Privacy or Transparency? Negotiated Smartphone Access as a Signifier of Trust in Romantic Relationships

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Abstract

In this work, we analyze two large-scale surveys to examine how individuals think about sharing smartphone access with romantic partners as a function of trust in relationships. We find that the majority of couples have access to each others’ devices, but may have explicit or implicit boundaries on how this access is to be used. Investigating these boundaries and related social norms, we find that there is little consensus about the level of smartphone access (i.e., transparency), or lack thereof (i.e., privacy) that is desirable in romantic contexts. However, there is broad agreement that the level of access should be mutual and consensual. Most individuals understand trust to be the basis of their decisions about transparency and privacy. Furthermore, we find individuals have crossed these boundaries, violating their partners’ privacy and betraying their trust. We examine how, when, why, and by whom these betrayals occur. We consider the ramifications of these boundary violations in the case of intimate partner violence. Finally, we provide recommendations for design changes to enable technological enforcement of boundaries currently enforced by trust, bringing access control in line with users’ sharing preferences.

1 Introduction

85% of US adults own a smartphone, and an increasing number of people depend on them for Internet access [13]. Phone access design is mostly a binary: someone has access or they do not. If a person has access to the device for innocuous matters such as looking up directions or playing a game, they can also read texts, access social media, investigate search histories, and more. There are many circumstances where sharing access is necessary, convenient, or desirable, but few tools exist that allow people who trust each other to set their ideal sharing, security, and privacy settings on smartphones [74].

This raises the tension between privacy and transparency in trusting relationships. Does one trust their partner so thoroughly as to grant them unfettered device access (i.e., provide transparency), or does their partner trust oneself so completely as to forego access to one’s device altogether (i.e., prefer privacy)?

Researchers have found that families and couples commonly share devices and credentials [37,38,43,48,51]. Social psychological research has examined couples’ expectations about using phones to communicate with each other [10, 24], as well as with opposite-sex acquaintances [24, 35]. Little research, however, has investigated couples’ expectations about using each others’ devices. Researchers have also investigated the relationship between trust and ‘snooping’ behaviors amongst couples [7,25,27,63,66], as well as prevalence of intimate partner monitoring [35, 54]. Much of this work, however, assumes that ambiguous sharing behaviors are negative without exploring the context in which they occur, the meaning of behaviors, or their impact on those involved [11].

To investigate couples’ device-sharing behaviors within relationships, we present findings from two surveys: one survey conducted by the authors (1) measuring participants’ access to intimate partners’ devices and (2) assessing perceptions of normative and acceptable use of that access, and another survey conducted by Norton, (3) measuring non-consensual access to partners’ devices. Our main findings are:

1. There is little consensus on what constitutes normative device-sharing behavior; every behavior we measured had strong proponents and staunch critics, almost always motivated by trust.

2. Most people agree that access and usage behaviors should be negotiated, mutual, and consensual.

3. The primary justification participants have for non-consensual device access is concerned about infidelity, though we note that there is a blurry line between “justifiable” or benign non-consensual access and abuse [9].
Finally, we offer a set of recommendations for design changes in mobile operating systems and apps to allow granular access control, removing the stricture of binary access and making negotiated boundaries technologically enforceable.

2 Related Work

2.1 Sharing in Intimate Relationships

Researchers have explored how families and other close relationships think about and practice device and credential sharing [37, 48]. While this practice is common between people who trust each other [48], amongst couples it can lead to unintentional privacy concerns [38]. Reasons for account sharing in romantic couples include “relationship maintenance, trust, and convenience” [51], as well as occupational and couple norms [42]. Couples living together in a smart home also navigate sharing smart device access [31, 75]. Despite device and credential sharing being common, Wu et al. find that few tools allow intimate partners to maintain both their ideal social and security behaviors in this context [74].

While much computer security literature on password sharing assumes it should be discouraged or prevented [26, 44], recent research finds cases where digital security and privacy are managed cooperatively [34]. Kaye studies a small group of individuals to understand password sharing broadly across apps, finding that the behavior is both common and well-considered [40]. Singh et al. study sharing of banking passwords, finding that sharing is common and convenient in couples and sometimes completely unavoidable for individuals with disabilities [60]. This sharing within couples applies to other accounts as well, whether through passwords, joint accounts, or leaving devices unlocked [38].

2.2 Privacy and Trust in Intimate Contexts

Device and credential-sharing research begins to touch on the issue of privacy in intimate contexts. In psychology, Communication-Privacy Management theory explores the creation of shared privacy boundaries in families, where multiple people coordinate managing private information [52]. Specifically in romantic relationships, the Connection-Autonomy Dialectic explains the tension between intimacy and freedom. Duran et al. apply this framework to couples’ negotiated expectations of digital communication, finding that some people provide partners access to their devices to reduce conflict [24].

In a study interviewing married heterosexual couples in the UK, Hesper et al. find that husbands and wives do not always agree about norms for appropriate online communication with opposite-sex acquaintances. In couples where snooping occurs, they find that both partners generally do so equally [35]. Laborde et al.’s study of Latino youth finds that the perception of rampant infidelity means that access to partners’ devices and low levels of digital privacy within couples can be a beneficial way to build trust in relationships [41].

2.3 Monitoring and Snooping

There is extensive research examining digital behaviors in romantic relationships, though few studies have investigated whether people in relationships consider monitoring behavior expected or problematic. Researchers have found several factors that contribute to partner snooping, including distrust in a relationship [7], confidence in the technological capacity to gain the information they desire without getting caught [63], and relationship attachment style, though relationship uncertainty was not an influencing factor [27].

Partner monitoring research also looks at partners monitoring their partners’ social media accounts without accessing their devices [1, 8, 17, 25, 64]. Many of these studies view social media usage as a cause of relationship problems; however, some research is contradictory. Clayton finds that the tenure of a relationship has no impact on whether Twitter usage becomes a point of conflict [16], while Smith finds that Facebook use is only correlated with negative outcomes in relatively new relationships [15].

Security researchers have studied “extreme cases” of relationship monitoring using spyware. Chatterjee et al. identify hundreds of apps available on app stores with stalking capabilities, including some actively advertising partner monitoring as a use case [14]. Bellini et al. discuss the fora where users of this software congregate, and how they justify this behavior [9]. Freed et al. examine difficulties in remediating technologically facilitated abuse including spyware, as well as victims’ concern about abusers’ reactions to lost access [29]. Wei et al. study the kinds of “anti-security” advice TikTok users recommend to surveil partners [67].

