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# “Delete it and Move On”: Digital Management of Shared Sexual Content after a Breakup

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## ABSTRACT

Sexting is a common and healthy behavior in romantic and sexual relationships. However, not every relationship lasts. When a relationship ends, the fate of sexual content that was previously shared can be a source of discomfort, anxiety, or fear for individuals who may no longer trust their former partners. In extreme cases, intimate content may be leaked or misused by its recipient. To investigate opportunities for building safer sexting tools with breakups in mind, we conducted a survey with 310 U.S. adults who have sexted in the last year. We asked about their sexting practices, communication practices within their relationship about sexting, and preferences for their own sexting content after a breakup. We find that most people save sexts in some form, either actively (e.g., via screenshots) or passively (e.g., in chat history). There is no consensus around what one should do with an ex’s content: although most (55%) want their content to be deleted at the end of a relationship, many others don’t care (25%) or even hope their ex keeps the material (11%). However, most have never spoken to their partner about this preference. We end with design recommendations that support sexting while keeping the entire relationship lifecycle in mind.

## CCS CONCEPTS

• Human-centered computing → Empirical studies in HCI.

## KEYWORDS

sexting, breakups, online safety, relationships

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## 1 INTRODUCTION

Numerous adults participate in sexting, which is the sending and receiving of sexual images, videos, or text of and about oneself [35]. For many, this is a common and healthy relationship practice [61], and studies have estimated that roughly half of U.S. adults have

sexted [35]. Sexting has many positive outcomes, including increased intimacy within one’s relationship, greater sexual gratification, overall relationship development, and increased self-esteem [6], among others.

Yet despite these positive outcomes for adults who engage in the practice, sexting can also come with risks. Although sexting is extremely common among adults, it remains a stigmatized practice, and unwanted exposure of sexual materials is particularly harmful [3, 29]. Additionally, intimate media may be misused by the recipient [7]; for example, an estimated 12% of sexters have admitted to forwarding an image they receive without the consent of the subject [43]. Sexual material may be used to threaten, harass, or shame the subject, a phenomenon broadly referred to as image-based sexual abuse [46, 47] and non-consensual intimate imagery [42]. In response, there is an increasing amount of work in HCI aimed at understanding and addressing image-based sexual abuse, ranging from understanding users’ sexting security practices [24] to survivors’ experiences with intimate tech abuse more broadly [23, 30, 44].

However, in order to build technology that people will actually use it is also important to understand the underlying needs and priorities of sexters who do not expect to need protective mechanisms. Suggesting the use of more security-centric software may convey a lack of trust in a partner or a lack of optimism about the relationship, which can damage intimacy [25] and disrupt a sexual exchange. Even when one does not expect their partner to misuse the content, having no sense of whether or how their content is stored after breaking up may lead to anxiety and distrust.

In particular, this paper focuses on the end of a sexting relationship. Breakups are a moment of particular risk for image abuse [7]. But even for those who do not experience image abuse at the hands of an ex-partner, one’s level of comfort with an ex having access to shared sexual content may change when the relationship status evolves. Furthermore, once a couple experiences a breakup, questions may remain about who owns shared property or digital content from the relationship. Previous research has indicated that individuals often keep digital materials from a relationship, usually making post-breakup adjustment more difficult [9, 32, 55]. However, none of these studies have explored how people manage digital sexual content at the end of a relationship, nor how individuals feel about their partners’ ongoing possession of such content.

In this study, we investigate users’ perceptions of their shared sexual media in the context of breakups. Our approach is sex-positive: both authors have studied digital sexual expression and security, and we intend our work to support adults who wish to safely participate in digital sexual activity. We recruited 310 Qualtrics participants to complete a survey with both open- and closed-ended



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questions on their sexting habits and their desires for sexual content management during and after a breakup. Specifically, we ask about the ways that people sext; their feelings about their primary platforms; their hopes and expectations for their own content when breaking up with a partner; as well as their personal plans for any sexual content they themselves have saved during a relationship. We also investigate whether and when our participants discussed managing sexual content with their partner, and how they feel about sexual content that was created together during in-person sexual contact.

We found that 63.9% of people reported saving sexts from their partner through some proactive step such as screenshotting or saving content to a local folder. A further 11.3% of people reported keeping sexts in chat history. When asked what they prefer their ex partner do with their intimate content upon breakup, 54.8% reported hoping their partner deletes it. However, over half of our participants had never talked to their current or most recent partner about what they should do with sexual content if they break up. Surprisingly, there was no statistical difference in this preference between those who had recently gone through a breakup and those who hadn't.

When asked to elaborate on what they expect they would do with an ex-partner's sexts, most participants indicated that they would delete them, in line with their expectations of their partner. However, some discussed planning to keep content even as they hoped their partner would delete their own. Several participants also reported having their partner or ex-partner non-consensually share their content with others, highlighting that negative outcomes are not especially uncommon.

To probe our participants' conceptions of ownership over content, we asked about media created in-person together during sexual activity. Many indicated that all people visible in the media should have a say in what happens to the content. However, several participants shared alternative perspectives, for example that consenting to the creation of the media or the act of sending it to another confers ownership. Several participants touched on the tension that one should be able to delete content they own (or feel that they own) even if it is on another person's device.

We observe that default behavior plays a role in content management: multiple participants indicated that they saved content only because it was in a chat history. In other words, they would have to proactively delete content, rather than proactively save it.

One goal of this work is to support positive sexting experiences while minimizing potential harms for consensual sexters. The discussion summarizes takeaways for the broader sexting and affordances literature and provides design insights for sexting technologies. Understanding what sexters want to happen to their sexting content upon breakup and how they talk about these desires with their partners is a necessary step in minimizing the incidence of intimate image misuse. The better we can align sexting technology affordances with these goals, as well as with the positive sexting goals users have *during* a relationship, the more trust and control users will have over their sensitive content.

## 2 RELATED WORK

Sexting is an increasingly studied topic in HCI and media studies. In this section, we overview prior work on sexting as a relationship practice, technology in intimate contexts, and technology abuse.

### 2.1 Sexting Motivations and Channel Choices

How sexting is defined in research can impact how respondents understand and report their own behaviors [2]. For example, a study asking only about sending explicit content compared to sending or receiving content may change how an individual responds. We choose a broad definition that encompasses any sexually explicit exchange, regardless of medium [35]. Sexting is often studied in the context of adolescents who engage in this behavior, as many adolescents engage in the practice as they learn about their own sexuality and preferences [35]. However, much of the research into adolescents who sext considers the negative outcomes of sexting. This is due in part to adolescents being underage, with potential legal ramifications [13] in addition to the serious interpersonal consequences that may come from these activities [7]. Of course, adolescents are not the only individuals who sext; numerous adults engage in this practice, and for consenting adults, it can be a healthy, relationship-building experience [16, 61].

For example, Bianchi et al. [6] found that people sext for self-esteem reasons, with sexting often helping with improved feelings of confidence and self-worth. People also sexted for relational reasons, including maintaining a relationship or starting a new one. Sexting can help adults to achieve feelings of sexual gratification with a partner; individuals who sext may be physically apart for a variety of reasons (including long-term, long-distance relationships), and sexting allows them feelings of sexual release [14]. Doring and Mohseni [19] saw similar positive outcomes in an adult sample; in their study, positive outcomes from sexting outweighed perceived potential negative outcomes. The combination of self-esteem, relationship maintenance, and sexual gratification that can come from sexting often makes the practice a positive one for adults.

Individuals looking to sext have a variety of channel options available to them. They are able to choose the technology or technologies that best meet their needs, considering their own preferences, their partner's preferences, and their sexting goals (whether that be increasing self-esteem, relationship maintenance, sexual gratification, financial gain, or other potential outcomes). Many individuals choose channels based on the perceived affordances of those channels [15]. Affordances are functional properties of an object or, in this case, a channel [22]. Affordances can help individuals to achieve specific communication goals; perceived social affordances for communication channels include accessibility, social presence, privacy, and persistence, among numerous others [22].

*Social presence* in particular has previously been found to relate to increased positive outcomes from sexting, including improved self-esteem and sexual gratification [14]. When individuals perceive social presence, they feel as though their communication partner is approximating physical presence [22]. This can be achieved through real-time cues and rich audio and video. When social presence is perceived in a sexting situation, individuals feel as though their sexual partner is nearly physically present.

The *accessibility* of a channel refers to how easy the channel is to use [22]. For most people, an accessible channel is a convenient channel. In previous studies connecting affordances and sexting, accessible channels did not relate to improved sexting outcomes [14]. However, most channels that individuals used were rated as highly accessible, suggesting that individuals utilize convenient channels when engaging in this practice. This convenience is important to further explore in order to understand how individuals prioritize easy channels, especially when sending materials that may require greater protection.

A channel is perceived as *private* in relation to who else can see the content that is communicated [22]. Research has only begun to explore how the perceived privacy of a channel may relate to why or how one uses it for sexting [24]. Most individuals believe that the channels they use are somewhat private [15]; however, these perceptions vary from person to person and from channel to channel.

A channel affords *persistence* by allowing a user to save messages or retrieve messages at a later date [59]. For example, Snapchat, a social networking application whose messages disappear upon opening, is considered low in persistence because the messages are ephemeral [5]. Previous studies have found that individuals use Snapchat and other less persistent channels when sexting, perhaps in an effort to manage or control this sensitive material [5, 24].

Yet, despite these preventative and protective measures, sexual materials do not always remain private. Ensuring privacy is not just a matter of technology, but negotiating and managing one's partner and relationship expectations. Zytka et al. investigate computer-mediated consent on dating platforms like Tinder. Consent here can be overt, but it is often *implicit* instead, possibly leading to mismatched expectations and increasing the risk of sexual violence [63]. Zytka and Furlo further explore design opportunities for computer-mediated consent by centering women and LGBTQ+ users [62]. Their participants envision opportunities for design patterns within social platforms that encourage continuous discussions of consent and sexual comfort.

In the absence of technologies facilitating ongoing consent discussions, it is imperative to understand how individuals perceive their current and/or ex-partners while managing sexual content. The concept of relational uncertainty refers to an individual's lack of certainty about the trajectory of a relationship, as well as what communication can be shared within that relationship [58]. This concept has been specifically updated for the sexting context, placing an emphasis on uncertainty about what one's partner may or may not do with the shared sexts [14]. Though individuals may attempt to exert control over their materials through channel or technology choice, there is still an element of uncertainty about what one's partner may do. A partner who has one's content could share it with others, both in-person and through shared digital means, as well as posting the content in undesirable places [15]. Uncertainty about one's partner and how they handle one's material may thus also influence security practices when engaging in sexting.

Geeng et al. conducted a survey of adults sexters in the U.S. to investigate common practices and concerns, with an eye to understanding their security and privacy needs [24]. They found that

many participants worried about their sexting content being exposed, and that people tended to leverage interpersonal strategies and metrics over more technical solutions to minimize risk.

