Media and Communication
Open Access Journal | ISSN: 2183-2439
Volume 10, Issue 1 (2022)

Digital Child- and Adulthood: Risks, Opportunities, and Challenges

Editors

Claudia Riesmeyer, Arne Freya Zillich, and Thorsten Naab

COGITATIO

Media and Communication, 2022, Volume 10, Issue 1
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Published by Cogitatio Press
Rua Fialho de Almeida 14, 2º Esq.,
1070-129 Lisbon
Portugal

Available online at: www.cogitatiopress.com/mediaandcommunication

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Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 301–304
https://doi.org/10.17645/mac.v10i1.5461

Editorial

Editorial: Digital Child- and Adulthood—Risks, Opportunities, and Challenges

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Submitted: 21 February 2022 | Published: 29 March 2022

Abstract
This thematic issue discusses risks, opportunities, and challenges of digital child- and adulthood based on different theoretical and methodological perspectives. It focuses on three topics: First, the challenges children and adolescents face in developing skills for dealing with promotional content are highlighted. Second, several contributions discuss the actions of parents and instructors and their function as role models for children and adolescents. They outline the tension between the consequences of intensive media use by children and adolescents and a responsible approach to digital media as often demanded by parents and teachers. Finally, the last contribution gives an insight into how the political socialization of adolescents can manifest itself in the digital space. The multi-methodological, multi-perspective, and multi-theoretical contributions of this thematic issue illustrate the intergenerational relevance of digital child- and adulthood.

Keywords
adolescents; advertising; childhood; digital media usage; media education; media effects; media literacy; media socialization

Issue
This editorial is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

Today, childhood and adolescence are essentially characterized by digital media. This is reflected in the symptomatic increase in the availability of digital media in family homes and in usage time (Smahel et al., 2020). Digital media use is also firmly embedded in the everyday practices of children's families, peers, and educational institutions. This mediatization has a significant impact on how children construct their reality (Couldry & Hepp, 2017; Hepp, 2019). Against this background, it is not surprising that the development of skills for the literate use of digital media has become a critical socialization and educational goal. Thus, parents (Chen & Shi, 2019) and educational institutions (Chalkiadaki, 2018) are responsible for guiding the growth of children and adolescents in a world shaped by digital media. Concern arises from the fact that children and adolescents actively and passively leave traces in the digital world that are followed not only by family and friends, but also by companies (Holloway, 2019), activists (Boulianne et al., 2020), politicians (Marquart et al., 2020), and scientists (Mascheroni, 2018).

This thematic issue discusses the risks, opportunities, and challenges that digitalization poses during childhood and adolescence. It focuses on three topics: First, some articles highlight the challenges children and adolescents face in developing skills for dealing with

promotional content. Second, several contributions discuss the actions of parents and educational instructors as role models of safe digital media practices. These articles outline the tension between the consequences of intensive media use by children and adolescents and a responsible approach to digital media as often demanded by parents and teachers. Third, a final contribution provides insight into how the political socialization of adolescents can manifest in the digital space.

2. Digital Media Challenges the Skills of Children and Adolescents

The challenges that children and adolescents face when using digital media are exemplified by the way they deal with digital advertising. Because advertising contributes significantly to the financing of content and providers, it is a quasi-ubiquitous component of digital media offerings. At the same time, it puts the media literacy of children and adolescents to the test daily (van Reijmersdal & Rozendaal, 2020). In this context, the contribution of Beatriz Feijoo and Charo Sádaba (2022) reveals that adolescents recognize the persuasive intent of advertising based on three levels of processing: the liking of the advertisement; the affinity for the advertised product; and the ability to contrast the arguments with comments, forums, or opinions of influencers. However, this strategy uncovers only the persuasive intent of standardized formats. Digital advertising formats that mix entertainment and social content with advertising messages are still successfully disguised.

Accordingly, Delia Cristina Balaban, Meda Mucundorfeanu, and Larisa Ioana Mureșan (2022) address the importance of understandable and easily identifiable cues of promotional intent in social media influencers (SMI) content. Their study shows that adolescents who understand the economic model behind SMI advertising react positively toward the SMI and willingly spread online information about the promoted brand. At the same time, although ad disclosure made in the adolescents' native language improved ad recognition, such knowledge did not result in more sophisticated defense mechanisms, such as the critical evaluation of ads.

Sanne Holvoet, Steffi De Jans, Ralf De Wolf, Liselot Hudders, and Laura Herrewijn (2022) reinforce the basic argument that children and adolescents have limited knowledge about the underlying financing mechanisms of digital advertising. Focusing on the commercial collection of user data and the subsequent personalization of advertising, they show that adolescents hold certain folk theories about how and why their personal information is being collected for commercial purposes. These folk theories often form the basis for adolescents' recognition and everyday exposure to advertising messages. The study, however, illustrates that adolescents' efforts are not always effective.

3. Parents and Educators Have Untapped Support Potentials

Parents and educators play an important supporting role in the development of media literacy. They help shape the framework and conditions and act as role models for children's meaningful media use. They also often act as gatekeepers to interventions and research on media literacy. Robin Nabi and Lara Wolfers (2022) assess how the media diet of children and their parents relates to children's emotional intelligence. The results suggest that children's digital media use is less significant for emotional skill development than previously assumed. The authors argue that both parental media use and children's use behavior are significant factors in the development of emotional intelligence.

Niamh Ní Bhroin, Thuy Dinh, Kira Thiel, Claudia Lampert, Elisabeth Staksrud, and Kjartan Ólafsson (2022) discuss the critical role of parents regarding the practice of sharenting. They illustrate that parental media action is not a simple cause-and-effect relationship between knowledge and behavior. Rather, when deciding whether or not to digitally publish information about their children, parents often weigh the benefits against the potential risks. Counterintuitively, parents with higher levels of digital skills and those who actively mediate their children's internet use are more likely to engage in sharenting. To understand these complex relationships, the authors call for further research examining sharenting and potential implications on the right to privacy of children and adolescents in a differentiated way.

Malin Fecke, Ada Fehr, Daniela Schlütz, and Arne Freya Zillich (2022) illustrate the ethical challenges researchers face when conducting research with pupils. Using the topic of pupils' group communication via instant messaging as an example, the authors identify hierarchical power structures within multiple levels of gatekeeping. Furthermore, they report on educators' rationales for denying access based on ethical considerations regarding pupils' instant messaging group communication.

4. Narrative Media Content Provides Space for the Development of Media Literacy

Specific interventions to promote media literacy are often developed and used in the context of institutional education. The contribution by Lauren Levitt (2022) examines whether existing media content—in this case, a fan forum and a wiki for the film *Divergent*—has the potential to provide adolescents with a space to discuss and share political issues with peers. Since this does not conclusively raise political consciousness, the author emphasizes that the potential of such formats can only be realized through the fundamental teaching of democratic values and political discussion skills within the framework of institutional education settings.

5. Conclusion

The contributions to this thematic issue highlight not only the current field of research on digital child- and adulthood, but also reveal certain fundamental perspectives. On the one hand, the multi-methodological, multi-perspective, and multi-theoretical contributions show the overarching risks, opportunities, and challenges of digital child- and adulthood and their intergenerational relevance. On the other hand, they illustrate the need for the use of a variety of approaches to illuminate the reality of growing up in a world shaped by digital media. The three contributions on advertising, as well as the contribution on the EU Kids Online survey, show that children, adolescents, and parents need to be supported in their development of media literacy. However, as suggested by the contributions of Holvoet et al. (2022) and Nabi and Wolfers (2022), interventions seem to be only one component of everyday rationalization. Thus, normatively demanded behavior is subject to cost–benefit trade-offs, and knowledge mediated by interventions encounters existing folk theories and discussion spaces that are closed from a subjective perspective. Finally, Fecke et al.'s (2022) contribution suggests that research on children, adolescents, and digital media should address not only the substantive topic-related but also methodological challenges.

Conflict of Interests

The authors declare no conflict of interests.

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COGITATIO

Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 305–316
https://doi.org/10.17645/mac.v10i1.4652

Article

Adolescents' Understanding of the Model of Sponsored Content of Social Media Influencer Instagram Stories

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Submitted: 1 July 2021 | Accepted: 11 November 2021 | Published: 29 March 2022

Abstract
Our study stresses the importance of developing understandable and easily recognizable ad disclosures for adolescents as a specific target group of social media influencer (SMI) advertising. A comprehensive advertising literacy concept that includes a cognitive, performative, and attitudinal component builds the theoretical background of the present research. We examine the effectiveness of ad disclosure in the native language of adolescent Instagram users, explore their understanding of the economic mechanism behind SMIs' advertising activities, and their skepticism toward sponsored content. Furthermore, we analyze the role that sponsorship transparency on Instagram stories plays in adolescents' responses to advertising. A three-level between-subjects survey-based experimental design (manipulating the absence of ad disclosure versus ad disclosure in the participants' native language versus standardized paid partnership ad disclosure in English) was conducted online with female adolescent participants (N = 241) in a European country. Findings showed that adolescents who understand the economic model behind SMI advertising have positive intentions toward the SMI and intend to spread online information about the promoted brand. However, even if ad disclosure made in the adolescents' native language improved ad recognition, such knowledge did not result in more sophisticated defense mechanisms in the form of critical evaluations of the ads.

Keywords
ad disclosure; adolescents; advertising; advertising literacy; Instagram; social media influencer; sponsorship transparency

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

Social media influencers (SMIs) are independent third-party brand endorsers on social media considered to be a source of entertainment and inspiration by their young followers and therefore have persuasive power over their audiences (De Veirman et al., 2019). They create embedded advertising content in which the boundary between commercial and non-commercial content is highly fluid. These characteristics of SMIs make it difficult for social media users to determine what is advertising and what is not (Evans et al., 2019). Both scholars and consumer advocacy groups have taken an interest in the fairness of SMIs' advertising strategies (Boerman, Helberger, et al., 2018; Naderer, Matthes, & Schäfer, 2021). Considering adolescents' difficulties in recognizing hidden advertising on social media (Boerman & van Reijmersdal, 2020; Rozendaal et al., 2016; van Dam & van Reijmersdal, 2019) and the everchanging social media environment, where new platforms and features are constantly emerging, there is a need for specific regulations to protect adolescents (Naderer, Borchers, et al., 2021). Previous studies highlighted the importance of developing adequate, understandable, and easily

recognizable forms of advertising disclosure for adolescents (Naderer, Peter, & Karsay, 2021). Considering the potentially greater influenceability and vulnerability of adolescents (Miller & Prinstein, 2019), ethical concerns regarding SMI advertising have been raised (De Jans, Hudders, & Cauberghe, 2018).

There is a substantial body of literature focused on the effects of disclosing sponsored content (Boerman, 2020; Eisend et al., 2020; Evans et al., 2017; Janssen & Fransen, 2019; Jung & Heo, 2019; Mayrhofer et al., 2020; van Reijmersdal et al., 2013). However, only a few studies have focused on adolescent audiences (De Jans et al., 2020; Zarouali et al., 2017), and most used social media posts as stimuli for experimental design. Nonetheless, several studies have been conducted on children and adolescents as a target group for advertisers; they largely focus on YouTube (Folkvord et al., 2019; Hoek et al., 2020; Martínez & Olsson, 2019; van Reijmersdal & van Dam, 2020). Previous research, however, has not focused on the effects of ad disclosures in users' native languages. Advertising disclosure must be understandable (Cain, 2011) and take account of adolescents' skills and capacities (Naderer, Matthes, & Schäfer, 2021). Considering language as an important cue for information usefulness (Jamil & Qayyum, 2022), this study aims to explore the effectiveness of ad disclosure in the native language of adolescent users compared to the Instagram "paid partnership" feature, which includes disclosure in English. Thus, the present study addressed the topic of advertising disclosure from a perspective that was not yet explored.

Besides considering the language as a relevant factor for the effectiveness of disclosure in triggering advertising recognition, another distinctive element of the present study is that we investigate how adolescent Instagram users conceive of advertising in the social media platform they use, and how they understand the model of the sponsored content in particular on Instagram. Prior scholarship emphasized the role of advertising literacy in recognizing, interpreting, and critically evaluating subtle forms of embedded advertising and empowering adolescents to detect persuasive messages (Hudders et al., 2017). Adolescents who have gained advertising literacy tend to be more skeptical toward ads (De Jans, Hudders, & Cauberghe, 2018). Considering the cognitive, performative, and attitudinal components of advertising literacy (Rozendaal et al., 2011), the present study aims to contribute to the existing scholarship on adolescents' digital advertising literacy by exploring adolescents' abilities to deal with persuasive messages, their understanding of the model of the sponsored content, and their skepticism toward ads (Boerman, Helberger, et al., 2018) and the role that sponsorship transparency (Campbell & Evans, 2018; Wojdynski et al., 2018) plays for young consumers of Instagram stories featuring influencer advertising.

2. Theoretical Background

2.1. Adolescent Advertising Literacy and Social Media Influencers' Advertising

SMIs play a major role in the media diet of adolescents. They are digital opinion leaders that engage in self-presentation by displaying their personal everyday life stories and lifestyles on social media (Abidin, 2016; Dhanesh & Duthler, 2019). They are content creators, moderators, protagonists, and strategic communication actors (Enke & Borchers, 2019) that post in exchange for compensation (Campbell & Grimm, 2019). SMIs create a public persona and use social media to endorse brands (Abidin & Ots, 2016). To their followers, with whom they develop strong trans-parasocial relationships (Lou, 2021), SMIs are celebrities, experts, and also peer consumers (Campbell & Farrell, 2020). Their similarities with their followers contribute to their credibility and make their brand endorsements more effective (Munnukka et al., 2016). Additionally, the high perceived trustworthiness of SMIs contributes to the persuasiveness of their messages (Lou & Yuan, 2019). Adolescents are an important target group for SMI advertising and it is at this age that people's consumer preferences begin to develop (Naderer, Borchers, et al., 2021). Prior scholarship stressed that critically assessing ads on social media is challenging for adolescents (Zarouali et al., 2017). Therefore, it's important to address the particularities of adolescent advertising literacy in the context of SMI advertising.

When first introduced, the concept of advertising literacy was defined as the abilities and skills that individuals develop to cope with advertising (Boush et al., 1994). Advertising literacy was initially developed from a cognitive perspective as the ability to identify advertising messages and to understand commercial intent (Zarouali et al., 2019). A comprehensive perspective on advertising literacy that goes beyond the "cognitive defense view" (Rozendaal et al., 2011) encompasses three components: the ability to identify ads, to evaluate them, and to attitudinally defend against them (Rozendaal & Figner, 2020). Advertising literacy is developed over time with experience (John, 1999), and thus, adolescents are a distinct case from other age groups (De Jans, Hudders, & Cauberghe, 2018; Wright et al., 2005). They are different from adults in terms of advertising literacy because their cognitive abilities differ from those of adults. Scholars make the distinction between "cold" and "hot" cognition. The first represents the ability to deliberate in the absence of significant levels of emotions and the latter in an emotionally arousing context. While the basic cognitive process, the "cold" cognition, matures by the age of 16, the "hot" cognition fully matures only several years later (Steinberg et al., 2008).

As identity formation is an important developmental task for adolescents, SMIs are reference points to whom they develop a strong emotional bond (Kühn &

Riesmeyer, 2021). Empirical evidence has shown that even though adolescents might attain sophisticated adult-like levels of advertising literacy by the age of 16, they are familiar with social media, and understand how it works, this does not necessarily translate into being ad literate on such platforms (Zarouali et al., 2020). The critical defense mechanism in the particular case of embedded ads is yet underdeveloped (De Jans, Cauberghe, & Hudders, 2018). Embedded forms of advertising such as SMI advertising require cognitive and affective resources to successfully process the persuasive selling intent (Hudders et al., 2017). Rapidly interspersing commercial and entertainment content, like SMIs usually do, distracts adolescents from applying relevant knowledge about digital advertising (De Jans et al., 2020). SMIs may also serve as role models for adolescents, who might see these influencers as members of their social networks (Riesmeyer et al., 2021). Social media users often feel like they share common interests with SMIs, or otherwise feel similar to, or seek to be like, them (De Jans et al., 2020; Naderer, Matthes, & Schäfer, 2021). As socialization with ads unfolds and in the context of having spending capacities, adolescents are still developing their consumer preferences (Naderer, Borchers, et al., 2021).

2.2. Advertising Disclosure

To critically cope with SMI advertising, an essential step is to recognize it. Disclosure helps social media users to recognize embedded forms of advertising and trigger advertising literacy (Boerman, Helberger, et al., 2018; De Jans, Cauberghe, & Hudders, 2018; Naderer, Matthes, & Schäfer, 2021). Ad disclosure effectively increases recognition of SMI advertising posts for what they are (De Veirman et al., 2019; Evans et al., 2017) and helps discriminate between commercial and non-commercial/entertainment content. The contents and timing of ad disclosures have been identified by previous researchers as boundary conditions for disclosure effects (Eisend et al., 2020). The visual prominence of ad disclosures has been observed to have a positive impact on recognizing native advertising (Jung & Heo, 2019; Wojdynski & Evans, 2016; Wu et al., 2016). Both disclosure design (color, size, and position) and wording are predictors of the effectiveness of a disclosure (De Jans, Vanwesenbeeck, et al., 2018; Naderer, Matthes, & Schäfer, 2021).

Ad disclosures should have a clear meaning for the specific audiences they are addressed (Tiggemann & Brown, 2018) to assure their usefulness (De Jans, Vanwesenbeeck, et al., 2018). Moreover, Naderer, Matthes, and Schäfer (2021) have underlined the role of understandability of disclosure, especially when communicating with adolescents. Therefore, adolescents' skills and capacities should be taken into account when designing and implementing disclosures (Naderer, Matthes, & Schäfer, 2021). Displaying ad disclosures in the native language of the social media user makes the message more understandable. In the context of SMIs, Jamil and Qayyum (2022) highlighted the relevance of language as a central cue for information usefulness. Previous studies stressed that when businesses communicate with consumers in their native language it is to do more than just facilitate understandability; it can lead to the creation of an emotional bond (Holmqvist, 2011). Consequently, we posited the following hypothesis:

> H1: Ad disclosure in the native language of adolescent Instagram users results in higher ad recognition than the standard Instagram disclosure in English.

2.3. The Cognitive Effects

Ad disclosure activates the knowledge recipients have about advertising (Boerman & van Reijmersdal, 2016, 2020). Ad disclosure typically leads to an increase in the audience's persuasion knowledge (PK; Boerman et al., 2012; Evans et al., 2017; van Reijmersdal et al., 2013; Wojdynski & Evans, 2016). PK is defined as general knowledge and beliefs about persuasion that individuals develop when exposed to persuasive messages. PK also includes the ability to retrieve and activate this knowledge (Friestad & Wright, 1994). The similarity between PK and advertising literacy was emphasized in previous scholarship (Boerman & van Reijmersdal, 2020; Hoek et al., 2020). The concept of advertising literacy "is heavily built upon the tenets of the persuasion knowledge model" (Zarouali et al., 2019, p. 2). While PK applies to all types of persuasive messages, advertising literacy is limited to advertising. Both advertising literacy and PK develop over time, with each persuasion attempt. Rozendaal et al.'s (2011) conceptualization of advertising literacy including cognitive and affective dimensions is similar to Spielvogel's (2021) conceptualization of PK which includes conceptual and attitudinal components. Conceptual PK is defined as an individual's basic understanding of persuasive attempts and ability to recognize persuasive attempts and understand selling intent, and persuasive intent. A recently published meta-analysis on this topic underlined the role of ad disclosure in increasing PK, especially the dimension of understanding persuasive intent (Eisend et al., 2020).

Understanding the financial model behind sponsored content is a cognitive component of PK (Boerman, van Reijmersdal, et al., 2018). It reflects how users of a particular communication channel conceive of advertising in the media they use. It also determines to what extent adolescent users realize that such media usage is not really "free" without brand sponsorship. In this article, we explore how adolescents understand the role of advertising on Instagram. In line with a more complex notion of advertising literacy that encompasses the understanding of the source of advertising (Rozendaal et al., 2011; Zarouali et al., 2019), being aware of how SMIs advertising contributes to the funding of a heavily used social media channel such as Instagram can be

interpreted as a sophisticated level of conceptual advertising literacy. We assume that ad disclosure can trigger such understanding. Therefore, we proposed the following hypothesis:

> H2: Ad disclosure made in the native language of adolescent Instagram users will have a greater impact on activating understanding of the model of sponsored content than a standard ad disclosure in English.

Ad disclosures contained in sponsored posts made by SMIs on platforms such as Facebook (Boerman et al., 2017; Mayrhofer et al., 2020), YouTube (Janssen & Fransen, 2019), and Instagram (Evans et al., 2017) were found to trigger resistance and have an impact on affective and behavioral outcomes. However, recent studies conducted on adolescents offer evidence that ad disclosure, especially concerning sponsorship compensation (Stubb et al., 2019), does not necessarily have a negative impact on behavioral outcomes (De Jans et al., 2020). In fact, several scholars have observed ad disclosures to have a positive impact on perceived product efficacy and purchase intention (Kay et al., 2020; Woodroof et al., 2020).

Even if SMI followers find sponsored content to be annoying, they tend to be in favor of this type of embedded advertising (Coco & Eckert, 2020). The effects of transparent sponsorship in SMI advertising are increasingly understood and appreciated by followers (Janssen & Fransen, 2019). Sponsorship transparency, defined as "a consumer's perception of the extent to which a message makes its paid nature and the identity of the sponsor clear" (Wojdynski et al., 2018, p. 7), has positive effects on audiences' perceptions of social media advertising practices. Evidence from a study conducted on native advertising formats that do not involve SMIs indicates that transparency mitigates the negative effects of ad recognition on attitude toward the ad, attitude toward the brand, and purchase intention (Evans et al., 2019). We expect that when an SMI practices sponsorship transparency it will increase adolescent users' appreciation of that SMI, which will eventually be translated into the intention to follow the influencer.

The intention to spread information about the promoted brand, defined as electronic word of mouth (eWOM), is considered to be a source of influence in online communities (López & Sicilia, 2014). SMIs, perceived as fellow consumers, are considered to be trustworthy by their followers, thus generating more word of mouth than other forms of advertising (Campbell & Farrell, 2020). To expand their influence and grow their networks, SMIs encourage their followers to engage in eWOM behavior. Thus, SMI content can not only reach new users but can also enjoy additional credibility as content shared by friends on social media is more appreciated than that posted by brands (Johnson et al., 2019). Consequently, we posited the following hypotheses:

> H3: Understanding the economic model of sponsored content mitigates the negative indirect effect of disclosure on (a) intention toward the influencer, and (b) eWOM.

> H4: Mediated by the understanding of the economic model of sponsored content via sponsorship transparency, ad disclosure will have a positive impact on (a) intention toward the influencer, and (b) eWOM.