2.4 Abuse of Technology in Coercive Control

There is a sizable body of literature on the role of technology in coercive control [19–22, 62, 69, 70, 72, 73], demonstrating digital media and mobile phone enabled abuse. Freed et al. framed abusers as authenticated but adversarial device users; this type of adversary emphasizes the need for designers to contemplate interpersonal threats [28]. Transparency and privacy on mobile phones present significant concerns for abuse survivors. Woodlock finds that 56% of women’s abusive partners use mobile technology to check their location, 47% check their text messages without permission, and 17% demand electronic passwords [71]. Douglas et al. find that abusers demand to inspect women’s phones [19, 21]. Dragiewicz et al. report that abusers also pressure children to provide login information for their mothers’ phones [21–23]. While this work is critically important, it captures only technology-facilitated

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1 Coercive control is a pattern of abusive behaviour that includes physical and non-physical abuse, facilitated by structural gender inequality. See Stark [62] for more information.
abuse occurring in relationships already identified as abusive by an affected person. More research is needed to understand the continuum from normative technology sharing to serious abuse; our study seeks to fill this gap related to normative sharing side of the continuum.

3 Methodology

3.1 Data Collection

Our survey was fielded from November 2020 to March 2021 in two phases. First, we recruited participants using targeted ads on Facebook. Second, we used Prolific to recruit.

3.1.1 Facebook Recruitment

We chose to recruit through targeted Facebook ads because we were conscious of the fact that users registered with survey administration platforms like Mechanical Turk and Prolific tend to be of higher socio-economic status (SES) and more familiar with technology than the population as a whole [12]. We understood that both of these factors could influence individuals’ propensity to share their device with a partner, e.g., due to financial constraints or the need for technical assistance. Furthermore, because these platforms require dedicated registration, there is an additional bias imposed by the stagnant nature of the user base. While “Facebook users” is also a relatively fixed population, 70% of US adults use Facebook [32].

Facebook advertising is most effective when targeted [50]. We ran campaigns dedicated to recruiting men, but none dedicated only to women, as women are over-represented among likely survey respondents and Facebook users [32, 53, 61]. Similarly, we did not target high-income individuals, and sometimes explicitly excluded college graduates. We also targeted the LGBTQ+ community to reach LGBTQ+ users.

We had intended to conduct the entirety of our participant recruitment via Facebook advertising but after several user reports on our ads (which we have since verified were not in violation of Facebook’s ad policies), our ad account was suspended by Facebook’s monitoring systems. The first two times we asked to have it reinstated, it was. The third time, it was not, and we needed to identify another avenue of recruitment. 327 participants came from Facebook. 2

3.1.2 Prolific Recruitment

After losing access to Facebook advertising, we recruited the second half of our sample through Prolific. Prolific respondents were recruited in two batches: one seeking only men, and one seeking only individuals whose household income was less than $60,000 and who did not have a Bachelor’s degree, both in an effort to balance the existing sample. See Table 1 for details on the demographics of our sample across the two recruitment strategies.

3.2 Survey Design

Our survey included four main sections: 1) technical questions such as whether and how participants’ phones lock, 2) questions about participants’ partners, their technology, and the participants’ access to it, 3) questions about perceptions of certain technological behaviors in a relationship context, and 4) an abuse screener and demographic questions. Single respondents did not answer questions in section 2, or the abuse screener in section 4.

3.2.1 Compensation

We collected no personally identifiable information (PII) from participants recruited from Facebook. Instead, upon survey completion respondents were given a unique code and directed to our website for a chance to win a $50 Amazon gift card. Gift cards were distributed to one in twenty-five participants, and winners were notified immediately upon entry. This scheme was designed to allow for the distribution of compensation without collecting any PII, as would have been necessary for direct cash payments like PayPal.

It was not possible to purchase gift cards in $2 increments, so we conducted a drawing. The amortized compensation was $2 per respondent. The structure of compensation for Facebook respondents was made explicitly clear in both the advertisements and at the beginning of the survey. It is unfortunately not possible to avoid collecting Prolific IDs, which are used to validate attention tests and timers and approve payments. Once the entries were validated and payments approved, we did not retain these identifiers. Prolific respondents were paid a flat rate of $2 to complete our survey.

3.2.2 Question Design

The survey included questions around participant’s access and usage of their partner’s phone, and vice versa. Section 3 presented participants with a series of behaviors ranging from “Sharing a bank account with a partner” to “Checking a partner’s location history on their phone”. First, participants were asked whether the behavior is common in the context of romantic relationships, on a scale of very uncommon to very common. Then, participants were asked to make a moral judgment about the same behaviors: were they good/healthy, normal, problematic, or bad/toxic?

To evaluate whether a participant was in a romantic relationship, we first asked about marital status. For respondents who indicated they were never married, were divorced, or were

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2 Ads targeted by sexual orientation are not allowed. A common proxy is to target fans of pages that are popular in the LGBTQ+ community such as Lady Gaga or RuPaul’s Drag Race.

3 Meta has confirmed that recruiting survey participants is not in violation of its advertising policies, and has since created a dedicated channel for academics to leverage ads for this purpose allowing for direct support.
widowed, we provided statements such as “I am currently dating or going out with someone” to determine whether they were in any meaningful form of a romantic relationship regardless of the terminology the participant might use to describe that relationship, given individuals define relationships differently and that terminology is both gendered and generational [65]. The complete text of the survey questions and answers is available in the supplemental materials.

3.3 Ethical Concerns

Our survey included questions about behaviors that could be viewed as negative within a relationship context, as well as a set of questions about behaviours that many would consider serious partner violence. Due to the sensitivity of these questions and the way they differed from the rest of the survey, participants were warned about their nature at the start of this section and advised they may skip it if they believed it would make them too uncomfortable. There are ethical concerns with using microwork platforms such as Prolific, including that they may be exploitative [68]. In our Prolific recruitment, we are cognizant of this and provided a survey reward that equated to an hourly wage that exceeded the US minimum wage. Our institutions’ IRBs approved this research.

3.4 Analysis

This paper includes an analysis of our data and data collected by Norton. Here, we discuss our sample and how analyses were conducted. Table 1 provides an overview.

3.4.1 Inclusion for Purposes of Calculations

Because several sections of the survey were administered only to participants with a partner and all questions were optional, the number of respondents who answered any given question varies. Respondents who failed attention check questions 4, finished the survey unreasonably quickly, gave the same answer choice for all questions, or answered fewer than 75% of the questions 5 were removed from our analyses.

The remaining participants are included in the analyses related to the questions they answered, meaning that the reported number of respondents for each question differs slightly. Thus, when we report N for a question, “N respondents” means “N respondents who were shown and answered this question”. Some questions included “I don’t know” as an answer choice. Participants who chose this have been removed from calculations on these items.

3.4.2 Demographics

Demographic questions, except age, were optional. When making comparisons between groups, statistics are calculated including only respondents who provided demographic information and an answer to the question at hand. When reporting aggregate statistics, respondents without demographic information are included; this is why, in some tables, the N for all demographic categories is not equal to N for all participants.

While we are respectful of the fluidity of gender—the response options for gender identity included “Non-Binary” and “Other”—the nature of the statistical analysis is such that it is not possible to draw meaningful conclusions for groups with few respondents. As such, when making gendered comparisons, we include only a comparison of those who identified as “Female” and “Male”.