## 2.2 Digital Artifacts and Breakups

Another line of work has explored how people manage technical artifacts during and after a breakup. The prevalence of social media channels during both relationship formation and dissolution has created numerous opportunities to save digital artifacts in one's relationship [9]. Experiencing the end of a romantic relationship is often difficult [57], even without the considerations related to one's private materials potentially being kept and shared.

As individuals have more channels to incorporate into their relationships, they also have more channels to manage content when a relationship ends [40, 49]. Deciding how to manage digital content and shared online social spaces after a breakup can be important for moving on. Seeing ongoing indications of a partner after breakup can be upsetting [48, 51], and thinking about how and when those remnants of a relationship are visible—both to the individual and to their social networks—is a necessary consideration of modern breakups [25, 50].

Several works [31, 32, 38, 55] have explored the motivations for people to save, or not save, their shared digital content after a breakup, although to our knowledge none have addressed sexual content specifically. Through interviews, Sas and Whittaker [55] identify three types of people with respect to post-breakup digital management: the deleters, the keepers, and the selective retainers. LeFebvre et al. [38] explore this framework further and find that a person's management strategy is influenced by whether they make the decisions while thinking of a future partner (deleters) or the previous partner (keepers). Herron et al. [32] interviewed 13 people who had gone through a breakup about their experiences managing digital content from the relationship. They found that people save digital artifacts to preserve positive memories, because they are not yet ready to let go, and to document abusive behaviors. For those who deleted content, they documented both the reasons to delete (being over someone, wanting to avoid painful memories) and the challenges of doing so (e.g., deleting all traces of a person from one's accounts is burdensome and error-prone). In a similar study, Herron et al. [31] discussed how breakups can "taint" artifacts that had previously held positive sentiment. This study also identified post-breakup privacy invasions stemming from entangled digital objects and accounts, and shared how one participant felt uneasy about possessing sexual images of her ex partner, especially as they tried to establish a platonic relationship.

Many individuals are not confident that their ex-partners will delete their sexual material, or at least not all of it [15]. Concerns about blackmail and other forms of revenge may stem in part from how the relationship ended: relationships that end amicably may allow partners to more easily discuss and manage their own and each other's content, whereas relationships that end contentiously or even violently may make these discussions impossible [57].

Existing norms surrounding technology use in relationship dissolution are also important to consider. Most individuals believe that it is more respectful to end a relationship via in-person communication [25]. As a result, individuals going through a breakup

may be focused on connecting with their partner face-to-face; this may mean that mediated communication is not considered initially. Lin et al. [40] interviewed people in romantic relationships to understand how account sharing changes over the lifecycle of a relationship. They found that upon breakup, some people quickly remove their ex-partner's access to shared accounts, so as to quickly reestablish some privacy boundaries. We observe, however, that for materials like messages, where sexual text and images are often sent, removing access is not as simple as changing a password.

This also suggests that individuals need to speak directly to their ex-partner should they want their previously shared sexual content to be deleted, which may happen anywhere from immediately after to long after a breakup happens. It is important to understand when, if ever, individuals are having negotiations about this content. It is likely more beneficial to have these discussions while still in the relationship, and not once it has ended.

### 2.3 Intimate Image Abuse Online

Finally, we see this work as contributing to ongoing efforts to understand and mitigate intimate image abuse. While intimate image abuse encompasses a wide variety of harms, including the taking of nonconsensual photos [23], “deepfake” or synthetic sexual images [21], unauthorized access of intimate content, e.g., by mobile repair technicians [10], and distribution or threats of distribution of intimate content [23], most relevant to our work are images or videos taken with consent that are then used to harm. Recent estimates of U.S. college students have found over 10% have had their sexually explicit content nonconsensually forwarded to an unintended recipient [7].

Among adolescents, harms of non-consensual image distribution are even more well documented. Dev et al. [17] find that adolescents manage sexual solicitation and harassment from strangers on social platforms such as Instagram, while most sexual conversations with friends were mutual. Nevertheless, adolescents may be more susceptible to peer pressure to participate in sexting [41, 53]. Girls also face greater risks, as the social and reputational consequences of sexting—and refusing to sext—can be great [41]. These risks further discourage victims from seeking help from adults and the criminal legal system [18]. Hartikainen et al. [28] studied the potential of a peer support platform for teens who sext, finding that such a space provided both advice and emotional support. Because the legal and social landscape for adolescents is much more complex, we limit our investigation to adult sexters.

Beyond understanding harm related to online sexual intimacy, recent work in HCI has considered broader frameworks for building tech that minimizes (intentional and unintentional) harms for users. Im et al. discuss how the feminist theory of affirmative consent can serve as a framework for building safer social technologies [34], including by ensuring that systems facilitate the revocation of consent. Recently, Chen et al. [12] and Scott et al. [56] have explored the utility of trauma-informed practice as a generative framework for designing social and computing platforms that minimize re-traumatization. We return to these frameworks in Discussion.

## 3 METHODS

We conducted a survey with 310 respondents to understand their sexual content management and negotiation with partners, perceptions of co-created content, and their preferences for content management upon breaking up with a romantic partner.

### 3.1 Survey Design

In order to estimate prevalence of preferences and gather perceptions and reasoning behind them, we designed a survey containing both open-ended and closed-ended questions. We defined sexting for our participants as “sending or receiving sexually explicit images, videos, or text messages” and asked whether they had sexted in the last 12 months. If they had, they were shown a research overview and asked for consent to participate in the study.

First, we probed our participants' perceptions about the platforms they most commonly use to sext. Participants selected their three most common sexting platforms (including an option for “Other”). For each, we measured perceptions of the channels using Fox and McEwan's perceived social affordances of communication channels scale [22]. This scale (discussed in greater depth in Section 2) includes measures of accessibility, social presence, privacy, and persistence. An affordances perspective helps us to understand the communicative goals of our participants, especially when sending and receiving sensitive, personal content.

Next, we instructed our participants to think of their most recent sexting partner, and asked questions related to the frequency and format of their sexts (e.g., video, photo, text-only). Partner uncertainty was also measured using items from Coduto's sexting uncertainty scale [15], as the confidence participants have in their partners may be a factor in the expectations they have for their partner's management of their sexual content, as well as how they themselves manage their sexts. We asked for their practices saving sexts, and their experiences talking to a partner about how to manage shared sexual content. This included at what point in the progression of the relationship the conversation happened (e.g., before digitally sexting, before physical sexual activity, after breakup).

Next, we asked about participants' preferences for their sexting content in the event of a breakup (“If you were to break up with a partner, what would you want to happen to your content?”) as well as their expectations for what their current or ex partner would do or did do with their content (“If you and your current partner were to break up, what do you expect your partner would do with your sexting content?”). We also asked participants to describe what they expect they would do or did do with their (ex)partner's content. To gauge general security posture as a possible predictor of sexting privacy concerns, we used Faklaris et al.'s SA-6 for measuring attitudes toward security [20].

Finally, we investigated our participants' views on co-created sexual content (i.e., content created during in-person paired sexual activity), including whether the ownership of the content fundamentally differs from solo content and how they think the content should be handled upon breakup.

The survey took on average 14 minutes to complete. The full survey instrument can be found in Appendix A.

Age		Gender Identity		Sexuality		Relationship Status	
18–24	9.7%	Man	46.1%	Heterosexual	83.2%	Committed relationship	55.8%
25–34	27.7%	Woman	52.9%	Bisexual	11.6%	Casual relationship	6.5%
35–44	31.3%	Nonbinary /	1.0%	Gay	2.3%	Single	32.9%
45–54	19.4%	Third gender		Lesbian	1.3%	Other	4.8%
55–64	11.9%			Other	1.6%		

**Table 1: Participant demographics (n=310).**

### 3.2 Data Collection and Analysis

We contracted with Qualtrics to gather a gender-balanced sample of respondents. We restricted participation to those over eighteen, United States residents, and those who had sexted in the last year. Qualtrics compensates each participant differently, but bases the payment on survey length, participant profile, and ease of target demographic recruitment.

We received 319 responses from Qualtrics. Two researchers reviewed the open-ended responses and removed any that seemed nonsensical (e.g., generated) or did not answer the questions (e.g., answering “None” to all questions). One respondent reported their age as 15; we expect this was a typo, as Qualtrics shares the survey only with participants who they believe qualify, but we removed the response anyway. We were left with 310 complete responses.

The open-ended responses were qualitatively analyzed by two researchers. For each open-ended question, we employed reflexive thematic analysis [8]. For each question, both researchers familiarized themselves with the data by reading through responses. Most free-text responses were relatively short (1-2 sentences). Independently, each researcher generated an initial set of codes to capture both descriptive labels (e.g., “I do not save sexts”) as well as inductive themes (e.g., “I save to remember when we’re apart”). The researchers then met to discuss themes and merge their codebooks. This phase included merging overlapping codes and grouping similar codes underneath parent labels (i.e., broader themes like “risks of saving sexts”). Each researcher then independently returned to the data and systematically applied the codes to each response. The researchers discussed whether additional codes were needed during this process, but did not find it necessary. The coded datasets were merged and disagreements across answers were discussed and resolved. All further analysis was done on this double-coded dataset, and as such we do not report inter-coder reliability [45].

The findings for each open-ended question are reported in-line with its closest corresponding closed-ended questions. As the open-ended responses were relatively concise, our final thematic structure for each question was shallow. For each set of codes, motivations and explanations were grouped under nominal responses. For example, for the question of whether the participant saves sexts, our codes were organized under the parent labels “yes” and “no.” For each section in results that discusses qualitative data, themes are discussed in order of relative prevalence.

Quantitative analyses focused on descriptive analysis as well as correlational analysis using parametric tests. We first used quantitative analyses to summarize respondent demographics and sexting

channels. Research questions and hypotheses were then investigated via analyses of variance, t-tests, and regressions, which are further specified per question in the findings.<sup>1</sup>

### 3.3 Respondent Demographics

A summary of our participant demographics can be seen in Table 1. Our participants spanned the ages 18–64 and were near parity between men and women. Participants were able to self-describe their racial identity. The composition of our participants closely mirrors that of the U.S. population [11], with 69.4% white, 18.7% Black, 6.1% Hispanic or Latinx, and 5.8% other, including Asian, Native American, and biracial or mixed. Similarly, our sample reflects recent estimates in the United States for sexuality [1].