2.4. The Affective Impact

In their three-dimensional conceptualization of children's advertising literacy, Rozendaal et al. (2011) introduced two additional dimensions of advertising literacy to the existing cognitive one: advertising literacy performance and attitudinal advertising literacy. The former refers to the retrieval and the application of advertising literacy as a reflective assessment of knowledge about advertising, and the latter concerns being skeptical of advertising and disliking it. Similar to advertising literacy, PK has both a conceptual and an evaluative component (Boerman, van Reijmersdal, et al., 2018; Eisend et al., 2020). De Jans, Cauberghe, and Hudders (2018) demonstrated that ad disclosure on sponsored vlogs enhances the evaluative component of adolescents' PK. As an evaluative component of PK, skepticism is defined as "the tendency towards disbelief of sponsored content" (Boerman, van Reijmersdal, et al., 2018, p. 675). Rozendaal et al. (2011) highlighted that possessing knowledge about advertising does not necessarily translate into enacting a critical defense against the appeal of advertising. More specifically, studies conducted on adolescents showed that ad disclosure activated affective advertising literacy, which led to them having more negative attitudes toward sponsored vlogs (De Jans, Cauberghe, & Hudders, 2018; Hoek et al., 2020; van Reijmersdal & van Dam, 2020). Therefore, we posited the following:

> H5: Ad disclosure made in the native language of adolescent Instagram users will have a greater impact on skepticism toward the sponsored content than a standard ad disclosure in English.

> H6: Mediated by skepticism toward the sponsored content, ad disclosure has a negative indirect impact on brand attitude.

A conceptual model is shown in Figure 1.

3. Methods

3.1. Sample and Design

A three-level between-subjects experiment was conducted by manipulating the absence of ad disclosure versus the presence of one of two explicit labeled ad

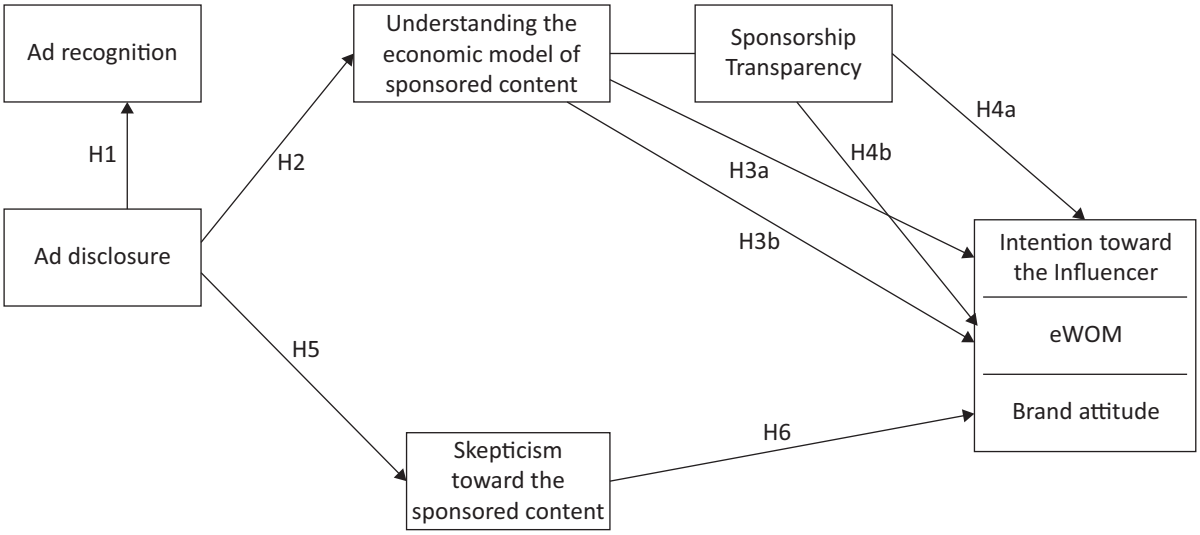

Figure 1. Conceptual model.

disclosure types (the first one in the form of "Advertising" in the native language of the participants followed by tagging the brand @Brand, and the second one in the form of "paid partnership with the Brand" in English) on Instagram stories (short videos or pictures of an ephemeral nature that often use filters and have a maximum length of 15 seconds).

We invited several randomly selected high schools from three different regions of Romania, a EU member country, to participate in our study. Three of the high schools we reached out to responded positively to our call. Individual students volunteered to participate and were randomly placed in one of our three groups. The research was conducted after we, the researchers, were granted ethical approval from our faculty and obtained the approval of the three selected high schools, and the consent of the teachers and teenagers involved in the study.

A total of 241 female adolescent participants (N = 241), aged 14 to 18 (M = 16.84, SD = 1.05; recall that the minimum age for having an Instagram account is 13), both young teens and preadults from Romania, were randomly assigned to one of the three conditions: no disclosure (n_1 = 81); native tongue ad disclosure in the form of "Advertising" followed by tagging the brand, which will be further referred to as "advertising in the native language" condition (n_2 = 78); and a standard English-language ad disclosure worded as "paid partnership with the Brand," further referred to as the "paid partnership in English" condition (n_3 = 82).

The experiment was conducted online in February 2020. All participants saw an overview of an SMI account followed by a series of five Instagram stories containing SMI advertising posted on that account; only the disclosures on the video differed. The first group watched the video with no ad disclosure, the second group viewed the video with an ad disclosure in the form of "advertising" in the native language of the participants followed by the tag @Brand, and the third group viewed the video with an ad disclosure in the form of "paid partnership with Brand." Both types of ad disclosures clearly stated the brand name. In line with the European Advertising Standards Alliance's (2018) recommendations, the ad disclosure was located at the top of each video in easily recognizable colors and fonts (see stimuli in the Supplementary File). The participants were then asked to complete a questionnaire in their native language.

3.2. Procedure and Stimulus Materials

All interaction took place over Instagram to increase validity; participants received the links to the questionnaire and stimulus materials via direct message on their Instagram accounts. They also received a disclaimer saying that they were taking part in a study on SMIs on Instagram. Before exposure to the influencer's account and a video that looked like a series of Instagram stories, participants saw a text that read as follows: "Imagine the following situation: While using Instagram you come across the following influencer account and watch the Instagram stories available on her account with the sound on."

The majority of Instagram users are women (Statista, 2021). Therefore, we decided to conduct our study with female participants, and we created a look-alike female lifestyle SMI account (the_melissa_official) with 42,000 followers in the account overview. Previous studies on adolescents and advertising on social media used unfamiliar brands depicted in the stimulus material (De Jans et al., 2020). We decided to use a familiar brand and to test for existing brand knowledge. The SMI promoted haircare products from Garnier, a well-known brand.

The selection of ad disclosure types was made by reflecting upon how ad disclosures are commonly used on Instagram (Kiel & Solf, 2019). Disclosures were incorporated on top of the image during the entire length

of the video, which resembled five successive Instagram stories. No verbal ad disclosure was made during the video for all three conditions.

3.3. Measures

"Advertising recognition" was measured by the question "did you see advertising in the Instagram stories?" (1 = *No*, 2 = *Yes*). "Understanding the economic model of sponsored content" was measured using four statements (e.g., "If brands did not pay for advertising on Instagram through influencers, Instagram would not function") on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* (α = .921, M = 5.54, SD = 1.23; Boerman, van Reijmersdal, et al., 2018). "Sponsorship transparency" was measured using 10 statements (e.g., "The Instagram stories conveyed the product or service that was being promoted") on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* (α = .821, M = 4.83, SD = 1.10; Wojdynski et al., 2018). "Intention toward the SMI" was measured using three statements (e.g., "I would follow this Instagram profile") on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* (α = .956, M = 3.97, SD = 1.97; Liljander et al., 2015). "eWOM" was measured using five statements (e.g., "I am interested in sharing these stories with my friends on Instagram") on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* (α = .939, M = 3.48, SD = 1.74; Sohn, 2009). "Skepticism" was measured using six 7-point semantic differential scales ("I think that showing brands on Instagram is") with the adjectives *dishonest–honest*, *not trustworthy–trustworthy*, *incredible–credible*, and *not truthful–truthful*, *insincere–sincere* (α = .933, M = 4.05, SD = 1.41; Boerman, van Reijmersdal, et al., 2018); reversed, high values reflect high values of skepticism. "Attitude toward the brand" was measured using six 7-point semantic differential scales with the adjectives *unattractive–attractive*, *negative–positive*, *boring–interesting*, and *unlikeable–likeable* (α = .921, M = 4.82, SD = 1.5; Matthes & Naderer, 2016).

The control variables are: using Instagram, measured on a 7-point Likert scale ranging from 1 = *extremely rare* to 7 = *extremely often* (M = 6.06, SD = 1.51), and likeability of the SMI was measured using 5-point semantic differential scales of the adjectives *distant–warm*, *dislikable–likable*, and *unfriendly–friendly* (α =.798, M = 4.14, SD = 0.86; De Veirman et al., 2017). Participants were also asked if they knew the brand before participating in our study (93.78% declared that they did).

4. Results

4.1. Randomization Check

A series of confound checks for age ($F(2, 241) = 0.576$, p = .563), Instagram use ($F(2, 241) = 0.76$, p = .927), likeability of the SMI ($F(2, 241) = 0.464$, p = .338), product fit ($F(2, 241) = 2.814$, p = .062), and brand familiarity ($\chi^2(1) = 1.49$, p = .474) showed that the differences between outcome variables are not a result of inherent differences between conditions.

4.2. Data Analysis

A MANOVA was conducted. Advertising disclosure (control, "advertising in the native language," and "paid partnership in English" conditions) was the fixed factor, and the dependent variables were understanding of the model of sponsored content, sponsorship transparency, the intention toward the SMI, eWOM, skepticism toward sponsored content, and brand attitude. The results indicate that participants in the "advertising in the native language" condition group showed significantly higher levels of understanding of the model of sponsored content and eWOM compared to the participants in both the no disclosure and "paid partnership in English" groups. Results are shown in Table 1.

H1 posited that ad disclosure in the native language of Instagram users would increase ad recognition. We observed significant differences in ad recognition between the three conditions ($\chi^2(2) = 10.30$, p = .006, Φ = .207). A relatively large number of participants recognized advertising in all three conditions: the non-disclosure condition (43.2%), the "advertising in the native language" condition (69.2%), and the "paid partnership in English" condition (68.3%). To test the effectiveness of ad disclosure and disclosure types on advertising recognition, we ran a logistic regression with disclosure presence and ad recognition as dependent variables (−2*loglikelihood* = 262.23, Nagelkerke R^2 = .067, $\chi^2(1) = 8.26$, p = .004). The analysis indicates that participants assigned the "advertising in the native language" condition (b = 1.193, SE = .413, p = .004, *odds ratio* = 3.296) were more likely to recognize advertising compared to those assigned the "paid partnership in English" condition (b = 1.149, SE = .417, p = .006, *odds ratio* = 3.156). Our findings support H1.

To test proposed hypotheses H2, H3a, H3b, H4a, and H4b we conducted a serial mediation analysis using Model 6, PROCESS V3.4 in SPSS (Hayes, 2018) employing 5,000 bootstrap samples for each dependent variable. The control group was used as a reference group to display the effects of the two disclosure conditions.

H2 posited that the presence of disclosure in the native language of Instagram users would have a greater effect on the activation of the understanding of the economic model of sponsored content compared to a standard ad disclosure in English. Our findings indicate that only ad disclosure in the native language of Instagram users activated understanding of the economic model of sponsored content (b = .46, SE = .21, 95% *BCBCI* = [.0445, .8835], p = .03). For the "paid partnership" condition, no significant effects on understanding of the economic model of sponsored content were observed (b = .33,

Table 1. MANOVA.

	No disclosure[a] *M*(*SD*)	"Advertising in the native language" condition[b] *M*(*SD*)	"Paid partnership in English" condition[c] *M*(*SD*)	*F*-Test
Understanding of the economic model of sponsored content	3.56 (1.38)[b]	4.03 (1.31)[a]	3.89 (1.32)	$F(2) = 2.54$; $p = .081$; $\eta = .02$
Sponsorship transparency	4.89 (1.04)	4.86 (1.12)	4.75 (1.15)	$F(2) = .378$; $p = .686$; $\eta = .00$
Intention toward the SMI	3.69 (1.92)	4.18 (2.01)	4.03 (1.99)	$F(2) = 1.29$; $p = .277$; $\eta = .01$
eWOM	3.33 (1.75)[b+]	3.89 (1.72)[a+,c+]	3.22 (1.70)[b+]	$F(2) = 3.53$; $p = .031$; $\eta = .03$
Skepticism toward sponsored content	4.19 (1.50)	3.87 (1.26)	4.08 (1.45)	$F(2) = 1.08$; $p = .343$; $\eta = 0.1$
Brand attitude	4.72 (1.56)	4.96 (1.43)	4.79 (1.49)	$F(2) = .56$; $p = .57$; $\eta = .1$

Notes: $N = 241$; [a, b, c] group differences; $p < .050$; [+] $p < .090$.

SE = .21, 95% *BCBCI* = [−.0827, .7458], *p* = .12). Therefore, H2 was supported.

H3a and H3b posited that activation of understanding of the economic model of sponsored content would mitigate the negative indirect effect of disclosure on (a) intention toward the SMI, and (b) eWOM. No indirect effect of ad disclosure was observed in either the "advertising in the native language" disclosure group on (a) intention toward the SMI (*b* = .17, *BootSE* = .05, 95% *BootBCBCI* [−.2388, .1269]), and (b) eWOM (*b* = .05, *BootSE* = .05, 95% *BootBCBCI* [−.0167, .1893]) or the "paid partnership in English" disclosure group on (a) intention toward the SMI (*b* = −.10, *BootSE* = .09, 95% *BootBCBCI* [−.2997, .0701]), and (b) eWOM (*b* = .05, *BootSE* = .05, 95% *BootBCBCI* [−.0215, .1569]). Thus, H3a and H3b were not supported.

H4a and H4b posited that, through the serial mediation by the understanding of the economic model of sponsored content and sponsorship transparency, ad disclosure would have a positive indirect effect on (a) intention toward the SMI, and (b) eWOM. The serial mediation path via understanding of the economic model of sponsored content and sponsorship transparency indicated that only the "advertising in the native language" condition ad disclosure had positive indirect effects on (a) the intention toward the SMI (*b* = .03, *BootSE* = .02, 95% *BootBCBCI* [.009, .0902]), and (b) eWOM, (*b* = .02, *BootSE* = .01, 95% *BootBCBCI* [.0004, .0408]). The "paid partnership in English" condition had no such effects on (a) the intention toward the SMI (*b* = .03, *BootSE* = .02, 95% *BootBCBCI* [−.0054, .0731]), and (b) eWOM (*b* = .01, *BootSE* = .01, 95% *BootBCBCI* [−.0024, .0341]). Our findings offer partial support for H4a and H4b, but only for ad disclosures in the native language of the adolescent participants.

To test H5 and H6 on the mediating effect of skepticism on brand attitude, a mediation analysis was run using Model 4, PROCESS V3.4 in SPSS (Hayes, 2018) employing 5,000 bootstrap samples for each dependent variable. H5 posited that disclosure in the native language of Instagram users would have a greater effect on activating skepticism toward the sponsored content compared to the standard ad disclosure in English. Contrary to our predictions, our findings indicate that ad disclosure in both the "advertising in the native language" (*b* = .46, *SE* = .21, 95% *BCBCI* = [.0445, .8835], *p* = .03). and "paid partnership in English" (*b* = .46, *SE* = .21, 95% *BCBCI* = [.0445, .8835], *p* = .03) conditions had no effect on skepticism toward sponsored content.

H6 posited that mediated by skepticism toward sponsored content, ad disclosure would have a negative impact on brand attitude. The mediation effect of disclosure via skepticism toward sponsored content on brand attitude was not significant in both the "advertising in the native language" (*b* = .17, *BootSE* = .12, 95% *BootBCBCI* [−.050, .4057]) and "paid partnership in English" conditions (*b* = .06, *BootSE* = .12, 95% *BootBCBCI* [−.1797, .2853]). Thus, we found no evidence to support H6.

5. Discussion

In line with Rozendaal et al. (2011), the present study focused on both cognitive and affective components of advertising literacy, thus outlining relevant aspects

of adolescents' exposure to SMI advertising. When ad disclosures were provided in the research participants' native language, the participants could more effectively recognize advertising content in the SMI's Instagram stories. Moreover, ad disclosure in the participants' native language had a direct impact on activating understanding of the economic model of sponsored content. Adolescents who understand the economic model behind SMI advertising appreciate sponsorship transparency. Furthermore, sponsored messages that are promoted transparently are more likely to be spread online. Even after the first encounter with an SMI on Instagram, a situation simulated in our experiment, sponsorship transparency had a significant impact on the female adolescents' intention to follow the SMI.

Like Rozendaal et al. (2011), we found that advertising-related knowledge does not necessarily translate into enacting a critical defense against the appeal of advertising. Neither tested ad disclosure type triggered skepticism toward sponsored content in Instagram stories. Moreover, on this affective mediation path, ad disclosure had no indirect effects on brand attitude. Therefore, our adolescent participants demonstrated only limited advertising literacy; although their conceptual competence was strong, the attitudinal and performative components were undeveloped. Even if ad disclosure made in their native language improved ad recognition, such knowledge did not result in more sophisticated defense mechanisms in the form of critical evaluations of the ads.

6. Conclusions and Limitations

Our findings contribute to a more subtle understanding of how ad disclosures work in the constantly changing environment of social media. In line with previous research (De Jans et al., 2020), our study makes a case for the use of adequate and understandable ad disclosure on Instagram stories. The findings have implications for policymakers, monitoring institutions, SMIs, and marketers. Because new advertising tools are constantly emerging on social media, to protect adolescents it is important to update sponsorship transparency guidelines, enforce common rules throughout the EU, and subsequently monitor their implementation.

We recommend that practitioners use ad disclosures in adolescent followers' native language, to improve understandability SMIs must keep in mind sponsorship transparency when building relationships with their followers. Like the results of other scholars, our findings indicate that practicing "transparent authenticity" (Audrezet et al., 2020) presents an opportunity for SMIs and is a sign of honesty and respect for their followers, most of whom are aware of the economic model of sponsored content. We recommend that within media literacy programs educators discuss with adolescent students the particularities of SMI advertising and encourage them to develop a critical perspective.

The present study builds upon the theoretical implications of past research by exploring the effectiveness of ad disclosure made in the participants' native language. Approaching ad literacy as comprehensive ad literacy (Naderer, Borchers, et al., 2021), we highlighted the role of understanding the economic model of sponsored content in SMI advertising. Our findings are consistent with previous scholarship underlining the positive effect of sponsorship transparency (Evans et al., 2019). However, considering the low evaluative performance we observed, in line with prior studies (Zarouali et al., 2020), our adolescent participants are far from being "ad literate.''

The present research has its limitations. First, the lack of control over the time spent by participants watching the stimuli is a limit. Second, we can only assume that the participants saw and listened to the stimuli. By using eye-tracking in more controlled laboratory settings, future studies can overcome these limitations. Third, the results came from a convenience sample of female adolescents. Previous research demonstrated that females show stronger intentions due to disclosure (Eisend et al., 2020). However, women develop stronger parasocial relationships with celebrities (Cohen, 2003), which can result in positive evaluations of SMIs. Future researchers should work with more gender-diverse samples. Fourth, our results came from one exposure study. Long-term studies addressing adolescents' perceptions of SMI sponsorship transparency are necessary.

Acknowledgments

The authors wish to thank all the adolescents that took part in our online experiment, as well as the issue editors and two anonymous reviewers for their insightful comments and suggestions on the earlier draft of the manuscript.

Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 317–328
https://doi.org/10.17645/mac.v10i1.4704

Article

Exploring Teenagers' Folk Theories and Coping Strategies Regarding Commercial Data Collection and Personalized Advertising

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Submitted: 15 July 2021 | Accepted: 27 October 2021 | Published: 29 March 2022

Abstract
New data collection methods and processing capabilities facilitate online personalization of advertisements but also challenge youth's understanding of how these methods work. Teenagers are often unaware of the commercial use of their personal information and are susceptible to the persuasive effects of personalized advertising. This raises questions about their ability to engage in privacy-protecting behaviors. This article examines teenagers' coping responses to commercial data collection and subsequent personalized advertising, considering their limited knowledge. Ten focus groups with 35 teenagers aged 12–14 were conducted. The findings show that teenagers hold certain folk theories (i.e., incomplete and/or inaccurate representations of reality) about how and why their personal information is being collected for commercial purposes (e.g., commercial data collection is unavoidable or all principles of privacy statements are the same). Their coping responses regarding commercial data collection (e.g., limiting information disclosure or refusing to accept privacy policies) and personalized advertising (e.g., trying to change settings or avoiding interaction) are often based on these folk theories and embedded in their everyday practices. Despite teenagers' efforts, we argue that their responses might not always be effective. Implications for educators, advertisers, and policymakers are discussed.

Keywords
commercial data collection; folk theories; personalized advertising; privacy management; teenagers

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

Teenagers spend a vast amount of time online using different devices and platforms (Ofcom, 2021), during which they are subjected to commercial data collection practices ranging from explicit to implicit. For example, teenagers often freely give up their personal information when participating in online games and contests or when using social media, including demographics, pictures, videos, and status updates (Pangrazio & Selwyn, 2019; Stoilova, Livingstone, & Nandagiri, 2019). However, disclosing information does not always happen intentionally, as some information is being collected automatically (e.g., technical details; Pangrazio & Selwyn, 2019). Indeed, teenagers disclose a vast amount of personal data in a more implicit way, without their overt awareness or consent. For instance, data-tracking technologies trace their online behavior (e.g., through cookies; Boerman et al., 2017), and profiling activities automatically process information to predict their interests (Lievens & Verdoodt, 2018).

Advertisers, in turn, use the collected information for commercial purposes, such as personalized advertising. Thus, teenagers may encounter online advertisements

that are based on their age, gender, previous browsing behavior, or predicted interests (Youn & Shin, 2019). Advertising companies mostly lack transparency about how and why they gather personal information (Boerman et al., 2017; van der Hof, 2017). Unsurprisingly, teenagers are therefore not fully aware of the preceding data collection practices and the personalization tactics (Pangrazio & Selwyn, 2018; Stoilova et al., 2020; Stoilova, Nandagiri, & Livingstone, 2019; Zarouali et al., 2020). Accordingly, previous research has shown that teenagers have difficulty monitoring and dealing with their personal information being collected by advertisers (Stoilova, Livingstone, & Nandagiri, 2019; Youn, 2009). In addition, the subsequent personalized advertising they are exposed to improves (young) teenagers' attitudes and behavioral intentions toward the advertisements, but impedes critical processing (Daems, De Keyzer, et al., 2019; van Reijmersdal et al., 2017; Walrave et al., 2016; Zarouali et al., 2017).