We collected age as a continuous variable, but we have performed most analyses with age in brackets. We have split age approximately along canonical generational boundaries: “Gen Z”, those born after 1995, or in 2021, those under age 26 (though we excluded those under 18), “Millenials”, currently aged 26 - 40, “Gen X”, currently aged 41-59, and “Baby Boomers,” those 60 years or older. The maximum age in our sample was 82, and the minimum was 18.

In our analysis, there are many places where we make comparisons among participants with different relationship statuses. While we understand that every relationship is different and marriage is not a unilateral indication of a couple’s commitment level, we have defined “serious” relationships as those participants who were married, engaged, in a civil union, domestic partnership, or common-law marriage 6. We did not ask participants about the duration of their relationship. Any individuals deemed to have a partner, but not in the above categories were considered to be in a “less serious” relationship. Additionally, we asked individuals whether

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4.1 Table 1: Breakdown of demographic factors of sample across recruitments

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Gender &amp; Orientation</th>
<th>Age</th>
<th>Relationship Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>Male</td>
<td>LGBTQ+</td>
</tr>
<tr>
<td>Total</td>
<td>531</td>
<td>274</td>
<td>225</td>
<td>63</td>
</tr>
<tr>
<td>Facebook</td>
<td>327</td>
<td>210</td>
<td>96</td>
<td>33</td>
</tr>
<tr>
<td>Prolific</td>
<td>204</td>
<td>64</td>
<td>129</td>
<td>30</td>
</tr>
</tbody>
</table>

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4.e.g. “What planet do you live on?” [33]
5.Participants were not penalized for declining to answer abuse-related questions.
6.Often this comparison is made between married and unmarried couples, however, to include more forms of committed couples we include other categories: 14% of respondents in “serious” relationships were LGBTQ+.
their relationship was long-distance or online-only, and if so, did not include them in our questions about their partners’ technology as the lack of physical proximity would preclude access to each others’ phones.

3.4.3 Norton Data

In addition to our survey data, we also analyze Norton’s complementary survey data on partner monitoring, which Norton commissioned for market research in 2019 to inform mobile anti-virus software design, to emerge risks from stalkerware and spyware in IPV contexts. We perform the first extensive analysis of these data. The survey was administered by Harris Poll\(^7\), included 2,050 respondents—1,200 female and 850 male respondents—and was approximately representative of the US population concerning age, education, and household income.

Norton asked respondents exclusively about non-consensual behaviors, including monitoring (“online stalking” or “Facebook stalking”), snooping on their partner’s device, logging into their accounts on other devices, and tracking through location services or dedicated applications. They asked respondents why they had done those things, as well as about their attitudes towards online stalking.

3.5 Statistical Tests

We use logistic regressions to check for correlations between responses and demographic factors. To ensure that the assumptions of logistic regressions are met—primarily, a large sample size for each demographic, and having no excessive multicollinearities where independent variables are correlated with each other—we remove Baby Boomers and non-binary people’s responses from the models and remove identified multicollinear factors. We use chi-squared tests to identify significant factors in these models and for additional tests.

3.6 Limitations

While the Norton dataset is representative of the US population, our Prolific and Facebook data are not. Demographic questions (except age) were optional. Our survey design does not look at whether the relationship is monogamous, polyamorous, or somewhere in between, and does not ask about relationship duration. Long-distance partners may also engage in phone and account access when co-located. While our open-ended items allow for qualitative answers, we are not able to ask follow-up or clarifying questions.

4 Sharing and Access

In this section, we examine the access individuals have to partners’ phones, whether that access is knowledge-based or biometric, and whether the access is reciprocal within the relationship. In Section 5 we examine the role of interpersonal trust in the choice of whether to grant access and in Section 6 we examine how access can be and is abused.

4.1 Locking and Authentication

To understand whether respondents’ partners had access to their phone (and vice versa) we first asked respondents whether their phones locked. We assume that if one’s phone does not lock, anyone with whom they regularly share physical space will have implicit access to it. For individuals whose phones locked, we asked what form of authentication they used. Most participants (83.7%, N = 552) said that their phone locks. Of those with a partner, 84.7% (N = 341) said that their partner’s phone locks\(^8\). We identify factors correlated with a participant locking their phone through a logistic regression model, summarized in Table 4 in the Appendix.

We observe gendered differences with respect to phone locking habits: 82.1% (N = 246) of women indicate that their phone locks, compared to 90.4% (N = 197) of men, which is statistically significant ($\chi^2(1) = 5.61, p = .019$). This implies that being Male increases the odds of locking one’s phone by 134% (95% CI [1.17, 4.89]). In some locations, gendered cultural expectations limit women’s freedom to lock their phones\(^9\). While our data show that women lock their phones less than men, this does not appear to be because of gender, but rather a reflection of an underlying gendered inequality in technological familiarity, which has been measured in other contexts\(^9\)\[^{47}\]. We discuss further demographic breakdown with respect to phone locking habits, as well as survey answers to authentication schemes in Appendix 8.

4.2 Partner Access

After establishing that respondents’ phones locked, we asked whether their partner had independent access through each authentication scheme in use, i.e., if the respondent used facial recognition, we asked whether their partner could unlock their phone using their own face. If an individual’s phone did not lock, we assumed their partner had access to it. If someone indicated they did not know whether their partner’s phone locked, we assumed they did not have access to it.

4.2.1 Access and Demographic Factors

Of participants with partners (N = 378), 13.8% indicate that their phone does not lock, granting implicit access, and another 50.8% indicate that their partner has explicit, independent access. Asked about partners’ phones, 14.1% of respondents (N = 341) said their partner’s phone doesn’t lock, and

\[^{47}\]https://theharrispoll.com/

\[^8\]8% (N = 341) of respondents indicated that they did not know whether their partner’s phone locked or not.

\[^9\]While there is a digital gender gap among adults, educational research repeatedly shows none in K-12 students \[^{36,55}\].
a further 51% indicate that they have access. Of 189 respondents whose phones lock and partners have access, 95.2% have given their partners their SYK, either a PIN or swipe pattern. Significantly fewer respondents, only 27.3%, offer their partner biometric access, including 4.8% of respondents who report that their partner has only biometric access. The figures were comparable for respondents’ access to their partners’ phone. We discuss demographic correlations with implicit and explicit phone sharing in Appendix 8.

4.2.2 Mutual Access

We also investigated whether access is mutual within relationships. For the 314 couples about whom we have complete information, we examine access in a pairwise capacity to check for symmetry. Including explicit and implicit access, 55.4% of respondents indicated that they and their partner both have access, while 23.5% of respondents indicate that neither they nor their partner has access. These proportions are significantly higher than would be expected according to a binomial test comparing to an equal distribution (p<.0001), indicating that states of symmetrical access are the norm. Table 2 provides a breakdown of the four access situations.