### 3.4 Ethical Considerations

Sexting is a common behavior, but is still a sensitive topic. Thus, we wanted to minimize potential participant discomfort. In our consent materials, we explained that the goal of the study was to support safer and more trustworthy technologies for consensual sexting. With our sample size, it is likely that we have participants who have been victimized by non-consensual sharing, as well as those who have perpetrated harm. However, we did not explicitly ask for participants to share negative experiences, nor whether they themselves have non-consensually shared media, which we hope minimized the distress any participant may have experienced in thinking about their sexual content management. At the end of the survey we shared resources about recovering from non-consensual intimate image abuse and recognizing healthy relationships, in case the study brought up concerns for any participants. This closing text can be seen in Appendix B. Our study was reviewed by our institution’s IRB and was determined to be exempt.

### 3.5 Limitations

Our study has several limitations. First, we rely on self-reported data, which may not reflect the true practices of our participants. Second, our qualitative analysis was conducted with open-response survey questions, meaning we were unable to probe participants for further information or ask clarifying questions. However, being able to answer sensitive questions in writing rather than face-to-face may have helped our participants share more freely. Furthermore, the open responses in surveys are relatively short, limiting the depth of insight we are able to get without conducting further interviews. However, we believe that the qualitative and quantitative

<sup>1</sup>Full statistical test markdowns, as well as the codebook for qualitative analysis, can be found at <https://osf.io/3gjc7/>.

responses in combination provide a rich picture of our participants' perspectives.

Our sample is also limited to the United States. Norms and consequences of sexting are connected to the social context in which the individuals live [4]. This means our observations likely do not encompass the varying ways that sexting and breakups are managed by users outside of a North American context.

## 4 RESULTS

We first present an overview of how our participants sext, including medium and frequency. We then examine their relationship management practices, including how they talked to their partner about sexting, and their perceptions of sexual data management after breakup. Finally, we discuss our insights from asking participants their views on co-created content. We present qualitative findings in parallel with quantitative to paint a richer picture of our findings.

### 4.1 Sexting Practices

In this section, we describe the common sexting practices of our participants. We asked about their preferred format, platforms, and frequency of sexting.

**4.1.1 Format of Sexts.** Individuals utilize text-only messaging for sexual interactions as well as audiovisual platforms. Participants responded to six statements about their sexting practices, including how often they send or receive different types of messages on a scale from Never to Always. These were then subjected to exploratory factor analysis with Varimax rotation, resulting in two components: text-only sexting behaviors and audiovisual sexting behaviors. We see that our participants more frequently sexted via text (*Mean* ( $M$ ) = 3.21, *Standard Deviation* ( $SD$ ) = 1.03) than audiovisual ( $M$  = 2.64,  $SD$  = 1.00), which is consistent with prior findings [15].

We utilized one-way analyses of variance to investigate differences in relationship status and sexting behaviors. We observe significant differences in audiovisual sexting frequency based on relationship status ( $F(3, 306) = 3.42, p = .018$ ). Specifically, individuals who said they were in casual relationships sexted audiovisually more than single individuals (mean difference = 0.69,  $p = .025$ ); more than those in committed relationships (mean difference = 0.71,  $p = .013$ ); and more than those who marked "other" for their relationship status (mean difference = 0.88,  $p = .05$ ). There was no significant difference, however, in text-only sexting based on relationship status,  $F(3, 306) = 2.412, p = 0.067$ .

**4.1.2 Preferred Platforms.** In addition to the content individuals share when they sext (text-only vs. audiovisual), we also asked which platforms our participants had most recently used to sext. The most used channels in our sample were SMS messaging (254 participants); Facebook Messenger (146 participants); and Snapchat (94 participants). The full list of platforms and frequency can be seen in Table 2.

**4.1.3 Platform Affordances.** We explore affordances in order to understand the communicative goals of our participants, especially as they engage in both sending and receiving materials. We thus explored how participants perceived the different affordances of the platforms they used to sext. We surveyed participants on four key

Platform	Count	%
SMS	254	81.9%
Facebook Messenger	146	47.1%
Snapchat	94	30.3%
Instagram	65	21.0%
WhatsApp	63	20.3%
Tinder/Hinge/Bumble	45	14.5%
TikTok	25	8.1%
Grindr	10	3.2%
Signal	4	1.3%
Other	9	2.9%

**Table 2: Top 3 platforms used by our participants to sext.**

affordances: accessibility, social presence, privacy, and persistence. Scores across all perceived affordances are high, above the midpoint on a scale from (1) strongly disagree to (5) strongly agree.

Participants generally felt that their most recently used channels were accessible (perceived accessibility of SMS,  $M = 4.66, SD = 0.50$ ; of Snapchat,  $M = 4.48, SD = 0.71$ ; of Facebook Messenger,  $M = 4.55, SD = 0.59$ ). They also perceived social presence on these channels (perceived social presence of SMS,  $M = 3.76, SD = 1.03$ ; of Snapchat,  $M = 4.06, SD = 0.93$ ; of Facebook Messenger,  $M = 4.01, SD = 0.90$ ).

Individuals also largely perceived their most recently used sexting channels as private (perceived privacy of SMS,  $M = 4.23, SD = 0.79$ ; of Snapchat,  $M = 4.30, SD = 0.71$ ; of Facebook Messenger,  $M = 4.13, SD = 0.82$ ). Finally, individuals felt their channels afforded them persistence of content (perceived persistence of SMS,  $M = 4.41, SD = 0.68$ ; of Snapchat,  $M = 3.09, SD = 1.31$ ; of Facebook Messenger,  $M = 4.38, SD = 0.65$ ). Somewhat surprisingly, Snapchat, a platform known for having ephemeral messages, is still perceived as offering some level of persistence. This may be because Snapchat does have some limited saving features, like "save to chat" and screenshots. Although taking a screenshot notifies the sender, in an established relationship this may be an accepted way to save content. Indeed, one of our participants discussed saving screenshots from Snapchat consensually.

**4.1.4 Security Management and Format.** Because unwanted exposure of sexting content can be harmful, we considered how individuals' security practices might be influenced by their sexting behaviors. Specifically, we investigated whether audiovisual and text-only sexting related to increases in security management practices. We utilized ordinary least squares (OLS) regression to test this relationship; we include partner uncertainty in this regression. Multicollinearity was not detected; variable tolerances ranged from 0.86 to 0.98 and variable VIFs ranged from 1.03 to 1.16. Heteroskedasticity was not detected and was tested with the Breusch-Pagan test,  $\chi^2(1) = 1.445, p = .229$ .

We observe that the more frequently individuals engaged in text-only sexting behaviors, the greater their security management practices ( $b = 0.16, SE = 0.05, p < .001$ ); we observe similar patterns for audiovisual sexting behaviors ( $b = 0.13, SE = 0.05, p = .008$ ). Thus, the more frequently an individual engaged in sexting, the more they engaged in security management as well. Interestingly, the level of uncertainty our participants felt in their sexting relationship did

not relate to changes in security management practices ( $b = -0.01$ ,  $SE = 0.05$ ,  $p = .809$ ). The overall model was significant ( $F(3, 306) = 9.575$ ,  $p < 0.001$ ,  $R^2 = 0.09$ ).

## 4.2 Saving Practices

75.2% of our participants said they keep sexts in some form or another: 32.6% in camera roll; 31.3% in chat history; 25.5% in a dedicated folder; 18.7% in a locked or hidden folder; 15.2% in the cloud. Four people selected “Other,” which included using Gmail folders and an SD card. Among our participants, 63.9% practiced some form of *active* saving; that is, they executed an additional action to save the content like screenshotting or storing to a folder.

**4.2.1 Security Management and Saving.** We analyzed whether individuals’ save strategies are related to their security management practices, and whether it depends on the confidence they have in their partner. We used independent sample t-tests with equal variances assumed to assess differences in security management between types of storage. There was no significant difference between those who reported saving content to their phone’s camera roll ( $n = 99$ ,  $M = 3.73$ ,  $SD = 0.82$ ) and those who did not save material to their phone’s camera roll ( $n = 211$ ,  $M = 3.80$ ,  $SD = 0.85$ ),  $t(308) = -0.75$ ,  $p = 0.45$ , Cohen’s  $d = 0.84$ . Similarly, there was no significant difference between those who said they saved sexual content in a chat history ( $n = 97$ ,  $M = 3.75$ ,  $S = 0.80$ ) versus those who did not ( $n = 213$ ,  $M = 3.79$ ,  $SD = 0.85$ ),  $t(308) = -0.35$ ,  $p = .725$ , Cohen’s  $d = 0.84$ . There was also no significant difference in security management between those who stored sexual content in a separate folder on their device ( $n = 79$ ,  $M = 3.92$ ,  $SD = 0.82$ ) and those who did not ( $n = 231$ ,  $M = 3.73$ ,  $SD = 0.84$ ),  $t(308) = 1.73$ ,  $p = .09$ , Cohen’s  $d = 0.84$ .

There was, however, a significant difference in security management among those who saved sexual content to a cloud-based folder ( $n = 47$ ,  $M = 4.07$ ,  $SD = 0.63$ ) compared to those who did not ( $n = 263$ ,  $M = 3.73$ ,  $SD = 0.86$ ). Individuals who stored to the cloud practiced significantly more security management,  $t(308) = 2.63$ ,  $p = .009$ , Cohen’s  $d = 0.83$ . A similar pattern emerged among those who use specific hidden applications for saving sexual material. Those individuals who had a specific designated application for saving sexual content practiced greater security management ( $n = 58$ ,  $M = 4.01$ ,  $SD = 0.71$ ) compared to those who did not use such an application ( $n = 252$ ,  $M = 3.72$ ,  $SD = 0.86$ ),  $t(308) = 2.35$ ,  $p = .02$ , Cohen’s  $d = 0.83$ .

Some individuals also reported that they did not save sexual content. There was no difference between these individuals ( $n = 77$ ,  $M = 3.63$ ,  $SD = 0.92$ ) and individuals who did save content in some way ( $n = 233$ ,  $M = 3.83$ ,  $SD = 0.81$ ) on security management,  $t(308) = -1.81$ ,  $p = .07$ , Cohen’s  $d = 0.84$ .

We considered whether having more uncertainty about one’s partner may change the way one manages sexual content. However, there were no significant differences in partner uncertainty based on whether or how individuals saved sexual content.

**4.2.2 Motivations to Save.** Additionally, we asked people to write a free-response about their motivation to save (or not save) the sexts they received from their partner.

Close to a quarter of participants saved sexts to look at for pleasure later: “I can go back and look at the pics, msgs and videos And

*remember and or get in the mood or if I want to spend alone time*” [45–54, hetero woman, committed]. In other cases, saving content might be more broadly related to creating positive memories. For example, one participant said, “I am making a personal memory book for us so when we can finally get together permenatly [sic] we have a record of how far we have grown” [35–44, hetero woman, committed]. For a handful of participants, making memories was centered around maintaining a long-distance relationship—if they can’t see their partner in-person, it’s “*something to watch when I miss him because of the distance*” [35–44, hetero woman, committed].

