
# From the Childhood Past: Views of Young Adults on Parental Sharing of Children's Photos

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# From the Childhood Past: Views of Young Adults on Parental Sharing of Children's Photos

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## Abstract

Parents increasingly post content about their children on social media. While such sharing serves beneficial interactive purposes, it can create immediate and longitudinal privacy risks for the children. Studies on parental content sharing have investigated perceptions of parents and children, leaving out those of young adults between the ages of 18 and 30. We addressed this gap via a questionnaire asking young adults about their perspectives on parental sharing of children's photos on social media. We found that young adults who had content about them shared by their parents during childhood and those who were parents expressed greater acceptance of parental sharing practices in terms of motives, content, and audiences. Our findings indicate the need for system features, policies, and digital literacy campaigns to help parents balance the interactive benefits of sharing content about their children and protecting the children's online footprints.

## 1 Introduction

Children are a vulnerable population[1] with the potential for experiencing harms to a disproportionately greater extent [45, 68]. Parents are the stewards of their children's online presence and privacy as children are too young to create a digital presence on their own and ineligible to create accounts on most online platforms [50]. The practice of parents sharing content (e.g., photos, videos, status messages, etc.) about their children is often referred to as "sharenting," a portmanteau of the words "sharing" and "parenting" [24, 55]. Although the term is often used with a negative connotation, especially by the viewers of the shared content, sharing content about their children is a common everyday practice for many parents [14, 71]. Such sharing provides parents with various benefits, such as keeping in touch with family and friends [6, 38, 39, 76], getting parenting support and advice [6, 76], monetizing the shared content [5, 16], etc.

[1] https://unglobalcompact.org/what-is-gc/our-work/social/childrens-rights

Parental sharing of content about their children is connected to harms related to digital technologies [28] and to the impact of an individual's actions on the privacy of *others* [49]—both aspects are receiving greater research attention. Content shared by their parents has the potential to result in negative consequences for the children—in childhood and beyond—by increasing the surface and vectors for privacy and security violations, such as identity theft [47], unwanted information disclosure [54], embarrassment [57], cyberbullying [71], digital kidnapping [72], generation of synthetic child pornography based on the content [56], creation of deepfake content mimicking a child [30], etc. For instance, 14% of American parents have reported that the identities of their children were stolen, and 21% have found that their children were cyberbullied [74]. Moreover, excessive parental sharing of content about them can frustrate children [31] and harm their relationships with their parents [54]. To avoid such risks, some parents choose to refrain from sharing *any* content related to their children [17].

However, many parents feel that the benefits of sharing content about their children outweigh the potential risks [10, 79], especially if they follow basic risk mitigation strategies such as not sharing "inappropriate" content [38] or not making the content accessible to anyone except their "Friends" [37]. In a recent survey, 77% of American parents reported sharing photos of their children online [72]. As a result of the content shared by their parents, as many as 80% of American children have a digital presence by the age of two, with an average of 1,500 photos of them posted online by the age of five [50].

While the literature on parental sharing of content about their children captures the perspectives of parents, children, and adolescents, there has not yet been an investigation of the views of young adults (i.e., those between 18 to 30 years of age [42, 65]). Moreover, studies in the literature have focused on understanding the impact of parental sharing of their children's content in the short term. Understanding the perceptions and practices of young adults whose parents might have shared content about them during their childhood can shed light on longer-term influences of such practices given that childhood experiences can often linger on and influence

life during adulthood [33]. To fill the gap in the literature, we investigated the perceptions and practices of young adults related to parental sharing of their children's content to answer the following research questions:

**RQ1:** How do young adults perceive parental sharing of content about their children?

**RQ2:** Do perceptions of young adults regarding parental sharing of content about their children vary based on experiencing parental sharing of content about them during childhood?

**RQ3:** Do perceptions of young adults regarding parental sharing of content about their children vary based on their relationship with the child whose content is shared?

**RQ4:** Do perceptions of young adults regarding parental sharing of content about their children vary based on being a parent?

We addressed the above questions in the context of photo sharing because parents make heavy use of social media platforms for photo sharing [44] which has made it the predominant focus of inquiry in the literature on parental sharing of content about their children. To answer the research questions, we designed an online questionnaire inspired by prior work on parental photo sharing [7, 20, 38, 76]. We distributed the questionnaire to young adults between the ages of 18 and 30 on the Amazon Mechanical Turk (AMT) crowdwork platform and via online forums. We collected and compared views on photo sharing from multiple perspectives by randomly assigning participants to one of three between-subjects study conditions corresponding to three scenarios: (i) one's parents sharing photos of oneself during childhood; (ii) oneself sharing photos of one's own (real or hypothetical) child; and (iii) *any* parents sharing photos of their own child.

We found that young adults determine the acceptability of parental sharing of photos of their children based on the motives for sharing the photo, the scene depicted in the photo, the age of the child in the photo, and the audiences with whom the photo is shared. However, the views of young adults about parental sharing of photos of their children are mostly independent of their relationship with the child in the shared photo. Importantly, we observed that having one's photos shared by one's parents during childhood can make young adults view parental sharing more favorably and make them more likely to engage in it themselves when they become parents. Based on these findings, we make the following contributions:

- we fill a gap in the literature by providing perspectives of young adults on parental sharing of photos of their children;
- we show that having one's photos shared online by one's parents during childhood can influence one's parental sharing perceptions and practices as an adult; and
- we offer suggestions for system design, regulatory interventions, and digital literacy campaigns grounded in the findings to help protect children's digital footprints resulting from parental sharing.

In the sections that follow, we situate our research in the literature on parental sharing of content about their children. Subsequently, we describe our study design, participant recruitment, and sample characteristics. We then present analyses of the participant responses to answer our research questions. We proceed to a discussion of the main takeaways of our findings followed by applying the insight to facilitate safer parental sharing of content about their children.

## 2 Related Work

We first provide the contextual background for parental online sharing of content about their children, with a particular focus on the popular practice of sharing photos on social media [21, 34, 36]. Afterward, we discuss existing research on the privacy perceptions of parents and children regarding parental sharing of content about their children.

### 2.1 Perceptions of Parental Sharing of Content about Their Children

Several studies carried out to understand why parents share content about their children on social media collectively reveal that such sharing is driven by one or more of the following reasons: keeping in touch with family and friends, seeking parenting advice, getting affirmation and support, showing pride in their children, making others envious, portraying themselves as good parents, archiving the childhood of their children, increasing their online popularity, earning money by advertising, and attracting followers [5, 6, 16, 38, 39, 48, 51, 73, 76]. While some parents report refraining from sharing *any* information about their children due to the potential for future embarrassment for the children [20], others believe that the joy their children may derive from viewing these photos in the future would compensate for potential future embarrassment [4]. Moreover, researchers have found that parents tend to feel that *they* should maintain control over posting about their children online, rarely seeking their child's consent before sharing [4]. These findings underscore a potential disconnect between parental sharing practices and their children's preferences [53]. Our research aims to examine this aspect by investigating the views of young adults regarding parental sharing of their children's photos.