There is a significant difference between men and women in the distribution amongst the four possible states of access, with women being significantly more likely to be in a state of mutual access, and men significantly more likely to have mutual non-access ($\chi^2(3, 341) = 9.93, p = .019$). However, amongst heterosexual couples, there is not a significant difference in the distributions for men and women ($\chi^2(3, 288) = 5.62, p = .132$).

There is no significant difference between heterosexual and homosexual couples ($\chi^2(3, 341) = 1.13, p = .770$), however, there is a significant difference between gay and lesbian couples, with 82% of respondents in lesbian couples reporting mutual access, compared to 41% of respondents in gay couples ($\chi^2(3, 44) = 9.73, p = .021$). While there are tendencies towards mutual access and mutual non-access, most demographic groups are not significantly more likely to be in a relationship with asymmetrical access than any other. The exception to this is that women are significantly more likely to have symmetric access than men. (Over generations, $\chi^2(3, 341) = 3.43, p = .330$, men/women $\chi^2(3, 332) = 9.93, p = .019$ queer/not: $\chi^2(1, 341) = .19, p = .663$). Of the 61 respondents in a heterosexual relationship with asymmetrical access, in 27 the woman had access and in 34 the man did. This difference is not significant ($\chi^2(1, 61) = 1.61, p = .205$). This further supports findings in 4.1 and 4.2.1 in suggesting that behavior within a relationship tends to have parity as opposed to imbalance.

5 Sharing and Trust

In this section, we provide an overview of respondents’ attitudes toward acceptable use of access to a partner’s phone, perceptions of how common these usages are, and explanations offered for these responses.

5.1 Attitudes Towards Sharing Practices

For a series of behaviors, respondents were asked whether they thought that in the context of a romantic relationship, the behavior was very uncommon, somewhat uncommon, somewhat common, or very common. Then, respondents were asked about whether the same behaviors were bad/toxic, problematic, normal, or good/healthy. Some behaviors that were included are not specifically related to phones or digital technologies, such as sharing a bank account, and are included as baselines of measurement. Table 3 provides a breakdown of responses. Sample sizes range from 494 to 529.

5.1.1 Acceptable Behaviors

There is consensus about some behaviors being widely acceptable, with 80% or more respondents deeming it ‘normal’ or ‘good’: sharing a streaming password, phone plan, bank account, or cloud account. Additionally, 79.6% think it is acceptable to share a phone PIN, and 75.3% think it is acceptable to monitor a partner’s social media behavior from one’s own accounts. The commonality and acceptability of sharing a phone PIN are borne out by our data, as we find that most people have access to their partner’s phone, and if their partner’s phone locks, they almost certainly have the PIN. Many studies find that monitoring one’s partners’ public social media is common and not widely condemned [18, 24, 35], though other studies find that increased monitoring is correlated with increased conflict over social media [8, 16, 25]. Perhaps it is then unsurprising that while only 45.7% of respondents feel confronting a partner about something they’d done on social media is common and not widely condemned [18, 24, 35], though other studies find that increased monitoring is correlated with increased conflict over social media [8, 16, 25]. Perhaps it is then unsurprising that while only 45.7% of respondents feel confronting a partner about something they’d done on social media is acceptable, 70.8% say it is common.

Some behaviors are undesirable (fewer than 20% of respondents indicating it is acceptable), including active snooping behaviors: logging into a partner’s social media, reading their DMs, posting/changing something, checking search, location, or call history, and reading texts. Participants explain that these are different from monitoring from one’s own account:

“I don’t consider it to be bad or toxic to look at my partner’s social media profiles. I do however..."
In a romantic relationship, this behavior is:

<table>
<thead>
<tr>
<th>Sharing:</th>
<th>Somewhat or Very Common</th>
<th>Good/Healthy</th>
<th>Normal</th>
<th>Bad/Toxic or Problematic</th>
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</thead>
<tbody>
<tr>
<td>Phone PIN</td>
<td>0.589</td>
<td>0.565†</td>
<td>0.231</td>
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<tr>
<td>Biometric</td>
<td>0.39‡</td>
<td>0.487‡</td>
<td>0.164</td>
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</tr>
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</tr>
<tr>
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<td>0.19</td>
<td>0.073</td>
<td>0.737†‡</td>
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<td>0.039</td>
<td>0.016</td>
<td>0.945†‡</td>
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<td>0.022</td>
<td>0.846††</td>
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<td>0.122</td>
<td>0.026</td>
<td>0.852††</td>
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<td>Call History (On Phone)</td>
<td>0.395†‡</td>
<td>0.114</td>
<td>0.03</td>
<td>0.856†‡</td>
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<td>Call History (Phone Bill)</td>
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<td>0.15</td>
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<tr>
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</table>

1 Significant Differences between Genders at $\alpha = 0.05$ with Benjamini-Hochberg Corrections
2 Significant Differences by Relationship Status at $\alpha = 0.05$ with Benjamini-Hochberg Corrections
3 Significant Difference across Generations at $\alpha = 0.05$ with Benjamini-Hochberg Corrections

Table 3: Respondents Perceptions of Commonality and Acceptability of Behaviors

Believe it’s taking a bad turn when you’re actually logging in and reading messages.”—Female, 33, ‘Serious Relationship’

The least acceptable behavior is “install an app that tracks or monitors my partner, or otherwise relays data about them and their phone back to me”—‘Non-Mutual Tracking App’ in Table 3—representing apps often marketed as child tracking apps, but which are essentially spyware [14]. Contrastingly, “Use a couples’ tracking app”, representing apps designed for mutual tracking—‘Mutual Tracking App’ in Table 3—has significantly more approval ($t(994) = 9.37, p < .0001$). Most respondents (73.7%) still find this behavior concerning, but the difference underscores our finding that norms of acceptability are context-dependent; mutual and consensual behaviors are more acceptable.

While some behaviors garner general condemnation, it is important to keep in mind that for every single behavior, some people said the behavior was good, and therefore in discussing betrayals in Section 6 we intentionally examine only non-consensual interactions. The need for consent in digital interactions is further emphasized by the sharp difference in perceptions of acceptability between “check location history”—deeply undesirable—and “share location on an ongoing basis”—no consensus. Though either yields the same information, one is unidirectional and surreptitious, while the other is mutual and consensual.