A few participants explained that their reason for saving sexts was to have some “insurance,” either to have in case the other person misuses sexual content from the relationship, or to be able to prove later (to the partner or to others) that the exchange happened. For example, one participant said they save sexts because they wanted “*proof of what he said when he said it. Men like to be in denial alot [sic]*” ([35–44, hetero woman, single]. This practice has been documented in other studies on digital possessions and breakups, though more often to prove abuse to others [32].

**4.2.3 Motivations Not to Save.** As discussed above, many participants chose not to proactively save sexts. For example, participants might feel like they don’t need to: “*I am currently married so don’t feel like I need to save things to keep for later when I know I will be with my partner and always see more*” [25–34, hetero woman, committed]. Others expressed concerns about privacy or fear of the content being seen by someone they did not want, either because someone else regularly uses their devices (“*I wouldn’t want my grandchildren while using my phone to accidentally see any of them*” [55–64, hetero woman, married]) or because someone may accidentally find the content (“*I don’t want someone else to see it if they access my phone, and out of respect for my partners privacy*” [35–44, hetero woman, committed]). These motivations echo what has been found in prior work [24].

## 4.3 Relationship Management

Because sexting is an activity that is mediated by relationship norms and needs, we also investigate how our participants discuss sexting within the context of their relationships. We asked participants to disclose whether they had spoken to their partner about how to manage their sexual content upon breakup and what prompted the conversation.

**4.3.1 Conversations About Sexts.** 53.5% of people reported never having spoken to their current or most recent partner about how to manage their digital sexual content if they were to break up. If our participant indicated that they had spoken to their partner at any point, we asked several further questions about when and why the conversation happened. This included closed-ended questions with an option to expand in free-text. We found that 18.3% of people who spoke to their partner only had this conversation after the relationship had ended. For example, one participant explained that the conversation was prompted by their ex: “*We had a break up and she wanted me to delete pics*” [35–44, hetero man, committed]. Similarly, another participant explained that they initiated the conversation because, “*I just wasn’t sure that I could trust my ex boyfriend*” [25–34, hetero woman, single].



Among other reasons, 45.3% of people indicated that they always have this conversation. As one participant further described, “It’s just normal to have this conversation” [45–54, hetero woman, single]. Other reasons include wanting to know their partner’s preferences (40.3%); having concerns about their partner’s intentions (28.8%); having a negative experience with another partner (16.5%); having a disagreement about sexting (10.8%); and learning about their partner’s prior experiences with sexting (7.9%).

**4.3.2 Partner Uncertainty.** We broadly considered how sexting behaviors may increase uncertainty in one’s relationship, testing this relationship with regression analysis. Engaging in text-only sexting did not relate to changes in feeling more or less certain about one’s partner,  $b = 0.07$ ,  $SE = 0.06$ ,  $p = .232$ . Audiovisual sexting, however, did relate to increases in partner uncertainty,  $b = 0.12$ ,  $SE = 0.06$ ,  $p = .05$ . The overall model was also significant,  $F(2, 307) = 3.94$ ,  $p = .02$ ,  $R^2 = .03$ .

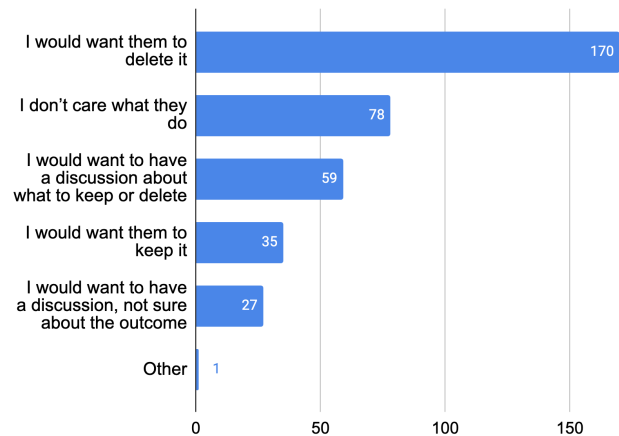
We also consider how uncertainty about one’s partner might vary based on whether they had had a discussion about their content. This was tested with a t-test. Uncertainty about what one’s partner would do with one’s sexual content did not relate to whether this was always a discussion they had with a partner ( $n = 63$ ,  $M = 2.38$ ,  $SD = 1.17$ ) or not ( $n = 247$ ,  $M = 2.41$ ,  $SD = 1.00$ ),  $t(308) = -0.17$ ,  $p = .866$ , Cohen’s  $d = 1.04$ .

Individuals who indicated that the conversation stemmed from a disagreement about how to handle sexts, however, did show significant differences in partner uncertainty. Those who spoke to their partner because they had had a disagreement about what to do with their sexts ( $n = 15$ ,  $M = 3.57$ ,  $SD = 0.98$ ) experienced greater partner uncertainty than those who had not ( $n = 295$ ,  $M = 2.34$ ,  $SD = 1.01$ ),  $t(308) = 4.62$ ,  $p < .001$ , Cohen’s  $d = 1.01$ . Individuals who indicated that they spoke to their partner due to concerns about what their partner would do with their sexual content also experienced greater partner uncertainty overall ( $n = 40$ ,  $M = 2.73$ ,  $SD = 1.12$ ) than those who did not have these concerns ( $n = 270$ ,  $M = 2.34$ ,  $SD = 1.02$ ),  $t(308) = 2.14$ ,  $p = .033$ , Cohen’s  $d = 1.03$ .

Participants who indicated that they had this conversation because they had had negative experiences with sexting in the past (e.g., one participant wrote in the free-response box, “ex showed photos to his friends” [25–34, hetero woman, committed]) also experienced greater partner uncertainty ( $n = 23$ ,  $M = 3.01$ ,  $SD = 1.12$ ) than those who had not spoken to their partner due to previous negative experiences ( $n = 287$ ,  $M = 2.36$ ,  $SD = 1.02$ ),  $t(308) = 2.941$ ,  $p = .004$ , Cohen’s  $d = 1.03$ .

## 4.4 Breakups and Sexting Preferences

Breakups are a key point at which trust may shift between partners. Within our sample, 65 individuals reported ending a romantic relationship in the last 12 months; 59 reported ending a sexual relationship in the last 12 months (participants could indicate they had experience multiple changes). As such, we wanted to prompt participants to reflect on their own preferences for sexual content management after a breakup. To do this, we first asked a closed-ended question about their general preferences around keeping or deleting sexual content. Then we prompted them to think of their current or most recent partner and reflect on their actual expectations of how a breakup would go. Specifically, we asked (1) what



**Figure 1: Responses to: “If you were to break up with a partner, what would you want to happen to your content?”** Participants could select multiple choices; no participants selected contradicting answers (keep and delete).

they think their partner did or would do upon breakup, and (2) what they did or would do.

**4.4.1 Deletion Preferences.** When asking in a closed-response question what our participants would prefer an (ex) partner do with their content upon breaking up, we find that over half (54.8%) of participants would like their partner to delete their content. A further 27.7% of people would like to have a conversation about their content, and 25.2% of people indicated that they did not care. This question was a multi-select; no participants selected both “keep” and “delete,” but some participants selected both “delete” and “I don’t care” or that they have a preference and would like to talk to their partner about it. 82% of people only selected one option. A summary of responses can be seen in Figure 1.

While we expected that having recently experienced a breakup may influence how comfortable a person felt with a partner keeping content afterward, we found this was not the case. These relationships were tested with chi-squared. There were no significant differences in what individuals would like to happen with their sexual content based on whether they had recently experienced a breakup. There were no significant differences between those who had gone through a breakup in the last 12 months and those who had not in wanting a partner to delete sexual material,  $\chi^2(1) = 1.72$ ,  $p = .19$ ; in wanting a partner to keep the material,  $\chi^2(1) = 0.55$ ,  $p = .46$ ; in wanting to have a discussion about whether to keep or delete materials,  $\chi^2(1) = 0.06$ ,  $p = .81$ ; and in not caring what a partner did,  $\chi^2(1) = 0.88$ ,  $p = .35$ .

**4.4.2 Deletion Experiences and Expectations.** We also asked participants in a free-response to explain what they *expect* their most recent partner did (or would do, if they were still in a relationship) with their sexting content upon breaking up, as well as what they did (or intended to do).

Over half of participants indicated that they expected their partner had or would delete their content, and nearly two-thirds indicated that they would delete their ex-partner's sexts. Most frequently, deleting content was connected to respecting the other person. In other cases, participants shared their opinions about how they or the other person should feel after breaking up: *"They need to delete it and move on"* [25–34, hetero woman, committed].

For those who said they wanted their ex to keep their content, or when they said they did not care what happened to it, participants sometimes indicated that this was due to a remaining trust in their ex partner: *"Whatever he wants. I know he would keep them private"* [45–54, bi woman, committed]. Others suggested that the content that was sent to a partner is no longer theirs: *"I would expect him to keep them. I sent them, they're his now"* [35–44, bi woman, committed]. Another participant said, *"it's not my place to tell them to delete it, I just wouldn't want them to share it with others"* [45–54, hetero woman, committed].

As in other studies on breakups, digital artifacts may still enact positive memories even after the end of a relationship [32]: one participant said of their own plans, *"Probably keep them and then look back at them to reminisce For Old times take [sic] occasionally"* [35–44, hetero man, committed]. Others indicated that they would only save the content that was most meaningful to them: *"I kept certain things that meant a lot to me and deleted the rest"* [25–34, hetero man, single].

As in the question about why people save sexts, some participants here said they save sexts even after the relationship for insurance. For example, one participant said, *"I would keep them that way if they put mine out publicly I would do the same to them"* [35–44, hetero woman, committed].

What a participant expected of their partner usually, but not always, aligned with what they expected to do themselves. For example, one participant said of their ex-partner, *"I would hope they would delete it for good"*—and in the next question said of his own plans, *"I might keep it to look at it when I want"* [25–34, hetero man, committed]. This sentiment was sometimes expressed in reverse as well. One participant said she hoped her ex would, *"save it and look back and remember what he misses."* For her own plans, she said she would *"Delete it"* [18–24, bi woman, committed].

Although we did not ask specifically about negative experiences with sexting, this question led some participants to share their negative experiences or concerns about what their partner would do with their content. One participant shared that their partner had already misused their content: *"I know that she kept them and sent them to a couple of my friends now after that, I'm not sure if she erased it or not"* [45–54, bi man, single]. Another shared fears that their ex might do so: *"Not sure, he was vindictive so he likely saved them and showed pics to his friends"* [35–44, hetero woman, single].

We also note that several participants observed that whether their content was saved or not depended on the default behavior of the apps they used to send it. One participant said, *"I assume they just remained on his phone like any other messages"* [45–54, bi woman, single]. Some participants also said this was the primary reason they still had access to their ex partner's content: *"im [sic] sure they are in my phone somewhere unless auto deleted by now, just stopped communicating"* [35–44, hetero woman, single].