A number of studies focus specifically on parental sharing of photos of their children to understand the motives of parents [38, 39, 76], the type of photos of their children that parents share [38, 76], and the audiences with whom parents share photos of their children [7, 20]. In addition to the perspectives of parents, researchers have investigated how children and adolescents perceive parental sharing of their photos on social media. These investigations highlight the varying and nuanced perspectives of children and adolescents regarding the types of photos shared by their parents, with preferences dependent mainly on the content of the photo, the age of the child, and the recipient(s) of the shared photo. For instance, Moser et al. [54] found that 10–17-year-olds

report general acceptance of parents sharing photos that portray a positive parent-child relationship and a happy family life. Conversely, the adolescents objected to parental sharing of photos that are embarrassing (e.g., "naked butt baby pictures") or unflattering (e.g., "hair isn't fixed"), those that reveal personal information (e.g., photos containing "private stuff"), and those that expose body parts (e.g., "kids in their underwear in a bathtub") [54]. Similarly, Ouvrein et al. [57] found that 12–14-year-olds prefer that their parents avoid sharing unflattering or embarrassing photos, especially those in which they look or behave oddly. The children in Ouvrein et al.'s [57] research were accepting of parents sharing photos that capture special events, such as birthdays, games, milestones, family trips, or vacations, and found it reasonable for parents to share photos of babies, primarily due to their cuteness. Another study has noted that middle-school-age children determine the acceptability of parental sharing of their photos and videos based on the recipient(s) of the content and the content itself [53]. With regard to teenagers, Bell [8] found that teens do not mind their parents sharing socially and physically attractive photos of them. More specifically, teenagers find it acceptable for their parents to share photos of them when they were babies, photos showing their achievements, and photos that portray their happy family life [8]. In addition, teenagers have reported finding it acceptable for their parents to share photos of their family activities and vacations as long as they are well-dressed and in good poses in the shared photos [78]. However, teenagers in the same study regarded photos in which they do not look good as embarrassing and were against their parents sharing their personal information online [78]. To refine these findings from the literature, we asked separately about four distinct stages of childhood.

Based on an analysis of the perceived sensitivity of the types of photos shared on social media, Li et al. [41] found that photos containing children are considered sensitive "when the child is nude, is wearing inappropriate clothes, or in a dangerous situation" [41]. The categories identified as sensitive by Li et al. [41] overlap with the photo types that children prefer not to share as reported in various other studies [8, 54, 57, 58, 78]. We investigated the perceptions of young adults regarding parental sharing of their children's photos by using the 19 photo types relevant to children out of the 28 included in Li et al.'s [41] taxonomy of sensitive photos. For instance, we excluded work-related photo types (e.g., "activities that break work rules") because children do not work.

## 2.2 Perceptions about Privacy

Sharing photos of children can impact the children's privacy in a variety of ways [3, 29]. For instance, those beyond the intended audience(s) might view the shared photos [3, 40, 62]. Children express worries about who might see their photos online, especially if the audience includes "strangers" [53]. Nevertheless, some parents report no concerns about sharing their children's photos with a broad audience [4, 7, 20].

Researchers have noted, however, that many parents are aware of the risks associated with online sharing of personal information of their children [10, 79]. Parents report a variety of strategies aimed at balancing the benefits of sharing photos of their children while respecting the children's (privacy) preferences [10, 79]. These strategies often entail limiting the sharing of children-related content [61] or restricting who can access the content [44]. For instance, Brosch [14] found that parents tend to share pictures that reflect joyous occasions, such as holidays and special events, thereby emphasizing the positive aspects of their children's lives. Conversely, Wagner and Gasche [76] have reported that parents avoid sharing photos of their children that they deem sensitive, such as those that could be construed as offensive, or may engage in additional protective actions, such as obscuring children's faces prior to sharing. Further, Kumar and Schoenebeck [38] found that parents often refrain from sharing photos that could be seen as overly exposing the child or the mother (e.g., images of naked babies, newborns, or intimate mother-baby moments) or those that might portray their children in a negative light (e.g., showing them crying or in potentially embarrassing situations). Parents typically do not share low-quality photos (e.g., blurry or out-of-focus images) either [38].

As Kumar and Schoenebeck [38] have noted, parents follow various strategies to manage risks and trade-offs when sharing content about their children online. For example, some parents share content about their children only with their friends [7]. Nonetheless, it is important to note that such actions may not always be accurately enacted because a large proportion of parents report a lack of proficiency in modifying privacy settings [44]. Another study further suggests that some parents do not fully comprehend the risks to themselves and their children that can arise because of sharing content about their children [18]. Paradoxically, even parents who express higher privacy concerns may not reduce their sharing of content about their children [10]. For instance, Livingstone et al. [44] noted that British parents concerned about privacy were the ones who shared more content about their children. Relatedly, Ranzini et al. [61] found that the amount of content parents shared about their children was uncorrelated with the privacy concerns and privacy self-efficacy of the parents.

From the children's perspective, concerns regarding online content about oneself begin to appear as children start to grasp the concept of privacy when growing up [46]. For instance, teenagers have reported caring a lot more about the quality of the content their parents share about them online [54]. Further, when children start sharing content on their own, they seek to broaden their social media connections [70] and may therefore wish to present themselves differently from how their parents portray them on social media [55, 57].

After transitioning from teenage into young adulthood, individuals tend to manage their online activities by using privacy settings and controls to a greater extent than adults in

other age groups [12,70]. During young adulthood, one might have heightened concerns about the content about oneself that others might encounter online because it is the life stage during which people tend to pursue higher education, seek employment, and engage in romantic relationships [70]. Such concerns naturally extend to content about oneself posted by one's parents during childhood [55]. Yet, there is little research on the perceptions of young adults regarding such content. Our study aims to fill this gap.

## 3 Method

We used an online questionnaire to address the research questions listed in Section 1. The following subsections describe the questionnaire design, participant recruitment, sample characteristics, and our data analysis approach. All study procedures were reviewed and approved by the Institutional Review Board (IRB) of Indiana University Bloomington.

### 3.1 Questionnaire Design

Figure 1 shows the organization of the various components of the questionnaire. Those who consented to participate after reading information about the study and committed to answering attentively [26] proceeded to the questions to determine eligibility to participate in the study. The inclusion criteria for study participation were: (i) being 18 to 30 years old; (ii) having lived in the United States for the entire life; and (iii) being familiar with photo sharing on at least one of the two most popular social media platforms (i.e., Facebook[2] and Instagram[3]). We limited participation to those from the United States to ensure that the results would not be affected by cultural differences in privacy preferences and online sharing practices [9, 22, 80]. Only those who met all inclusion criteria were allowed to proceed and participate in the study.

In the initial part of the questionnaire, we asked participants about their personal practices regarding sharing photos on social media. Next, we asked participants if any of their parents had ever shared their photos on social media during childhood. If one of the parents of a participant had shared the participant's photos on social media during childhood, we presented a set of questions about that parent regarding motives for sharing the photos, types of shared photos, and acceptable audiences for the shared photos. If both parents of the participant had shared the participant's photos on social media during childhood, we asked about one of them chosen at random. The questions listed the parental photo-sharing motives we compiled from the literature (see Section 2.1). As mentioned earlier, the photo types were the 19 categories of sensitive photo types relevant to children from the taxonomy of sensitive photo types provided by Li et al. [41]. For each of these photo types, participants indicated whether they find it acceptable to share such photos of children or adolescents in various age groups: Infant or Toddler (0–3 years); Preschooler (4–6 years); Middle childhood (7–12 years); Teenager (13–17 years); and None. We formed these groups based on guidance from the Centers for Disease Control and Prevention (CDC)[4] with slight adjustments to avoid overlap in ages. Participants whose parents did not share their photos on social media during childhood did not receive this set of questions.

Afterward, we randomly assigned participants to one of three between-subjects study conditions based on their relationship with the child in the photos shared by parents: (i) oneself as a child, (ii) one's (real or hypothetical) child, or (iii) anyone's child in general. In each condition, we asked participants to answer questions about parental sharing of photos of the corresponding child. We modified the wording for each photo type according to the study condition (e.g., Condition (i): 'you as a child or adolescent'; Condition (ii): 'your child or adolescent'; Condition (iii): 'their child or adolescent'). In all other aspects, the questions in each condition were identical and covered the same motives, photo types, and audiences regarding parental sharing practices. We additionally asked participants to indicate the acceptability for sharing a particular type of photo of a child during the different stages of childhood mentioned above. Toward the end, we used questions from the literature to ask participants about their privacy preferences and practices when sharing photos on social media [3, 7] and the closeness of their relationships with their parents [73]. We concluded the questionnaire by collecting standard demographic information.