Literature on consumers' responses to personalized advertising and online data collection practices often draws on privacy calculus theory, which suggests a trade-off between the benefits and risks related to these practices (Youn, 2009; Youn & Shin, 2019). Recent research, however, has shown that teenagers are willing to provide their personal information to online marketers in exchange for commercial incentives (Daems, De Pelsmacker, et al., 2019; Walrave & Heirman, 2012) and that their engagement in privacy-protecting strategies regarding targeted advertising is low (Selwyn & Pangrazio, 2018; Zarouali et al., 2020). Moreover, teenagers seem to find the social value of participating online more important than the potential risks related to the collection and use of their personal information (Lapenta & Jørgensen, 2015).

Teenagers' high levels of participation online and their willingness to make information trade-offs, combined with a limited understanding of implicit and explicit data collection methods, begs the question to what extent they protect their personal data from commercial usage and what impact this has on their responses to personalized advertising. Internet users may have developed intuitive or folk theories (i.e., incomplete and/or inaccurate representations of reality) to explain how something works, which may affect how they cope with digital systems (DeVito et al., 2017; Gelman & Legare, 2011). As they lack actual knowledge, it is important to understand people's beliefs when we want to understand their coping behaviors (Toff & Nielsen, 2018). To our knowledge, no previous study has looked into the way teenagers develop folk theories about the current data ecology and how this is connected to their coping strategies in the context of personalized advertising. Herein, we address this gap in the literature and explore teenagers' coping responses to implicit and explicit data collection and personalized advertising, whilst considering their folk theories. We organized 10 focus groups with 35 teenagers aged 12–14 to talk about their experiences with these practices.

2. Theoretical Background

Consumers' coping responses to deal with personalized advertising and online data collection practices have often been examined through the lens of privacy calculus theory (Baek & Morimoto, 2012; Youn & Kim, 2019). This theory posits that users weigh the benefits and risks (or costs) related to personalized advertising and information disclosure (Hart & Dinev, 2006). Depending on the outcome, they may respond positively or negatively toward the personalized advertisement or data collection attempt. As such, Youn and Shin (2019) showed that 13- to 19-year-olds engage with personalized advertising when they perceive the benefits (e.g., relevance) are greater than the risks (e.g., intrusiveness). Conversely, teenagers avoid personalized advertisements when this trade-off turns out negative. In another study, Zarouali et al. (2017) revealed that teenagers aged 16–18 try to protect their privacy by adopting a skeptical stance toward retargeted advertisements when concerned about online companies using their personal information. Research on teenagers' coping with commercial data collection attempts—which precede their exposure to personalized advertising—showed that teenagers rely on this risk–benefit trade-off as well when asked by commercial parties to share their personal information (Youn, 2009). In this way, teenagers can be persuaded to disclose their personal details in exchange for, for example, a chance to win a smartphone (Daems, De Pelsmacker, et al., 2019) or commercial incentives (Walrave & Heirman, 2012).

Perceptions of privacy risks and the related concerns about the commercial use of personal information are—given its impact on the risk–benefit trade-off—often referred to as a predictor of privacy-protective behavior (Baruh et al., 2017). However, the "privacy paradox" phenomenon describes a discrepancy between concerns and actual behavior (Kokolakis, 2017). Particularly, consumers are not necessarily more likely to engage in privacy-protective behavior when they are concerned about privacy risks (e.g., Acquisti et al., 2015; Lutz et al., 2018). For instance, Zarouali et al. (2020) recently showed that teenagers' (aged 13–17) engagement in privacy-protecting strategies in the context of targeted advertising is low, although the teens were concerned about the collection and use of their personal information. Conversely, other studies showed that teenagers have little concern at all about personalized advertising or the preceding data collection (Lapenta & Jørgensen, 2015; Pangrazio & Selwyn, 2018). In fact, they often find the social value of participating online increasingly important and downsize the potential risks related to it, which leads them to accept the commercial data collection without being worried about their privacy (Lapenta & Jørgensen, 2015).

This is where the relevance of knowledge for privacy-protective behavior comes in. Particularly, it is important that internet users are aware of commercial companies collecting and handling their personal information and how these data practices work (Baruh et al., 2017; Trepte et al., 2015). This knowledge raises awareness of the risks and potential consequences of sharing their personal information (Trepte et al., 2015), enabling and encouraging consumers to make informed risk–benefit decisions and consequently to apply privacy-protective measures (Baruh et al., 2017). As such, Selwyn and Pangrazio (2018) discussed that teenagers will not be motivated (and neither will they be concerned) to act if they do not see the commercial use of their personal information as a problem. Previous research indeed showed that young people generally do not perceive their personal information as valuable to advertisers and are not fully aware of the information third parties gather or commercial repurposing of this information (Lapenta & Jørgensen, 2015; Pangrazio & Selwyn, 2018; Stoilova et al., 2020; Stoilova, Nandagiri, & Livingstone, 2019; Zarouali et al., 2020). Given teenagers' limited understanding, the current study begs the question to which extent teenagers are capable of rational decision-making regarding their personal information and their exposure to personalized advertising.

Yet, lacking actual knowledge of how data collection practices and advertising personalization work does not mean that teenagers are completely unaware of how their personal information is being commercially exploited. Teenagers may as well have some mental models of data collection and personalized advertising, based on their personal experiences, perceptions, and understandings (Jones et al., 2011). Recently, academia has increasingly focused on how people form "algorithmic imaginaries" (i.e., how they imagine, perceive, and experience algorithms; Bucher, 2017) or "folk theories" about algorithms (e.g., DeVito et al., 2018). DeVito et al. (2017, p. 3165) define these theories as "intuitive, informal theories that individuals develop to explain the outcomes, effects, or consequences of technological systems, which guide reactions to and behavior towards said systems." Folk theories are, however, incomplete and simplified assumptions of reality and may thus be incorrect, which means that they may lead to erroneous decision-making (Wash, 2010). In the context of the current study, consumers' misperceptions of commercial data collection and personalized advertising may thus undermine informed and effective decisions on privacy-protective behavior (Acquisti et al., 2015; Boerman et al., 2017; Yao et al., 2017).

To the best of our knowledge, previous research has not considered teenagers' folk theories for understanding their everyday coping behaviors. The current study aims to examine teenagers' engagement in privacy-protective behavior considering their limited knowledge of the current data ecology and ability to engage in rational decision-making regarding their personal information. This study is particularly interested in how teenagers develop folk theories about online data collection and personalized advertising and how these folk theories are connected to their use of privacy-protection strategies.

3. Methodology

3.1. Study Design

Focus group discussions were conducted with teenagers. Data were collected in three waves, and we adopted an iterative approach in which the information learned from the previous wave was used to revise the interview material for those following. Two researchers moderated the discussions.

3.2. Participants

Ten focus groups were conducted with 35 teenagers (20 girls, 15 boys) aged 12–14. Appendix I (see Supplementary File) shows an overview of the focus groups' composition, the participants, and their demographics. All teenagers indicated being familiar with different media devices and being active on multiple social media platforms. They received a voucher for an online store for their participation.

The first two focus groups were conducted in March 2020 (wave 1). Participants were recruited from two secondary schools in Flanders (Belgium), and the discussions took place after school hours in a classroom. Thereafter, the data collection was paused when schools in Belgium physically closed mid-March 2020 due to the Covid-19 pandemic. In Summer 2020, we resumed data collection by organizing online focus groups using Microsoft Teams (wave 2). We organized four smaller focus groups through snowball sampling. Due to the second lockdown in November 2020, the study was paused again. Data collection resumed in January 2021 after recruiting teenagers from a third secondary school (wave 3). With a teacher's assistance, we organized four more online focus groups.

3.3. Procedure and Topic List

First, ethical consent was obtained from the ethics committee of the researchers' university faculty. Consent was also requested from one of the teenagers' parents or legal guardians, and teenagers were informed about the study's purpose before agreeing to participate. The face-to-face conversations lasted no longer than 1.5 hours. The online focus groups took approximately one hour. All conversations were recorded with both audio and video.

The (semi-structured) topic guide was updated after each data collection wave (cf. iterative research design). Each conversation began with the researchers introducing themselves, explaining the study's purpose, and ensuring confidentiality and anonymity. In the first two

waves, we mainly asked questions to explore teenagers' understanding, attitudes, and experiences regarding the collection and use of their information for personalized advertising. Other themes such as the business model of service providers, giving (informed) consent, and control over personal information were discussed as well. Based on the data of these waves, we inferred various folk theories and coping responses regarding the topics of interest. In the third wave, we further elaborated on these findings and focused on teenagers' coping strategies.

To facilitate the focus groups, we prepared some tasks and materials. For example, the respondents were asked to visit their Instagram profile (or another app) and to scan the ads they saw (cf. social media scroll back method; Robards & Lincoln, 2019). We asked whether their newsfeed advertisements were personalized and if yes, how this works. Furthermore, we showed some videos explaining explicit (i.e., voluntary information disclosure) and implicit (i.e., unconscious information sharing) data collection practices. A few examples of personalized advertising (e.g., location targeting, retargeting) were shown as well. Each focus group ended with the discussion of specific statements, such as "apps and websites have the right to collect and use my personal information." The topic list of wave 3 can be found in Appendix II (see Supplementary File).

After each data collection wave, the focus groups were transcribed, anonymized, and analyzed using NVivo software. To structure the data, the first author developed a coding scheme using both deductive (theory-driven) and inductive (data-driven) thematic analysis (Braun & Clarke, 2006; see Appendix III, in the Supplementary File). The main codes (i.e., knowledge and perceptions, attitudes, coping) and categories (i.e., personalized advertising, explicit data collection, implicit data collection, and informed consent) were deductively defined based on prior literature and the themes in the topic list. Following an inductive approach, we were also mindful of recurring patterns and new information. These codes were attached to the information in the transcripts. An iterative approach was taken as well during the coding procedure, so the data and inductive codes were reconsidered, restructured, and redefined after each data collection wave.

4. Results

4.1. Folk Theories

We found that teenagers hold four main folk theories that help explain how they think about and cope with online data collection and the subsequent personalized advertising. These folk theories encompass beliefs that: (a) data collection is unavoidable, unclear, and unrelated to advertising; (b) personal information is handled by real people; (c) all the principles of privacy statements are the same; and (d) data collection and processing is an individual responsibility. Anonymized quotes in support of the results can be found in Appendix IV (see Supplementary File). When presenting quotes from the interviews, we'll use F# to signify to which focus groups that interviewee belonged to.

4.1.1. Personal Information Collection is Unavoidable, Unclear, and Unrelated to Advertising

The respondents generally agreed that the collection of personal information is a standard practice among commercial companies and therefore unavoidable. They were convinced that they cannot do anything online without disclosing some type of personal information to an app or website. However, the respondents struggled to give clear answers when we asked how their data is collected by advertisers to create personalized advertisements. Most respondents indicated more implicit data collection methods and were aware that their online activities are being tracked by cookies. However, they were unable to explain how these cookies work:

> F4 Interviewer: Do you all get to see the same advertisements?
>
> Pascal (13): No, I don't think so.
>
> Mason (12): Isn't that what cookies are for?
>
> Pascal: Yes!
>
> Mason: If you accept cookies on a certain website, don't you get advertising related to that?
>
> Interviewer: What are those cookies exactly?
>
> Mason: I don't know about that.

Based on their previous experiences, the respondents did claim cognizance of how their surfing behavior shapes the advertisements they see: "I notice that when I search something on Google that I suddenly get advertising about that, or something related to that" (F3 Zoey, 14).

Some respondents also mentioned other implicit data collection methods, such as the usage of location details to personalize advertising and eavesdropping through built-in microphones. Most respondents, however, did not believe the last practice to be true. The respondents rarely mentioned more explicit data collection methods for personalized advertising. They believed that websites and apps request their information for non-commercial purposes, such as inputting their age to be allowed to use social media or requesting interests to show relevant non-commercial content: "I know that when you create an account on TikTok that you have to indicate your interests….I think this is to determine the videos that you get to see" (F3 Zoey, 14).

Interestingly, some respondents believed that their personal information could be collected through the

online behavior of their friends: "If you have many friends who live close and turned their location on, I think that they [companies] can find out your location as well" (F1 Ellen, 12).

4.1.2. Personal Information is Handled and Read by Real People

In the second folk theory, the respondents assumed that the information disclosed to commercial parties is handled and read by real people—and not processed by algorithms as it is in reality. When discussing commercial parties' information practices, respondents referred to "them" as the people working for these companies. Additionally, they voiced ideas about other things that could happen with the data when those people have other intentions, such as lurking or using information for burglary or hacking purposes. Even after explaining how this is an automatic, anonymous process, the respondents seemed to have difficulties relinquishing their initial reasoning: "But they have all your information, and you don't know what they do with that. So, if they want, they can also misuse it" (F9 Willow, 13).

4.1.3. All Principles of Privacy Statements Are the Same

The respondents were generally aware of the privacy statements they are exposed to when visiting websites, downloading apps, and creating social media profiles. They realized that by accepting these statements, they give permission to these platforms. Most respondents were also aware that they automatically agree with the privacy policies of social media sites when signing up. However, they do not know precisely what they give permission for and referred to the content of privacy statements as "having something to do with privacy." The respondents were not aware that these statements also include permission for using their data for commercial purposes and, hence, for personalized advertising. Additionally, some respondents assumed that the same information and principles are written down in every privacy statement and thus didn't perceive them as having added value. Others questioned this but could not indicate any differences between different services' privacy policies.

> F4 Pascal (13): I didn't know it contained that. But I did know a bit about the privacy stuff of Instagram, for example, but I didn't know that it goes to advertisers…. [About privacy policies] It's all about the same, I think….There are not going to be many differences.

4.1.4. Data Collection and Processing is an Individual Responsibility

When respondents were informed by the moderators that they give companies permission to use their personal information to implement personalized advertising by accepting privacy statements or signing up on social media, they justified these practices by showing understanding concerning advertisers. They reported that it is their own responsibility that they are involved with these practices as it was their own choice to agree with the terms, without informing themselves of what they give permission for. In a way, they blamed themselves for not being aware of certain data collection and personalization practices and now resign themselves to it because they feel that they should have known better.

> F2 Mila (12): You have chosen it for yourself.
>
> F1 Sam (14): It's fine for me [advertisers processing his personal information]…because you've agreed with it.
>
> F8 Interviewer: You also give permission for the use of your personal information for advertising when agreeing with the privacy policy. How do you feel about this way of giving consent, knowing that most people don't read this privacy policy?
>
> Leah (13): It's in there, so it's up to you if you want to read it. If you don't want to read it, then that's your own fault.

4.2. Coping Strategies

In what follows, we provide an overview of the teenagers' coping mechanisms towards (a) personalized advertising, (b) explicit data requests, (c) implicit data collection, and (d) informed consent and permission requests and how the previously mentioned folk theories shaped our respondents' reasoning and practices.

4.2.1. Coping with Explicit Data Requests

When their personal information is explicitly requested, the respondents only give up the information that is required to continue their online activities. Cues such as a textual disclosure indicating what information is required or asterisks following the entry fields inform and guide them in this. Additionally, they make a trade-off between the information they do and do not want to disclose:

> F1 Interviewer: Which information do you give up?
>
> Sam (14): Everything you need to fill in.
>
> Finn (12): Yes, everything that is needed to make it work.
>
> Interviewer: And how do you know which information is needed?
>
> Finn: If there's an asterisk next to it.

F8 Lucy (13): I try to choose. Sometimes they ask either your email address or place of residence or phone number, and then usually I give my email address because I don't like to give my phone number.

Additionally, teenagers assess the trustworthiness of an app or website to determine their information disclosure (with more trust resulting in more information disclosed). They are most often guided by a gut feeling, but some respondents recognize signals referring to suspicious data requests (e.g., the number of questions or website reviews). Their familiarity with the website or brand also plays an important role, as respondents are more likely to trust well-known platforms. However, their information disclosure to popular social media sites still depends on the sensitivity of the information requested.

F10 Nikki (12): I wouldn't disclose where I live [when making an account] if I don't trust it.

Interviewer: Why wouldn't you trust it?

Nikki: Just because you never know what they will do with it.

F9 Arthur (12): To Snapchat and all those other well-known apps, I would just give my personal information because you know a lot of people are on it, and it's reliable. But for other apps, that not so many people use, I would not give my personal information so quickly.

Peers are important references for this trustworthiness as well, as teenagers often imitate the behavior of friends and do not expect their friends to engage in risky behavior. Two respondents let their parents check the reliability of a website or app: "My friend did it as well, so I trust that, and there has nothing bad happened to them" (F7 George, 12).

The above findings show that respondents have already developed some coping mechanisms to control their personal information disclosure. They are unlikely to give additional information if not required, as they do not understand the necessity. Their information disclosure is mainly based on an assessment of trust in the data requesters. Particularly, they consider whether they can trust a company with their information, specifically the people working for that company, as they believe that their personal information is handled by real people and may thus fall in the wrong hands (cf. folk theory 2). This means, however, that when they trust the app or website, they are less likely to engage in protective behavior.

4.2.2. Coping With More Implicit Forms of Data Collection

We identified three coping strategies concerning more implicit forms of data collection. First, some respondents believed that they could protect their personal information from advertisers and commercial companies by having a private account:

F2 Jonas (12): You disclose your personal information by uploading photos on Instagram when you have a public account. They [commercial company behind the app] can't see it when you have a private account…. I think it is allowed to do this [advertisers collecting and using personal information] with a public account, but with a private account, I think it is illegal.

Second, a respondent in the first focus group assumed that advertisers do not have much of his personal information because of infrequent social media usage. When we discussed in the following focus groups whether using less social media could be a coping response to avoid personal information from being collected, most of the respondents agreed but were not inclined to actually do this: "Yes, I think so! But I'm not sure if that's something for me to do" (F9 Emily, 13).

Third, some respondents thought that they could avoid online tracking by simply not logging in on a website or social media app. When asked how this may help them avoid being subject to advertisers, they felt that they would not get advertisements based on their interests in this way.

F7 George (12): Sometimes, you don't need to log in—you can skip that.

Interviewer: How would that help [to avoid data collection]?

George: You don't get to see advertising that's relevant to you then.

Willow (13): On Google, I notice that when I log out, I get to see totally different advertisements.

Such coping responses were, however, not supported by all the respondents. For others, it was unclear whether having a private account, not logging in, or using less social media would prevent their personal information from being collected by commercial companies. While some respondents questioned the effectiveness of these strategies, others felt that commercial personal data collection is unavoidable (cf. folk theory 1).

The idea that their personal information is handled by real people (cf. folk theory 2) explains why respondents believed that setting up a private account protects them from unwanted audiences. However, private accounts do not guarantee that personal information is being collected and used to show advertisements. Additionally, because most respondents are aware that they give permission to commercial companies when signing up for social media (cf. folk theory 3), they may

engage in coping responses to evade giving permission. As such, they may not log in on websites, believing that companies will not track them. Actual data collection, however, happens when users are not logged in as well. Moreover, respondents believed that it is guaranteed that companies collect and process personal information (cf. folk theory 1) and that they are responsible for deciding whether they want to participate in these practices by using social media or not (cf. folk theory 4).

4.2.3. Coping With Informed Consent and Permission Requests

Although none of the respondents read privacy policies, terms of services, or cookie disclosures, they mostly accept them. Few respondents would cope critically with permission requests by refusing to accept cookies or giving permission to their data:

> F1 Luke (13): I'm not really careful with that. I usually agree because I know what it is.
>
> F7 Lenny (13): I first check which website it is and if I know I can trust it, such as [*Het Nieuwsblad*; regional news site], then I accept the cookies. But if the lock is open, then I will not accept it.
>
> Interviewer: What do you mean with that lock?
>
> Lenny: In this way, my computer shows whether the website is secured or not.
>
> Interviewer: And what if you can't continue if you don't accept the cookies?
>
> Lenny: I just go to another website.

The main reason why respondents agree with privacy policies without reading is because they feel obligated. Hence, most respondents believe that it is impossible to disagree if they want to use an app or social media platform. Similarly, respondents accept cookie policies so they can proceed and treat these policies as obligatory passage points. This reasoning is related to the assumption that the collection of personal information is unavoidable (cf. folk theory 1): "You can only accept. You can choose to accept or to read more privacy information, but you can never refuse" (F8 Leah, 13).

Additionally, respondents do not understand the importance of reading the privacy policy on every website or app they visit, since they believe that every policy is the same (cf. folk theory 3). Similarly, they believed that cookies are the same for every website and therefore do not understand why it would be necessary to accept disclosures repeatedly for every website and app:

> F1 Sam (14): Maybe I did read that [privacy policy once] once, but it's the same principle everywhere.
>
> F6 Bella (12): I believe that for some people, it might be useful, but I think that others might not understand why it [cookie disclosures] still appears if they always accept it anyway.

Respondents' critical coping is again based on their trust perceptions, which arise from the idea that the people behind the app or website may access their personal information (cf. folk theory 2). Particularly, some respondents first look at whether the website is secure before accepting cookies.

4.2.4. Coping With Personalized Advertising

The respondents find retargeted ads—based on their online behavior—less annoying than non-retargeted advertisements and are therefore less inclined to resist them. Some respondents, however, do their best to avoid interaction with advertisements to protect themselves from being targeted further: "I never like sponsored posts because if I like that, I know that I will get it again, and before you know, I will get to see these advertisements each time I look at Instagram" (F2 Jonas, 12).

The respondents had less experience with other personalization practices. We gave some examples of personalized advertising based on different types of data. First, we displayed social advertising (i.e., an advertising format that leverages friends as endorsers). While some teenagers said that they would not mind this, others would investigate how to avoid this (e.g., by changing settings):

> F1 Sam (14): I wouldn't find that a disaster because I have probably given permission for that in the general conditions, but I wouldn't appreciate it either. I would just dislike it [the brand] again.
>
> Luke (13): I would look if I can turn that off, but if I can't find how to do that, I would probably leave it like that.

While the respondents are unlikely to do something if their profile information is used, some reported being motivated to react protectively against personalized advertisements based on "creepy" data sources (e.g., location data or chat history). They then might look for the settings to disable such advertising practices, but they questioned their own capabilities to do so. Other teenagers would not mind their information being used to create targeted advertising for a well-known or trusted brand:

> F8 Lucy (13): I would see if there is a way to disable this…but I wouldn't know how to do this. Because they have this information, they can read your chat messages, so I don't think there is much you can do about it….I wouldn't get issues with that [location-based ads] because okay, they have found out where

> I am based on my location, but still, it's just from McDonalds, so I wouldn't mind that very much.

The findings showed that the respondents do little to actively cope with personalized advertising, as they do not link the collection of their personal information to advertising (cf. folk theory 1) and are mostly unaware of how personalized advertising works. When expressing their concerns regarding privacy-invasive personalized advertisements (e.g., based on location or chat history), the respondents again considered that their personally identifiable information is processed by real people (cf. folk theory 2), whereby they are more likely to adopt a critical stance toward the ad. That being said, even with awareness of personal information usage, they may neglect to respond because they perceive they are responsible for being exposed to these ads (cf. folk theory 4). Specifically, if they were aware that they had given permission for such practices when signing up or accepting the privacy policy, they felt that such advertisements are part and parcel of the process and that they should have known better.