## 4.5 Co-creation of Sexual Content

Finally, we asked participants about content created with a partner during sexual activity. This question probed at our participants' conceptions of ownership of content. We asked this only in open-response form.

Our participants frequently expressed that co-created content was "owned" by both parties. The reason for shared ownership was typically for one of two reasons. First, ownership might be shared because the content was created through some agreement between the subjects. For example, one participant explained: *"If both partners are aware content is being created, then each partner has equal ownership. I [sic] discussion should be had before creating the content in regards to what should happen to it"* [25–34, hetero woman, committed]. For others, ownership depended on the subject of the content: *"If its content that is created together, it is owned by whomever is in the video or picture"* [35–44, hetero woman, committed]. One participant explained that they thought this extended to non-consensual content as well: *"If one party secretly records without the other party's acknowledgement [sic], then that content should belong to the person who didn't give consent to be recorded"* [35–44, hetero woman, committed].

A handful of participants identified ownership as a product of possession. One participant connected this to hardware: *"who owns the device owns what is on it"* [45–54, hetero man, casual]. Several others also thought of individually-created content this way. As one participant explained about solo content, *"if you are willing to send it then you have somewhat given up ownership"* [25–34, hetero man, committed].

Several participants also commented on the implications of shared ownership, namely that it should give someone the power to rescind consent. For example, one participant said, *"If one partner is no longer consenting to any sexual act or content, they should have a say in what happens to the content"* [35–44, hetero woman, committed]. This might translate into a responsibility for the person who possesses the content (e.g., *"I'm of the opinion that you should delete or get rid of any content that makes your ex uncomfortable and doesn't want you to have. In my situation, my ex didn't care if I kept her pics, but I still deleted most anyway. Especially ones with her face on them"* [25–34, hetero man, single]). However, this requires that the couple either discussed previously what they want to happen to the content (which is relatively uncommon, see Section 4.3), or that they make requests after the breakup, when trust and goodwill might be lower. One participant stated this wish: *"anybody should be able to have content deleted or removed that featured them in it without having to ask someone else first"* [18–24, gay man, committed].

## 5 DISCUSSION

Here we discuss the broader context for our work, including theoretical takeaways related to how people use technology and several concrete design implications for building technology for sexting.

### 5.1 Affordances and Channel Choices

Our findings on platform choice and perceptions have theoretical implications for the ongoing study of channel affordances, particularly as affordances relate to specific communication outcomes.

**5.1.1 Channel Accessibility.** The affordance of accessibility refers to a channel's ease of use [22]. The channels that were most used by our participants for sexting—SMS messaging, Facebook Messenger, and Snapchat—were perceived as highly accessible, suggesting that individuals will prioritize convenience, even as they share highly private, personal material. For instance, an app like Signal may offer encryption and greater data security for those who wish to safely sext; yet for many individuals, this app is not currently part of their regular sexting repertoire. Shifting to this channel from a more familiar channel may be perceived as too difficult for users. Difficulty may also stem from getting a partner to agree to using an unfamiliar or new channel [15]. Individuals often sext when they are feeling aroused; this arousal may deprioritize security decision-making and further encourage the use of an accessible channel [14].

**5.1.2 Persistence and Privacy.** Channels were also rated highly in perceived persistence and privacy. The affordance of persistence in particular reveals tensions that sexters may face when selecting channels to send and receive sexual content: as they *receive* communication, it may feel good to keep a record (such as storing an image), and indeed most of our participants kept a record of their sexts; yet the popularity of Snapchat may indicate that as they *send* this same material, participants may value the promise of a message disappearing.

This also leaves questions about the perceived privacy of these channels and how channels may better communicate what is or is not private. Individuals largely felt these channels were private, in that they restricted the communication to only those who were supposed to receive it. Yet this does not reveal the extent to which individuals trust their partners, particularly if those partners are believed to be sharing their content on other platforms or channels. A key theoretical next step will be to better understand not simply each affordance on its own, but how these affordances intersect with each other. For instance, a channel that is high in persistence may ultimately be rated lower in privacy. Individuals may feel that a partner who can keep sexual content may then also be able to share it beyond its intended audience.

**5.1.3 Text-based and Audiovisual Messages.** Participants reported sexting more via text-only messages overall compared to their audiovisual sexting habits. Sexting is often thought of as a visual activity [35], yet our results suggest that individuals are sending and receiving a considerable amount of sexual content via text-only exchanges. This emphasis on text exchanges further echoes our findings related to the accessibility of these channels. Though an audiovisual message may ultimately be more arousing [14], many of our participants were choosing channels that were efficient (based on the preponderance of text-only messages and the high accessibility of these channels). These patterns of use suggest important considerations for future work, as individuals are likely emphasizing quick channels over safe channels.

## 5.2 Saving Sexual Content

Our findings regarding why individuals save sexual content from a partner reveal nuances that build upon previous research (such

as that from Hasinoff [29] and LeFebvre et al. [38]). Previous research has indicated that individuals have some concerns about their content being saved while also hesitating to save others' content; yet, particularly in relationship dissolution situations, individuals still keep content as a digital repository of good memories [9]. These insights suggest that if individuals are saving sexual content post-breakup along with other memories, we may want to further consider the design of long-term memory collection that not only contains mundane but also possibly risky content.

Notably, relationship status influenced how people felt about the saving of sexts, in line with previous research. Individuals who are married, for instance, might feel less need to save their sexual messages as they are already committed and/or living with their spouse, similar to Coduto's findings in samples from 2021 and 2022 [15]. Single individuals may feel the need to save a partner's sexual content as part of a strategy for escalating the relationship while also saving the content as a form of self-protection.

Yet we saw no difference among those who had recently gone through a breakup compared to those who had not in their feelings about saving sexual artifacts. Technology may change how individuals perceive the end of their relationship; perhaps saving artifacts when one has recently broken up eases the hurt from the breakup [38]. Yet saving artifacts when one has gone through a breakup may also make them feel as though the relationship could still be resurrected [9, 38]. Though we saw no differences in how people felt about their content being saved, their underlying reasons for wanting content saved or not may vary based on recency of breakup. This will also be important for future work to explore, especially as individuals have more channel choices available to them. The persistence affordance, combined with new technology, may drastically alter how individuals perceive their content and their partners' content, as well as whether or not they can and should save it after a breakup.

## 5.3 Shared Ownership of Intimate Data

Our participants demonstrated how ownership is a complicated concept. Legal "ownership" in the context of digital media is governed by copyright law. In the United States, copyright gives the owner exclusive rights to reproduce an image and is granted to the person who takes the photo [60]. In the context of intimate content, legal ownership does in fact matter: although an imperfect system, copyright has been leveraged by victims of non-consensual intimate imagery for recovering control over leaked content [39]. If the victim is the person who took the photo—which will often be the case for consensually-shared sexts—they can demand that platforms remove the leaked content under the threat of legal action.

However, individuals more often think about ownership in terms of *psychological ownership* rather than legal rights. Kuzminykh and Cauchard [36] offer an HCI conceptualization of ownership, identifying five dimensions that contribute to a person's feelings of ownership, several of which we observe in our study. For example, some of our participants connected ownership to possession (or the *autonomy* to initiate actions on an image), while others felt that the subject of a photo was more important (or that the image is a representation or *self-identity* of the person) [36].

Co-created content further blurs these lines: when an image is created collaboratively and features multiple subjects, who has the right to decide what happens to the content? This, of course, is not a dilemma that is limited to sexual content. Prior work has explored how individuals negotiate the interdependent privacy of content that contains multiple people, but which may be more sensitive to some subjects than others [33]. For example, Lampinen et al. studied the strategies that social network users employ to manage unwanted sharing, including collaborative strategies such as asking permission to share and requesting content be removed when a privacy violation occurs [37].

In the case of sexual material, the privacy infringer almost certainly knows that sharing the content more widely is against the wishes of the subject (and possibly illegal). They will not seek permission and in many cases will not respond to requests from the victim to remove the content. Thus, our focus here is to consider how ownership plays a role before this happens, in *private* digital management of shared content. Gruning and Lindley [26] investigate shared digital content in the home and propose that technologies support a spectrum of shared ownership models. Here, co-ownership could mean that any owner should be able to autonomously delete the content, but that all owners need to consent to make the content more public.

One interesting contrast to other work on interdependent privacy on social media platforms is that for sexual content, we want to consider consent even if the person in possession of the content does *not* share it. That is, even maintaining access to previously shared content—an ex keeping a photo—could require ongoing consent from all parties. Future work should consider design opportunities, perhaps similar to Niksirat et al.'s [54] design work on reducing multi-party privacy conflicts on social media, that facilitate these conversations in private, before a violation occurs.

## 5.4 Design Implications for Sexting Technology

Sexting is a healthy and common practice for adults. Nevertheless, digital sexual content can be misused to significantly harm someone [3]. We believe that building safer, less abusible technology requires also building tools that align with the needs of users who do not expect to need the safety features. Thus, although we did not specifically investigate harms from sexting, our study offers several insights into building safer intimate technologies that might actually be perceived as useful—and have protective features if the need arises.

**5.4.1 Designing for Separation.** Adding to a rich HCI literature on breakups, our work echoes calls to design for the *end* of a relationship. As Moncur et al. [48] observe, social platforms design for new relationships and new connections, but are less equipped to facilitate the dissolution of a relationship.

Our work looks at disentanglement in a private context. Rather than deciding how or when to communicate about a breakup on social platforms [27], our participants are making private decisions about how to manage content, either alone, with their ex-partner's requests in mind, or with a notion of their future partner [38].

There are several technical challenges alongside ethical and interpersonal challenges to removing intimate content at the end of a relationship. Deleting content, especially from a relationship that

spanned multiple months or years, is not always simple. Photos, messages, and other artifacts of the relationship might be scattered across multiple platforms, not all of which are searchable, meaning that even after a rigorous effort a person may continue to find traces of their ex for time to come [32].

For someone who wants their partner to delete content that was sent or created during the relationship, there is no feasible way in most platforms to remove that content from someone else's device. This is not strictly a bad thing (we do not want people to be able to, e.g., remove documented evidence of abuse from their partner's device [30]) but it means that a person is required to ask their ex to delete their content. This conversation is difficult and there is no way to verify that the task has been done, or that backups haven't been made elsewhere.

We asked our participants whether they have had these conversations ahead of time, and found that few have. While we did not ask participants who hadn't talked to their partner why they did not, we know from prior work [25] that talking about contingencies for breaking up is undesirable, as it casts a pessimistic light on the relationship. We suspect this is amplified in the context of sexual content, as discussing what happens after a breakup might suggest a fear that one's partner will leak or otherwise misuse the content, which can harm trust.