When constructing the questionnaire, we were mindful of the potential effects of the order of response options. To counter order effects, we randomized the order of the options for most questions, including those for photo-sharing motives. However, we did not randomize the order of photo types when asking about their acceptability to be able to spread the large number of photo types across multiple pages. Nevertheless, we verified that these responses were unaffected by order effects (see Section 4). In a few additional cases, we presented response options in a fixed order to ensure clarity and consistency by adhering to a conceptual ordering (e.g., Close friends to Public, Infant to Teenager, etc.).

Before deploying the study, we piloted the questionnaire in two phases ($n = 15$ and $n = 25$, respectively). Feedback from the two pilots led to several refinements to improve the clarity, consistency, and coherence of the questions and helped us confirm that the questions and corresponding answer choices were understood as we intended.

[2] https://www.statista.com/statistics/408971/number-of-us-facebook-users/

[3] https://www.statista.com/statistics/293771/number-of-us-instagram-users/

[4] https://www.cdc.gov/ncbddd/childdevelopment/positiveparenting/index.html

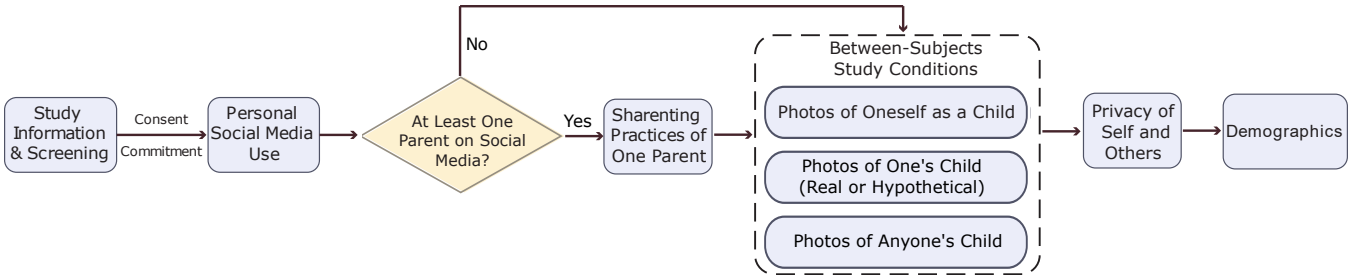


Figure 1: The overall flow of the study depicting the main components of the questionnaire.

## 3.2 Participant Recruitment

We recruited participants in two ways: (i) posting a Human Intelligence Task (HIT) to AMT workers between the ages of 18 and 30 residing in the United States with at least 50 approved HITs and an approval rating of 95% or higher [32]; and (ii) advertising on Reddit (in r/PaidStudies[5] and r/paidstudy[6] subreddits), in online classifieds at Indiana University, and at physical locations in/around Bloomington, Indiana. We used AMT for access to a large pool of crowd workers in the United States [59, 64]. AMT workers are a reasonable proxy for Americans between the ages of 18 to 50 with some college education, but not for the general US population [63]. By soliciting participants via channels other than AMT, we ensured a broad, diverse sample of individuals from the United States.

We collected responses to the questionnaire from January–May, 2022. The median time for completing the study was 14.5 minutes. AMT workers who completed the study attentively and provided the correct completion code received $1.80 for their participation, translating roughly to US$7.5/hour which is above the minimum wage of US$7.25/hour in Indiana. For those recruited via other sources, we held a random drawing at the end of the study for twenty Amazon gift certificates of $10 each. Prior work suggests that a raffle-based approach is less prone to abuse, promotes voluntary participation, and tends to yield high-quality responses [13]. In fact, such an approach often encourages a larger number of individuals to participate thereby increasing the diversity and representativeness of the sample.

We removed the responses of those who failed the two attention checks (1 explicit and 1 indirect) included in the questionnaire to catch inattentive participation that can compromise data quality. Such checks and filtering are common in research that employs online and crowd worker samples (e.g., [60, 67, 69]). Three-hundred and four respondents failed the explicit attention check that required selecting a specific answer for a question. Fifty respondents failed the indirect attention check that involved cross-checking the year of birth asked at the beginning with the age asked at the end (within the margin of a year since birthdays do not align precisely with calendar years). Based on the inclusion criteria listed above, we next filtered out 27 respondents who reported not living in the United States their entire lives. To ensure high data quality and validity, we additionally excluded 13 respondents who marked *all* answer choices when asked whether their father, mother, or neither used social media. After applying these filters in series, we were left with 382 valid responses in total (238 from AMT and 144 from other sources), all of which were from IP addresses in the United States.

[5] https://www.reddit.com/r/PaidStudies/
[6] https://www.reddit.com/r/paidstudy/

## 3.3 Sample Characteristics

The 382 valid responses were distributed roughly equally across the three study conditions: 'oneself as a child' ($n = 124$), 'one's child' ($n = 136$), and 'anyone's child' ($n = 122$). Overall, the mean age of the participants was 25.28 (sd $= 3.45$), with a median of 25. The sample included a slightly higher proportion of women, with 212 (56%) participants identifying as women, 164 (43%) as men, and 6 as non-binary. Close to half ($n = 163$; 43%) of the participants reported being parents. In terms of ethnicity, 253 (66%) participants identified as White/Caucasian, 71 (25%) as Black/African American, 11 (4%) as Asian/Pacific Islander, 10 (3%) as Hispanic/Central American/South American, 9 (3%) as European, 4 (1%) as from the Indian subcontinent, 4 (1%) as Native American, and 1 (0.26%) as Middle Eastern/North African. Nineteen participants did not provide information on their ethnic background. More than two-thirds ($n = 263$; 69%) of the participants reported completing college education, while a little less than a third ($n = 117$; 30.6%) indicated completing high school or vocational training as their highest level of education. Only 10% ($n = 40$) of the participants lived in rural localities with the rest living predominantly in urban ($n = 210$; 55%) and suburban ($n = 132$; 35%) locales. Seventy-eight percent ($n = 299$) of the participants used social media multiple times a day while the rest ($n = 83$; 22%) were less frequent social media users. A large majority ($n = 264$; 69%) of the participants reported having had content about them shared online by their parents during their childhood: 59 (22%) when they were infants or toddlers; 88 (33%) when they were preschoolers, 128 (48%) during their middle childhood; and 176 (67%) when they were teenagers.

### 3.4 Data Analysis

Prior to conducting analyses, the first two authors jointly consolidated the ten photo-sharing motives in the questionnaire into six higher-level categories: (i) Keeping in touch with family and friends, (ii) Archiving childhood (iii) Showing pride in the child, (iv) Communicative utility, (v) Outcome-driven sharing, and (vi) Impression management. The first three categories correspond to the top three motives selected by the participants. We grouped 'Seeking parenting advice' and 'Getting affirmation and support' as 'Communicative utility' since they involve communicating about parenting. We placed 'Attracting followers,' 'Making others envious,' and 'Earning money by advertising' under 'Outcome-driven sharing' based on self-interest. We treated 'Portraying as good parents' and 'Increasing online popularity' as 'Impression management' to project a positive image. These categories offer a conceptual scaffold for a better understanding of the manifold motives that drive parental sharing of content about their children. Despite minor potential overlap among categories due to the intricate nature of human motivations, we found the categories valuable for organizing and interpreting our results. Moreover, our categorization aligns with the categories identified in prior research on parental sharing [73].