5. Conclusion

Previous research has shown that teenagers' knowledge of personalized advertising and the preceding commercial data collection is limited (e.g., Stoilova, Livingstone, & Nandagiri, 2019; Zarouali et al., 2020). The current study delves deeper into teenagers' ways of thinking and offers a more nuanced understanding. Specifically, our study illustrates how teenagers hold different folk theories that—partially—explain their coping responses.

The first folk theory assumes that the collection of personal information by commercial companies is unavoidable. Therefore, teenagers feel that they have little control over commercial data collection practices, which aligns with the feeling of powerlessness found in previous research (e.g., Pangrazio & Selwyn, 2018; Stoilova et al., 2020). Commercial data collection practices in the context of personalized advertising are unclear for teenagers, causing them to do little in response to personalized ads. However, they demonstrated a certain awareness of the use of their online behavior for targeted advertising and therefore avoid interaction with targeted advertisements. Hence, teenagers may cope with personalized ads when they are aware of what happens to their personal information. Yet, most teenagers still perceive targeted advertisements as being more beneficial than irrelevant advertisements, which is in agreement with previous research on the effectiveness of personalized advertising (Kelly et al., 2010). When further discussing other personalized advertising formats, the teenagers sometimes disagreed with certain practices (e.g., using data from creepy data sources) and indicated that they would want to adapt the settings to disable this. However, they immediately reflected on their capability to do this as they did not know how to control personalized advertising and therefore leave it at the default settings. In agreement with previous research (e.g., Ham, 2017; Zarouali et al., 2018) we argue that teenagers' lack of self-efficacy (i.e., one's confidence in their ability to successfully change the privacy settings) may be a barrier to actually adopting privacy-protective strategies regarding personalized advertising.

The second folk theory purports that personal information is handled and read by real people. Hence, teenagers link a social context to commercial data collection. As discussed by Stoilova et al. (2020) and Desimpelaere et al. (2020), this may lead teenagers to think that companies have the same values as someone they personally know and to adopt the same coping responses regarding their social privacy (i.e., regarding friends or parents). Our study supports this by showing that teenagers believe that creating a private account may protect their information from commercial parties. This assumption causes teenagers to base their privacy-protective decisions on perceptions of trust, as has also been shown in previous research (e.g., Walker, 2016). Particularly, our study reveals that teenagers have developed some trust mechanisms on which they rely to assess the environment in which they receive information or permission requests. Accordingly, they will determine their information disclosure and acceptance of privacy policies and cookie disclosures. Perceptions of trust may also develop from teenagers' gut feelings, which questions the effectiveness of these mechanisms. Interestingly, teenagers indicated that their coping with personalized advertisements depends on the trustworthiness of the brand being advertised, while on social networking sites it is the platform itself that is responsible for managing users' data and targeting them with the advertisement. Hence, wrong assumptions may lead to ineffective decision-making.

Teenagers feel forced to accept privacy statements and cookies if they want to participate online, which is a well-known phenomenon (e.g., Lapenta & Jørgensen, 2015; Pangrazio & Selwyn, 2018; Stoilova et al., 2020). However, our study provides further insights into teenagers' reasoning about information policies. The third folk theory reveals that teenagers believe that every privacy statement contains the same principles, and that informed consent is the same for every website and app. Resultingly, they do not deem it necessary to read cookie disclosures and privacy policies. Accepting cookies or privacy policies is a part of their daily routines and is thus not perceived as a meaningful coping strategy by teenagers. They agree with it anyway because they want to continue their online activities, of which the rewards are more important than their privacy (cf. privacy calculus theory). In addition, the teenagers indicated that privacy statements are too complex for them to understand (cf. self-efficacy), which stops them from actually getting into it as well. Moreover, some teenagers indicate they perceive signing up for and using

a website or app as an automatic way of consenting. This perception may guide teenagers' coping behavior, for example, when they decide not to sign up or not to use a website or app to avoid their personal information being collected. However, it is worrisome that teenagers perceive implied consent and click-through agreements as normal, given that they are not adequately informed about what they involve.

When teenagers were told that they give consent for personalized advertising practices by accepting cookies and privacy policies, they were not bothered. The fourth folk theory shows how they justify advertisers' practices, as they feel that it is their own responsibility and decision to consent with data collection and exposure to personalized advertising without being well-informed. They feel like they should have known better, and therefore resign themselves to it. Rather paradoxically, they see commercial information collection as unavoidable (cf. folk theory 1) but something they need to decide for themselves. Additionally, this study shows that this individual responsibility may discourage teenagers from engaging in purposeful coping. Teenagers were sometimes unlikely to engage in privacy-protecting strategies toward these practices, as they felt that advertisers had the right to do so because they consented when signing up or agreeing with the terms of service. This shows how teenagers perceive their privacy in a commercial context as a property right, which can be given away to advertisers (see De Wolf et al., 2017).

5.1. Limitations and Further Directions

This study has some limitations that provide directions for further research. First, teenagers' folk theories are based on the information they could retrieve from memory and may be subjected to biases (see Podsakoff et al., 2003). In addition, there may be a gap between teenagers' intentions to cope with personalized advertising and online data collection and their actual behavior (see e.g., Norberg et al., 2007). Therefore, we suggest that teenagers' coping behavior regarding personal data requests, cookies, and privacy policies, and personalized advertising messages may be further examined by collecting data through participant observation. Furthermore, research may extend our work by further examining the determinants of teenagers' knowledge and coping behavior (e.g., self-efficacy), in this context.

Second, this study did not discuss the available control functions that allow teenagers to cope with these practices (e.g., turning personalization off). Further research may explore why teenagers are unaware of these options or why they do not succeed in adopting them. Moreover, it would be interesting to examine the extent to which teenagers have a need for such tools. They often indicated being powerless or indifferent regarding data collection practices, but it is unclear to what extent they desire more transparency or better control options.

Lastly, the study used a small convenience sample, which may be biased, as some focus groups had to be conducted online (due to the Covid-19 pandemic). The sample consisted of Flemish teenagers who were easy to reach and is therefore not statistically representative. Still, our study provides some nuanced insights into teenagers' engagement in commercial privacy-protecting strategies.

5.2. Implications

These insights may be of interest to educators, the (advertising) industry, and public policies, which play an important role in teenagers' coping with personalized advertising and commercial data collection. First, we agree with previous researchers that it is important to educate teenagers about personal data flows and usage (e.g., through educational training or awareness campaigns), as knowledge may encourage them to actively engage in privacy-protecting behavior (Pangrazio & Selwyn, 2018). However, it was noticeable that even after an approachable explanation of personalized advertising tactics, the teenagers fell back on their folk theories when describing their responses to these practices. Hence, it is important to consider teenagers' intuitive theories and their capacities to understand these practices when developing educational programs. In addition, it is suggested that teenagers' self-efficacy should be strengthened so that they believe in their ability to successfully cope with personalized advertising, online data collection, and consent requests. However, teenagers could first be educated about how they can successfully change privacy and advertising settings, as they currently do not know how to do this.

While the industry and public policy may assume that teenagers are sufficiently informed to consent to personalized advertising and online data collection practices, the current study shows that their folk theories do not align with this; teenagers' understanding and practices contrast with the principles described by the General Data Protection Regulation (i.e., more transparency and control). As such, we believe that it is important to make teenagers better aware of the content and value of privacy policies or cookies disclosures. However, informed consent may still be impeded as those privacy policies are too difficult for teenagers—and even for adults—to understand, which suggests that policymakers should reconsider this strategy as a whole. For example, improving policies may not provide a solution if teenagers are still not intending to read them, but changing the way in which information is presented (e.g., through visual cues) may be a first step to protect vulnerable audiences more effectively. Additionally, the current control options to regulate their personal information are not perceived as useful or something they can hold on to. Hence, we encourage the industry to invest in and promote meaningful ways that give teenagers more control over their personal information and protect

them from being manipulated by personalized advertising. Currently, there is little that advertisers do to properly inform or protect teenagers, which does not reflect ethical conduct.

In this regard, we believe that it is important to explore how the digital environment can trigger teenagers to routinely engage in privacy-protecting behavior and critically reflect on personalized advertising. We found that teenagers rely on trust perceptions to determine their information disclosure and agreement with privacy policies and that they are often guided by routines. Relevant authorities may, for example, invest in the development and implementation of cues that help them to guide their coping behavior. As a suggestion, an icon that discloses to teenagers what their personal information is being used for (e.g., for commercial use, to improve experiences) may help them decide whether they want to disclose their personal information. Additionally, we stress the need for a disclosure that informs teenagers about the implementation of personalized advertising based on their personal information as they are often unaware of advertising personalization. Current disclosures such as the AdChoices icon are not always noticed or clicked on by teenagers and are thus not sufficient for informing them. The advertising industry (e.g., the Digital Advertising Alliance) can reconsider these disclosures while taking into account teenagers' difficulties as addressed in this article.

Lastly, we could infer teenagers' folk theories are mostly based on their personal experiences. However, they draw on their parents and peers as well to form their theories and to determine their coping behavior. Hence, we suggest that these agents should be involved in the attempts to help teenagers cope with these practices.

Acknowledgments

This research was funded by the Research Foundation Flanders (FWO), grant number FWO.OPR.2017.0027.01 (funded doctoral fellowship of the first author).

Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 329–338
https://doi.org/10.17645/mac.v10i1.4707

Article

Divergent Fan Forums and Political Consciousness Raising

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Submitted: 16 July 2021 | Accepted: 25 November 2021 | Published: 29 March 2022

Abstract
This article conducts a thematic analysis of 40 threads related to sociopolitical issues on two *Divergent* fan forums, one on Divergent Fans and another on Divergent Wiki, to determine whether these forums raise political consciousness, especially among young people. As scholars of civic imagination show, popular culture narratives may lead to the ability to imagine a better future. Utopian narratives in particular facilitate this process in a dialectical way by presenting us with an impossible world, and dystopian narratives may operate in a similarly dialectical fashion by offering a negative example or warning. Analysis of posts related to utopia and dystopia, the story world versus the real world, historical and contemporary parallels, governmental reform, and non-normative sexuality reveals that participants on *Divergent* fan forums discuss real-world issues and sometimes imagine a better world, but this does not conclusively raise political consciousness. We can account for these civic successes and failures by considering Dahlgren's (2009) six elements of civic cultures: knowledge, values, trust, spaces, practices/skills, and identities. While fan knowledge, trust, and spaces are strong, and fan identities can be experienced as relatively static, values and practices/skills are important areas for intervention to cultivate political consciousness among young people. Critical civic education at the secondary school level could foster democratic values, and teaching media literacy and political discussion skills could improve students' ability to think critically about entertainment narratives.

Keywords
civic cultures; civic imagination; dystopian narrative; fandom; political consciousness

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

As a number of scholars have shown, fandom of fictional narratives may lead to engagement with real-world issues and can even result in fan activism (Brough & Shresthova, 2012; Cochran, 2012; Duncombe, 2012; Hinck, 2012, 2016; Jenkins, 2012, 2016; Jenkins et al., 2016, 2020; Kliger-Vilenchik, 2016a, 2016b; Kliger-Vilenchik et al., 2012; Mehta, 2012; Phillips, 2016; Shresthova & Jenkins, 2016; Stein, 2002; Wilkinson, 2012). One of the ways this occurs is through "the civic imagination," or "the capacity to imagine alternatives to current cultural, social, political, or economic conditions; one cannot change the world without imagining what a better world might look like" (Jenkins et al., 2020, p. 5; Jenkins et al., 2016). By allowing us to imagine the world differently, popular culture narratives can be the first step toward changing it. According to Duncombe (2012), the link between fandom and activism is dialectical; utopian stories occur in a "no-place" that invites us to imagine alternatives to both the present and the utopian world. Following Klein (2017), Levitt (2020) posits that dystopian fiction serves a hortatory purpose, acting in a similarly dialectical way to utopian fiction. Hintz and Ostry (2013) and Basu et al. (2013) also point out that dystopian narratives warn us against a course of action to prevent the outcomes that occur in the narrative universe. Dystopian media, like Veronica Roth's *Divergent* trilogy, take place in a world that is not only impossible, but undesirable. By showing us what we do not want to happen, it can help us think about how to prevent the real world from becoming like the story world.

Early scholarship on civic engagement among fans focused on fan-organized campaigns to either prevent shows from being canceled or to lobby for changing representations in entertainment media (Jenkins, 1992, 2006). More recent studies have examined overtly political forms of activism such as petition-signing and letter-writing campaigns, as well as the use of symbols and images from popular culture by traditional activist movements (Jenkins, 2012; Levitt, 2020; Mehta, 2012; Phillips, 2016; Wilkinson, 2012). Others have written about how fans become politically engaged through everyday talk (Hinck, 2012; Kliger-Vilenchik, 2016a, 2016b; Stein, 2002). This article contributes to this literature on political engagement among fans by investigating whether discussion on internet fan forums can raise political consciousness through civic imagination.

Internet fan forums are places where fans of a particular "content world," what Jenkins (2012, Section 1.9) describes as "the network of characters, settings, situations, and values that forms the basis for the generation of a set of stories," can come together to discuss these stories online. As a result, *Divergent* fan forums may assist in raising political consciousness, particularly among young fans. Given that fandom of dystopian narratives may lead to civic action through a dialectical and discursive process allowing fans to imagine a better world, this article asks to what extent discussions on Divergent Fans and Divergent Wiki forums encourage fans to (a) deliberate real-world issues raised in the *Divergent* content world, (b) imagine a better world, and (c) develop political consciousness surrounding these issues?

2. Civic Cultures

In this article, I rely on the theoretical framework of Swedish communication and media studies scholar Dahlgren (2009), who considers civic engagement from a socio-cultural perspective. Dahlgren maintains that everyday talk has the potential to become political under certain conditions. He identifies six elements or factors of civic cultures that allow for political engagement to emerge: knowledge, values, trust, spaces, practices/skills, and identities.

According to Dahlgren (2009), knowledge refers not only to information but to ways of acquiring information, including various types of literacy. However, as he puts it, "It is in the process of appropriation of information—integrating it in relation to one's existing frames of reference and thereby making it personally meaningful—that information becomes 'translated' into knowledge" (Dahlgren, 2009, p. 109). Nevertheless, Dahlgren warns that although certain epistemologies may be important for the identity and solidarity of marginalized groups, they may not be effective in mainstream politics. For example, ways of knowing drawing on popular culture may be considered inadequately "serious" by mainstream political standards (Jenkins et al., 2020). This may be the case for fans on *Divergent* fan forums, whose emotional investment in a fictional narrative and informal modes of expression may cause their political talk to be dismissed as frivolous.

When Dahlgren (2009) writes of values, he specifically refers to *democratic* values such as "equality, liberty, justice, solidarity, and tolerance" as well as "openness, reciprocity, discussion, and responsibility/accountability" (p. 111). Sometimes, however, democratic values can come in conflict with one another, which is why the ability to compromise is important. As Dahlgren states, "To be able to thrash out such conflicts without violence, striving for some practical compromise in situations where consensus is elusive, is a key task for a democratic society" (2009, p. 111). According to Kliger-Vilenchik (2016a, p. 112), "[S]hared identity as fans creates an environment where heterogeneous discussion and disagreement can be achieved in a civil manner" and, as we can see in the following study, fans on *Divergent* fan forums demonstrate skill at managing such a lack of consensus in non-violent ways when key values clash, for example when discussing controversial topics like non-normative sexuality.

Dahlgren (2009) also maintains that *thin* trust, "the generalized honesty and expectations of reciprocity that we accord people we don't know personally but with whom we feel we can have a satisfactory exchange," is critical for democracy (pp. 112–113). He asserts, "Without a degree of thin trust, collective political action becomes impossible, undercut by suspicion even toward citizens of similar persuasions" (p. 113). As Kliger-Vilenchik (2016a) suggests, such thin trust is characteristic of fan communities, including *Divergent* fan forums where strangers come together to discuss their common interests in an environment with relatively low conflict in comparison to online spaces with wider appeal, such as the comments sections of news articles and YouTube videos, or political discussions on social media sites like Facebook and Twitter. Moreover, Dahlgren (2009) indicates that voluntary group membership builds trust among group members, which is true on *Divergent* fan forums.

Dahlgren (2009) discusses both physical and virtual spaces for civic interaction, and he lauds the internet for offering the opportunity for increased political participation: "[T]he internet offers its users not only vast communicative spaces in which to travel, visit, and participate, it also allows them to collectively construct new spaces, by launching Web sites, news groups, blogs, *discussion forums*, wikis, and so on," (p. 116, emphasis added). *Divergent* fan forums are one such user-created space with the potential to facilitate civic engagement.

Dahlgren (2009) classifies "communicative competencies," including digital literacy, as important skills that allow citizens to develop democratic practices, and he maintains that building and using spaces also count as civic practices (p. 117). Although voting is often considered the most important democratic practice, Dahlgren

stresses the significance of civic talk for connecting issues to political ideologies. Participants on *Divergent* fan forums evidence a high degree of digital literacy, which allows them to create these virtual spaces and utilize them for civic ends. This occurs primarily through the discussion of sociopolitical issues, although it does not always lead to the development of a coherent ideology, as Dahlgren suggests it can.

Lastly, group identities allow members to experience civic agency. This includes not only more malleable identities such as political affiliation, but also relatively more stable ones like race and gender. Group identities, Dahlgren (2009) proposes, allow for an affective relationship to politics that can increase political efficacy. However, because civic identity is so marginal for young people today, Dahlgren (2009) recommends expanding our definition of citizenship: "[O]ur definition of the political realm could be defined in broader terms, to accord political significance to [young people's] personal experiences" (p. 120). Fans on *Divergent* fan forums are actively engaged in broadening the definition of the political from explicitly political acts such as campaigning and voting to more implicitly political ones like discussing political issues, thus strengthening their civic identities through their affective relationship to politics. Group identity provides a feeling of empowerment (that one has an active stake in and influence on politics), but this is not all. As Kliger-Vilenchik (2016a) implies, affinity also helps build trust among group members, and membership in the *Divergent* fan community builds trust among fans, in addition to giving them a sense of civic agency.

3. *Divergent* and Young Adult Dystopian Fiction

The *Divergent* series is an American young adult (YA) dystopian trilogy written by Veronica Roth. The series, comprised of *Divergent* (Roth, 2011), *Insurgent* (Roth, 2012), and *Allegiant* (Roth, 2013), is set in a post-apocalyptic Chicago, where society is divided into five factions based on personality traits: Dauntless (braveness), Amity (kindness), Erudite (intelligence), Abnegation (selflessness), and Candor (honesty). At the age of 16, citizens must choose their faction after taking an aptitude test, which can sort most people easily. However, those who display propensities toward more than one faction are deemed "Divergent," which is stigmatized because, if one is unable to pass initiation for the faction one has joined, one becomes "factionless" and enters into a state of total societal rejection and abandonment. The plot follows a young Abnegation woman, Beatrice Prior (or Tris), who joins Dauntless after testing Divergent. In *Divergent*, Tris and her love interest Tobias discover a plot by Erudite to use Dauntless to attack Abnegation and take over the city. In *Insurgent*, Tris and Tobias lead a revolt against Erudite, and in *Allegiant*, after escaping from Chicago, Tris and Tobias learn that the city has been isolated from the outside world in a US government experiment to increase the number of "genetically pure" Divergents after failed attempts at genetic modification led to a civil war between the "genetically pure" and the "genetically damaged." Tris and Tobias then return to Chicago to prevent a war from breaking out among the factions. In 2014, Lionsgate released a film adaptation of *Divergent* (Fisher et al., 2014), followed by *Insurgent* in 2016 (Fisher et al., 2015). *Allegiant* (Fisher et al., 2016) was to be released in two parts, *Allegiant* and *Ascendant*, but after *Allegiant* did poorly at the box office in 2016, *Ascendant* was scheduled to be released as a made-for-TV movie before being canceled entirely.

As science fiction studies scholar Booker (2013a) points out, Marxist literary theory has long posited science fiction as a genre with the potential to critique politics and challenge the status quo (p. vii). Although continuing with contemporary Marxist scholars such as Frederick Jameson, this tradition of science fiction criticism began with Darko Suvin's 1979 work *Metamorphoses of Science Fiction*, which attributes science fiction's political efficacy to its production of estrangement (as cited in Booker, 2013b, pp. 4–9). Furthermore, Booker (1994) argues that dystopian fiction may be especially powerful as a means of social criticism.

Hintz and Ostry (2013) and Basu et al. (2013) emphasize that dystopia is a subset of utopia in which utopian ideals have gone terribly awry. Moreover, they both note that YA dystopian fiction addresses social and political issues like environmental destruction, inequality, and totalitarianism and that these stories can develop political awareness among young people by introducing them to and/or helping them think about these issues in a new way. Similarly, Blackford (2013) and Connors and Shepard (2013) are both interested in the ways in which YA dystopian fiction may challenge the status quo. Blackford (2013) maintains that it allows young people to reflect on complicated social issues while making operations of power visible. Connors and Shepard (2013), on the other hand, are more cynical. They assert that it is difficult for YA dystopian literature to offer social criticism due to generic restraints such as imperatives to uphold normative values and offer hope, and because of the genre's didacticism and its status as a commodity. However, they also propose that early 21st century YA literature "may reflect the prevailing sociopolitical climate in the United States," and show how social and political institutions prevent people from achieving happiness (Connors & Shepard, 2013, p. 119). Ultimately, they conclude that YA literature, including dystopian narratives, "can provide sufficient inroads to explore conflicting ideology" (p. 121).

YA dystopian narratives may facilitate political engagement by encouraging the discussion of sociopolitical issues raised in these stories. Common themes include wealth inequality, governmentality (including surveillance and media manipulation to control citizen behavior), environmentalism, and gender and sexuality (Levitt, 2020). According to Kliger-Vilenchik (2016b), informal discussion is one of the "mechanisms

of translation'' that transform cultural into civic participation. Discussing the issues raised by YA dystopian novels or films may allow fans, particularly younger people, to develop political consciousness, often an important step toward political action. As both Hodgin (2016) and James et al. (2016) maintain, online discussion of civic and political issues is essential for young people to move from voice, or self-expression, toward influence in the political process, and for this reason, they both advocate for digital media literacy education. This may be because, as some proponents of the "mobilization thesis" claim, the internet can lead to political mobilization, particularly among young people, through the development of certain political competencies such as rational discussion and respectful listening (Dahlberg, 2001; Hirzalla et al., 2011; Lupia & Philpot, 2005; Stanley & Weare, 2004). Although it is important to note that not all political action leads to progressive ends, *critical* discussion of YA dystopian narratives may be fruitful for fostering social-justice-oriented political engagement.

Previous scholarship on the *Divergent* series has focused on the texts themselves, rather than fan responses. For example, Basu (2013), analyzing the first novel and its associated marketing strategies, argues that *Divergent*'s static conceptualization of identity reflects "YA dystopia's innate conservatism" (p. 27), while Cochran and Prickett (2014, p. 26) perform a textual analysis of the entire series to frame Tris as a "modern dystopian heroine" who challenges traditional depictions of femininity. Yet, following from Marxist scholars who examine the ability of (dystopian) science fiction to provide social criticism, and from scholars of YA literature who consider the political potential of YA (dystopian) fiction, I am interested in the ways that YA dystopian narratives explore contemporary sociopolitical issues, as well as the ways in which fans take up these issues or fail to take them up.