There are notable differences between perceptions of the acceptability and prevalence of some sharing behaviors. For general sharing behaviors[10], significantly more people think they are acceptable than think they are common ($t(9254) = 16.46, p < .0001$). For snooping behaviors[11], sig-

10 Sharing PIN, biometric access, social media, email, and streaming passwords, bank accounts, and phone plans.
11 Checking search, location, or call history, reading texts or DMs, logging into or taking action within partner’s social media.
nificantly more people think they are common than think they are acceptable ($t(9120) = -19.98, p < .0001$). This is also the case for confronting a partner about social media ($t(1011) = -8.38, p < .0001$). Finally, there is a perception that usage of unidirectional tracking apps is significantly more common than acceptable ($t(1010) = -4.53, p < .0001$). These results demonstrate a pessimism in responses:

“I think a lot of these actions are common, and most of them are toxic. Keeping tabs on your partner, or snooping through their stuff is not ok.”—Male, 26 ‘Serious’ Relationship

However, respondents also note that they aren’t sure whether their perception of frequency is accurate, as it comes in large part from media, particularly social media and television:

“I see couples on TV and on crime shows spying on each other all the time but I don’t know how common it is in real life.”—Female, 58, ‘Serious’ relationship

“I think people talk about looking at each other’s phones a lot on social media but I don’t think it’s super common unless they don’t trust each other.”—Female, 20, Relationship

This doubt is justified; studies show that television portrayals of couples’ interactions do not reflect real-life behavior [2], and that depictions of security behaviors create problematic misconceptions [30].

5.1.2 Demographic Considerations

There were few gender differences in perceptions about what behaviors are acceptable, with the exception of confronting a partner about social media: 49% of women think it is acceptable compared to 39% of men ($\chi^2(1,472) = 5.76, p = .016$). Women are significantly more likely to think that most snooping behaviors are common, including checking call history on the device ($\chi^2(1,487) = 8.99, p = .003$) or the phone bill ($\chi^2(1,486) = 5.48, p = .019$), reading texts ($\chi^2(1,488) = 13.02, p = .0003$), as well as confronting one’s partner about social media ($\chi^2(1,486) = 14.99, p = .0001$).

Previous research has also found that men are more likely to actually attempt to log into a partner’s social media account [45], and women are more likely to engage in snooping behaviors [35,66]. Furthermore, these patterns emerge in Norton’s data: significantly more women (31%) than men (27%) acknowledged having “checked their partner’s phone to view text messages, phone calls, DMs, emails or photos”, while significantly more men (15%) than women (6%) had “used an app to monitor their partner’s text messages, phone calls, DMs, emails, or photos”. These findings suggest that men are more likely than women to engage in (or be cognizant of others engaging in) active, ongoing surveillance, while women are more likely to engage in (or perceive higher prevalence of) opportunistic snooping. The Norton data supports this: 29% of male respondents said they were familiar with “stalkerware” [13], while only 15% of women were.

Our findings indicate generational differences in perceived acceptability of sharing behaviors. There is only generational consensus about the acceptability of sharing a PIN ($\chi^2(3,506) = 5.49, p = .139$), ongoing location ($\chi^2(3,506) = .76, p = .859$), cloud account ($\chi^2(3,506) = 7.02, p = .071$), and phone plan ($\chi^2(3,506) = 3.71, p = .295$). Much of the disagreement stems from Gen Z; these respondents are more comfortable with sharing biometric access (75% thought it was acceptable, compared to 60% of other respondents), but less comfortable with invasive and snooping behaviors. For example, 1% of those in Gen Z think unidirectional tracking apps were acceptable compared to 8% of other respondents, and 6.5% say checking a partner’s search history is acceptable, compared to 20.5% of participants in other generations. This trend persists for checking location and call history, and reading texts and DMs. Baby Boomers are the other generation which differs from the rest: these respondents are less accepting of monitoring social media (54% compared to 77% of other respondents, $\chi^2(3,506) = 13.13, p = .004$) and confrontations about social media (23% compared to 47% of other respondents, $\chi^2(3,506) = 13.82, p = .003$). Generations that were more accepting of a behavior generally thought it was more common as well, though not all of these differences were significant.

Respondents whose relationship status are single, ‘serious’, and ‘less serious’ are in agreement on social media, with no significant difference in acceptance of monitoring ($\chi^2(2,506) = 2.03, p = .362$), logging into ($\chi^2(2,506) = 5.80, p = .055$), or confronting a partner about social media ($\chi^2(2,506) = .61, p = .737$). Respondents in ‘serious’ relationships are significantly more likely to approve of all other behaviors than those in ‘less serious’ relationships. Single participants are significantly less accepting of credential sharing than those in relationships. These findings are complicated by age: while Gen Z was the generation with the largest population of singles, they were not significantly more likely to disapprove of any of these behaviors than other generations.

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12The only behaviors without significant differences were: ongoing location ($t(1026) = -.01, p = .989$), and mutual tracking app ($t(1006) = .33, p = .742$).

13Question: How familiar are you with stalkerware? Stalkerware is software that enables someone to monitor the activities on another person’s device without that person’s consent or knowledge.

14Sharing PIN ($\chi^2(2,506) = 30.65, p < .0001$) or biometric access ($\chi^2(2,506) = 27.71, p < .0001$), social media ($\chi^2(2,506) = 26.21, p < .0001$) and email passwords ($\chi^2(2,506) = 31.94, p < .0001$), and cloud accounts ($\chi^2(2,506) = 8.69, p = .013$).
5.2 Access, Boundaries, and Consent

The open-ended responses reveal the importance of context to the meaning of technology behaviors. In open-ended responses, some respondents say that they trust their partner, and therefore do not need access to their phone. Others say the trust in their relationship is complete, and therefore there is nothing to hide. One participant explains this succinctly:

“Some relationships have a lot of trust where you don’t want or need access to your partner’s mobile device. In some relationships having access to your partner’s mobile device and social media strengthens trust.” —Male, 29, ‘Serious’ Relationship

Most of our respondents indicate that there should be some shared technology access in relationships. However, it is only acceptable with negotiated consent and trust. Participants also emphasize reciprocity of access, context and frequency of behaviors as factors in determining whether they are acceptable.

A sizable number of participants indicate that they either do not have access to their partner’s phone or do not use it except for simple or benign tasks like navigating while their partner is driving. They explained they don’t need to go looking through their partner’s phone because they trust them:

“My wife and I have a lot of trust with each other. I am unconcerned with what she does online or with her phone.” —Male, 39, ‘Serious’ Relationship

Many of these respondents view snooping behaviors as a symptom of distrust in a relationship. These participants were among the sizable number who feel that partners should have access to each others’ phones and permission to look through anything they wish to access. Some feel this is the appropriate state of affairs for a relationship, while others saw access as the default, with distrust being the only reason not to grant it:

“I have a high level of trust with my partner so for us it’s common sense to have pretty much total control of each others devices. It’s convenient.” —Non-Binary, 29, ‘Serious’

As opposed to a default or path to trust, some respondents feel that anything short of complete transparency would create distrust, similar to findings by McDaniel et al [49]:

“I think it is good and healthy to have an open and honest relationship when it comes to seeing what your spouse has on their phone or social media account. If you are not comfortable with that, I would wonder what you were hiding.” —Female, 23, Relationship

The largest group of respondents perceives the correct approach to be somewhere between transparency and privacy. Some say they ought to be allowed to look at anything, but never have, because they trust their partner. Psychological research has identified this phenomenon as well [66]. Others feel that access is needed to maintain trust, but that it could be problematic if gained surreptitiously or through coercion, or used too often.