As mentioned above, a part of the questionnaire varied between-subjects based on the study condition (see Figure 1). Since we found only a few minor differences across the three between-subjects conditions (see Section 4.3), we were able to pool the responses for the three conditions for a larger sample size and greater statistical power in other statistical analyses. When conducting statistical analyses related to the factors pertaining to our research questions, we examined the impact of each factor on: (i) acceptable motives for parental sharing of their children's photos; (ii) types of children's photos deemed acceptable to share across different age groups of children; and (iii) acceptable audiences for children's photos shared by their parents. Our sample size was large enough to tolerate violations of the assumption of normality [11, 66]. Moreover, in most cases, skewness and kurtosis were close to normal benchmarks [15, 27], and the variance ratio was less than 1.5 [35]. Therefore, in most analyses, we compared relevant groups using one-way analysis of variance (ANOVA) coupled with post-hoc Tukey tests to test for differences between pairs of groups (with 95% familywise confidence level). To address the few instances where skewness and kurtosis were not close to normal benchmarks or the variance ratio was greater than 1.5, we used the non-parametric Kruskal-Wallis test followed by post-hoc pairwise Mann-Whitney tests with Bonferroni correction to account for multiple testing.

### 3.5 Limitations

Before proceeding to present the findings of the analyses, we point out a few limitations. Self-selected study participation and self-reported responses both involve inherent limitations that may have affected our data. We included a commitment question at the beginning of the questionnaire to motivate truthful self-reporting. Nevertheless, further studies are needed to verify whether the self-reported sharing preferences and practices match actual sharing behavior in real-world systems. To minimize the influence of cultural backgrounds on the findings, we restricted recruitment to those who had lived in the United States their entire lives [9, 22, 80]. Therefore, the extent to which the findings generalize to the population of the United States and beyond requires verification.

When asking about parents, we did not make an explicit distinction between biological parents and others (e.g., stepparents, foster parents, adoptive parents, etc.). The participants were free to associate the terms "parent," "father," and "mother" with any type of parent they deemed appropriate. Examining whether differences in the type of parental relationship influence parental sharing of content about their children could be an interesting avenue for future research. Note that our questionnaire design accounted for households with same-sex parents since the wording of the questions did not assume that participants had only one father or mother. For the sake of clarity, we phrased all questions about parents in the present tense given the negligible chances of a participant's parent being deceased based on the age restrictions for the sample. Upon checking the open-ended comments at the end of the questionnaire, we did not find any mention of the questions being non-applicable because of a deceased parent.

We used sharing motives and shared photo types taken from the literature. While such an approach facilitates comparing our findings with prior work and building upon the literature, it makes our findings subject to any limitations that might arise from using these specific categories. Moreover, our study is limited to photo-sharing practices on two specific platforms (i.e., Facebook and Instagram). Future work can build on these findings by exploring parental sharing of other types of content (e.g., videos, posts, comments, etc.) about their children and by including other social media platforms.

## 4 Findings

To answer our research questions, we investigated the overall perceptions of the young adult participants of our study regarding parental sharing of their children's photos (RQ1). Afterward, we examined how these perceptions are influenced by the following factors: experiencing parental sharing of one's photos during childhood (RQ2), relationship with the child in the photos shared by parents (RQ3), and being a parent (RQ4). Table 1 summarizes the main findings for each research question (see Section 1), grouped by the aspects relevant to parental sharing of their children's photos (i.e., motives, photo types, and audiences). The subsections below detail the findings pertaining to each research question.

Table 1: Main findings for each research question, grouped by aspects relevant to parental sharing of their children's photos.

| RQs | Motives | Photo Types | Audiences |
|---|---|---|---|
| *RQ1* | Young adults find motives about typical social media use more acceptable than those driven by material or negative outcomes. | Young adults consider it less acceptable for parents to share photos of their children with negative or revealing content. | Young adults find it less acceptable for parents to share photos of their children with socially distant audiences. |
| *RQ2* | Young adults who experienced parental photo sharing during childhood consider it more acceptable to share children's photos to keep in touch with family and friends and to project a positive image of themselves and the children. | Young adults who experienced parental photo sharing during childhood find it acceptable to share more types of highly sensitive photos of children of all age groups except infant/toddler. | Young adults who experienced parental photo sharing during childhood are more accepting of parental sharing of children's photos with diverse audiences. |
| *RQ3* | The acceptability of various motives for parental sharing of children's photos is independent of the relationship between a young adult and the child in the shared photos. | Young adults are less protective of highly sensitive photos of themselves during their teenage years and more protective of moderately sensitive photos of their own infants or toddlers. | When sharing with close friends, young adults are more careful about photos of their children compared to photos of themselves during their childhood. |
| *RQ4* | Young adult parents find outcome-driven and impression management motives for parental sharing of children's photos more acceptable than young adult non-parents. | Compared to young adult parents, young adults who are non-parents are more accepting of sharing less sensitive photos of children. | Young adult parents find it more acceptable than young adult non-parents to share children's photos with socially distant groups. |

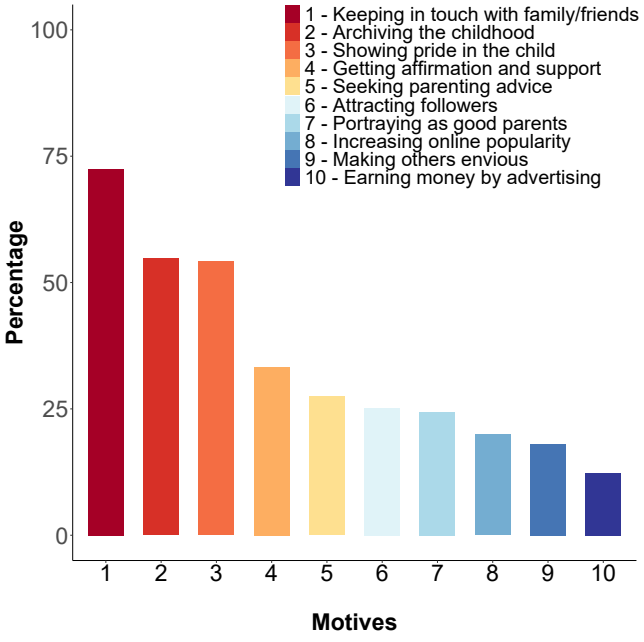


Figure 2: Percentages of participants who found each motive for parental sharing of content about their children acceptable.

## 4.1 Perceptions of Parental Photo Sharing (RQ1)

The young adults who participated in our study found the motives connected to typical social media use (i.e., 'Keeping in touch with family/friends' – 72.51%, 'Archiving the childhood' – 54.71%, and 'Showing pride in the child' – 54.19%) to be more acceptable than motives driven by material outcomes (i.e., 'Earning money by advertising' – 12.30% and 'Increasing online popularity' – 19.89%) or negative intentions (i.e., 'Making others envious' – 18.06%) (see Figure 2). Using a one-way ANOVA, we found that these differences are statistically significant ($F(9,3810) = 76.88$, $p < 0.001$). A post-hoc Tukey test showed that the motives connected to typical social media use were statistically significantly more acceptable than others (adjusted $p < 0.001$ in all cases). In addition, the least acceptable motive (i.e., 'Earning money by advertising') was found to be statistically significantly less acceptable than all other motives (adjusted $p < 0.01$) except 'Making others envious' and 'Increasing online popularity.' For the rest of the analyses, we used the higher-level categories of motives (see Section 3.4). For categories that included multiple motives, we averaged the scores for the individual motives.