4. Methods

Because I was interested in whether YA dystopian fiction could raise political consciousness among fans, I conducted a thematic analysis of 40 threads collected from two active *Divergent* fan forums, Divergent Fans and Divergent Wiki, in December 2015. This was close to the height of *Divergent*'s popularity, shortly after the film adaptation of *Insurgent* grossed over $297 million worldwide, and these were the only active *Divergent* fan forums at the time (Box Office Mojo, n.d.). Because I was interested in political discussion rather than fan socializing or trivia about *Divergent*, I selected posts from the General Discussion and Other Discussions forums in Divergent Fans, which were more likely to include discussion of sociopolitical issues, and I excluded posts from the Welcome forum, specific book forums, and film forums. For the same reason, on Divergent Wiki I selected threads from the general discussion board only. Because I wanted to know how the political themes of *Divergent* are taken up by fans, I collected threads dealing with sociopolitical issues, topics either explicitly or implicitly related to society and politics, such as government, social structure, and gender. I included even threads that were only tangentially related to social or political issues, such as threads about similar YA dystopian novels, because these threads often contained discussion about the social and/or political aspects of these content worlds. Again, because I was not interested in fan trivia or socializing, on both forums I excluded threads that were not even tangentially political, such as threads about minor plot points or threads soliciting personality information from fans.

Threads consisted of an original post of approximately several sentences to several paragraphs in length, usually asking a question to other fans. These posts were followed by a variable number of comments responding to either the original post or other comments made on the post. Seventeen of these threads came from Divergent Wiki (https://divergent.fandom.com/wiki/Divergent_Wiki), while 23 came from Divergent Fans (https://divergentfans.net). This constituted approximately three percent of the threads on each forum. Both forums were public, fully accessible without a password or creating a user account, and all user handles are pseudonyms. Where characteristics of users such as age or gender are given, this information was self-disclosed in the analyzed threads, although such demographic information was scarce. Although this data remains valid for the purposes of studying the impact of fandom on politics, it is important to note that since 2015 there has been a significant rise in young people's political engagement in North America around issues such as gun control, climate change, and police brutality.

Because of the small sample size, I coded the data by hand, without the use of qualitative data analysis software. The first cycle of coding consisted of sorting these threads into four emergent categories suggested by the data: government and society, genre, gender and sexuality, and posts from other researchers soliciting data about the psychological and political impact of YA dystopian fiction on fans. The content on Divergent Fans and Divergent Wiki were similar, so I removed three posts from Divergent Wiki that closely replicated posts from Divergent Fans and used them to intuitively develop second-cycle coding methods including theming the data, in-vivo coding, magnitude coding, versus coding, and value coding (Saldaña, 2013). These coding methods were selected based on the characteristics of the data rather than dictated by the research question. For magnitude coding, I marked whether the poster had a positive or negative attitude toward a particular aspect of the content world. For versus coding, I noted when posters explicitly compared two different YA dystopian narratives. Finally, for values coding, I attempted to infer from posts what political values posters held. For example, in a post positively comparing "our world" to the faction system, the political values of the poster included

choice, opportunity, and freedom. After analyzing the remaining threads using these coding methods, I conducted axial coding to create a coherent and wholistic coding schema, organizing the prior codes into eleven categories: utopia/dystopia, the story world versus the real world, historical/contemporary parallels, government reform, the factions, moral of the story, conflict of the story, intertextuality, readers, sexuality, and other scholarship. The following analysis of these 37 threads shows how fans discuss sociopolitical issues relating to the content world of *Divergent* focusing on conversations about five topics: utopia/dystopia, the story world versus the real world, historical/contemporary parallels, government reform, and non-normative sexuality.

5. Results

5.1. Did Fans Discuss Real-World Issues?

Fans on both fan forums discussed real-world sociopolitical issues raised in the content world of *Divergent*. This occurred in all analyzed threads. For example, fans discussed sociopolitical issues in their debate over whether *Divergent* is a utopia or a dystopia.

Although generically classified as *dystopian* fiction, fans lacked consensus about whether *Divergent*'s narrative world was utopian or dystopian. This may partially stem from some overlap between the terms themselves; while "utopia" indicates any imaginary world, "dystopia," a subcategory of utopia, is an undesirable imaginary world (Basu et al., 2013; Hintz & Ostry, 2013; Levitt, 2020). Further, as Jenkins et al. (2020) remark:

> Most utopian writing contains at least an implicit critique of the current realities that its alternatives hope to displace. By the same token, most dystopian writing contains a utopian alternative—often, in the form of a resistance group struggling to transform the society. (p. 17)

Two posts from Divergent Fans specifically asked whether *Divergent* depicted a utopian society or a dystopian nightmare, offering an example of "cultural acupuncture"—what Jenkins (2012, Section 0.1) defines as "the practice of mapping the fictional content world onto real-world concerns"—that can potentially lead to civic engagement and the development of a political identity. Some fans responded that the world of *Divergent* was a dystopia, and they argued that the government is not a true democracy, personal freedom is circumscribed, and categorizing people into groups is negative. One fan wondered about labor conditions in the *Divergent* universe: What were the working conditions like, and were there limits on the number of hours that people could work? On the other hand, some fans saw the world of *Divergent* as a utopia, and these fans emphasized the benefits of being part of a community that the faction system could provide. Others pointed out that at the beginning of the story there is "peace and happiness." In discussing whether the world of *Divergent* was utopian or dystopian, fans shared common *knowledge* about the story and about the meanings of "utopia" and "dystopia." However, different groups of fans expressed different civic *values*. Whereas fans who characterized the story world as a dystopia valued equality, freedom, and choice, those who viewed it as a utopia valued security, stability, and community.

Similarly, fans discussed socio-political issues when comparing the story world to the real world. Three threads on the Divergent Fans forum specifically asked what fans thought of the faction system, and one of these directly asked whether it was preferable to "our government," another example of cultural acupuncture (Jenkins, 2012). Again, fans disagreed on this point.

Regarding the story world, fans said that positives included a sense of community and more freedom to choose your life path. One fan said that even the factionless had a sense of community, "like a big family." Fans maintained that the faction system would satisfy everyone because you could "change your life" for free rather than by paying for higher education, and one fan employed the discourse of meritocracy to argue that you would not be poor unless you deserved it, unlike in our own world. Others mentioned that the faction system was simpler than ours and "well put together," and the government was seen as "more open to [people's] ideas." Aptitude tests, one fan said, would eliminate "argument between political parties."

By contrast, some fans saw factionlessness, and the poverty and homelessness associated with it, as one of the main drawbacks of the faction system. Other drawbacks of the story world included a corrupt government and a perceived lack of freedom, and fans held categorizing people to be negative. Some fans viewed the government as totalitarian and thought that people had less personal choice in the story world than in our own. One fan thought that it was "scary" to have to get permission from the government to leave the country, and others pointed out that the government in the story performs experiments on and keeps secrets from its citizens. Finally, one fan pointed out that the world of *Divergent* was extremely violent.

Although some fans saw the real world as offering more choice, including more opportunities and more freedom to "pursue whatever we want," other fans saw "our government" as corrupt, and they pointed to the wars in our own world as an example. One fan said that the US government was too complicated. Another pointed out that "our government" keeps lots of secrets from us and has even performed experiments on its own citizens. Government debt is high, fans articulated, and politics is divisive. Politicians are power-hungry, elections are "too negative," and the election process is confusing, fans claimed. Finally, they asserted that, just as in the story world, there is poverty and hatred in the real world, and real-world media is too violent.

The difference in values determining whether one saw *Divergent* as utopian or dystopian also determined whether fans preferred the story world to the real world, but fans surprisingly held many values in common. Both groups of fans valued equal opportunity, freedom, and peace, and they both desired a transparent, honest, and fair government. By contrasting the real world to the story world in these threads, fans were able to identify what was positive and negative about both worlds, implying the potential for political consciousness to develop through cultural acupuncture.

Fans also discussed sociopolitical issues when drawing historical and contemporary parallels between the content world and the real world, representing a third case of cultural acupuncture (Jenkins, 2012). One fan drew on protests against the Vietnam War to argue that in the real world the citizens of Chicago would riot against the oppressive faction system, while others compared the faction system to the caste system in India and the factionless to the untouchables. Furthermore, fans linked the dystopian world of *Divergent* to the contemporary world. For instance, one "acafan"—or researcher identifying as a fan—of YA dystopian literature posted a thread asking a series of questions about fans' interest in *Divergent* and dystopian novels more generally. She then asked participants a series of follow-up questions about YA dystopian novels. In these online interviews, teenager AmityHeart revealed that dystopian plots make her think, "This could happen if we don't change how we live/act," and 25-year-old Heather Amity said, "The settings often have things that remind us of our current lives. We can see how our current world could turn into the new dystopian world." For both AmityHeart and Heather Amity, YA dystopian narratives help them identify sociopolitical problems in the real world and serve as a warning about what could come to pass if action is not taken.

Moreover, two posts on the Divergent Fans forum specifically addressed governmental reform, one relating to the US Constitution and the other to the faction system, yet another example of cultural acupuncture (Jenkins, 2012). In response to a thread asking, "Which government would you prefer [the faction system or the US government]?" SallyCrockerWriter suggested reforming the faction system: "Expand the 50-member council to 60 members, including 10 for each faction and 10 factionless, each elected by their own colleagues." Additionally, In the Other Discussions section, Paul B. Shriver offered a rather elaborate suggestion for revising the US Constitution by replacing the three branches of government with five "Arms:" a security arm, an education arm, an administrative arm, a legislative arm, and a supreme courts arm.

Finally, readers commented on the sexual politics of *Divergent*, paying attention to the representation of lesbian and gay sexualities. Fans extensively discussed two characters with non-normative sexualities, Lynn and Amar. Lynn is implicitly coded as lesbian, whereas Amar is explicitly gay. One thread on the Divergent Fans forum asks, "Is Lynn a lesbian!???" Most responded yes or probably, but two fans insisted that she is not a lesbian. These fans felt strongly about Lynn's sexuality, which they expressed through punctuation and capitalization, but the thread surprisingly did not turn into a "flame war." Although fans held different values about non-normative sexuality, an appeal to civility sufficed to shut down homophobic speech. As Dahlgren (2009) indicates, this ability to discuss an issue about which there is a lack of consensus is a fundamental democratic skill.

Likewise, three separate threads on Divergent Wiki concern Amar's sexuality. The thread "I had no idea Amar was gay" begins with the post:

> When I found out Amar was gay, I was just like, whoa. Didn't see that coming.
>
> Please don't take this as something saying I am against homosexuals because I am not. I don't believe in being homosexual, but I have nothing against people who are.

Some fans expressed surprise about Amar's sexuality, while other fans pointed out the implicit homophobia of the original post and replies expressing "shock." This thread too remained surprisingly respectful, despite the strong feelings of some of the participants, particularly considering that it was the most contentious thread analyzed on either forum. This confirms Kliger-Vilenchik's (2016a) assertion that being a member of a fandom provides fans with a safe space for discussing controversial sociopolitical issues, including the ethics and visibility of queer desire. Although fans had varying degrees of knowledge about the text and different values about sexuality, they were able to cultivate the practice of civic discussion because of their shared identity as Divergent fans. This shared identity inspired the trust necessary to engage in civil discussion on a controversial topic, an important political skill according to Dahlgren (2009).

5.2. Did Fans Imagine a Better World?

Fans on *Divergent* fan forums were sometimes able to imagine a better world. This occurred in threads debating whether *Divergent* was utopian or dystopian and threads discussing governmental reform. Some fans saw the world of *Divergent* as simultaneously utopian *and* dystopian. One fan described the society as a "false utopia" and another as a "utopia gone bad." While identifying the *Divergent* series as either utopian *or* dystopian did not lead to imagining a better way of organizing society, characterizing it as both utopian *and* dystopian did facilitate the dialectical process described by Duncombe (2012), by which fans were able to imagine a better world. Fans considered the ways that the world of *Divergent* might be improved, for example by modifying the faction system so that people chose their

faction later in life, or by eliminating factionlessness. They took the positive elements that they saw in the content world such as peace, security, and a sense of belonging and modified the system to eliminate its negative aspects such as premature categorization and severe inequality. This dialectical process allowed fans to imagine a world based in but more perfect than the world of *Divergent*. As mentioned previously, fans characterizing *Divergent* as either a utopia or a dystopia held different values (security, stability, and community versus equality, freedom, and choice), and fans who could synthesize these two sets of values were able to transcend the utopia/dystopia binary and imagine a better alternative to the story world. This ability to listen to alternative viewpoints and come to a compromise is a key political skill according to Dahlgren (2009), and in this case, it emerges out of the fan practice of discussing the content world of *Divergent*.

Suggestions for governmental reform also indicated an ability to imagine a better world. In Paul B. Shriver's recommendation to reorganize the US government into five "Arms," each Arm would have "kill power" over two other Arms and would be "subject to the kill power" of two Arms, effectively expanding the current system of checks and balances. While the connection between this reform and the *Divergent* series remained implicit, it is likely that this fortified system of checks and balances would help prevent or counteract the government corruption that so many fans identified in both the world of *Divergent* and our own world. This demonstrates that Duncombe's (2012) dialectical utopia thesis can apply to dystopia as well. Dystopian narratives can help us imagine a better world through a dialectical process whereby the undesirable elements of the dystopian world serve as a negative example to be avoided (Levitt, 2020). Fans who make suggestions for governmental reform share knowledge about both the content world and the political process. They also hold democratic values and have the intellectual skills required to imagine political alternatives. These skills, values, and knowledge enable them to think dialectically about the dystopian world of *Divergent*. Nevertheless, it is worth noting that although this thread had been posted nearly a year before, no one had replied to it, showing that this type of political engagement with *Divergent* is highly irregular.

5.3. Did Fans Develop Political Consciousness?

Despite the potential for cultural acupuncture to raise political consciousness through civic imagination, there was little concrete evidence this occurred on *Divergent* fan forums. By comparing the real world to the story world, fans were able to identify what was positive and negative about both worlds, but they failed to make connections between the content world and the real world. For instance, fans did not interpret the corruption of the factions as a reflection or allegory of the corruption of "our government," nor did they draw a link between the secrets that both governments keep from their citizens or the experiments that they perform on them. Similarly, they did not associate the poverty, homelessness, and violence of the story world with these things in the real world. Since fans did not make connections between the content world and the real world, these threads did not appear to raise political consciousness about these issues.

Further, in their online interviews, both AmityHeart and Heather Amity claimed that reading YA dystopian literature had no impact on their political views or how they watched the news. AmityHeart did admit that dystopian novels helped her think about politics:

> For me, dystopian novels are there for me to read and to enjoy and, to a certain extent, ponder the politics woven into the storyline. But they don't have any effect on my political views, no, and not on the way I watch the news either.

However, Heather Amity denied that YA dystopian novels impact her political views because she does not follow politics.

In these online interviews, fans exhibited the critical thinking skills necessary to draw comparisons between the world of *Divergent* and the real world. Yet, the identities of these fans might explain why, despite having the skills necessary for political reflection, the *Divergent* series is ultimately not politicizing for them. Dahlgren (2009, p. 94) indicates that the three major components of collective action frames—"patterns of meaning and belief that can legitimate social movement engagement"—are a sense of injustice, identity, and agency. Heather Amity recounted a story about vacationing in Egypt during the start of the Arab Spring. She maintained that the uprisings, like YA dystopian narratives, failed to engage her politically because of her privileged subject position:

> I hold no special place in my heart for Egypt, my family does not come from there, I do not have a tie to them, I just happened to be on vacation at the wrong time. I remember coming back to the hotel after spending hours circling the city trying to find ways back from the pyramids. Upon reaching the hotel I saw everyone's panicked faces the worry that set in on them, I didn't know what was going on, and when I asked all I got was "revolution." That night I watched a government building burn to the ground, and heard men marching on the streets. I believe it was two days later when I was free to leave the hotel again, my first place, the embassy. I walked across the bridge of lions facing Taher square and was met with guns to the ready and soldier's surrounded by wire and sand bags [sic].….We were told the embassy was closed and to return to our hotel, as we turned to leave a fully loaded tank turned the corner and followed us through the space between the buildings. As I recall

> these memories, the fear that was there isn't present any longer, it more excitement [sic]. In my mind I see it as a TV show, something that wasn't real that didn't really affect my life. It wasn't profound though I know it was, I just don't feel it. I have never had that kind of experience before in real life, (and hope to never have it again) it's now just a story void of anything but entertainment.

Heather Amity's lack of empathy for the Egyptian people precluded a sense of injustice, and her lack of agency in the situation may also have contributed to her political apathy in this case. In the absence of a collective action frame, living through such an event had little impact on Heather Amity, her experience likened to a media spectacle, pure simulacra (Baudrillard, 1994). Although Jenkins' (2016, p. 24) claims that "for some…young activists—especially those who come from privileged backgrounds—the development of the ability to imagine and feel empathy for others who are living under different conditions is a key stage in their political awakening," if witnessing a rebellion against an oppressive regime was not politicizing for Heather Amity because she did not identify with the Egyptian people and was not greatly affected by the protests, then reading about or watching a revolution against an oppressive regime in a fictional narrative is unlikely to raise her political consciousness. Unlike, political skills, which can be developed through fan practices such as discussion, the ability to empathize with those who are different from us may be harder to cultivate through media fandom.

6. Conclusion

A thematic analysis of a selection of threads about sociopolitical issues on the Divergent Fans and Divergent Wiki forums reveals that discussion on these two forums does allow fans to talk about political issues raised in the content world, and it sometimes enables the civic imagination through a dialectical response to the dystopian world. However, it does not conclusively raise political consciousness among fans. How, then, can we account for these civic successes and failures?

Because shared knowledge, trust, and spaces are relatively strong in online fan communities, and fans may experience their identities as relatively fixed, if we want to improve the consciousness-raising potential of YA dystopian fan forums, we should focus on values and skills. Cultivating democratic values in young people and teaching them political skills could empower them to take advantage of the political opportunities offered by YA dystopian texts and fandoms. Although government and civics classes in school allegedly teach democratic values, the true aim of these classes is to produce compliant and obedient citizens (Kennelly & Llewellyn, 2011). As opposed to teaching students to follow rules and maintain order, civic education might encourage students to adopt the democratic values suggested by Dahlgren (2009) such as equality, freedom, justice, solidarity, openness, reciprocity, and responsibility/accountability. However, since both sets of fans had strong democratic *values*, a lack of literacy *skills* could account for the failure to make stronger connections between the content world and the real world. Drawing comparisons between the real world and a narrative world, and making inferences about the former from the latter, requires critical thinking, and fans, particularly young ones, may need to develop these skills for engagement with YA dystopian texts to result in political engagement. Teaching media literacy in schools and equipping students with the analytical skills they need to critically engage with popular culture may be one way to improve the capacity of YA dystopian literature to increase political consciousness among young people. Teaching skills like media literacy and political discussion is equally important for civic education. As Hodgin (2016) indicates, such education might focus on five stages of opportunity for online civic and political dialogue: becoming part of an online dialogic community, analyzing discussion of civic and political issues, engaging in productive online civic and political dialogue, going public with one's civic and political perspectives, and moving from civic voice toward influence. Young people need to practice these skills for their participation in YA dystopian fan forums to lead to civic outcomes.

However, this study has a number of limitations. First, as Hirzalla et al. (2011) point out, studies supporting the mobilization thesis, such as this one, frequently examine specific cases using qualitative methods. Looking at YA fan forums as part of a broader media ecosystem could instead support the "normalization thesis," the idea that the internet maintains existing structures of power. As Hirzalla et al. indicate, these two propositions are not mutually exclusive. Second, it is unclear whether the failure of *Divergent* fan forums to raise political consciousness is related to civic deficiencies in interest-based virtual communities, the conservativism of the (YA) dystopian genre, or the conservatism of the *Divergent* series (Basu, 2013; Connors & Shepard, 2013; Dahlberg, 2001; Duncombe, 2012). Moreover, because this article examines a limited number of threads on two fan forums for a single YA dystopian narrative, these findings may not apply to all other YA dystopian fan forums. Finally, although the forum on Divergent Fans remained active until July 2016 and the forum on Divergent Wiki is still active today, I collected the analyzed threads over six years ago. To strengthen my findings, I could gather more recent threads or conduct interviews with users of the Divergent Wiki forum. Further research could also explore political discussion on other YA dystopian fan forums.

Acknowledgments

The author would like to thank Henry Jenkins for his guidance on this project, as well as the many reviewers and editors who provided feedback.

Conflict of Interests

The author declares no conflict of interests.

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Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 339–349
https://doi.org/10.17645/mac.v10i1.4720

Article

When Ads Become Invisible: Minors' Advertising Literacy While Using Mobile Phones

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Submitted: 21 July 2021 | Accepted: 29 September 2021 | Published: 29 March 2022

Abstract
It has been traditionally estimated that children begin to understand the persuasive intent of advertising at about the age of 8 which is when they acquire the skills of adult consumers. The ability to identify and interpret the persuasive content that minors are exposed to via mobile phones was analyzed through semi-structured interviews of children aged 10 to 14 years along with their parents in 20 households. Although minors seem to be able to recognize the persuasive intent of advertising, this does not necessarily mean that they have a deep understanding of the new digital formats that combine persuasion and entertainment. Data analysis of the interviews shows low recognition of the persuasive intent of commercial messages that are not explicitly identified as such, particularly on social networks. Data collected after minors viewing of different examples allowed researchers to conclude that standardized advertising is mainly identified by its format. Three levels of advertising processing were detected in minors: the liking of the advertisement, the affinity for the advertised product, and the ability to contrast the claims with searches for comments, forums or opinions of influencers. Recent research verified that conceptual knowledge of the persuasive intention of the advertising does not suffice for minors to interpret the message, a fact that must be taken into account when developing advertising literacy. For parents, the amount of time spent on these devices and the type of use minors make of their cellphones or the relationships they establish on them are more relevant than exposure to advertising itself.

Keywords
advertising literacy; children; hybrid advertising; mobile devices; parents perceptions; persuasive intention

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

Mobile phones are widely present in Western societies. The improvement of mobile internet connection has turned this personal screen into the main point of access, communication, and consumption of digital content for many users (IAB Spain, 2021), including minors. Among Chilean children aged 10 to 13, the penetration of mobile phones is over 80% (Cabello et al., 2020; VTR, 2019).

The personal nature of mobiles and their ubiquitous presence (Ohme et al., 2020) gave rise to a relationship between users and cellphones that, as Beer (2012) suggests, surpasses that of a mere portal to the digital world. The massive spread of cell phone use and its impact on consumption habits and lifestyles of internet users have transformed this device into an advertising medium. In fact, according to Statista (2019), in 2022 advertising expenditure for mobile media will outpace desktop expenditure.