We see opportunities for making sexual content shared in some real, technical sense. Imagine, for example, a communications tool that considered all media in a thread to be under the control of both parties. This might allow a user to trigger a "delete all media" feature, where any content flagged as sexual would be removed from both devices. This is one way a platform could operationalize shared ownership for co-created content as well. In some ways this creates a parallel possibility to the practice that Lin et al. [40] found for passwords after breakup—some people change passwords to previously shared accounts immediately, so as to reconstruct some privacy barriers between themselves and their ex. It also minimizes the chance that their ex-partner could abuse their access if the relationship did not end amicably.

Such a design would also better align with affirmative consent frameworks [34], which encourage social platforms to enable the revocation of consent. In fact, Im et al. use non-consensual intimate imagery as an example of a violation of affirmative consent, as an image being shared online non-consensually by someone else is not revertible (among other violations). We highlight that if such reversion were available *before* sexual content was misused, some cases of abuse may be more difficult to perpetrate.

**5.4.2 Designing against Misuse.** The goal in designing safety features for sexting platforms is not to prevent all abuse—this cannot be done through technology design alone—but to minimize the opportunities for abuse. For example, most (75%) participants kept access to some sexts, but we did not find any strategies for saving content that were particularly technically sophisticated. This is not surprising: at the moment, most platforms allow for relatively easy saving of content. If platforms were to make saving media more onerous—for example, by disabling screenshots, or simply disabling a built-in save feature—we expect fewer people would save content. This may not deter a determined abuser, but might reasonably deter someone from casually forwarding a message or showing a friend.

Were the content to also have been sent in a revocation-oriented platform, it might also keep content in a space where both parties have some control, even if it remains accessible.

In this vein, we suggest that many people who misuse sexual content can be understood as *UI-bound adversaries* [23]—that is, people who are limited by the capabilities of the user interfaces (UIs) they work with.

**5.4.3 Importance of Defaults.** In asking our participants about their decision to save content, a common theme was that some people in fact did not explicitly save content, but knew they continued to have access to it because it was in the chat history of the communication tool they use. This is one way that default behaviors influence how people manage content. As people seem to sext on platforms they are otherwise using for general conversation (e.g., SMS, Messenger), the default settings might not be ideal for all segments of a couple's conversations. Rather than encouraging people to use separate sexting apps, which would be difficult for multiple reasons, one could imagine a platform enabling a "sexting mode" that has different defaults. This design has also been recently suggested in a study interviewing recreational and commercial sexual content creators who have had their content leaked [52].

We note that (also in line with affirmative consent [34] and trauma-informed frameworks [12]) decisions about content deletion still need to be optional: among our participants, not everyone minded that their ex partner had continued access to their sexual content. For these users, automatic deletion of content or removal of access, e.g., after some period of inactivity, might not be desirable. Furthermore, such a system might not be comfortable to suggest for those who trust their partner and expect never to break up. However, a system that gives a person the ability to remove another's access, even possibly long after the relationship had ended, could strike a balance between user trust in the platform and in their sexting partner.

## 6 CONCLUSION

Through a mixed-method survey of 310 adult sexters in the United States, we investigated sexting content management after a romantic or sexual breakup. We asked participants about their sexting practices, preferences for their sexual content after a breakup, and expectations for what they would do with their partner's content. We found that over half of participants would like their sexual content to be deleted after a breakup. However, we also found that over half of participants had never spoken to their partner about what they want them to do if they break up.

We investigated ideas of ownership of sexual content by asking participants about co-created media, and found our participants had opinions that spanned multiple conceptions of ownership, including that ownership is a product of being visible in the content or having consented to create the content in the first place. A smaller number of people felt that possession was ownership—that is, by sending a photo to someone, one has transferred ownership to them.

In closing we discuss the implications for communications and sexting research, in particular with a focus on affordances. We also discuss design implications for sexting technology that both serves the needs of the average sexter and minimizes risk of misuse of sexual content.

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## REFERENCES

- [1] Lydia Anderson, Thom File, Joey Marshall, Kevin McElrath, and Zachary Scherer. 2021. New Household Pulse Survey Data Reveals Differences between LGBT and Non-LGBT Respondents During COVID-19 Pandemic. <https://www.census.gov/library/stories/2021/11/census-bureau-survey-explores-sexual-orientation-and-gender-identity.html>. Last accessed 2023-09-11.
- [2] Yara Barense-Dias, André Berchtold, Joan-Carles Suris, and Christina Akre. 2017. Sexting and the Definition Issue. *Journal of Adolescent Health* 61, 5 (Nov 2017), 544–554. <https://doi.org/10.1016/j.jadohealth.2017.05.009>
- [3] Samantha Bates. 2017. Revenge Porn and Mental Health: A Qualitative Analysis of the Mental Health Effects of Revenge Porn on Female Survivors. *Feminist Criminology* 12, 1 (Jan 2017), 22–42. <https://doi.org/10.1177/1557085116654565>
- [4] Susanne E. Baumgartner, Sindy R. Sumter, Jochen Peter, Patti M. Valkenburg, and Sonia Livingstone. 2014. Does country context matter? Investigating the predictors of teen sexting across Europe. *Computers in Human Behavior* 34 (2014), 157–164. <https://doi.org/10.1016/j.chb.2014.01.041>
- [5] Joseph B. Bayer, Nicole B. Ellison, Sarita Y. Schoenebeck, and Emily B. Falk. 2016. Sharing the small moments: ephemeral social interaction on Snapchat. *Information, Communication and Society* 19, 7 (2016), 956–977. <https://doi.org/10.1080/1369118X.2015.1084349>
- [6] Dora Bianchi, Mara Morelli, Roberto Baiocco, and Antonio Chirumbolo. 2021. Individual differences and developmental trends in sexting motivations. *Current Psychology* 40, 9 (Sep 2021), 4531–4540. <https://doi.org/10.1007/s12144-019-00398-4>
- [7] Kathryn Branch, Carly M. Hilinski-Rosick, Emily Johnson, and Gabriela Solano. 2017. Revenge Porn Victimization of College Students in the United States: An Exploratory Analysis. *International Journal of Cyber Criminology* 11, 1 (Apr 2017), 128–142. <https://doi.org/10.5281/zenodo.495777>
- [8] Virginia Braun and Victoria Clarke. 2012. Thematic analysis. In *APA handbook of research methods in psychology, Vol. 2: Research designs: Quantitative, qualitative, neuropsychological, and biological*, H. Cooper, D. L. Camic, A. T. Long, D. Panter, D. Rindskopf, and K. J. Sher (Eds.), Vol. 2. American Psychological Association, Washington, D.C., 57–71.
- [9] Nicholas Brody, Leah LeFebvre, and Kate Blackburn. 2020. Holding on and letting go: Memory, nostalgia, and effects of virtual possession management practices on post-breakup adjustment. *Journal of Social and Personal Relationships* 37, 7 (April 2020), 2229–2249. <https://doi.org/10.1177/0265407520921460>
- [10] Jason Ceci, Jonah Stegman, and Hassan Khan. 2023. No Privacy in the Electronics Repair Industry. In *2023 IEEE Symposium on Security and Privacy (SP)*. IEEE, San Francisco, CA, 3347–3364. <https://doi.org/10.1109/SP46215.2023.10179413>
- [11] United States Census. 2022. QuickFacts. <https://www.census.gov/quickfacts/fact/table/US/PST04522>. Last accessed 2023-09-11.
- [12] Janet X. Chen, Allison McDonald, Yixin Zou, Emily Tseng, Kevin A Roundy, Acar Tamersoy, Florian Schaub, Thomas Ristenpart, and Nicola Dell. 2022. Trauma-Informed Computing: Towards Safer Technology Experiences for All. In *CHI Conference on Human Factors in Computing Systems*. ACM, New Orleans LA USA, 1–20. <https://doi.org/10.1145/3491102.3517475>
- [13] Danielle Keats Citron and Mary Anne Franks. 2014. Criminalizing Revenge Porn. *Wake Forest Law Review* 49, 345 (2014), 345+.
- [14] Kathryn D. Coduto. 2023. Channel Affordances for Sexting: Social Presence Relates to Improved Self-Esteem, Sexual Gratification, and Sexting Certainty. *Sexuality and Culture* 28 (June 2023), 228–242. <https://doi.org/10.1007/s12119-023-10112-z>
- [15] Kathryn D. Coduto. 2023. *Technology, Privacy, and Sexting: Mediated Sex*. Lexington Books, Lanham, MD. <https://rowman.com/ISBN/9781666904789/Technology-Privacy-and-Sexting-Mediated-Sex>
- [16] Erin L. Courtice and Krystelle Shaughnessey. 2017. Technology-mediated sexual interaction and relationships: A systematic review of the literature. *Sexual and Relationship Therapy* 32, 3-4 (Nov 2017), 269–290. <https://doi.org/10.1080/14681994.2017.1397948>
- [17] Prema Dev, Jessica Medina, Zainab Agha, Munmun De Choudhury, Afsaneh Razi, and Pamela J. Wisniewski. 2022. From Ignoring Strangers' Solicitations to Mutual Sexting with Friends: Understanding Youth's Online Sexual Risks in Instagram Private Conversations. In *Companion Publication of the 2022 Conference on Computer Supported Cooperative Work and Social Computing (CSCW'22 Companion)*. Association for Computing Machinery, New York, NY, USA, 94–97. <https://doi.org/10.1145/3500868.3559469>
- [18] Alexa Dodge and Emily Lockhart. 2022. 'Young People Just Resolve It in Their Own Group': Young People's Perspectives on Responses to Non-Consensual