Given 19 sensitive types of photos of children, the participants selected those they deemed acceptable to be shared for four age groups: infant/toddler, preschooler, middle childhood, and teenager. We found that the highest number of photo types was selected for middle childhood (mean = 5.71), followed by teenager (mean = 5.16), preschooler (mean = 4.71), and infant/toddler (mean = 3.62). A one-way ANOVA for the number of acceptable photo types yielded statistically significant differences across the four age groups ($F(3,1524) = 23.47$, $p < 0.0001$). A post-hoc Tukey test showed that the number of acceptable photo types for the infant/toddler group was statistically significantly lower (all adjusted $p < 0.001$) than that for the other three (preschooler: 95% C.I. = $[0.42, 1.75]$, middle childhood: 95% C.I. = $[1.42, 2.75]$, and teenager: 95% C.I. = $[0.87, 2.20]$). In addition, the number of acceptable photo types for the preschooler group was statistically significantly

lower than that for middle childhood (adjusted $p < 0.001$, 95% C.I. $= [0.33, 1.66]$). However, there were no statistically significant differences when comparing the teenager group with the preschooler or the middle childhood groups (see Figure 3). In general, the participants deemed a low number of photo types as acceptable, perhaps because the photo types represented sensitive content. This finding aligns with the literature which found that parents tend to consider it inappropriate to share photos portraying negative situations [3].

To delve deeper into the acceptability of photo types for each age group, we compared the number of participants who selected each photo type. As shown in Table 2, we found that for all four age groups, the photo types considered acceptable to share by fewer than a quarter of the participants were those with negative or revealing content. We refer to these photo types as *highly sensitive*. Moreover, we noted that the photo types deemed acceptable to share for all age groups by more than a quarter and fewer than half of the participants seemed to depict more moderate content (see Table 2). We refer to these photo types as *moderately sensitive* because the participants seemed to consider sharing these types of photos to be more acceptable than those belonging to highly sensitive photo types. The rest of the photo types, i.e., photos of children with other people or with personal assets, were not selected similarly across the four age groups of children. Further, we found that sharing group photos seemed more acceptable for older children.

We additionally performed a regression analysis for each age group with the number of participants who considered each photo type acceptable to share as the dependent variable and the fixed order in which the photo types were listed in the questionnaire as the independent variable. We found no statistically significant order effects for any age group, with all p values well above the standard 0.05 threshold.

We asked the young adults who participated in our study to rate (on a 7-point scale, with 1 being the least acceptable and 7 being the most acceptable) the level of acceptability for parents sharing photos of their children with four audiences: close friends, friends/followers/connections, current/potential employers, and general viewers/public. As shown in Figure 4, we found that close friends (mean $= 5.05$) were the most acceptable audience for children's photos, followed by friends/followers/connections (mean $= 4.40$), current/potential employers (mean $= 3.28$), and general viewers/public (mean $= 3.36$). A one-way ANOVA testing the level of acceptability across the different audiences revealed statistically significant differences ($F(3,1524) = 83.95$, $p < 0.001$). A post-hoc Tukey test found statistically significant differences (all adjusted $p < 0.001$) between close friends and the other three audiences (friends/followers/connections 95% C.I. $= [-0.99, -0.32]$, current/potential employers 95% C.I. $= [-2.11, -1.43]$, and general viewers/public 95% C.I. $= [-2.03, -1.35]$). In addition, sharing with friends/followers/connections was statistically significantly more acceptable (both adjusted $p < 0.001$) than with current/potential employers or general viewers/public (current/potential employer 95% C.I. $= [-1.46, -0.78]$ and general viewers/public 95% C.I. $= [-1.38, -0.70]$). However, there was no statistically significant difference between the acceptability of current/potential employers and general viewers/public as audiences for shared photos of children. These findings highlight that the acceptability of sharing photos of children decreases with increasing social distance, thus echoing prior work that found that people in distant social circles are less acceptable audiences for family information [2, 37].

## 4.2 Experiencing Parental Photo Sharing (RQ2)

We examined whether having one's photos shared by one's parents during childhood influences the acceptability of parental sharing of photos of their children. A one-way ANOVA showed that a statistically significantly higher proportion of participants who had experienced parental sharing of their photos during childhood chose the most popular parental sharing motive (i.e., 'Keeping in touch with family/friends') to be more acceptable than those who had not had their photos shared by their parents when they were children (80% vs. 56%, respectively $F(1,380) = 25.95$, $p < 0.001$). Similarly, 'Showing pride in the child' and 'Impression management' were statistically significantly more acceptable motives for the participants who had experienced parental sharing of their photos during childhood than for those who did not (Showing pride: 61% vs. 40%, respectively $F(1,380) = 14.66$, $p < 0.001$; Impression management: 51% vs. 29%, respectively $F(1,380) = 10.19$, $p < 0.01$). For the rest of the motives, the differences based on having experienced parental sharing of photos during childhood were not statistically significant ($p > 0.05$). These findings indicate that experiencing parental sharing of their photos during childhood can lead young adults to deem it more acceptable to share children's photos to keep in touch with family and friends and project a positive image of themselves and their children.

Next, we investigated the influence of having one's photos shared by one's parents during childhood on the number of photo types considered acceptable to share for the four age groups of children. For the preschooler and teenager groups, the participants who had experienced parental sharing of their photos during childhood selected statistically significantly more photo types as acceptable than those who had not had their parents share their photos during their childhood: (preschooler: 5.29 vs. 4.14, respectively $F(1,380) = 8.33$, $p < 0.01$; teenager: 5.15 vs. 4.16, respectively $F(1,380) = 6.31$, $p < 0.05$). However, a one-way ANOVA did not indicate any significant differences for the infant/toddler and middle childhood age groups ($p > 0.05$). Moreover, we found that for all age groups except infant/toddler, the participants who had experienced parental photo sharing during child-

Table 2: Photo types similarly acceptable across all the four age groups of children (Infant/Toddler, Preschooler, Middle childhood, and Teenager).

| **Acceptable to <25% of the participants** *(Highly sensitive)* | | **Acceptable to 25–50% of the participants** *(Moderately sensitive)* |
|---|---|---|
| - Unflattering close-up of the child's body parts | - Child in an unkempt home | - Child with an unpleasant |
| - Child (partially) in the nude | - Child in the bathroom | appearance or facial expression |
| - Showing irresponsibility toward the child | - Containing other people's information | - Child while sleeping or grooming |
| - Drawing attention to the child's bad clothing | - Containing personal and private | - Child with food |
| - Child with a medical condition or visible blood | information | - Child relaxing at home |
| - Child under medical treatment | - Containing a gun | - Bad quality photos of the child |

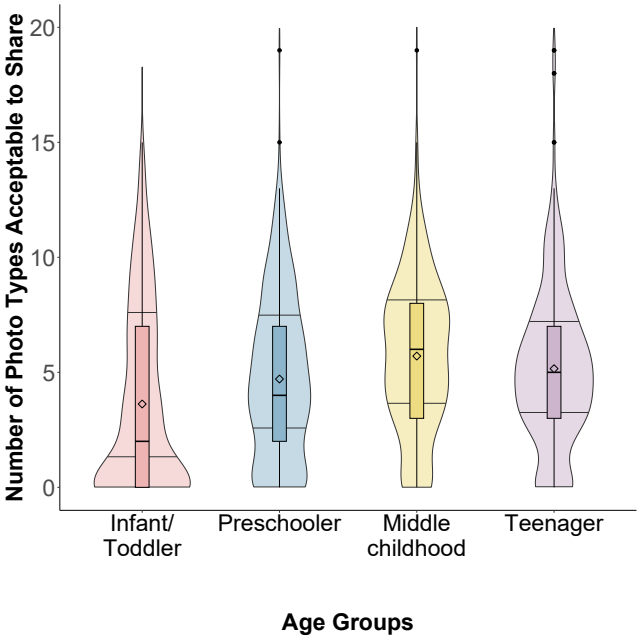


Figure 3: Violin plots showing the number of photo types that the participants deemed acceptable for sharing for different age groups of children.