As mobile phone users, minors are highly exposed to advertising when using these devices. Exploratory studies (Feijoo et al., 2020) show that, through their mobile

phones, minors spend a significant amount of time connected to platforms such as YouTube, game apps, and Instagram, in which advertising exposure has been quantified to be 14 minutes per hour, slightly higher than that of traditional media such as television.

Previous research on digital advertising addressing minors (De Jans & Hudders, 2020; Feijoo & Pavez, 2019; Hudders et al., 2017; López-Villafranca & Olmedo-Salar, 2019; Ramos-Serrano & Herrero-Diz, 2016; Rozendaal et al., 2013; Tur-Viñes et al., 2018; van Dam & van Reijmersdal, 2019; van Reijmersdal & Rozendaal, 2020; van Reijmersdal et al., 2012, 2017; Vanwesenbeeck et al., 2017) highlight the increasingly blurry line between entertainment and commercial content in the digital context. Other studies focusing on the consumption of advertising through mobile devices of the youngest population have also referred to and identified this blurry limit (An & Kang, 2014; Chen et al., 2013; Terlutter & Capella, 2013). At the same time, as is the case with the mobile phones, minors consume advertising on their own, which makes direct parental mediation more difficult (Oates et al., 2014).

In this context this article aims to research the ability of minors to understand the persuasive intentionality of the advertising they are exposed to through their mobile phones. Particular attention is paid to hybrid advertising formats, which lack intentional transparency (van Reijmersdal & Rozendaal, 2020) and therefore, hinder the recognition of the advertising phenomenon.

2. Children's Advertising Literacy in the Face of New Digital Formats

Advertising literacy, also called persuasive knowledge, can be defined as the beliefs that consumers form about the motives, strategies, and tactics used in advertising (Rozendaal et al., 2013). Several theoretical models (e.g., Wright et al., 2005) establish the specific components of advertising literacy. The model proposed by Rozendaal et al. (2011), that differentiates two dimensions of advertising literacy, is used as reference in this study.

The first dimension comprises conceptual advertising literacy, which refers to the ability to recognize a commercial message and its intentions. Specifically, this dimension implies:

1. The recognition of advertising, differentiating advertising from other media content such as information or entertainment;
2. Understanding the commercial intention (that the advertising is trying to sell products);
3. Recognition of the source of advertising (who pays to insert ads);
4. Identification of the target audience (understanding the concept of targeting and audience segmentation);
5. Identification of the persuasive intention (that advertising tries to influence consumer behavior by, for example, changing attitudes towards a product);
6. Persuasive tactics (understanding that advertisers use specific tactics to persuade);
7. Capturing advertising bias (being aware of discrepancies between the advertised product and the actual one).

The second dimension is attitudinal advertising literacy, which is evaluative in nature. This dimension consists of two components: skepticism towards advertising (the tendency towards disbelief in advertising), and the level of like/dislike towards advertising.

Previous studies on advertising in traditional media, assumed that the conceptual dimension of advertising literacy was sufficient for children to filter out and process advertising messages. Nevertheless, several authors have done research on new digital advertising formats (An et al., 2014; Rozendaal et al., 2011, 2013; van Reijmersdal et al., 2017; Vanwesenbeeck et al., 2017) and their results indicate that conceptual knowledge of the persuasive intentionality of advertising is necessary but does not suffice for minors to properly process messages that exhibit non-traditional features (Livingstone & Helsper, 2006; Rozendaal et al., 2011). This is due to the fact that when children are exposed to non-traditional advertising, they would be applying a low-effort cognitive processing, according to the model presented by Buijzen et al. (2010; PCMC model), and would fail to activate the associative network of knowledge on advertising they have developed (An et al., 2014; Mallinckrodt & Mizerski, 2007; Rozendaal et al., 2011, 2013; van Reijmersdal et al., 2017; Vanwesenbeeck et al., 2017). The embedded, subtle, and enveloping nature of these digital ad formats increases low cognitive elaboration during exposure to them (van Reijmersdal & Rozendaal, 2020). Moreover, children's attention is concentrated on the recreational part of the format, and therefore persuasive message processing abilities are left on the back burner (Rifon et al., 2014). The studies cited herein highlight the need to consider the attitudinal dimension of advertising literacy, which is much more effective in helping children to question and interpret advertising.

Despite the difficulties that recognizing persuasive intentionality poses, formats that present blurred boundaries between entertainment, information, and advertising are what younger audiences demand. The AdReaction study by Kantar Millward Brown (2017), revealed that younger audiences are most likely to qualify digital advertising as annoying, however their attitude becomes more positive when exposed to advertising that include rewards, use special effects, or incorporates new immersive elements. In addition, teenagers, for example, accept the presence of brands and sponsorships when it is mediated by influencers of their choice as long as the ratio between entertainment and commercial content is not disturbed (van Dam & van Reijmersdal, 2019).

However, the difficulty exhibited by minors in identifying the advertising intention of certain content, the possibility of airing contents unaccompanied by clear warnings given imprecise regulation and the perception of credibility with which influencers infuse commercial communications (Feijoo & Pavez, 2019; Tur-Viñes et al., 2018), all add up to increase the risk of the current advertising context.

The need for explicit identification of the commercial interest of content is key to activate persuasive knowledge in the user (Friestad & Wright, 1994). This has led legislators to demand adequate and clear marking of these formats as a way to protect vulnerable audiences (Boerman et al., 2012). Nonetheless, national legislations lag behind on the dynamism of the phenomenon (Sixto-García & Álvarez Vázquez, 2020).

There is growing literature on the advertising literacy of minors in the digital context, specifically on advergaming (Hudders et al., 2017; Mallinckrodt & Mizerski, 2007; van Reijmersdal et al., 2012; Vanwesenbeeck et al., 2017), social networks (Rozendaal et al., 2013; Zarouali et al., 2018), personalized digital advertising (van Reijmersdal et al., 2017), or influencer marketing (van Dam & van Reijmersdal, 2019). However, empirical evidence on the advertising literacy of children with mobile phones is still missing. The use of this screen is particularly relevant among minors given its features in terms of mobility, autonomy, and universality which are incomparable to those of other means of online access (Beer, 2012).

Thus, the way in which content is consumed on mobile phone needs to be considered: Its current ubiquity allows individuals to communicate, inform, or be entertained anywhere, at any time (Ohme et al., 2020). Likewise, comparatively speaking, the perception of intrusion and invasion of the private sphere is greater via mobile than on other channels. It is considered the most personal communicational extension of human beings (Gómez-Tinoco, 2012).

In the last decade, there have been many investigations focused on the analysis of the use of mobile devices by children and young people (Mascheroni & Ólafsson, 2014), given the high penetration the devices have had among the audience mentioned herein. Several authors have conducted exploratory studies on the consumption of advertising through mobile devices in younger children (An & Kang, 2014; Chen et al., 2013; Terlutter & Capella, 2013) and report a certain degree of inconsistency with respect to differentiation and categorization of persuasive messages. For example, researchers such as Chen et al. (2013) showed that age recommendations for services or content offered by apps do not cover the supervision of the inserted advertising.

Another exploratory study (Feijoo et al., 2020) revealed that this age group spends much of their time connected to mobile phones in which the level exposure to non-traditional advertising is comparatively higher than media such as television. What seems beyond doubt is that minors are using their mobile phones to access the internet as a priority and this implies a high exposure to commercial content.

It is therefore necessary to question whether children are prepared for activating their persuasion knowledge in the mobile context. Therefore, the following research questions are posed:

> RQ1a: What is minors' conceptual advertising literacy with respect to advertising they receive through mobile phones, specifically in terms of (a) recognition of advertising, (b) understanding selling intent, (c) understanding persuasive intent, (d) recognition of advertising source, and (e) understanding persuasive tactics?

> RQ1b: What is minors' attitudinal advertising literacy with respect to advertising they receive through mobile phones, specifically disliking it and skepticism towards it?

Furthermore, advertising literacy can be dispositional or situational (Hudders et al., 2017): Having dispositional advertising literacy involves various abilities such as (a) being in possession of the knowledge and skills about a phenomenon, and situational literacy; (b) being able to process advertisements as such; and (c) having sufficient consumer's knowledge (cognitive, moral, and affective) with regards to the advertising phenomenon. All these need to be activated when the viewer is exposed to advertising, in order for them to recognize the persuasive intention and critically reflect on the message received. To reflect on the level of correspondence between the minor's self-reported advertising literacy and their actual advertising literacy, a second research question is posed:

> RQ2: Based on concrete ad mobile examples, what type of contents do children recognize as advertising?

3. Advertising Literacy of Minors From the Perspective of Parents

The question arises as to the extent to which access and the specific ways in which certain devices such as cellphones are used individually, hinders direct parental mediation (Oates et al., 2014). It seems pertinent to pay attention to the perceptions of parents about their children's advertising consumption through these screens.

Parental responsibilities also include mediating the relationship between minors and the content they consume, which can also be seen as an opportunity to teach them to differentiate between fiction and reality and to help them acquire healthy consumption patterns (Saraf et al., 2013). In fact, some studies suggest that parental concern may be highly relevant when it comes to acquiring certain skills (Condeza et al., 2019; Shin, 2017). However, when parents are asked about the advertising their children consume, they continue to point to television as the main source of this content

(Oates et al., 2014). In this context, the last research question is formulated:

> RQ3: What perceptions do parents have about their children's exposure to advertising on their mobile phones?

4. Chile, a Case Study

Chile is an interesting case study due to its high access and consumption of the internet through mobile devices (Feijoo & Sádaba, 2021). Its 85% internet penetration of cell phones is similar to that of other OECD countries (Subtel, 2020). The internet is mostly widely accessed through mobile devices (84.2%), more specifically via smartphone, which account for 80% of total access (Subtel, 2020). This access pattern is replicated and accentuated by Chilean children who mainly access internet from their mobile phones, compared to other connection modes such as computers or tablets (Cabello et al., 2020; Feijoo & García, 2019; Subtel, 2020). As is the case in other Western countries (Kabali et al., 2015), although some significant differences related to technological specificities of the equipment, influenced by the socioeconomic stratum and setting (urban vs. rural), are present (Cabello et al., 2018), the penetration of cellphones is the most socially uniform of the cited screens.

5. Method

5.1. Methodological Procedures

The objective of this research is to analyze the ability and aptitudes of minors to critically navigate the advertising they receive through their mobile phone.

To this avail, minors aged 10 to 14 and one of their parents/guardians were included in an interviewing process which incorporated semi-structured interviews. Interviews have been confirmed as an adequate instrument since most children at this age have already acquired the necessary skills to achieve successful levels of verbal exchange (Zarouali et al., 2019). This methodological approach responds to the need for new qualitative studies that can provide in-depth exploration of digital skills, including those related to critical capacity (van Deursen et al., 2016).

The interview was designed taking into consideration the following questions:

> Block 1. Recognition of the advertising phenomenon: Children explained what they understood by advertising, what their opinion of advertising was, what characteristics they associated with advertising, and what level of attention they paid to advertising or what degree of realism they assigned to advertising.
>
> Block 2. Attitude towards advertising that children were exposed via mobile phone: We tried to understand how children identified and processed commercial messages and their feelings during these encounters, whether advertising was liked, perceived as bothersome, if there was a willingness to watch an ad, and if it was considered as such.
>
> Block 3. A 2 min video was played that included 17 mobile digital formats with examples from social media advertising, emailing, SMS, advertisement display from video games, and unmarked commercial content published by influencers. The aim was to confirm children's ability to identify persuasive intention.
>
> Block 4. Parental perceptions: What do parents know and think about the role of their children as recipients of advertising.

Qualitative data were obtained by means of a thematic analysis using NVivo (Boyatzis, 1995). The research questions and the topics included in the interview script guided which coding categories were established. Given the researchers' long-standing engagement with the topic, both authors participated in the coding process in order to improve the quality of the ensuing interpretation of the analyzed material.

5.2. Sample

Twenty homes were visited between June and August 2019, all located in the metropolitan area of Santiago de Chile to interview one child and one of their parents or guardian per household. As for the minors, 12 were girls and eight were boys; 10 were aged 10 to 12 years old, and the other 10 children were aged 13 or 14 years old; 11 had their own mobile and the rest (nine) used their parents' mobile. As for adults, mothers were generally interviewed (18), with only two exceptions in which a father and an older sister (the child's guardian) were interviewed. Regarding the socioeconomic level of the families, 10 qualify as belonging to level C1 (*high*), 6 to C2–C3 (*middle*), and 4 to D (*low*).

The homes sampled had participated in a previous phase of the research project to which this study belongs, in which face-to-face surveys were applied in 501 households to both one minor and one parent/guardian following a probabilistic design by areas/macrozones. A social studies company was in charge of the field work (Feedback S.L) who constructed their network of interviewers with previous experience in research studies with minors available to the authors. Households in which a minor aged 10 to 14 lived was randomly selected within each macrozone in the quantitative process. In those cases in which there was more than one individual who met the selection characteristics, the one who had his birthday closest to the day of the survey was selected. It is from this sampling frame that 20 families, who agreed to participate in the project, were selected. The children should meet the age and gender criteria

defined for this qualitative stage, in addition to having telephone ownership, since the navigation registered on the device directly influences the type of advertising the user receives. It is important to clarify that in this second phase an attempt was made to access all kinds of family profiles, as had been achieved in the quantitative process, however, families of well-off levels were more collaborative, hence in the interviews there is a greater representation of the groups C1 while other socioeconomic groups are not equally represented.

During the interview, the interviewer first explained the essence of the interview to the parent or adult responsible for the household, who had to issue a signed consent for the minor to participate in this stage of the study. Next, the consent of the minor himself had to be obtained. In a neutral area of the home (kitchen or living room) the interview was completed with a maximum duration of 20–25 min with the aim of preserving the child's attention. An attempt was made to ensure that guardians were not present during the interview to prevent any possible interference with the responses of minors. Finally, after interviewing children, interviews finished with a last set of questions addressed to adults regarding their perceptions of the relationship of minors with advertising on mobile phones.

All documents had been previously reviewed and validated by the Ethics Committee of the university to which the research project is linked (University of Los Andes).

6. Results

6.1. Conceptual Advertising Literacy

The following elements of conceptual advertising literacy (Rozendaal et al., 2011) were expressed by children: (a) recognition of advertising; (b) understanding of selling intent; (c) recognition of advertising source; (d) identification of the target audience; (e) understanding of persuasive intent; (f) understanding of persuasive tactics; and (g) the advertising bias, but in variable degrees depending on their experience as consumers and mobile phone ownership.

Minors are aware that advertising "sells things": "It is something that companies use to get people's attention and make them buy their product or do get people to do whatever the company aims at them doing" (I11-girl, 10-to-12 years old, parental smartphone). It was interesting to see that, although at first, they were asked about the phenomenon in general, they spontaneously associated advertising with the digital context, mobile phones, and social networks. Other advertising media, such as television or advertising present in their milieu, appeared in conversations, but in a suggested way; others such as print media or radio were not mentioned: "Advertising is like a way of informing using images and other means during short periods of time when you are looking for something or they appear in all apps or networks" (I3-boy, 13-to-14 years old, own smartphone).

Regarding the recognition of the source of advertising, a certain degree of confusion was apparent, caused by the digital context and the normalization of social networks. Thus, while the majority referred to companies or brands as the main sources, some of the younger children connected the source of advertising to people: "[Advertising is] what you get on the networks, what people offer you through cell phones" (I14-girl, 10-to-12 years old, own smartphone).

In this study, it was found that minors in general understand that ads seek to get viewers interested in wanting to have the products displayed, "that they want to convince you to buy the product, to go to the place they are promoting" (I11-girl, 13-to-14 years old, own smartphone). Children who declared having experience as consumers and who own a mobile phone tended to be more aware of the purpose of advertising and were able to reason that the ads, and certain content launched by influencers, was aimed at attracting user attention with the goal of selling:

> They convince the person, for example, that the application is good, that this product is good, and they include sales so that the person buys it and more people buy it. And in the end, they get their way, because if more people buy it, they earn more. (I16-boy, 10-to-12 years old, own smartphone)

Indeed, influencers have become recurring intermediaries between brands and young consumers in the digital context. Therefore, those who identify the persuasive intentionality of this commercial relationship, deem it as normal and appropriate. Moreover, they believe it contributes to getting to know brands and products in a "more entertaining way":

> I like that Mis Pastelitos [a YouTuber] tells me what flour they choose to use, for example, or the fact a pastry bag number six is needed; then you have to go and buy a number six pastry bag and make the cupcake in question. Perfect. In other words, these are things that help me resolve my questions. (I13-girl, 13–14 years old, parents' mobile)

Some minors reflect on the addressee of the ads. Minors are aware that certain messages to which they are exposed are not addressed to them but to a different target audience, their parents, for instance. This is particularly true when minors access the internet using their parents' devices.

Spontaneously in the conversation, the children alluded to certain tactics that are directly related to advertising, particularly repetition, since it directly influences their attitude towards these types of messages: "Suddenly they go a bit over the top, because they kind of always show, show and show. For example, on YouTube or in a video you see ten advertisements, and the same ones" (I1-girl, 10-to-12, parental smartphone).

Moreover, some of the advertising resources detected by children allow them to identify that they are being exposed to advertising: "I realize that it is advertising because they make a saying, like Soprole [dairy brand], which is 'Soprole,' healthy and delicious" (I12-girl, 10-to-12 years old, parental smartphone). Other resources that they associate with the advertising messages are gifts, promotions, rewards, or eye-catching elements: "First when you download [a game] it's free, but then some things you have to pay for. The first day they give you them for free and then you have to pay" (I2-boy, 10-to-12 years old, parents smartphone). Unlike other media, such as television, where they consider the display of advertisements as "orderly," advertisements, on mobile phones they pop up unexpectedly which is perceived by minors as if advertising is continually "going to their encounter." However, in they didn't relate this situation to the personalization of digital advertising. Interruption is another element that most of the interviewees associate with mobile advertising, which they say makes them miss out on other input that may be of greater interest to them.

There were few minors interviewed who reflected on the final intention of these tactics. Only two of them (males between 13 and 14 years old with their own mobile) spontaneously commented that advertising is not objective, that it tends to be unrealistic and exaggerated: "There are some advertisements I can't believe, such as those that say that life can be easier by buying some things, but later when you buy them, they are easily wrecked" (I3-boy, 13-to-14 years old, own smartphone).

6.2. Attitudinal Advertising Literacy

To measure the attitudinal dimension of advertising literacy, attention was paid to answers to the like/dislike generated by mobile advertising and the degree of skepticism with which they face it. Minors do not dislike mobile advertising as long as they have control over it, that is, when they, as users, can decide to view the ad or not, and when ads provide some added value, either in the form of entertainment or a reward, especially in gaming apps, in which they gladly invest their attention in exchange for benefits in the game:

> Suddenly advertising gives you a chance to test a game, I do like that. Or when you can turn your phone into a 360° phone, and by turning your phone it shows your what is around you, that does attract attention. (I1-girl, 10-to-12 years old, parental smartphone)

For minors, mobile advertising as content is interesting because it can provide new information, although children are unanimously bothered by the ensuing interruption in what they were doing, in addition to the fact advertising is repetitive and excessive. Hence their main reaction is to omit advertising instantly: "I don't care if advertising appears, but I do want it to appear between songs, not in the middle of the song" (I5-girl, 13-to-14 years old, own smartphone).

When analyzing children's responses, we identified three arguments they used to discriminate the advertisements that interest them from those that do not. The most widely used criteria is their own taste and appetite: A significant percentage of children identify advertising based on whether they like it or not, which directly depends on the degree of entertainment advertising provides them. Others apply a second criteria, that relates to their affinity with the advertised product: "My ideal advertisement would be something like toys or things like that, chocolates, but not cars, or wines, or beers, or anything like that" (I14-girl, 10-to-12 years old, parental smartphone). A third, smaller percentage of the sample demonstrated that they contrast the arguments asserted by advertising with their own searches for information:

> If I am interested in buying [a cell phone], then I would look further to see if it is really necessary, if it is good, if it suits me or I should wait for a different one, if the price is really high for what that cell phone really offers, things like that. (I16-boy, 10-to-12 years old , own smartphone)

This more critical attitude is present among minors who have their own device and who acquired previous experiences as consumers:

> I don't believe advertising when it shows something that is very spectacular because of the image, perhaps in person, in real life, it is not like that. I don't know, for example, the other day I saw a tracksuit that looked very cute, but its fabric, when I later bought it was not like it was in the advertisement. (I6-girl, 13-to-14 years old, own smartphone)

Credulity during the discrimination process is present, more so among younger profiles, with a rather relative questioning of advertising bias: "I trust advertising because, if it were bad advertising, companies would probably not be able to air it" (I17-boy, 10-to-12 years old, parental smartphone).

On the other hand, only one minor of the 20 interviewees alluded to the influence of their parents' opinion in their processing of the advertisements encountered.

6.3. Situational Recognition

In order to analyze the level of advertising literacy among minors from a situational approach (Zarouali et al., 2019), 17 advertisements launched by mobile phones were displayed to children. These ads included displays in video games, as well as standard formats used in Instagram, Facebook, YouTube, SMS, and emailing formats, in combination with examples of hybrid commercial content (Feijoo et al., 2021).

Exposure to specific cases showed that minors tended to recognize standard format advertisements: "When I get an ad that interrupts what I'm doing at the most interesting point, I wait until it ends or until it says skip the ad" (I9-girl, 10-to-12 years old, own smartphone). The fact that children can identify commercial messages by some type of signal enables them to be aware of their presence, meaning that identification is not a result of critical processing:

> Every now and then an image appears [on Instagram] if you click it, you are taken directly to the store. For example, you can click on the Nike shirt and a tick appears at the bottom, something resembling a bag. At first, I didn't know what it was, but then you click on the photo and the price of the shirt and the store where it sold will appear. (I1-girl, 10-to-12 years old, parental smartphone)

Consequently, examples that did not display any kind of warning were not singled out as advertising by participants:

> [The influencer wearing a Nike t-shirt] is not using the method of pushing people to do something, as he/she does not provide information on it nor tell you to "go, go, go" It is simply a normal photo, like me wearing clothes, for example. (I11-girl, 13-to-14 years old, own smartphone)

Indeed, the interest-mediated relationship between brands and influencers was detected by five of the 20 interviewees, all of them minors aged 13 or 14 years old:

> Influencers are paid, they must say "hey, look, we pay you X and you have McDonald's appear," and the influencer must say "Yeah, no problem." That is typical among that YouTubers who say "This video is sponsored by X," and they wear X clothes to promote them. (I13-girl, 13-to-14 years old, parental smartphone)

Minors don't question this practice, nor the fact that YouTubers are self-promoting themselves: "It doesn't bother me, if they are famous, they will sell their own things, such as clothes and all that kind of stuff" (I20-girl, 13-to-14 years old, own smartphone). It was also revealed that minors related varying exposure to advertising depending on the platform. For example, minors considered that YouTube and video games were saturated with ads, and reported less advertising pressure on Instagram and TikTok.