- Intimate Image Distribution. *Youth Justice* 22, 3 (Dec 2022), 304–319. <https://doi.org/10.1177/14732254211030570>
- [19] Nicola Döring and M. Rohangis Mohseni. 2018. Are Online Sexual Activities and Sexting Good for Adults' Sexual Well-Being? Results From a National Online Survey. *International Journal of Sexual Health* 30, 3 (Jan 2018), 250–263. <https://doi.org/10.1080/19317611.2018.1491921>
- [20] Cori Faklaris, Laura A. Dabbish, and Jason I. Hong. 2019. A Self-Report Measure of End-User Security Attitudes (SA-6). In *Fifteenth Symposium on Usable Privacy and Security (SOUPS 2019)*. USENIX Association, Santa Clara, CA, 61–77. <https://www.usenix.org/conference/soups2019/presentation/faklaris>
- [21] Asher Flynn, Anastasia Powell, Adrian J Scott, and Elena Cama. 2021. Deepfakes and Digitally Altered Imagery Abuse: A Cross-Country Exploration of an Emerging form of Image-Based Sexual Abuse. *The British Journal of Criminology* 62, 6 (12 2021), 1341–1358. <https://doi.org/10.1093/bjc/azab111> arXiv:<https://academic.oup.com/bjc/article-pdf/62/6/1341/46498316/azab111.pdf>
- [22] Jesse Fox and Bree McEwan. 2017. Distinguishing technologies for social interaction: The perceived social affordances of communication channels scale. *Communication Monographs* 84, 3 (Jul 2017), 298–318. <https://doi.org/10.1080/03637751.2017.1332418>
- [23] Diana Freed, Jacqueline Palmer, Diana Minchala, Karen Levy, Thomas Ristenpart, and Nicola Dell. 2018. "A Stalker's Paradise": How Intimate Partner Abusers Exploit Technology. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, Montreal QC Canada, 1–13. <https://doi.org/10.1145/3173574.3174241>
- [24] Christine Geeng. 2020. Usable Security: Studying People's Concerns and Strategies When Sexting. In *Proceedings of the Sixteenth Symposium on Usable Privacy and Security*. USENIX Association, USA, 19.
- [25] Ilana Gershon. 2010. *The Breakup 2.0: Disconnecting Over New Media*. Cornell University Press, Ithaca, NY. <https://www.cornellpress.cornell.edu/book/9780801457395/the-breakup-20/#bookTabs=1>
- [26] Jane Gruning and Siân Lindley. 2016. Things We Own Together: Sharing Possessions at Home. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (San Jose, California, USA) (CHI '16). Association for Computing Machinery, New York, NY, USA, 1176–1186. <https://doi.org/10.1145/2858036.2858154>
- [27] Oliver L Haimson, Nazanin Andalibi, Munmun De Choudhury, and Gillian R Hayes. 2018. Relationship breakup disclosures and media ideologies on Facebook. *New Media & Society* 20, 5 (May 2018), 1931–1952. <https://doi.org/10.1177/1461444817711402>
- [28] Heidi Hartikainen, Afsaneh Razi, and Pamela Wisniewski. 2021. Safe Sexting: The Advice and Support Adolescents Receive from Peers regarding Online Sexual Risks. *Proceedings of the ACM on Human-Computer Interaction* 5, CSCW1 (Apr 2021), 42:1–42:31. <https://doi.org/10.1145/3449116>
- [29] Amy Adele Hasinoff. 2017. Sexting and privacy violations: A case study of sympathy and blame. *International Journal of Cyber Criminology* 11, 2 (2017), 202–217. <https://doi.org/10.5281/zenodo.1037391>
- [30] Sam Havron, Diana Freed, Nicola Dell, Rahul Chatterjee, Damon McCoy, and Thomas Ristenpart. 2019. Clinical Computer Security for Victims of Intimate Partner Violence. In *Proceedings of the 28th USENIX Security Symposium*. USENIX Association, Santa Clara, CA, 19.
- [31] Daniel Herron, Wendy Moncur, and Elise van den Hoven. 2016. Digital Possessions After a Romantic Break Up. In *Proceedings of the 9th Nordic Conference on Human-Computer Interaction (NordCHI '16)*. Association for Computing Machinery, New York, NY, USA, 1–10. <https://doi.org/10.1145/2971485.2971539>
- [32] Daniel Herron, Wendy Moncur, and Elise van den Hoven. 2017. Digital Decoupling and Disentangling: Towards Design for Romantic Break Up. In *Proceedings of the 2017 Conference on Designing Interactive Systems (DIS '17)*. Association for Computing Machinery, New York, NY, USA, 1175–1185. <https://doi.org/10.1145/3064663.3064765>
- [33] Mathias Humbert, Benjamin Trubert, and Kévin Hugué. 2019. A Survey on Interdependent Privacy. *ACM Comput. Surv.* 52, 6, Article 122 (oct 2019), 40 pages. <https://doi.org/10.1145/3360498>
- [34] Jane Im, Jill Dimond, Melody Berton, Una Lee, Katherine Mustelier, Mark S Ackerman, and Eric Gilbert. 2021. Yes: Affirmative Consent as a Theoretical Framework for Understanding and Imagining Social Platforms. In *Proceedings of the Conference on Human Factors in Computing Systems (CHI)*. ACM, New York, NY, USA, 403:1–403:18. <https://doi.org/10.1145/3411764.3445778>
- [35] Bianca Klettke, David J. Hallford, and David J. Mellor. 2014. Sexting prevalence and correlates: A systematic literature review. *Clinical Psychology Review* 34, 1 (Feb 2014), 44–53. <https://doi.org/10.1016/j.cpr.2013.10.007>
- [36] Anastasia Kuzminykh and Jessica R. Cauchard. 2020. Be Mine: Contextualization of Ownership Research in HCI. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) (CHI EA '20). Association for Computing Machinery, New York, NY, USA, 1–9. <https://doi.org/10.1145/3334480.3383058>
- [37] Airi Lampinen, Vilma Lehtinen, Asko Lehmuskallio, and Sakari Tamminen. 2011. We're in It Together: Interpersonal Management of Disclosure in Social Network Services. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (Vancouver, BC, Canada) (CHI '11). Association for Computing Machinery, New York, NY, USA, 3217–3226. <https://doi.org/10.1145/1978942.1979420>
- [38] Leah E. LeFebvre, Nicholas Brody, and Kate G. Blackburn. 2020. How concerns about former or future partners influence virtual possession management: Examining relational curation in the relational dissolution model. *Communication Research Reports* 37, 4 (Aug 2020), 161–171. <https://doi.org/10.1080/08824096.2020.1796617>
- [39] Amanda Levendowski. 2014. Using Copyright to Combat Revenge Porn. *New York University Journal of Intellectual Property and Entertainment Law* 3, 2 (2014), 422–446.
- [40] Junchao Lin, Jason I. Hong, and Laura Dabbish. 2021. "It's Our Mutual Responsibility to Share": The Evolution of Account Sharing in Romantic Couples. *Proc. ACM Hum.-Comput. Interact.* 5, CSCW1, Article 160 (apr 2021), 27 pages. <https://doi.org/10.1145/3449234>
- [41] Julia R. Lippman and Scott W. Campbell. 2014. Damned If You Do, Damned If You Don't... If You're a Girl: Relational and Normative Contexts of Adolescent Sexting in the United States. *Journal of Children and Media* 8, 4 (Oct 2014), 371–386. <https://doi.org/10.1080/17482798.2014.923009>
- [42] Sophie Maddocks. 2018. From Non-consensual Pornography to Image-based Sexual Abuse: Charting the Course of a Problem with Many Names. *Australian Feminist Studies* 33, 97 (2018), 345–361. <https://doi.org/10.1080/08164649.2018.1542592> arXiv:<https://doi.org/10.1080/08164649.2018.1542592>
- [43] Sheri Madigan, Anh Ly, Christina L. Rash, Joris Van Ouytsel, and Jeff R. Temple. 2018. Prevalence of Multiple Forms of Sexting Behavior Among Youth: A Systematic Review and Meta-analysis. *JAMA pediatrics* 172, 4 (Apr 2018), 327–335. <https://doi.org/10.1001/jamapediatrics.2017.5314>
- [44] Tara Matthews, Kathleen O'Leary, Anna Turner, Manya Sleeper, Jill Palzkill Woelfel, Martin Shelton, Cori Manthorne, Elizabeth F. Churchill, and Sunny Consolvo. 2017. Stories from Survivors: Privacy & Security Practices when Coping with Intimate Partner Abuse. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, Denver Colorado USA, 2189–2201. <https://doi.org/10.1145/3025453.3025875>
- [45] Nora McDonald, Sarita Schoenebeck, and Andrea Forte. 2019. Reliability and Inter-Rater Reliability in Qualitative Research: Norms and Guidelines for CSCW and HCI Practice. *Proc. ACM Hum.-Comput. Interact.* 3, CSCW, Article 72 (nov 2019), 23 pages. <https://doi.org/10.1145/3359174>
- [46] Clare McGlynn, Kelly Johnson, Erika Rackley, Nicola Henry, Nicola Gavey, Asher Flynn, and Anastasia Powell. 2021. "It's Torture for the Soul": The Harms of Image-Based Sexual Abuse. *Social & Legal Studies* 30, 4 (Aug 2021), 541–562. <https://doi.org/10.1177/0964663920947791>
- [47] Clare McGlynn and Erika Rackley. 2017. Image-Based Sexual Abuse. *Oxford Journal of Legal Studies* 37, 3 (01 2017), 534–561. <https://doi.org/10.1093/ojls/gqw033> arXiv:<https://academic.oup.com/ojls/article-pdf/37/3/534/32374499/gqw033.pdf>
- [48] Wendy Moncur, Lorna Gibson, and Daniel Herron. 2016. The Role of Digital Technologies During Relationship Breakdowns. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing (CSCW '16)*. Association for Computing Machinery, New York, NY, USA, 371–382. <https://doi.org/10.1145/2818048.2819925>
- [49] Cheul Young Park, Cori Faklaris, Siyan Zhao, Alex Sciuto, Laura Dabbish, and Jason Hong. 2018. Share and Share Alike? An Exploration of Secure Behaviors in Romantic Relationships. In *Fourteenth Symposium on Usable Privacy and Security (SOUPS 2018)*. USENIX Association, USA, 83–102. <https://www.usenix.org/conference/soups2018/presentation/park>
- [50] Anthony T. Pinter and Jed R. Brubaker. 2022. Behold the Once and Future Me: Online Identity After the End of a Romantic Relationship. *Proceedings of the ACM on Human-Computer Interaction* 6, CSCW2 (Nov 2022), 372:1–372:35. <https://doi.org/10.1145/3555097>
- [51] Anthony T. Pinter, Jialun Aaron Jiang, Katie Z. Gach, Melanie M. Sidwell, James E. Dykes, and Jed R. Brubaker. 2019. "Am I Never Going to Be Free of All This Crap?": Upsetting Encounters with Algorithmically Curated Content About Ex-Partners. *Proceedings of the ACM on Human-Computer Interaction* 3, CSCW (Nov 2019), 70:1–70:23. <https://doi.org/10.1145/3359172>
- [52] Lucy Qin, Vaughn Hamilton, Yigit Aydinalp, Marin Scarlett, Sharon Wang, and Elissa M. Redmiles. 2023. *Toward Safer Intimate Futures: Recommendations for Tech Platforms to Reduce Image Based Sexual Abuse*. Technical Report. European Sex Workers' Rights Alliance (ESWA).
- [53] Afsaneh Razi, Karla Badillo-Urquiola, and Pamela J. Wisniewski. 2020. Let's Talk about Sext: How Adolescents Seek Support and Advice about Their Online Sexual Experiences. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20)*. Association for Computing Machinery, New York, NY, USA, 1–13. <https://doi.org/10.1145/3313831.3376400>
- [54] Kavous Salehzadeh Niksirat, Evanne Anthoine-Milhomme, Samuel Randin, Kévin Hugué, and Mauro Cherubini. 2021. "I Thought You Were Okay": Participatory Design with Young Adults to Fight Multiparty Privacy Conflicts in Online Social Networks. In *Proceedings of the 2021 ACM Designing Interactive Systems Conference (Virtual Event, USA) (DIS '21)*. Association for Computing Machinery, New York, NY, USA, 104–124. <https://doi.org/10.1145/3461778.3462040>