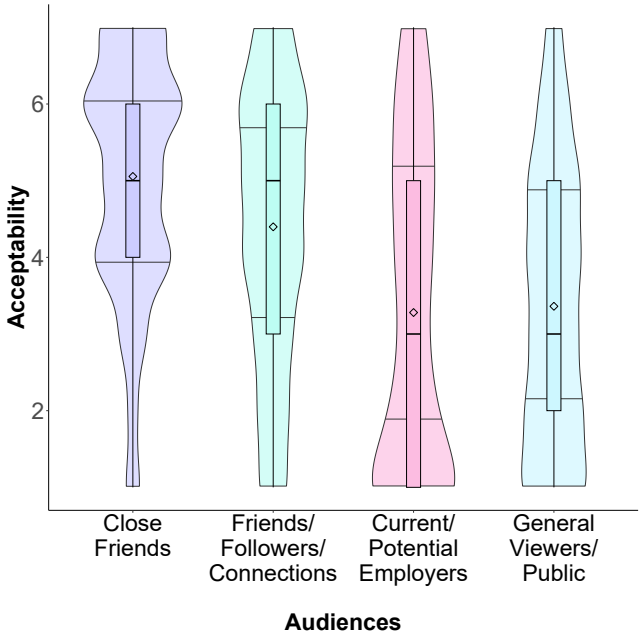


Figure 4: Violin plots showing participant ratings for acceptability of sharing photos of children with various audiences. Acceptability was measured on a 7-point scale, with 1 being the least acceptable and 7 being the most acceptable.

hood selected a statistically significantly higher number of highly sensitive photo types as acceptable than the other participants: preschooler means 1.73 vs. 0.82, respectively ($F(2,379) = 26.86$, $p < 0.001$); middle childhood means 2.48 vs. 1.09, respectively ($F(2,379) = 33.85$, $p < 0.001$); and teenager means 1.88 vs. 1.27, respectively ($F(2,379) = 7.68$, $p < 0.01$). In contrast, a statistically significantly higher proportion of participants who had not had their photos shared by their parents during childhood found the photo types 'Containing child's objects or personal assets' and/or 'Event' acceptable to share for the infant/toddler (Assets: 43% vs. 33%, respectively $F(2,379) = 3.96$ $p < 0.05$; Event: 50% vs. 36%, respectively $F(2,379) = 6.91$, $p < 0.01$), preschooler (Assets: 52% vs. 41%, respectively $F(2,379) = 4.26$, $p < 0.05$; Event: 62% vs. 46%, respectively $F(2,379) = 9.36$, $p < 0.01$), and teenager (Event: 72% vs. 59%, respectively $F(2,379) = 6.03$, $p < 0.05$) age groups. We did not observe such differences for the acceptability of sharing the moderately sensitive photo types (see Table 2).

We examined whether experiencing parental sharing of one's photos during childhood influences the audiences one considers acceptable for children's photos. A one-way ANOVA found that the acceptability of sharing children's photos with all audiences was statistically significantly higher for those who had experienced parental sharing of their photos during childhood than those who had not: close friends means 5.41 vs. 4.29, respectively ($F(2,379) = 46.9$, $p < 0.001$), friends/followers/connections means 4.87 vs. 3.36, respectively ($F(2,379) = 69.73$, $p < 0.001$), current/potential em-

ployers means 3.74 vs. 2.28, respectively ($F(2,379) = 45.19$, $p < 0.001$), and general viewers/public means 3.79 vs. 2.43, respectively ($F(2,379) = 51.41$, $p < 0.001$). The results suggest that experiencing parental sharing in childhood can influence the acceptability of such practices regardless of audience.

We further measured the influence of having one's photos shared by one's parents during childhood by investigating whether the young adults who participated in our study reported sharing practices similar to their parents. Using Spearman's rank-order correlation, we compared the number of motives and photo types the participants reported to explain the sharing practices of their parents with the number of motives and photo types they selected as acceptable for parental sharing from their own perspective. We found a statistically significant weak positive correlation for motives ($r(260) = 0.55$, $p < 0.001$) as well as photo types ($r(260) = 0.32$, $p < 0.001$). In other words, the participants who had experienced parental sharing of their photos during childhood were more likely to develop perceptions of sharing similar to those of their parents.

Taken together, the above results suggest that having one's parents share one's photos during childhood contributes to increasing the acceptance of such sharing practices in adulthood, including the sharing of highly sensitive photos with more diverse audiences. However, the influence does not seem to extend to all photo types. Notably, the participants without a history of having their photos shared by their parents during childhood found it more acceptable to share photos of types 'Containing child's objects or personal assets' and 'Event.' Such a divergence may stem from perceiving such photos as less invasive or less revealing of personal information.

## 4.3 Relationship with the Child (RQ3)

We investigated whether the acceptability of sharing children's photos is influenced by the relationship with the child in the photo. As mentioned earlier, the three study conditions covered the following relationships: (i) oneself as a child; (ii) one's (real or hypothetical) child; and (iii) anyone's child. We started by analyzing whether the differences in relationship with the child in the shared photos influenced the acceptability of the six categories of motives (see Section 3.4). A one-way ANOVA found no statistically significant differences across the three conditions ($p > 0.05$), indicating that perceptions of young adults regarding the acceptability of various motives behind parental sharing of children's photos seem independent of their relationship with the child in the shared photos.

Afterward, we examined whether the relationship with the child in the shared photos influences the number of photo types acceptable to share across children's age groups. A Kruskal-Wallis test found statistically significant differences across the three study conditions for highly sensitive photo types (see Table 2) for the teenager group ($F(2,379) = 10.70$, $p < 0.01$). Post-hoc Mann-Whitney tests with Bonferroni correction for multiple testing showed that the number of highly sensitive photo types of teenagers acceptable to share for 'anyone's child' (mean = 1.08) was statistically significantly lower than that for 'oneself as a child' (mean = 1.88, $p < 0.05$) and for 'one's (real or hypothetical) child' (mean = 2.05, $p < 0.01$). Additionally, a one-way ANOVA found that the number of moderately sensitive photo types (see Table 2) acceptable to share for the infant/toddler age group was statistically significantly different across the three study conditions ($F(2,379) = 3.87$, $p < 0.05$). A post-hoc Tukey test showed that these differences were statistically significant (adjusted $p < 0.05$, 95% C.I. $= [0.09, 1.15]$) only when comparing the responses for 'one's (real or hypothetical) child' (mean = 1.26) with those for 'anyone's child' (mean = 1.88). The relationship with the child in the photos did not impact the responses of the participants for the other photo types and age groups. Overall, we found that young adults seem less protective of highly sensitive photos of themselves during their teenage years and more protective of moderately sensitive photos of their own infants or toddlers.

Next, we investigated whether the relationship with the child in the shared photos influences the acceptability of sharing with different audiences. Using a one-way ANOVA, we found that the relationship with the child in the shared photos has a statistically significant influence on the acceptability of sharing photos of children with close friends ($F(2,379) = 3.02$, $p < 0.05$). A post-hoc Tukey test indicated that sharing children's photos with close friends was statistically significantly less acceptable (adjusted $p < 0.05$, 95% C.I. $= [0.01, 0.91]$) for 'one's (real or hypothetical) children' (mean = 4.78) than for 'oneself as a child' (mean = 5.24). Comparisons for the other three audiences were not statistically significant. These findings indicate that young adults appear to be more careful about sharing photos of their own children when sharing with close friends compared to sharing photos of themselves taken during their childhood. Whether young adults consider it acceptable to share children's photos with more distant audiences seems to be independent of the relationship of the sharer with the child in the photos.