6.4. Parents' Position on Their Children's Advertising Exposure

Regarding parental opinion on the exposure to advertising their children encounter when browsing on mobile phones, the greatest level of agreement is in the high pressure of advertising: "There is nothing on the internet that is not invaded by advertising" (mother, I16—boy, 10-to-12 years old, own smartphone). However, they are not concerned about this high presence of commercial content and consider that it does not pose a risk to their children. There are two main reasons that parents give for being calm. The first one is their children's age or attitude towards advertising, "it is rare that she sees much advertising, she always chooses to avoid it. She clicks it off at once. She doesn't pay attention to it" (mother, I9-girl, 10-to-12 years old, own smartphone). As it could be seen, parents' perception favors their children's age as one of the most important containment barriers to being worried about the amount and the type of advertising they consume through their mobile phones.

The second one is precisely the fact that advertising is personalized based on the content children consume (games, hobbies), which, in their opinion, defines the type of advertising they receive and limits it to these interests: "In general, I think children don't receive harmful advertising, in general it's merely on video games, and we have those under control" (mother, I7-boy, 10-to-12 years old, own smartphone). Also, the fact that much of this advertising is also shown on television validates it as not harmful to minors.

It is hard to find more elaborate visions on the relationship between minors and advertising among parents. Their perception of online risks lies, fundamentally, in the consumption of certain content or in the possibility of being exposed to other dangerous situations. They also tend to minimize their own role in this context, something that, according to previous research (Condeza et al., 2019; Shin, 2017) could be a lot more relevant than the children's age to acquire the skills necessary to adequately cope with this content.

7. Discussion

This study provides additional evidence which verifies that the conceptual knowledge of advertising is not enough to be able to identify it in the digital environment, as advanced by Livingstone and Helsper (2006), as well as Rozendaal et al. (2011). Minors are aware of the presence of advertising in the digital environment and they acknowledge its excessive presence, a notion unanimously shared by their parents. This study provides more evidence supporting the idea that when children encounter hybrid content, they respond with low-effort cognitive processing (An et al., 2014; Mallinckrodt & Mizerski, 2007; Rozendaal et al., 2011, 2013; van Reijmersdal et al., 2017; Vanwesenbeeck et al., 2017). The role played by the presence of formal aspects in advertisements which help children identify advertisements becomes particularly relevant, as indicated by An et al. (2014). Thus, participants in this study tend to distinguish the advertising they see in their cellphones from other types of messages not by the content, but by the form it takes, which is to say that

recognition derives from technical aspects, not critical processing. However, when these external signals are not present, minors do not classify the content as advertising. Format brings along trust and thus intentionality remains unquestioned. This would explain why the majority of those interviewed did not question whether the recommendations provided by the influencers they follow on social networks may be promoted content.

Furthermore, there seems to be a certain transfer of positive sentiment towards advertising when ads pop up in an entertainment context (Mallinckrodt & Mizerski, 2007; van Reijmersdal et al., 2012). Also contributing to this positive feeling towards advertising is the fact that ads adjust to their tastes and preferences, as pointed out by van Reijmersdal et al. (2017). Advertising only becomes bothersome when children feel they cannot control its presence, it is perceived as boring or it interrupts their browsing experience.

This study also provides evidence in the direction that mobile ownership and degree of expertise in the digital environment are related to more critical attitudes towards advertising. Thus, the extent to which these two factors are related to the child's age, the relevance of the aforementioned factors would go in the same direction of what has been proposed by Chu et al. (2014) and Hudders et al. (2017) regarding greater cognitive development among older minors.

For the new generations, the mobile phone has become the main advertising medium, ahead of other classic media such as television. The fact that mobile screens are mainly for personal use seems to generate low tolerance levels towards interruption, repetition, or content beyond their immediate interests. Minors, however, do not seem to connect this rather negative attitude to advertising itself. They seem to associate negativity to how saturated of advertisement the media are and to their lack of control (and ensuing frustration) over unsolicited advertising. Now, if advertising provides added value in the form of tangible compensation (promotions, discounts, rewards in games) or in the form of entertainment, the perception of minors on mobile ads improves. Therefore, advertising forms such as content marketing and commercial content created by influencers turn out to be the persuasive communication that best captures minors attention and intention.

This presents a great dilemma because it is the audience itself that demands formats with blurred boundaries between advertising, entertainment, and information on mobile phones. This fact shows the need for those responsible for child development to reinforce children's advertising literacy with regard to the use of mobiles. This reinforcement stems from critical thinking, an ability that has been qualified as one of the key digital skills of the 21st century (van Laar, 2019).

The challenges that these results pose for advertising literacy are clear: Minors have knowledge that allows them to identify advertising as long as it is marked or includes resources with which they are familiar (repetition, presence of certain icons, etc). However, the ability to identify advertising is hindered, particularly among those with less browsing expertise or when advertising is integrated within other content. In addition, recognition does not imply the activation of critical thinking, given that if advertising is perceived as an entertaining element (something particularly demanded from mobile advertising by the youngest), acceptance sets in and limits the cognitive resources they have to processing the message.

Parents, as a filter in their children's advertising literacy, seem concerned about the amount of advertising to which their children are exposed in a generic way. However, they view message advertising customization as some type of protective effect and think that their children's age makes them resistant to possible commercial interests for products out of other children's age range. According to the literature, parents consider television to be a main source of advertising consumption by their children's (Oates et al., 2014) and also seem to think that their children's age makes them only vaguely interested in advertising content. Thus, parents do not seem to be aware that the acquisition of healthy advertising consumption habits by minors can depend much more on parental intervention than on their children's age (Condeza et al., 2019; Shin, 2017).

8. Conclusions

This study once again highlights what many researchers have been saying for some time: the need to abandon arguments solely based on the amount of time children spend in front of screens, and focus the debate on qualitative questions, taking into account variables such as content, context, and connections (Livingstone, 2018). Messages to parents need to be improved, as parents try to enforce rules based on the control of the amount of time spent on screens, an area that is particularly difficult to restrain given the ubiquity of technology.

In a digital environment in which hybrid content abounds, signaling of commercial content is a must but does not suffice: More research is needed to learn how to make everyone aware of the need to develop advertising literacy through which the use of critical thinking can be ensured. This becomes crucial at a time in which children are interacting with a screen that can be accessed anywhere, anytime, and in a very personal and personalized way with whatever filter they may have been able to individually establish.

Acknowledgments

This work was supported by the Ministry of Science and Innovation of the Government of Spain under I+D+i Project ref. PID2020-116841RA-I00. Research also funded by the Research Plan of the International University of La Rioja (UNIR), 2020–2022 biennium. We also wish to thank Angela Gearhart for her translation of the original manuscript into English.

Conflict of Interests

The authors declare no conflict of interests.

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Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 350–360
https://doi.org/10.17645/mac.v10i1.4731

Article

Does Digital Media Use Harm Children's Emotional Intelligence? A Parental Perspective

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Submitted: 23 July 2021 | Accepted: 28 September 2021 | Published: 29 March 2022

Abstract
Emotional intelligence (EI) is comprised of a set of critical life skills that develop, in part, through practice in social interaction. As such, some have expressed concern that the heavy screen media diet of today's youth threatens the development of those crucial abilities. This research assesses how the media diet of children and the media use of their parents relates to child EI levels to assess what, if any, specific patterns exist. Four hundred parents of children aged 5–12 reported on, among other variables, their child's EI, empathy, and emotional regulation skills along with their child's various digital and non-digital media use, and non-media activities. Parental EI, screen use, media emotional mediation, and media co-use with their children were also assessed. Analyses revealed no significant relationships between child EI and screen use of any kind, though reading positively associated with child EI. Especially interesting, children whose parents used their mobile device more frequently in the presence of their child had lower EI, and parents who engaged in emotional mediation around their child's media use reported higher EI levels in their children. These findings suggest that concerns about children's digital media usage are perhaps overblown in terms of impeding emotional skill development. Further, and especially critical, parents' own media-related behaviors around their children could have significant impact on child EI development.

Keywords
children; digital media; emotional intelligence; mediation; mobile media; parenting; screen use

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

Emotional intelligence (EI) is a critical life skill that develops, in part, through mutually engaging social interaction (Mayer & Salovey, 1997; Salovey & Mayer, 1990). Yet, concern has been expressed that the heavy screen-based media diet of today's youth could compromise important aspects of child development via displacement of that critical social interaction (e.g., Turkle, 2011; Twenge et al., 2019). If digital media use reduces real-world social interaction, the opportunity to practice the skills associated with EI (i.e., emotion perception, understanding, and management) are diminished, and the overall skillset along with it. Despite these fears, there is yet no clear evidence for how digital media use, such as internet surfing, digital games, social media, streaming content, and the like, might harm emotion-related skill development. Indeed, there exists the possibility that the educational opportunities afforded by online content along with the social opportunities afforded by social media

(Uhls et al., 2017), for example, may in fact boost opportunities to practice and thus enhance one's emotional skill set.

Further, when considering any relationship between a child's behavior and emotional skill set, it is critical to recognize the centrality of parental engagement within that dynamic (Alegre, 2012). As such, parental behaviors, including their own digital media use, as well as how they engage during their children's media use, should be taken into account when assessing child outcomes. The purpose of this study, then, is to explore how the media diet of children, as well as the media-related behaviors of parents around their children, relate to child EI levels. In doing so, we can assess if there is cause for concern, and, if so, what specific media use patterns are implicated.

1.1. Emotional Intelligence

EI is defined as a set of mental abilities that allows a person to, both intra- and interpersonally, accurately recognize and effectively regulate emotional states, and to use emotions to plan, motivate, and achieve goals (Mayer & Salovey, 1997; Salovey & Mayer, 1990). More specifically, EI is comprised of four key skills: (a) emotional perception, which refers to the recognition and expression of unique emotional states; (b) emotional integration, which is the use of emotions to facilitate thinking; (c) emotional understanding, which implies the comprehension of the causes, process, and consequences of one's own and others' emotions; and, finally, (d) emotional management, or the skill of regulating emotions in the self and others to attain certain goals (Mayer & Salovey, 1997; Mayer, Salovey, et al., 2008; Salovey & Mayer, 1990). EI develops during childhood and is shaped by biological and sociocultural factors, such as genes, infant-caregiver interactions, emotional discourses with parents and peers, and reinforcement and modeling processes (Zeidner et al., 2003), and reaches its peak in adulthood (Mayer et al., 1999).

EI has received considerable attention as a skillset that is consistently associated with a range of desirable outcomes throughout a person's life span (for an overview, see Mayer, Roberts, et al., 2008), including academic achievement, choosing a meaningful line of work and succeeding within that field, enjoying good physical and mental health, and developing satisfying relationships with family members and friends (Grewal & Salovey, 2006; Schutte et al., 2013). Consequently, EI has been linked to both subjective as well as psychological well-being, and life satisfaction in general (e.g., Austin et al., 2005; Carmeli et al., 2009; Schutte & Malouff, 2011).

1.2. Media Use and Emotional Skills

Despite extensive research on EI generally and its links to a range of highly desirable outcomes and despite concerns that media diets heavy on-screen use may compromise social skill development, media scholars have yet to meaningfully consider how media use might affect EI skill development. Indeed, very few media-oriented articles even mention the phrase "emotional intelligence" (for an early exception, see Nabi et al., 2006). Yet, as a dominant source of learning and socialization, media has the potential, like parents and peers, to shape children's emotion-related abilities. On the one hand, time spent with media at the expense of face-to-face social interaction could reduce the opportunity to develop the EI skill set (e.g., Turkle, 2011; Twenge et al., 2019). Further, the sheer quantity as well as the nature of media content people receive online could challenge their ability to exercise subskills of EI, including empathy (due to depersonalization and desensitization) and emotional regulation (due to reduction in social cues that would otherwise inhibit anti-social behavior). On the other hand, media use may provide forums to exercise these EI-related skills via online social interaction. For example, in the context of online self-disclosure, the internet-enhanced self-disclosure hypothesis suggests that the reduced social cues in online contexts allows adolescents to feel safer self-disclosing, thus allowing them to practice self-disclosure skills, which can then transfer to offline communication (e.g., Valkenburg & Peter, 2009).

As noted above, few published studies explore these issues. Within digital spaces, the few studies that exist focus primarily on problematic behaviors among adolescents and adults, and the results are inconclusive. Parker et al. (2008) identified a negative relationship between adolescent EI level and internet addiction and misuse and problematic gaming. In looking at specific subcomponents of EI, Beranuy et al. (2009) found emotional attention was positively correlated with problematic internet and mobile phone usage whereas regulation was negatively correlated with those outcomes. Yet, van Deursen et al. (2015) found no relationship between EI and either habitual or problematic smartphone use. With different measures of EI, digital usage, and control variables along with the focus on problematic use, it is perhaps not surprising that findings would be as disparate as they are. Also, given the focus on problematic usage, the suggestion across these studies is that EI level generates usage patterns rather than the other way around. Consistent with this interpretation, Herodotou et al. (2011) found that young adult players of the massive multiplayer online game World of Warcraft who had higher trait EI preferred within-game social goals over achievement goals, which is consistent with what one would expect of higher EI individuals. Thus, the question of how media use, particularly at a young age, might help or harm EI skill development is unanswered.

Yet, the need for such research is evident. Indeed, a recent review of online technology and sociability highlights the importance of examining the relationship between online use and EI generally as well as its underlying components, like empathy (Waytz & Gray, 2018). Empathy, a skill that represents one aspect of

emotional understanding, has a long history in psychology research as an ability that, though it has biological roots, can be fostered through parental guidance and life experiences to enhance relationships broadly as well as both personal and societal well-being (e.g., Zaki, 2020). In the realm of media studies, empathy has been a focus of much research as it relates to children (e.g., Feshbach & Feshbach, 1997). However, the impact of media use—digital media in particular—on empathy levels is inconclusive (Waytz & Gray, 2018). Concerns of exposure to violent media leading to desensitization or reduced empathy have been raised over the years (e.g., Anderson et al., 2010). Further, in light of dropping empathy rates among US college students over a 30-year period (1979–2009; Konrath et al., 2011), some have argued that the concomitant rise in social media use is to blame, distracting from and displacing the more human connection derived from face-to-face interaction (Turkle, 2011; see also Chopik et al., 2017). However, casting doubt on this assertion, recent longitudinal evidence among 10–14-year-olds and 17–19-year-olds has revealed that time spent on social media positively predicted self-reported empathy over a one year (Vossen & Valkenburg, 2016) and three-year period (Stockdale & Coyne, 2020; see also Guan et al., 2019). Such findings likely stem from the affordances of media platforms that allow for reflection on both the content consumed and one's reaction to it. For example, media stories allow audiences to experience a range of emotions in response to story content as well as to observe media characters regulate emotions and interact (e.g., Mares & Woodard, 2005). Similarly, Walther's (1996) hyperpersonal model of computer-mediated communication suggests that users can manage self-presentation and interactions in digital spaces often better than in face-to-face interaction. Extending this argument to emotional skills, mediated experiences could allow children to rehearse their EI skill set and thus facilitate its development. Although the extant research seems to support a small positive relationship with empathy, the research does not extend to younger children nor to broader digital media use beyond social media, which elementary school children are far less likely to use. Thus, the question of how and under what conditions media use influences empathic skill in children remains without a clear answer.

Emotional regulation is another skill linked to EI that has received attention from media scholars. Indeed, there is extensive research on the use of media for mood management (e.g., Zillmann, 2000), indicating that people consciously and subconsciously select media to help them achieve the mood (typically positive) they desire. However, this work focuses overwhelmingly on adults, rather than children, and considers mood as a predictor of media selection. Research does not, however, address how the skill of emotional regulation might develop as a result of media use nor does it consider how media might assist in the development of other emotional management skills (e.g., aiding others in emotional regulation). Similar to empathy, emotional regulation skills develop as a function of both intrinsic factors, like biological predisposition and cognitive development, along with extrinsic factors, most notably the influence of parents in behavioral modeling, correction, positive reinforcement, and opportunities to experience heightened emotions (Thompson, 1991). Given that media can serve as an extrinsic force that both allows children to see models of emotional regulation and provides opportunities to experience strong emotions and practice regulating them, examining the role of media use in the development of emotional regulation skills is an important yet overlooked area of research.

In light of the limited and inconclusive extant research, we explore how child digital media use relates first to the global construct of EI, and then to the key subskills of empathy and emotional regulation, which are related to EI though readily distinguishable in their more specific and directed natures. In doing so, we may gain insight not only into the relationships between media use and EI generally, but key subcomponents specifically. Given the inconsistencies in the existing research, we are not in the position to pose directional hypotheses. Empirically, there are mixed findings in the relationship of these constructs to one another. Theoretically, too, there are arguments for and against the influence of screen-heavy media diets on emotional skill development. As noted earlier, screens may displace real-world opportunities for children to interact meaningfully with peers and to practice and develop social skills (e.g., Turkle, 2011; Twenge et al., 2019), including those of emotional perception, empathy, and regulation. Alternatively, digital platforms may provide abundant opportunities for children to practice and enhance such skills by being exposed to a range of emotional expressions in different forms and contexts far beyond the child's personal experience, by having the opportunity to observe how others respond in these diverse contexts, and by having the chance to practice emotional expressions with fewer immediate demands. With this in mind, we ask the following:

> RQ1: Does child digital media consumption relate to EI, empathy, or emotional regulation skills?

Given that the relationship between digital media consumption and the outcomes of interest gain more meaning when placed in relative context to non-digital media or non-media activities that children might otherwise engage in, we further ask:

> RQ2: Do non-digital media or non-media play activities relate to EI, empathy, or emotional regulation skills?

1.3. Parental Media Use

Research on parental media use, and in particular mobile media use, has increased in recent years. Unfortunately,

such use has been shown to have a negative association with parent–child interaction quality, with parental phone use in particular associating with children's externalizing and internalizing problems (for reviews, see Knitter & Zemp, 2020; McDaniel, 2019). Of note, no studies to date have associated parental digital media use with child EI, child empathy, or child emotion regulation. Yet, the potential effects are evident. Raudaskoski et al. (2017) argue that smartphones are unique relative to other media in drawing a parent's visual attention away from the child while simultaneously offering few cues as to what is capturing the parent's attention. This dynamic minimizes a child's ability to learn about appropriate emotional responses. Further, parental phone use has been associated with "still face," an expressionless face previously related to parental depression (Myruski et al., 2018). Frequent exposure to such expressions could impede a child's emotional skill development as learning opportunities from parents' emotional expressions are reduced. Further, parental disengagement and distraction while on mobile devices might limit their feedback to and regulation of their child's emotional expressions. Indeed, a systematic review of 27 studies concluded that parents engaged with smartphones around their children were less verbally and nonverbally responsive to their child (Kildare & Middlemiss, 2017).

Despite the potential negative effects of parental mobile device use on their children's emotional development, it is likely that any such effects would vary across different modes of media use and outcomes of interest (e.g., Modecki et al., 2020). As well, there is the potential for digital media to be a valuable parenting resource, helping parents regulate emotions and stress (e.g., Wolfers, 2021), and thus offer positive modeling for emotional regulation to their children. Therefore, it is an open question what effect parental use of digital media has on their child's emotional skill development. This is especially true of the 5–12 age group, which has received limited attention in the extant research relative to infants and teens (Knitter & Zemp, 2020). As such, we ask the following:

> RQ3: Does parental digital media use relate to child EI, empathy, or emotional regulation skills?

1.4. Parental Mediation

Research on children's EI development emphasizes the critical role of parenting behaviors centered around emotions. Most notably, longitudinal research on family talk with young children (three years old) about feeling states demonstrated that such talk (frequency, causal discussions, disputes) predicted greater emotional recognition and empathy in those children as six-year-olds (Dunn et al., 1991). As well, parenting style marked by emotional coaching, in which parents name and validate a child's emotions, has been shown to encourage emotional and social intelligence development in children (see Segrin & Flora, 2019). Perhaps not coincidental, research on parental mediation of a child's media use has similarly shown that active mediation, or conversations and discussions around media content, as well as co-using media content, is beneficial for mitigating adverse effects of children's media use (Nathanson, 1999, 2001). For example, active mediation has been shown to reduce the effect of news exposure to a violent event on younger children's emotional reactions (Buijzen et al., 2007). Although some evidence suggests that interactive programming may aid emotion recognition among preschoolers (Peebles et al., 2018), research has yet to examine how parental mediation of media use affects a child's emotional skills. Further, though evidence indicates that parents of 6–14-year-olds engage in a high degree of active mediation of their child's online activities, which opens the door to both opportunities and risks online (Livingstone et al., 2017), the links to emotional experience and skill development are as yet unaddressed. Given that this is an area in which parents may have a positive effect on their children's development through the use of media, this is a particularly valuable issue to explore. Thus, we consider how parental mediation of a child's emotional experiences in response to media and amount of co-use between parents and children relate to that child's emotional skills by asking the following:

> RQ4: Does parent emotional mediation or media co-use relate to child EI, empathy, or emotional regulation skills?

In sum, there is minimal research investigating the potential link between children's EI and their various forms of media use. Further, despite the strong links between parental behavior and child EI, the effect of parental media use or parental mediation of their child's media use on child emotional skill development remains unexplored. This research aims to address these gaps in the extant knowledge base.

2. Method

2.1. Participants

Recruited through Amazon's MTurk platform, 400 parents of children ages 5–12 (i.e., roughly middle childhood) completed a survey in which they reported on, among other variables, their child's personality traits, EI, resilience, and media and non-media activities. Middle childhood was selected as it is the stage in which children become more responsible for their own behavior and develop foundational skills for building healthy social relationships (National Research Council, 1984). Of the parent respondents, 68% were mothers and 31% fathers. About one-third had one child (32%), 38% had two children, and 30% had three or more children. Regarding education, 17.8% had some high school education or

a high school degree, 38.6% had some college education, 33.8% had a college degree, and 9.9% had some post-college education. Each parent was asked to report on their child between the ages of 5–12 whose birthday was closest to the day the survey was being completed. Of the children reported on, 55% were boys and 45% girls, and their average age was 8.2 years (*SD* = 2.54; Md = 8). The vast majority lived with both parents (76%), 15% lived with only their mother, 7% shared time with each parent, and 2% lived with only their father.

2.2. Measures

2.2.1. Emotional Intelligence

Global assessments of both child and parental EI were assessed with scales derived from the conceptualization of EI outlined by Salovey and Mayer (1990). The EI scale for children (Sullivan, 1999; α = 0.92; *M* = 3.72; *SD* = 0.67) consisted of 14 items assessed with a five-point Likert scale. Sample items include "My child knows when s/he is happy," "My child recognizes transitions between emotions in himself or herself," and "My child exhibits emotional control by emphasizing positive and deemphasizing negative emotion." Parental EI was assessed with Schutte et al.'s (1998) EI scale, which included 33 items assessed on a five-point Likert scale. Sample items include "I seek out activities that make me happy," "I am aware of the non-verbal messages other people send," and "I am aware of my emotions as I experience them" (α = 0.92; *M* = 3.90; *SD* = 0.50). As global measures, items for each scale were summed and averaged consistent with past use. As expected, the two measures correlated significantly: $r(400) = 0.37$, $p < 0.001$.