“I think pretty much all of it is normal but any could cause a problem. You can never fully trust anyone to behave in a way you deem appropriate.” —Female, 37, ‘Serious’

Some participants explain that their partner has access to their phone, but that everything within it is off-limits unless otherwise stated:

“My partner and I will use each other’s phones if it is easier. I would never look at anything that he wouldn’t want me to and I trust that he wouldn’t either.” —Female, 23, Relationship

Some participants emphasize that occasionally, transparency or confrontation is necessary to reinforce trust, but that non-consensual access is never acceptable:

“I really don’t look over or check things often, if I do it’s because I’m feeling a negative type of way and just wanna make sure nothing is going on with her and someone else, each time I check, I get her consent for checking.” —Male, 20, Relationship

While participants hold diverse perspectives on appropriate levels and use of access, there is consensus that access, non-access, or mediated access should be reciprocal, consensual, not overused, and benevolent.

6 Betrayals and Justifications

Here, we investigate non-consensual access.

6.1 Frequency of Overstepping

Norton finds that 46% of people have ‘online stalked’ a current or former partner, a figure which is not surprising given findings in other work that ‘Facebook stalking’ is fairly common [17, 24]. There is legitimate debate about whether consent is needed to monitor a partner’s social media from one’s own account and devices; 29% of our respondents say doing so is healthy, and 45% say it’s normal. Norton’s respondents are also ambivalent about this type of monitoring; 35% say they don’t care if they are being online stalked by a current or former partner, and 30% say it is harmless. Significantly more men felt this way than women.

More active forms of monitoring are less common among Norton’s respondents: 9% had “catfished” their partner, 8% had tracked their physical activity, and 10% had used an app to monitor a partner with other people. Men were significantly
more likely than women to do the last two. Norton finds that 25% of those under age 35 have tracked their partner’s location non-consensually, while Reed et al. find that 36% of college students have done so [54]. Norton finds men significantly more likely to track a partner’s location without consent (in general, and among young respondents), while Reed et al. find no gender differences [54]. Conversely, Norton finds that 42% of respondents younger than 35 have accessed a partner’s phone to look at texts, calls, DMs, emails, or photos without consent, reporting no sex differences.

Since our study was concerned with general sharing behavior, we did not explicitly ask about non-consensual behavior. However, we did ask participants who had access to their partners’ phones how they used it. For items that appear in both behavior perceptions and actual behavior sections respondents who engage in the behavior are significantly more likely to find the behavior acceptable and common than the remainder of the sample.

6.2 Justifications for Overstepping

Respondents offer varying rationales for overstepping their partner’s boundaries. We find that a majority of responses discuss infidelity, though participants also discuss other specific concerns leading to snooping, as well as generic justifications.

6.2.1 Trust Building

As discussed in 5.1, transparency can function to mitigate normative mistrust in some relationship contexts. Some participants explained that snooping offers this transparency, helping to rebuild trust after some form of betrayal:

“When you lose trust in someone who has hurt you, you are always snooping till the trust is earned back”

—Female, 20, Relationship

Others indicate that snooping without an inciting betrayal helped them to establish trust in their partner, leading them to stop snooping. The role of trust in mitigating snooping has been previously documented [66].

“I’m not proud to say that I’ve looked at some of my boyfriend’s texts out of curiosity to see who he was taking to. I don’t do this anymore and I found nothing interesting”

—Female, 20, Relationship

While Norton did not ask about infidelity, 27% of respondents who acknowledge snooping on their partner in some capacity said it was because “I didn’t trust them,” and 34% said they had done so because “I suspected they were up to no good.” Women were significantly more likely to cite distrust, while there was no gender difference on the latter answer.

6.2.2 Behavioral Concerns

Responses offering specific reasons for snooping focused largely on infidelity, but there were some notable exceptions. Some participants discuss concern for their partners’ safety or well-being, or a need to verify they were not engaging in problematic behaviors:

“I have a tracker on his phone that allows me to see where he is at all times. I also have an app on my phone that allows me to see what he is doing on his phone. He has a drinking problem and I make sure he is not somewhere that has alcohol.”

—Female, 25, ‘Serious’ Relationship

Norton finds that 24% of respondents had snooped on their partner because “I wanted to make sure they were safe, physically and/or mentally.” A further 30% said “I wanted to know where they were.” Men were significantly more likely to give both answers. It is unclear why these participants want to know where their partner is, or whether concern for their safety is warranted.

Several respondents cite their partners’ pornography consumption as a reason they snoop. For some people, consuming pornography can equate to a kind of mental infidelity [58]:

“My husband is the first person I’ve dated that I trust. Lots of cheating, lots of looking at porn secretly, lots of dming other people.”

—Female, 24, ‘Serious’ Relationship

6.2.3 Infidelity

Infidelity is the dominant reason offered for violating agreed boundaries; those who had snooped cited concerns about cheating, with many respondents attributing infidelity to social media (though research is inconclusive as to whether this perception is accurate [1, 8]). People indicate that suspicion of infidelity is a valid justification for snooping:

“It would be an invasion of privacy if your partner logged into your social media and checked your messages for no reason. However, if one partner suspects the other of cheating, I think it is bad (but justifiable) to do it.”

—Male, 26, Single

These sentiments are echoed in Norton’s data: 31% of respondents – significantly more men than women – indicate that “Online stalking is okay if one or both partners have cheated or are suspected of cheating.” Many respondents offer nuanced, contextualized explanations for this; a frequent sentiment is that it is justified to snoop if you have reasonable

17This is the granularity at which the age data is available.
18Reading texts, logging into partner’s social media, reading DMs, taking other action within social media, checking search history or location history, and installing unidirectional tracking apps.
192-sided, 2-sample t-tests, those who had engaged compared to the remainder, all p-values < 0.05
suspicious that your partner is cheating, but that being too quick to become suspicious is controlling or toxic.

While these participants are justifying non-consensual access to a partner’s device, they reinforce our understanding that all norms are contextual; snooping isn’t acceptable unless there’s a suspicion of cheating, and even then, only if that suspicion is legitimate. Technology behaviors that are positive in healthy relationships can be abusive in coercive and controlling relationships \([10, 20, 23]\), and it appears that similarly, behaviors which are never desirable can be acceptable or justifiable in some contexts but not others.

7 Discussion

The survey data reported here demonstrate that individuals grant romantic partners access to their smartphones more often than not, with little variation across demographic categories. Previous work indicates that sharing is something people do because it is convenient, but are only willing to do with those they trust \([38, 48]\). Our data demonstrate that while access is convenient, trust may be the reason for access.

Our data, the Norton survey, and the extant research show that there is no singular consensus about what constitutes desirable or undesirable sharing of partners’ phones. In some relationships, complete transparency is consensual and used to establish and maintain trust. However, many participants indicate that they have boundaries regarding what their partner can do on their phone, and would feel violated if they overstepped. The primary difference separating the first circumstance from the second is the consent of both parties. While trust is important in relationships, we find—as have many others—that those with access to partners’ phones and rules about its usage often violate these boundaries, with potentially serious implications. As such, we suggest making some of these interpersonal, often implicit, boundaries technologically enforceable.