## 4.4 Parental Status (RQ4)

Compared with the participants who were parents, a statistically significantly lower proportion of the participants who were not parents selected 'Outcome-driven sharing' and 'Impression management' as acceptable categories of motives for sharing children's photos. In contrast, a statistically significantly more proportion of non-parent participants selected 'Archiving the childhood' as an acceptable motive for sharing children's photos compared with those who were parents.

A one-way ANOVA to investigate whether parental status is associated with the acceptability of sharing for various photo types showed that non-parents selected a statistically

Table 3: ANOVA results across children's age groups for the three photo types: Event, Containing child's objects or personal asset (Assets), and Child along with other people (With others). Compared with the participants who were parents, a significantly higher proportion of non-parent participants deemed it acceptable to share children's photos of these types.

| Age Group | Photo Type | Non-parent | Parent | F (2, 379) |
|---|---|---|---|---|
| Infant/ Toddler | Event | 50% | 27% | **22.07**$^{***}$ |
| | Assets | 47% | 22% | **25.80**$^{***}$ |
| | With others | 47% | 23% | **25.28**$^{***}$ |
| Preschooler | Event | 59% | 40% | **13.05**$^{***}$ |
| | Assets | 52% | 34% | **11.30**$^{***}$ |
| | With others | 54% | 34% | **16.59**$^{***}$ |
| Middle childhood | Event | 76% | 50% | **31.16**$^{***}$ |
| | Assets | 60% | 49% | **4.78**$^{*}$ |
| | With others | 58% | 42% | **10.11**$^{**}$ |
| Teenager | Event | 74% | 51% | **20.76**$^{***}$ |
| | Assets | 60% | 35% | **25.40**$^{***}$ |
| | With others | 63% | 48% | **9.47**$^{***}$ |

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

significantly higher number of moderately sensitive photo types (see Table 2) for the infant/toddler and preschooler age groups: infant/toddler means 1.92 vs. 1.01, respectively ($F(2,379) = 24.88$, $p < 0.001$); preschooler means 2.16 vs. 1.44, respectively ($F(2,379) = 18.13$, $p < 0.001$). Similarly, compared to the participants who were parents, a statistically significantly higher proportion of non-parent participants found it acceptable to share photos across all age groups of children for the following photo types: Event, Containing child's objects or personal assets, and Child along with other people (see Table 3 for the full statistical results). The above findings indicate that young adults who are yet to experience parenthood tend to be more accepting of sharing less sensitive photos of children. The only exception is the middle childhood age group for which young adult parents found a statistically significantly higher number of highly sensitive photo types (see Table 2) acceptable to share: means 2.45 vs. 1.74, respectively ($F(2,379) = 9.39$, $p < 0.01$).

A one-way ANOVA to examine the acceptability of sharing children's photos with different audiences showed that parents rated the acceptability of sharing such photos with the following audiences statistically significantly higher than non-parents: friends/followers/connections means 4.72 vs. 4.16, respectively ($F(2,379) = 9.66$, $p < 0.01$), current/potential employers means 4.01 vs. 2.74, respectively ($F(2,379) = 37.64$, $p < 0.001$), and general viewers/public means 3.84 vs. 3.00, respectively ($F(2,379) = 20.7$, $p < 0.001$). Contrary to our expectations, young adult parents seem to find it more acceptable than young adult non-parents to share children's photos with socially distant groups.

## 5 Discussion

Below we discuss the salient insight gained from our findings.

### 5.1 Influence of Parental Photo Sharing and Parenthood

Our findings show that young adults who experienced parental sharing of their photos during childhood are more open to engaging in sharing photos of children to keep in touch with others and to portray a positive image of themselves even if the shared photos of children are highly sensitive and viewable by distant connections. Moreover, these young adults deem more types of photos of children as acceptable to share. It may be the case that children whose content is shared by their parents internalize the sharing practices of their parents. Moreover, it is plausible that young adults who grew up with parents who shared content about them during childhood consider parental sharing of children's content as a means of validation of good parenting [19,53,76]. Our findings seem to provide evidence for Brosche's [14] expectations that children whose content is shared online by their parents may grow up with a different concept of privacy.

Compared to young adult non-parents, young adults who have children seem to deem it more acceptable to share highly sensitive photos of children and harbor fewer concerns about sharing photos of children with socially distant people. Although it might be counterintuitive that parents, who are expected to be protective of their children, are less cautious about their children's privacy, the observation is in line with previous work noting that parental sharing is uncorrelated with privacy concerns [44,61]. A plausible explanation might be that the time and effort involved in childcare change priorities and consequently affect choices regarding the optimal balance between the benefits of sharing and the corresponding risks to children's privacy. For instance, being a parent may lead people to prioritize the immediate benefits of sharing content about their children, such as maintaining social connections or seeking support and validation for parenting decisions, over uncertain and unclear privacy risks that may arise in the future. As Seberger et al. [67] found in the case of mobile apps, acceptance of privacy-invasive practices tends to have a reinforcing effect, leading to the normalization of such practices over time. Our findings similarly indicate that parental sharing of content about their children can shape the practices and norms of future generations.

Overall, our findings call for a nuanced understanding of the role of parenthood in shaping parental sharing of content about their children and exploration of solutions that support

parents in making informed decisions about balancing the benefits of sharing such content with protecting their children's privacy. Further, the difference in the perceptions of parental sharing of content about their children based on differences in childhood experiences with such sharing underscores the value and necessity of considering longitudinal influences.

### 5.2 Comparison between Views of Young Adults and Children

Our findings show that the perceptions of young adults about parental sharing of their children's photos are mostly in line with the perspectives of children reported in the literature. For instance, our findings regarding the motives for parental sharing that young adults find acceptable align with the findings of studies on children's perceptions. These studies showed that children find it important to consider how their peers perceive their online images, so they prefer parental sharing of content that presents them in a positive light (e.g., photos of their achievements or their happy families) [43,57]. Moreover, we uncovered that young adults find 'Communicative utility,' 'Outcome-driven sharing,' and 'Impression management' to be the least acceptable motives for parental sharing of their children's photos, echoing prior work that found that children have a negative opinion about parental sharing of their content based on self-centered motives of the parents [77,78].

Further, the low levels of acceptability by young adults for sharing highly and moderately sensitive photo types (see Table 2) match children's desires for not sharing unflattering and embarrassing photos and not revealing sensitive personal information [43,54,57,78]. In addition, we found that young adults consider it more acceptable to share photos of children with closer connections than with socially distant audiences, echoing the findings from previous studies showing that children desire careful audience selection for content about them shared by their parents [1,75].

### 5.3 Effect of Relationship with the Child

Surprisingly, our findings indicate that the views of young adults regarding parental sharing of a child's content are mostly the same regardless of whether the child is themselves, their child, or anyone's child. These relatively uniform perceptions regarding parental sharing of children's content indicate that the norms and perceptions related to such sharing are driven primarily by the fact that the content pertains to a *child*—a specific *class* of individuals deserving specific consideration regardless of one's relationship with the child in question. At the same time, our findings suggest that parental sharing of content about their children can gradually shift norms to tilt the balance toward favoring the benefits of sharing over avoiding potential harm. The uniformity in perceptions regarding children could be leveraged to draw attention to children as a vulnerable population worthy of special protective measures when parents share content about them.

