/install anyway? Why or why not?
- Can you think of a time you've ever "jumped on the bandwagon" regarding an online trend, adopting a new platform, or downloading a new app?
- Have you ever regretted posting something online?
- Do you expect your likes/comments/follows to be reciprocated? If so: what if they aren't?
  - Have you ever showed support for someone or for a cause by commenting, liking, or sharing?
- Have you ever felt obliged to interact with certain kinds of media online?
  - How so?
  - What would make you feel like you didn't have to?
- Do you ever feel compelled to share more information online than you want to?
  - What would compel you to share less than you wanted to?
  - Do you feel pressured to keep friends up to date on your life?

- Do you tend to have the same audience on different platforms?
  - Do you ever feel pressured to keep certain friends on social media, or to accept friend requests?
- Can you think of any instances where you acted a certain way online because you were afraid of missing an experience?
  - Have you ever bought something, installed something, or shared something for this reason?
- Can you think of any instances where you acted differently than usual online to project a better impression about yourself to other people?
- Can you think of a time a website or app made you feel uncomfortable in its requests for information?
  - Did you continue? Why or why not?
  - What could have been changed to improve the situation?
- Some people have described the feeling they get when asked to share their information online as “creepy”... have you experienced this?

#### **Leaving websites**

*Intent:*

*What factors make someone decide to leave a website?*

*What factors make people return to a website, or feel like they can't leave?*

- Have you ever deactivated or deleted an account or app?
  - Why or why not?
  - Did you return to it? Why or why not?
- Have you considered giving up any of the platforms you're currently on?
  - Do you have examples of platforms that you have stopped using?
  - What made you/would make you decide to give them up?
  - If you didn't have these technologies, how do you envision yourself keeping in touch with your loved ones?

#### **Perceptions of others' online habits and expectations**

*Intent:*

*Do people consciously conform to social norms of online use?*

*Do people negatively judge those who do not conform to social norms of online use?*

- Do you think your friends share the same attitudes as you regarding online behaviour?
  - Have you ever experienced pushback from others due to your behaviour online?
  - Have you ever changed your behaviour to be more in line with your friends' expectations?
- What do you think of people who have very little or no active online presence?
  - Do you think these people miss out by not being online?

#### **Conclusion:**

If you had the ultimate power to change something about the interactive technologies you use most, what would it be?

**That brings us to the end of this interview. Do you have any questions for me?**