7.1 Design Recommendations

Smartphones are largely designed to be single-user devices, as evidenced by the lack of secondary authentication for credentialed services; in having access to a person’s phone, one likely also can access many of their accounts and even reset passwords to others. And yet, many people find it convenient and desirable to give their partner access to their device, trusting their partner not to abuse that access. There are both security and privacy concerns with a partner reading texts and emails, but there are also incentives to give a partner device access. The solution should be to make it possible to prevent access to these communications, while still granting access to the phone. Many circumstances make it impossible or undesirable to avoid sharing \([19, 21–23, 57, 73]\), and most users share their devices for a range of legitimate reasons.

The makers of operating systems could consider adding (or promoting) multiple profiles to devices with different permission levels, as one would use a ‘guest’ account on a PC or a different user account in multi-user smart homes \([31, 46, 59, 75]\). One imagines this alternate profile could have access to specific apps—music, navigation, games—without having access to the device owner’s communications, social media, or other sensitive information. The device owner could ideally select which apps are shared, potentially creating a generic ‘guest’ profile for anyone who needs it and a dedicated profile for those whom they permit access to more private things. Through such a system, access could be customized to grant multiple users access to specific services, with adjustable settings to account for changes in relationships. While multi-user accounts could raise an issue of coercion, in relationships with differential power dynamics such as parent-child \([3]\) or intimate partner violence \([28]\), the individual with more power often already has access to the other person’s phone.

Alternatively, more app makers could adopt session-level authentication. Many banking and financial apps require authentication with each session, either a dedicated username and password or default to the device’s authentication after the first login. Vault apps, which provide more private storage, require PIN authentication every time the app is opened. Social media, email, and other communication apps could make this change. On Android, users can select their default SMS app, and there are options like Signal which encourage users to require authentication for each session. Apple could consider adding this feature to iMessage. Future work is needed to see how to design for the usability trade-off of additional authentication. If more app makers allowed and encouraged additional authentication, this could address many individuals’ concerns; in reality, it’s only a few specific behaviors people worry about in terms of snooping.

While granting a partner biometric access is significantly less common than PIN-based access, the changes above would be mitigated by such access. Currently, the PIN is authoritative on both mobile operating systems; it’s the encryption key that unlocks the hard drive, and if a sensitive settings change requires authentication, it can’t be done with biometrics. The rationale here is that biometrics can fail or be fooled, and are not infinitely reliable. However, while a machine will never misinterpret a PIN, they are far more easily abused. Operating systems could seek to use biometrics for authorizing everything short of encryption, and default to the underlying Apple or Google password when biometrics fail \([20]\). Alternatively, dual PINs could be implemented for tiered access. Also, making a log of access times and modalities available to users could be useful as evidence in intimate partner abuse cases.

\[\text{The authors acknowledge that there are highly adversarial situations where it is necessary to have only knowledge-based authentication, and would suggest that users with this threat model decline to enable biometrics and use passwords.}\]
7.2 Future Work

While this paper provides important new data to help us understand phone-sharing norms, further research could further investigate the extent to which these norms are gendered, and whether there is consensus in peer groups. Many respondents discussed the way their perceptions of specific behaviors were influenced by popular media; research should investigate whether the true prevalence of infidelity and snooping is the same as portrayed in media, and the role media plays in shaping norms. And studying relationship implications of these norms, i.e., context, meaning, motives, or outcomes of behaviors for those involved beyond college student samples [1, 8, 16], is important to be able to make concrete security policy and recommendations. Finally, further work is needed to study how the existence of sharing behaviors impacts technology-facilitated abuse. While our study shows that even highly sensitive sharing, such as access to bank, cloud, and mobile accounts are common in relationships, they pose an extreme danger in the context of coercive control [20, 23].

8 Conclusion

In this work, we analyze two large-scale surveys, one our own survey (N = 531) and the other from Norton (N = 2,050), to examine shared smartphone access with romantic partners as a function of trust in relationships. We demonstrate that shared smartphone access is not always negative in relationships, and that a majority do so and consider this desirable. While there are few points of clear consensus from our participants about what constitutes appropriate sharing in relationships, we find consensus that access behaviors need to be reciprocal and consensual to be positive and that most relationships involve access parity. We also demonstrate, like prior work [7, 14, 54], that despite setting trust-enforced boundaries around access, partners over-step boundaries and abuse the access they have been given. We make design recommendations for mobile applications and operating systems to have settings for reflecting the nuance of boundaries in relationships, and may also help protect those with abusive partners.

Acknowledgements

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References


Appendix

Phone Locking and Demographic Considerations

Table 5 provides a breakdown of phone locking behavior by age and relationship status. There are significant generational differences in rates of phone locking, with genz significantly more likely to lock their phones ($\chi^2(8, 460) = 2.02, p = .044$). Generation Z are 139% more likely to lock their phones than other generations (95% CI [1.04, 5.74]). Gen Z grew up with smartphones and overwhelmingly lock them, Gen X and older were adults when they emerged and are less likely to lock their phone. For Millennials on the boundary, an individual’s level of familiarity with technology is a relevant predictor of their behavior. Those with little tech familiarity lock their phones less, while tech experts lock their phones more. For the proficient (but not expert) user in the middle, age is a relevant predictor of behavior.

Finally, there is a significant difference in locking behavior between operating systems, with 81% of Android users ($N = 253$) and 92.2% of iPhone users ($N = 206$) reporting that their phone locks ($\chi^2(8, 460) = 2.48, p = .013$). This means that, holding other factors constant, iOS users are 134% more likely to lock their phones than Android users (95% CI [1.22, 4.72]). The differences between the two operating systems cannot be explained by underlying demographic factors, and thus we should likely consider this correlation a reflection of a genuine phenomenon. This could be because of defaults and nudges, with iOS causing more individuals to lock their phones, and/or it could be a result of Apple’s marketing—“Privacy. That’s iPhone.”—causing privacy conscious individuals to opt for iOS devices.

Limitations of Authentication Schemes

Many factors influence which authentication scheme(s) a person uses on their smartphone, most notably the options available on the device and the operating system (which we have provided a brief overview of below.) For this reason, we have not performed extensive demographic analysis on the types of authentication in use.

iOS devices which lock require a PIN, though users may replace it with an alphanumeric password. Beginning with the iPhone 5S in 2013, Apple introduced TouchID, or the ability to unlock one’s phone using a fingerprint reader [6]. With the iPhone X in 2017, Apple introduced FaceID, or the ability to unlock one’s phone using facial recognition [5]. iPhones with TouchID or FaceID enabled are still required to have a PIN as a backup [4]. Because Android runs on devices made by myriad manufacturers, it is less clear when certain authentication schemes became available.