## 6 Implications

By including a previously unstudied population (i.e., young adults), our findings show that having one's content shared on social media by one's parents during childhood can influence one's own sharing perceptions and practices as a parent. Our findings imply that habituation to privacy violations begins in childhood and surface longitudinal influences that reinforce and normalize parental sharing of content about their children. At the same time, our findings suggest that people tend to be uniformly protective of children. Moreover, the findings show that the perceptions of young adults regarding parental sharing of children's content are aligned with children's views, thus confirming, reinforcing, and refining several findings from the literature. Taken together, the insight from our findings points to a number of solutions that could help parents benefit from sharing content about their children while enhancing the privacy and security of the children whose content they share.

### 6.1 System Design

Since parental sharing of children's content typically takes place on social media platforms, we offer several suggestions for system design grounded in our findings to assist parents in protecting the online content about their children. These solutions can be implemented by the platforms themselves or offered as plugins developed by third parties. For instance, computer vision can be used to detect photos containing children and seek additional confirmation from parents before sharing the photos. Implementing such a feature should be straightforward since many online platforms and other systems are increasingly applying computer vision functionality for a variety of purposes. Since our findings suggest that the sensitivity of a child's photo influences the acceptability of sharing the photo, social media platforms could additionally consider employing machine learning techniques to estimate the sensitivity levels of photos that contain children. Parents about to share highly sensitive photos of their children could then be alerted and asked to confirm their intent to share. Parents could additionally be provided the option of being alerted when the level of sensitivity of a photo containing a child is higher than a specified threshold.

While existing audience controls on social media platforms typically allow users to share photos with select audiences, these features require users to set the audience manually each time they post photos to any audience other than the default. Automatic detection of content about children can be applied to make such settings less burdensome when sharing content about children. For instance, content detected to be about children can default to sharing with only restricted, trusted audiences, such as family and friends. That said, we found

that young adults who experienced parental sharing when they were children and young adults who are parents find it more acceptable to share children's photos with socially distant groups. System designers could temper such a practice by adjusting their algorithms to make highly sensitive content shared by parents less visible on social media feeds of distant connections. Further, our findings show that young adults find sharing different types of children's photos differentially acceptable based on the age of the child in the photo. This observation could be useful for implementing a feature that encourages parents to engage in more responsible sharing based on the age of the child whose content they are about to share. In addition, social media platforms could proactively alert parents about the potential security and privacy risks associated with oversharing content about their children. Researchers could conduct user studies to help understand the most effective timing and frequency for such alerts.

People's general tendency to be protective of *all* children revealed by our findings can be leveraged to implement peer-based [25] features that enable *any* user to participate in protecting the privacy of content about children posted on social media. For instance, system designers could provide anonymous mechanisms for flagging potentially inappropriate parental sharing of content about their children. Such mechanisms could be integrated with existing content moderation functionality and processes of the platform. Feedback from the audience could also be shared with the parents to increase their awareness of the potential risks of sharing content about their children and facilitate appropriate corrective actions. Similarly, social navigation [23] features could help temper the influence of exposure to the sharing practices of one's parents by providing anonymized aggregated statistics on the sharing practices of a diversity of parents. For instance, platforms can indicate the percentages of parents who share their children's photos, the average daily number of children's photos posted by their parents, the 'reaction' counts for specific types of children's photos, etc. Such features are analogous to social feedback mechanisms to incentivize individuals to reduce their energy consumption [52].

## 6.2 Regulatory Policy

Given the growing regulatory attention on protecting children from harms related to social media, our findings are timely for informing appropriate policy measures to regulate online practices. The focus of existing or proposed public policy in this space has so far been on regulating children's use of social media (e.g., limiting children's social media use and demanding greater parental supervision[7]), protecting personal data of children (e.g., restricting data processing and mandating parental approval based on age[8]), preventing children from being exposed to harmful online content (e.g., regulating children's access to sexual and abusive content [9]), or stopping the spread of illicit content containing children (e.g., policing content that depicts child sexual abuse[10]). However, there has so far been little attention specifically on public policy regarding content about children shared by others in ostensibly trusted relationships, such as parents. In fact, many current and proposed laws and regulations implicitly or explicitly grant parents the ultimate decision-making authority with no consideration of the risks posed by parental sharing of content about their children.

Our findings could help fill the gap in regulatory attention to matters related to children's online privacy and safety. For instance, our findings about the longitudinal influences and consequent normalization of parental sharing practices suggest that a more nuanced approach to consent and agency may be warranted to achieve more effective privacy outcomes for children whose parents share content about them. For example, laws and regulations could be designed to raise the obligations of care and due diligence when adults share content about children (their own or anyone else's). Similarly, policy measures could mandate greater agency to children who are old enough to obtain social media accounts and enable them to provide (or withhold) consent to others (including parents) to share content about them. Online platforms could additionally consider adding policies to govern the practices of parents who share content about their children.

## 6.3 Digital Literacy

Our findings show that childhood experiences with parental sharing of content about oneself play a role in shaping a young adult's perceptions and practices regarding parental sharing of content about their children. This influence suggests that parental sharing of content about their children ought to be a part of digital literacy campaigns and curricula that can complement the regulatory approaches proposed above. For example, educators could implement digital literacy campaigns emphasizing the importance of online privacy for children, guiding young adults to reflect on their childhood experiences with parental sharing and the associated disclosure of their personal information. Our findings further underscore the need to target such initiatives at the demographics more likely to engage in parental sharing of content about their children, specifically young adults who are parents. The personalization capabilities of social media platforms could be leveraged to embed such campaigns directly within the platforms, thus boosting their contextual relevance and immediate applicabil-

[7] https://www.npr.org/2023/03/24/1165764450/utahs-new-social-media-law-means-children-will-need-approval-from-parents

[8] https://www.bbc.com/news/technology-35110474

[9] https://www.npr.org/2022/02/16/1081000056/senators-aim-to-rewrite-child-safety-rules-on-social-media

[10] https://www.politico.eu/article/european-commission-propose-law-fight-child-sexual-abuse-online/

ity. The impact of digital literacy campaigns on parental sharing of content about their children could be further boosted by including them within school curricula for children and teenagers as well.

Our findings reveal a nuanced shift in sharing practices and privacy priorities upon becoming a parent. This observation underscores the importance of educating new parents about potential privacy risks, such as identity theft [47] and cyberbullying [71], associated with the online sharing of content about their children. Apart from known risks, educational interventions should ensure that parents are made aware of *emergent* risks, such as Generative AI techniques that use content about children shared online to create malicious and harmful synthetic content resembling the children (e.g., synthetic sexual content depicting the children, etc.) [30]. To facilitate the protection of children's privacy as an integral consideration in parenting practices, such information could be embedded within the resources provided to expecting parents and distributed with children-related consumer products.

## 7 Conclusion

By studying the perceptions of young adults, we addressed a gap in the literature on parental sharing of content about their children. We found greater acceptance of parental sharing of children's photos among young adults who experienced parental sharing of their photos during childhood and young adults who are parents. Interestingly, the perceptions of young adults are independent of whether the child in the shared photos is themselves, their own child, or someone else's child. We applied the insight to contribute suggestions for system design, policy regulation, and digital literacy campaigns. These suggestions can provide young adults with control and agency over content about them posted by their parents when they were children and assist parents in balancing the benefits of sharing content about their children and protecting their children from the risks posed by the shared content. While our investigation focused on parental sharing of their children's photos, we believe that the findings and the proposed solutions apply to the sharing of other types of content about children as well. Our findings reflect a tendency for normalization of parental sharing of content about their children, making it pressing to design solutions that can facilitate similar normalization of considerations for protecting the privacy and security of the children whose content parents share.

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