- [55] Corina Sas and Steve Whittaker. 2013. Design for forgetting: disposing of digital possessions after a breakup. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13)*. Association for Computing Machinery, New York, NY, USA, 1823–1832. <https://doi.org/10.1145/2470654.2466241>
- [56] Carol F Scott, Gabriela Marcu, Riana Elyse Anderson, Mark W Newman, and Sarita Schoenebeck. 2023. Trauma-Informed Social Media: Towards Solutions for Reducing and Healing Online Harm. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*. Association for Computing Machinery, New York, NY, USA, 1–20. <https://doi.org/10.1145/3544548.3581512>
- [57] Erica B. Slotter, Wendi L. Gardner, and Eli J. Finkel. 2010. Who am I without you? The influence of romantic breakup on the self-concept. *Personality and Social Psychology Bulletin* 36, 2 (2010), 147–60. <https://doi.org/10.1177/0146167209352250>
- [58] Denise Haunani Solomon and Leanne K. Knobloch. 2001. Relationship Uncertainty, Partner Interference, and Intimacy within Dating Relationships. *Journal of Social and Personal Relationships* 18, 6 (2001), 804–820. <https://doi.org/10.1177/0265407501186004>
- [59] J W Treem and P M Leonardi. 2013. Social Media Use in Organizations: Exploring the Affordances of Visibility, Editability, Persistence, and Association. *Annals of the International Communication Association* 36, 1 (2013), 143–189. <https://doi.org/10.1080/23808985.2013.11679130>
- [60] United States Copyright Office. 2023. <https://www.copyright.gov/engage/photographers/>, last accessed 2023-12-10.
- [61] Michel Walrave, Joris Van Ouytsel, Koen Ponnet, and Jeff R. Temple. 2018. Sharing and caring?: The role of social media and privacy in sexting behaviour. In *Sexting: Motives and risk in online sexual self-presentation*, M. Walrave, J. Van Ouytsel, K. Ponnet, and J.R. Temple (Eds.). Vol. 1. Palgrave Macmillan, London, UK, 1–17.
- [62] Douglas Zytko and Nicholas Furlo. 2023. Online Dating as Context to Design Sexual Consent Technology with Women and LGBTQ+ Stakeholders. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. ACM, Hamburg Germany, 1–17. <https://doi.org/10.1145/3544548.3580911>
- [63] Douglas Zytko, Nicholas Furlo, Bailey Carlin, and Matthew Archer. 2021. Computer-Mediated Consent to Sex: The Context of Tinder. *Proceedings of the ACM on Human-Computer Interaction* 5, CSCW1 (Apr 2021), 1–26. <https://doi.org/10.1145/3449288>

## A SURVEY INSTRUMENT

All questions asking for the respondent’s agreement with a statement uses a 5-point Likert scale between “Strongly agree” and “Strongly disagree.” Question 10 asks for the frequency of activities and uses the scale: Never - Sometimes - About half the time - Most of the time - Always.

- (1) What is your current relationship status?
  - Single
  - In a committed relationship
  - In a casual relationship
  - Other: \_\_\_\_\_
- (2) In the last 12 months, have you experienced any of the following? Check all that apply.
  - Ending a romantic relationship (e.g., breakup)
  - Ending a sexual relationship (e.g., friends with benefits)
  - Starting a romantic relationship (3)
  - Starting a sexual relationship (4)
  - Committing to a romantic relationship (5)
  - Committing to a sexual relationship (6)
  - Other relational change: \_\_\_\_\_
- (3) Have you sexted in the last 12 months? Sexting includes sending or receiving sexually explicit images, videos, or text messages. [End survey if answer is “no”]
  - Yes
  - No
- (4) Which platforms have you most recently used to sext? Choose up to three.
  - SMS (text messages)
  - Snapchat
  - WhatsApp

- Signal
- Facebook Messenger
- Tinder/Hinge/Bumble
- Grindr
- Instagram
- TikTok
- Other: \_\_\_\_\_

For the following questions, please think of your most recent/serious sexting partner on Platform.

- (5) Please rate your agreement with the following statements.
  - [1–5] I feel safe sexting on Platform.
  - [1–5] I worry about people other than my partner seeing my content on Platform.
  - [1–5] I use Platform primarily for sexual content.
  - [1–5] I use Platform to organize my own sexual content.
  - [1–5] I wanted to use a different platform to sext but my partner wanted to use Platform.
- (6) Please rate your agreement with the following statements.
  - [1–5] Platform is convenient.
  - [1–5] It is easy for me to access Platform.
  - [1–5] Platform makes it easy to message someone.
  - [1–5] Please select “Strongly agree” for this statement.
- (7) Please rate your agreement with the following statements.
  - [1–5] Platform helps keep my communication private.
  - [1–5] My communication is private via Platform.
  - [1–5] I expect my communication to be private via Platform.
- (8) Please rate your agreement with the following statements.
  - [1–5] Platform makes it seem like my partner is present.
  - [1–5] Platform makes it feel like my partner is close by.
  - [1–5] Platform makes it feel like my partner is really with me when we communicate.
  - [1–5] Platform allows me to determine if my partner is really “there” when communicating.
- (9) Please rate your agreement with the following statements.
  - [1–5] Platform keeps a record of communication that I can go back and look at.
  - [1–5] I can retrieve past messages in Platform.
  - [1–5] Platform keeps a record of communication that can last long after the initial communication.
  - [1–5] Communication in Platform exists long after the initial interaction is finished.

For the following questions, please think of your most recent/serious sexting partner.

- (10) When sexting, how often do you...
  - [1–5] Send text-only sexual messages?
  - [1–5] Send sexual photos of yourself?
  - [1–5] Send sexual videos of yourself?
  - [1–5] Receive text-only sexual messages?
  - [1–5] Receive sexual photos of your partner?
  - [1–5] Receive sexual videos of your partner?
  - [1–5] Please select “Sometimes” for this statement.
- (11) Have you saved sexts from your partner (e.g. taken a screenshot, saved to camera roll, kept in message history)? Why or why not? \_\_\_\_\_
- (12) If you have ever saved a sext, how have you stored it?
  - In my camera roll

- In our chat history
  - In a separate folder on my device
  - In the cloud (e.g. Dropbox, Google Drive)
  - Specific hidden app (e.g. hidden folder, locked camera roll)
  - Other: \_\_\_\_\_
  - I do not save sexts
- (13) Do you think your partner has saved photos you sent them?
- No, I know they have not
  - No, I assume they have not, but I never asked
  - Might or might not
  - Yes, I assume they have, but I never asked
  - Yes, I know they have
- (14) Please rate your agreement with the following statements.
- [1–5] Sexting with this partner made (makes) me nervous.
- [1–5] I am not sure if this partner shared our sexts with others.
- [1–5] I am not sure who has seen my private sexual messages.
- [1–5] Sexting makes me feel uncertain.
- [1–5] I am uncertain of my partner's intentions with my sexts.
- (15) If you were to break up with a partner, what would you want to happen to your content? Check all that apply.
- I would want them to delete it
  - I would want them to keep it
  - I would want to have a discussion about what to keep or delete
  - I would want to have a discussion, not sure about the outcome
  - I don't care what they do
  - Other (Please explain)
- (16) If you ever spoke to your partner about what to do with your sexts upon breakup, when did you have the conversation(s)? Check all that apply.
- Before sexting
  - Before having sex
  - After having sex
  - After sexting but during the relationship
  - After the relationship ended
  - I have never spoken to my partner about this
- (17) What prompted the discussion about sexts? Check all that apply.
- I always have this conversation with partners
  - We had a disagreement about how to handle sexting
  - I had concerns about what my partner would do with my content
  - I wanted to know what my partner preferred me to do with their sexts
  - I have had negative experiences with sexting in the past with a different partner
  - I learned about my partner's prior experiences with sexting
  - Something else (Please explain)
- (18) Was there anything else that prompted this discussion (in addition to or beyond the above)? \_\_\_\_\_
- (19) [if single] What do you expect your most recent partner did with your sexting content after breaking up? \_\_\_\_\_
- (20) [if single] What did you do with your most recent partner's sexting content after breaking up? \_\_\_\_\_
- (21) [if in a relationship] If you and your current partner were to break up, what do you expect your partner would do with your sexting content? \_\_\_\_\_
- (22) [if in a relationship] If you and your current partner were to break up, what do you expect you would do with your partner's sexting content? \_\_\_\_\_
- (23) Have you and your partner ever created content together? E.g., take pictures or video during sexual activity?
- No
  - Yes
- (24) [if yes] Are your feelings about what should happen to content after a breakup different for content created together compared to solo content? Why or why not? \_\_\_\_\_
- (25) Is there a difference in content ownership between sexual content created together and sexual content created on one's own? Why or why not? \_\_\_\_\_
- (26) Please rate your agreement with the following statements.
- [1–5] I seek out opportunities to learn about security measures that are relevant to me.
- [1–5] I am extremely motivated to take all the steps needed to keep my online data and accounts safe.
- [1–5] Generally, I diligently follow a routine for security practices.
- [1–5] I often am interested in articles about security threats.
- [1–5] I always pay attention to experts' advice about the steps I need to take to keep my online data and accounts safe.
- [1–5] I am extremely knowledgeable about all the steps needed to keep my online data and accounts safe.
- (27) What is your gender identity?
- Man
  - Woman
  - Non-binary / third gender
  - Prefer not to say
  - Prefer to self-describe:
- (28) What is your sexual orientation? Please select all that apply.
- Heterosexual/Straight
  - Gay
  - Lesbian
  - Bisexual
  - Queer
  - Pansexual
  - Asexual
  - I am unsure (Questioning)
  - Prefer not to disclose
  - Prefer to self-describe:
- (29) Please type your age in whole numbers (e.g., "18" instead of "eighteen"). \_\_\_\_\_
- (30) What is your race or ethnicity? \_\_\_\_\_

[For questions 19–22, the participant was shown 19 and 20 if they indicated they were single in question 1, and 21 and 22 otherwise. The difference is only in phrasing.]

## B SURVEY END RESOURCES

The following text was shown to participants at the close of the survey:



We thank you for your time spent taking this survey. We would like to share several resources with you in case you would like to learn more about healthy relationships, safe sexting, or recovering from nonconsensual image sharing.

Resources on intimate image abuse: <https://cybercivilrights.org/ccri-safety-center/>

Tech safety in abusive relationships: <https://www.ceta.tech.cornell.edu/resources>

The domestic abuse hotline: <https://www.thehotline.org/resources/revenge-porn/>