Devices with the option for biometric authentication still require a form of Something You Know (SYK) authentication be enabled as a backup because biometric authentication can fail [39]. The SYK is either a PIN, password, or swipe pattern. It is possible to set up a device to recognize more than one biometric, e.g., more than one face or more than one finger, but it is critical to understand that the device does not have the capacity to distinguish between faces or fingers, and as such, any face or finger that has been given access on the device will have as much authority as any other [56].

For both iOS and Android, the SYK is required (it will be the device SYK, or the password for the underlying iCloud or Google account. Conversely, biometrics can be used as go-between authentication for sensitive apps such as banking apps, purchases through ApplePay or GooglePay, and approving app downloads [21], while SYKs cannot.

Of respondents whose phones lock ($N = 396$), 68.2% had some form of biometric authentication enabled, including 84.2% of iOS users ($N = 184$), and 56.4% of Android users ($N = 204$). This difference is significant ($\chi^2(1, 396) = 28.61, p < .0001$). Of respondents whose phones lock, 368 provided information about the form of SYK authentication in use. PINs were the most common form of SYK used, accounting for 78.3% of users, swipe patterns were also common, with 23.9% of users having one, and 7.9% of users reported using both. Further, 10.6% of users reported using an alpha-numeric password.

Access and Demographic Factors

We used a logistic regression model to identify demographic factors correlated with sharing access to a user’s phone, both implicitly and explicitly. The results of the implicit access model are in Table 6, and the results of the explicit access model are in Table 7.

Men are less likely to share access to their device than women, as they lock their phones significantly more often and share access less often. Including explicit and implicit access, 70.8% of male respondents ($N = 216$) indicate that their partner has access to their device, as do 57% of male respondents ($N = 149$). For implicit access, men are significantly less likely to share access ($\chi^2(6, 402) = -2.41, p = .016$) by 59.6% (95% CI [0.19, 0.82]). When considering only explicit access, there is a smaller difference between men (58.3%) and women (69.8%) ($\chi^2(6, 402) = -1.52, p = .129$). These findings could suggest that there are true gendered differences with respect to preference for partner access, but that these preferences are mediated by desires for access parity as

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31 By default, specific authentication is only required for non-free apps, but this setting can be changed.
### Table 4: Logistic Regression Model Predicting if a Participant Locks Their Phone. Significant p-values are in **bold**

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### Table 5: Rate of phone locking by age and relationship status

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</tr>
<tr>
<td>Relationship</td>
<td>134</td>
<td>.948</td>
<td>139</td>
<td>.842</td>
<td>98</td>
<td>.806</td>
<td>31</td>
<td>.677</td>
</tr>
<tr>
<td>Serious</td>
<td>26</td>
<td>.808</td>
<td>81</td>
<td>.827</td>
<td>75</td>
<td>.8</td>
<td>21</td>
<td>.762</td>
</tr>
<tr>
<td>Less Serious</td>
<td>108</td>
<td>.981</td>
<td>58</td>
<td>.862</td>
<td>23</td>
<td>.826</td>
<td>10</td>
<td>.5</td>
</tr>
</tbody>
</table>

There is a significant difference in levels of explicit partner access between those in “serious” and “less serious” relationships. Those in “serious” relationships are not significantly less likely to lock their phones ($\chi^2 (6, 402) = 1.54, p = .123$), while there is a significant difference in the level of explicit partner access between the two groups ($\chi^2 (6, 402) = 3.10, p = .0019$). One potential explanation is that those in “serious” relationships likely cohabitate with their partner, whereas people who are single or in “less serious” relationships may live with roommates or housemates.

Despite a significant increase in locking rates for Gen Z compared to other age groups, the rates at which those who lock their phones choose to give their partners access are significantly higher ($\chi^2 (6, 402) = 3.54, p = .0004$): 68% of Gen Z’s partners had access, 93% of which was given explicitly. This implies that Gen Z are not locking their phones to keep their partners out, but rather following better security practices, perhaps due to growing up surrounded by technology.
<table>
<thead>
<tr>
<th></th>
<th>Coef</th>
<th>SE</th>
<th>p</th>
<th>OR</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender - Male</td>
<td>-0.905</td>
<td>0.376</td>
<td><strong>0.0161</strong></td>
<td>0.404</td>
<td>0.187</td>
<td>0.824</td>
</tr>
<tr>
<td>Generation - Gen Z</td>
<td>-0.934</td>
<td>0.541</td>
<td>0.0843</td>
<td>0.393</td>
<td>0.127</td>
<td>1.09</td>
</tr>
<tr>
<td>Generation - Millenial</td>
<td>0.223</td>
<td>0.374</td>
<td>0.552</td>
<td>1.25</td>
<td>0.602</td>
<td>2.63</td>
</tr>
<tr>
<td>Serious Relationship</td>
<td>0.575</td>
<td>0.373</td>
<td>0.123</td>
<td>1.78</td>
<td>0.869</td>
<td>3.78</td>
</tr>
<tr>
<td>Is LGBTQ</td>
<td>-0.459</td>
<td>0.646</td>
<td>0.477</td>
<td>0.632</td>
<td>0.143</td>
<td>1.97</td>
</tr>
<tr>
<td>iOS User</td>
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<td>0.377</td>
<td><strong>0.0089</strong></td>
<td>0.374</td>
<td>0.171</td>
<td>0.759</td>
</tr>
</tbody>
</table>

Table 6: Logistic Regression Model Predicting if a Participant Implicitly Shares Phone Access. Significant p-values are in **bold**

<table>
<thead>
<tr>
<th></th>
<th>Coef</th>
<th>SE</th>
<th>p</th>
<th>OR</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender - Male</td>
<td>-0.359</td>
<td>0.236</td>
<td>0.129</td>
<td>0.699</td>
<td>0.439</td>
<td>1.11</td>
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<tr>
<td>Generation - Gen Z</td>
<td>1.219</td>
<td>0.344</td>
<td><strong>0.0004</strong></td>
<td>3.38</td>
<td>1.74</td>
<td>6.73</td>
</tr>
<tr>
<td>Generation - Millenial</td>
<td>0.384</td>
<td>0.295</td>
<td>0.193</td>
<td>1.47</td>
<td>0.826</td>
<td>2.63</td>
</tr>
<tr>
<td>Serious Relationship</td>
<td>0.821</td>
<td>0.265</td>
<td><strong>0.0019</strong></td>
<td>2.27</td>
<td>1.36</td>
<td>3.86</td>
</tr>
<tr>
<td>Is LGBTQ</td>
<td>0.201</td>
<td>0.344</td>
<td>0.559</td>
<td>1.22</td>
<td>0.626</td>
<td>2.43</td>
</tr>
<tr>
<td>iOS User</td>
<td>0.096</td>
<td>0.228</td>
<td>0.674</td>
<td>1.10</td>
<td>0.703</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Table 7: Logistic Regression Model Predicting if a Participant Explicitly Shares Phone Access. Significant p-values are in **bold**