2.2.2. Empathy

The seven-item empathic concern subscale of the Davis (1983) interpersonal reactivity index was adapted for parents to report on their child's empathy (α = 0.89; *M* = 3.96; *SD* = 0.83). Sample items include "My child often has tender, concerned feelings for people less fortunate than him/her" and "I would describe my child as a pretty soft-hearted person," and were assessed on a 1 (*does not describe my child well*) to 5 (*describes my child well*) scale.

2.2.3. Emotional Regulation

A subset of 11 items from Shields and Cicchetti (1997) emotion regulation checklist was used for parents to assess their child's ability to regulate emotions. The original 24-item other-report scale included items linked to emotional perception and experience. We included the set of items that focused specifically on emotional expression that parents could observe (e.g., is prone to angry outbursts/tantrums easily; displays exuberance that others find intrusive or disrupting; is impulsive). Items were assessed on a four-point scale (*never–almost always*) and recoded so higher scores indicate greater ability to emotionally regulate (α = 0.88; *M* = 2.90; *SD* = 0.54).

2.2.4. Child Media and Non-Media Activities

Consistent with Rideout (2013), we asked parents to report how much time (none, less than 30 minutes, 30 minutes to 1 hour, 1–2 hours, more than 2 hours) on both a typical week day and typical weekend day their child spends doing each of the following activities at home: watch TV or DVDs, computer use, reading, being read to, console video-game play (e.g., Xbox), handheld video-game play, touch screen device use (e.g., iPad, Kindle), smartphone use, music listening, social media use, outdoor play, and indoor non-media play. Daily time spent on each activity was calculated by multiplying each weekday use by five, each weekend day use by two, and dividing the total by seven (see Table 1).

2.2.5. Parent Co-Use and Emotional Mediation

Given the influence of parental behavior on their young children, we asked a set of questions about parents' own media use. First, we asked how often on a four-point scale (*all or most of the time–never*) they were engaged with their child during their child's media and non-media activities. We combined the 10 media use items into an index of co-use (α = 0.80; *M* = 2.24; *SD* = 0.56).

Next, to assess the effect of parental distraction from their child with digital devices, we asked how often parents use their mobile devices (*M* = 5.18; *SD* = 1.26) and their computers (*M* = 4.97; *SD* = 1.54) in the presence of their child on a seven-point scale from *never* to *very often*.

Finally, given the importance of emotional talk on child emotional development, parents were asked to report how often they discuss the emotions of characters in stories. This seven-item measure, developed for this study, adjusted items from the Sullivan scale to ask how often parents discussed a story or character feelings with their child. Sample items include: How often, if ever, do you initiate a conversation with your child about the emotions displayed by a story character? (e.g., "That girl doesn't seem very happy anymore, does she?"); how often, if ever, do you ask your child what s/he is feeling while watching or reading a story? (e.g., "How does that make you feel?"). Items were assessed on a five-point scale, ranging from *never* to *always* (α = 0.90; *M* = 3.20; *SD* = 0.78).

2.2.6. Control Variables

In addition to child age, gender, parent gender, and parent EI levels, all of which can relate to child EI levels generally, or empathy and emotional regulation specifically, we assessed two other likely correlates of EI. First, we

Table 1. Descriptives and partial correlations of the study measures.

				Correlations																	
	n	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Media activities																						
1. Watching TV [1]	393	2.48	1.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Reading [1]	390	1.94	1.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Computer [1]	396	1.69	1.28	0.13	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Touch-screen use [1]	393	1.68	1.24	0.11	0.02	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Music listening [1]	384	1.45	0.98	0.11	0.27	0.31	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Being read to [1]	384	1.24	1.02	0.09	0.27	−0.18	0.19	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Video-games [1]	392	1.16	1.28	0.12	0.04	0.33	0.13	0.16	−0.05	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Smartphone use [1]	386	1.13	1.28	0.14	0.06	0.37	−0.03	0.31	−0.14	0.24	—	—	—	—	—	—	—	—	—	—	—	—
9. Social media use [1]	380	0.87	0.83	0.12	0.21	0.39	0.05	0.74	−0.09	0.23	0.50	—	—	—	—	—	—	—	—	—	—	—
10. Handheld game [1]	387	0.68	1.01	0.13	0.26	0.35	0.15	0.25	0.12	0.50	0.24	0.36	—	—	—	—	—	—	—	—	—	—
Non-media activities																						
11. Outdoor play [1]	395	2.72	0.99	0.05	0.19	−0.12	0.13	0.11	0.34	0.06	−0.16	−0.07	0.08	—	—	—	—	—	—	—	—	—
12. Indoor play [1]	391	2.27	1.19	0.12	0.15	−0.19	0.17	0.08	0.49	−0.09	−0.21	−0.06	0.06	−0.49	—	—	—	—	—	—	—	—
Parental media use																						
13. Parent MM use [2]	399	5.18	1.26	0.11	−0.06	0.03	0.16	0.01	−0.02	−0.02	0.05	0.02	−0.06	−0.05	0.05	—	—	—	—	—	—	—
14. Parent computer use [2]	400	4.97	1.54	0.07	−0.01	0.26	0.09	0.07	−0.08	0.07	0.08	0.03	−0.02	−0.10	−0.03	0.48	—	—	—	—	—	—
Parental mediation																						
15. Emotional mediation	400	3.2	0.78	−0.03	0.10	−0.03	0.07	−0.03	0.32	−0.03	−0.09	−0.08	0.04	0.27	0.28	−0.07	−0.07	—	—	—	—	—
16. Co-use	400	2.24	0.56	0.10	0.21	0.07	0.20	0.14	0.50	0.13	0.07	0.14	0.33	0.23	0.35	0.04	−0.01	0.36	—	—	—	—
Dependent variables																						
17. Child EI	400	3.72	0.67	−0.01	0.14	0.05	0.03	0.03	0.12	0.00	−0.01	−0.01	0.06	0.10	0.09	−0.13	−0.01	0.36	0.10	—	—	—
18. Child empathy	400	3.96	0.83	0.06	0.05	0.10	−0.03	0.00	0.05	0.00	−0.04	−0.04	0.00	0.12	0.09	0.09	0.12	0.23	0.08	0.37	—	—
19. Child ER	400	2.90	0.54	−0.04	0.05	0.01	0.05	−0.02	0.03	−0.01	−0.08	−0.02	−0.04	0.12	0.03	−0.09	−0.05	0.13	0.07	0.53	0.42	—
Controls (Selection)																						
20. Child age	400	8.2	2.54	−0.01	0.19	0.43	−0.10	0.25	−0.49	0.27	0.34	0.40	0.14	−0.26	−0.46	−0.02	0.12	−0.22	−0.30	−0.05	0.05	−0.02

Notes: MM = mobile media; ER = emotional regulation; [1] Frequency of child activities; [2] on a scale from 1 (*never*) to 7 (*very often*); Missings based on "I don't know" answers.

asked parents whether their child had been diagnosed with conditions that affect emotional perception or regulations, including autism and ADHD (16.8%). Second, given that peer interaction can both influence and be influenced by EI skills, we asked how many close friends the child has (ranging from zero to five or more). Parents typically reported their child having either two (32%) or three (25%) close friends.

3. Results

To answer the research questions posed, we ran three hierarchical regression models with child EI, child empathy, and child emotion regulation as the respective dependent variables. For each analysis, the control variables (child age, gender, diagnosed ADHD/autism, number of close friends, parent gender, and parent EI) were entered in Block 1, child media and non-media activities were entered in Block 2, and parental media use and mediation variables were entered in Block 3 (see Table 1 for variable descriptives and correlations and Table 2 for regression results). Given the exploratory nature of the research questions posed, findings hovering around the standard significance level of $p < 0.05$ will be acknowledged as worthy of discussion.

In response to RQ1, none of the child digital media consumption variables significantly related to child EI, empathy, or emotional regulation skills (βs < |0.10|). In total, all child media activities explained 3% of the variance in each of the dependent variables. Thus, there is no evidence here that screen use (whether TV, computer, video games, mobile devices) is counterproductive to EI. Regarding RQ2, these analyses revealed no significant associations between outdoor or indoor play and child EI, child empathy, or child emotional regulation skills (βs < |0.10|). However, reading was related to higher child EI ($\beta = 0.11$, $p = 0.046$).

RQ3 asked whether parental digital media use relates to child EI, empathy, or emotional regulation skills. Children of parents who reported more phone use in the presence of their children were assessed as having lower EI ($\beta = -0.14$, $p = 0.013$), though no significant relationship with empathy or emotional regulation emerged (βs < |0.09|). Parental computer use did not relate to

Table 2. Linear regression analyses on child EI, child empathy, and child emotion regulation.

Dependent variable	Child EI				Child Empathy				Child Emotion Regulation			
Parameters	*b*	SE	*β*	*p*	*b*	SE	*β*	*p*	*b*	SE	*β*	*p*
Control variables	*Block 1:* $R^2 = 0.18$; $p < 0.001$				*Block 1:* $R^2 = 0.22$; $p < 0.001$				*Block 1:* $R^2 = 0.28$; $p < 0.001$			
Child age	−0.02	0.02	−0.07	0.328	0.05	0.02	0.15	0.042	0.02	0.02	0.07	0.301
Child gender	0.15	0.07	0.11	0.032	0.06	0.09	0.03	0.528	0.08	0.05	0.07	0.168
Child ADHD/autism	−0.20	0.09	−0.11	0.025	−0.35	0.11	−0.16	0.002	−0.56	0.07	−0.39	<0.001
Child close friends	0.05	0.02	0.10	0.045	0.06	0.03	0.10	0.057	0.06	0.02	0.15	0.002
Parent gender	−0.01	0.07	−0.01	0.897	0.15	0.09	0.08	0.092	0.01	0.06	0.01	0.800
Parent EI	0.036	0.07	0.27	<0.001	0.54	0.08	0.32	<0.001	0.26	0.05	0.24	<0.001
Child activities	*Block 2:* $\Delta R^2 = 0.03$; $p = 0.540$				*Block 2:* $\Delta R^2 = 0.03$; $p = 0.349$				*Block 2:* $R^2 = 0.03$; $p = 0.407$			
Watch TV	−0.00	0.03	−0.01	0.915	0.05	0.04	0.05	0.268	−0.03	0.03	−0.06	0.207
Reading	0.07	0.04	0.11	0.046	−0.01	0.05	−0.01	0.863	0.03	0.03	0.05	0.342
Computer	0.01	0.03	0.01	0.854	0.06	0.04	0.08	0.160	0.00	0.02	0.00	0.982
Touch-screen use	0.00	0.03	0.01	0.873	−0.06	0.03	−0.08	0.094	0.02	0.02	0.04	0.357
Music listening	0.01	0.05	0.01	0.891	−0.04	0.06	−0.05	0.528	−0.06	0.04	−0.11	0.114
Being read to	−0.01	0.04	−0.01	0.829	−0.00	0.05	−0.01	0.863	−0.04	0.03	−0.08	0.213
Video-games	0.02	0.03	0.04	0.466	−0.01	0.04	−0.01	0.845	0.02	0.02	0.05	0.353
Smartphone use	0.01	0.03	0.02	0.722	−0.04	0.04	−0.07	0.239	−0.04	0.02	−0.09	0.098
Social media use	−0.01	0.07	−0.02	0.851	−0.03	0.08	−0.03	0.744	0.06	0.05	0.10	0.221
Handheld game	0.03	0.04	0.05	0.439	0.01	0.05	0.01	0.898	−0.04	0.03	−0.08	0.176
Outdoor play	−0.04	0.04	−0.05	0.355	0.05	0.05	0.06	0.279	0.04	0.03	0.07	0.234
Indoor play	−0.00	0.04	−0.00	0.976	0.02	0.04	0.03	0.601	−0.02	0.03	−0.04	0.483
Parental variables	*Block 3:* $\Delta R^2 = 0.07$; $p < 0.001$				*Block 3:* $\Delta R^2 = 0.02$; $p = 0.033$				*Block 3:* $R^2 = 0.01$; $p = 0.229$			
Phone use	−0.07	0.03	−0.14	0.013	0.06	0.04	0.09	0.116	−0.03	0.02	−0.08	0.155
Computer use	0.03	0.02	0.06	0.253	0.03	0.03	0.06	0.315	0.00	0.02	0.00	0.970
Emotional mediation	0.24	0.05	0.28	<0.001	0.12	0.06	0.11	0.053	0.01	0.04	0.01	0.845
Co-use	−0.10	0.07	−0.08	0.176	0.05	0.09	0.03	0.606	0.10	0.06	0.10	0.094
R^2	0.28				0.26				0.32			

Notes: Pairwise deletion; 368 participants.

any of the three emotional skill variables of interest (βs < 0.07).

Finally, in response to RQ4, we examined the relationship between parental mediation behaviors, indicated by parental emotional mediation and parent-child media co-use, and child emotional skills. The association of parental emotional mediation with child EI was β = 0.24 ($p \leq 0.001$), and its association with child empathy was β = 0.11 (p = 0.053). No relationship with emotional regulation emerged (β = 0.01, p = 0.845). Parental co-use was not significantly related to any of the three child emotional skills (βs < |0.11|).

4. Discussion

This research sought to illuminate how children's media use, as well as parental media-related behavior around their children, relate to children's exhibition of EI skills. These findings suggest that concerns about children's digital or screen media use are perhaps overblown in terms of impeding emotional skill development. In contrast to some previous findings that EI associated with some problematic media usage (Parker et al., 2008) and empathy associated with social media use (e.g., Guan et al., 2019), no screen or digital media use variable in this study related to child EI, empathy, or emotional regulation, though reading did associate with higher EI. Given the correlational nature of the data, we cannot know whether reading promotes EI or whether those high in EI enjoy reading. However, the fact that no associations with any other media emerged suggests that quantity of use alone may not be problematic for children in middle childhood. Of course, the quantity of time engaged in media use fails to capture the nature of the use, which may have important implications. That is, what content children are exposed to (e.g., educational programming or apps vs. cartoons or video games with excessive violence) may impact EI, empathy, and emotional regulation—both positively and negatively—in ways not captured in this study. As well, time spent on screens versus engaging in activities that could potentially enhance social skills, like having supportive interpersonal interactions, may limit enhancement of EI that might have occurred otherwise. As such, future research should investigate questions related to the impact of the nature of media content consumed on child EI levels as well as the potential displacement by media use of more emotion skill-sustaining activities.

Although child media use did not emerge as a factor in emotional skill development, parental behavior did. Parents' use of their mobile devices around their children was associated with having children they rated as lower in EI generally (though not lower in empathy or regulation). Given that parents have, at best, divided attention when using their phones in the presence of their children as well as the evidence that parents exhibit "still face" when on their mobile devices (Myruski et al., 2018), it is reasonable to imagine that children lose the benefits of their parents' emotional responses to their words and deeds when their parents are occupied with their mobile devices. Although it is possible that parents may escape into their phones as a break from their children who have lower EI, the fact that parental engagement with children boosts EI (Segrin & Flora, 2019) suggests that parental mobile device behavior around their children is likely a meaningful impediment to their child's emotional skill development.

Finally, and perhaps most encouraging, parental emotional mediation of their children's media use is positively associated with both EI generally and empathy specifically. This finding aligns with previous research showing that parental socialization impacts how children react to media characters which, in turn, can increase a child's emotional expression (Scherr et al., 2018). If it is the case that when parents consume media with their children and they encourage discussion of emotional reactions of both themselves and the characters, media has the potential to become a vehicle by which parents can encourage the talk that has been documented to enhance children's emotional skills (Dunn et al., 1991), empathy in particular.

This study's findings must, of course, be considered in light of the limitations of the data collection. With correlational data, we can only note relationships that exist without presuming causal order. As well, the data are based on the parental perspective of their own child's media use and traits, rather than more objective assessments, such as media use logs or teacher or clinician assessments of child traits and behavior. Child self-assessments that are then used in conjunction with parental assessment would also be of value in examining the parent-child dynamic. Further, without assessments of the nature of the content consumed, the data can speak only to the time spent with media rather than the full media consumption experience. Finally, we included children across the range of middle childhood, who vary in their degree of individuation from their parents as well as the nature of media they consume. As this study was underpowered to examine differences across early and late middle childhood, future research would be well served by looking at these phenomena across childhood stages, with careful attention to time spent with parents as well as the nature of content consumed.

This research, however, still stands as a useful gateway into a line of inquiry in which the role of media in the development of children's emotional skill sets can be explored. Moving forward, longitudinal work in which children's EI skill development is tracked, ideally throughout middle childhood into adolescence, along with their diet of screen usage—time spent, type of media used, and content consumed—would be of tremendous value in understanding the ways in which media might aid or inhibit the development of this important life skill. Indeed, it is particularly important to recognize that media experiences have the potential to generate positive outcomes for children (Mares & Woodard, 2005).

Examining the boundary conditions around such positive effects—which children receive what benefits (or costs) under what circumstances and with what platform and content should be a priority for scholarly inquiry. Further, consideration of the subcomponent skills of empathy and regulation are also important to gauge the different pathways through which digital media use may affect the more global construct of EI. Indeed, future research might also consider how media use relates to the other subskills of emotion perception and integration.

5. Conclusion

Despite the documented multi-faceted benefits of EI across the lifespan, the scholarly community has overlooked the role that our modern-day saturated media environment plays in the development of this critical set of skills. Our findings suggest that when it comes to children's time spent with media, there is little concern that such behavior negatively affects children's emotional development in middle childhood. Instead, parents concerned about the negative effects of their child's screen use should be more mindful of their own mobile phone use around their children, which may impede their child's EI development. Further, should parents wish to enhance their children's emotional skill set, using media as an opportunity for emotional mediation, or to talk about emotions could have long-lasting benefits.

Acknowledgments

The authors wish to thank the anonymous reviewers for their helpful comments on earlier drafts of this manuscript.

Conflict of Interests

The authors declare no conflict of interests.

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Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 361–370
https://doi.org/10.17645/mac.v10i1.4756

Article

The Ethics of Gatekeeping: How Guarding Access Influences Digital Child and Youth Research

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Submitted: 29 July 2021 | Accepted: 8 October 2021 | Published: 29 March 2022

Abstract
Digital child and youth research is often conducted in schools involving minors. Corresponding research designs raise two related sets of problems: Ethical issues with regard to working with vulnerable groups like children and adolescents and access to these groups. The latter pertains to the concept of gatekeeping which is an ethical issue in and of itself if certain groups or areas of research are systematically excluded from empirical research and, consequently, from the resulting benefits. Thus, our study examines how perceived ethical challenges influence gatekeepers' decisions to grant or deny access to investigate a potentially problematic topic: pupils' group communication. We addressed this research question empirically via semi-structured in-depth interviews with eight educational gatekeepers in Germany inquiring their attitudes on research in schools in general and on the specific topic of pupils' group communication via instant messaging as an exemplar of digital child and youth research. Approaching the question from two perspectives (procedural ethics and ethics in practice), we identified hierarchical power structures within multiple levels of gatekeeping and revealed rationales to deny access based on ethical considerations with regard to the given scenario of pupils' group communication.

Keywords
access; gatekeeping; group communication; instant messaging; personal learning environment; research ethics; researching minors; research in schools; teacher–pupil relationship

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

Nowadays, children and adolescents live in a mediatized world with permanent access to online (social) media (Vorderer et al., 2018). Digital media are not limited to the private sphere, however. They have increasingly found their way into educational settings, for instance in the form of instant messaging (IM) groups as part of the personal learning environment (PLE; Attwell, 2007; Costa-Sánchez & Guerrero-Pico, 2020). IM groups add an online layer to the class' communication space introducing new rules, roles, power dynamics, and a specific netiquette (Knop-Hülß et al., 2018). In order to address questions relating to risks, opportunities, and challenges the digitalization of PLEs poses and to find evidence-based recommendations, empirical research is required. Often, such research is conducted in schools involving minors. This raises two related sets of problems: Ethical issues with regard to working with vulnerable groups like children and adolescents (Davies & Peters, 2014; Nairn & Clarke, 2012), and access to these groups (see Lareau & Shultz, 1996, for an overview on negotiating entry to the field). Concerning vulnerability, aspects of research ethics have to be addressed like informed consent and assent, issues of disclosure, power imbalances, etc. (Phelan & Kinsella, 2013). Furthermore,

research in schools relies on access and is therefore dependent on (educational) gatekeepers (Burgess, 1991; Morrill et al., 1999; Morrow & Richards, 1996; Wanat, 2008), i.e., "someone who has the power and control over access to communities and key respondents in a particular location selected for research" (Lund et al., 2016, p. 281).

In Germany, customarily, research projects conducted in schools have to be approved by school officials such as the school board, the principal, and the teachers involved. Identifying and managing these organizational gatekeepers have been described as crucial factors to be considered by researchers wanting to do (qualitative) fieldwork in an organizational setting or, more specifically, in schools (Morrill et al., 1999). Another layer of gatekeeping is added when research is being conducted in public schools where local or state authorities need to clear research proposals before access to schools is given. According to the federal regulations of the German education system, this is the first gatekeeper that every research project has to overcome. Thus, in institutional and/or organizational settings (adult) gatekeepers grant access to the field or deny it, thereby enabling (digital) youth research or rendering it impossible. This relates to research ethics in two ways. First, among others, more practical aspects like the expected disruption and additional workload, the approval of a research project is dependent on its perceived scientific integrity—with research ethics being one crucial aspect. Moreover, the aspect of gatekeeping is an ethical issue in and of itself because the principle of justice is compromised if certain groups (for instance, minorities or underprivileged families; cf. Koschmieder et al., 2021; McAreavey & Das, 2013) are systematically excluded from empirical research and, consequently, from the resulting benefits. If, for instance, scientific research on the causes and effects of digitalization was affected by this bias the digital divide might grow (Rogers, 2001).

Thus, our study deals with the ethics of gatekeeping in digital youth research. We examined how perceived ethical challenges influence (educational) gatekeepers' decisions to grant or deny access to investigate pupils' digital media use. We addressed this subject empirically via in-depth interviews with principals and teachers in their role as gatekeepers (Burgess, 1991; Morrow & Richards, 1996; Wanat, 2008). We inquired their attitudes regarding research in schools in general and on the specific topic of pupils' group communication via IM as an exemplar of digital child and youth research. We chose this example for two reasons: Firstly, IM group communication (e.g., via WhatsApp or Signal) is commonly used in schools in various parts of the world (as well as in Germany) to organize PLEs and to socialize (Costa-Sánchez & Guerrero-Pico, 2020; Dahdal, 2020; Ivanova & Chatti, 2011; Rosenberg & Asterhan, 2018); secondly, both group interaction itself and research of it is ethically challenging—the former poses risks of antisocial behaviors like cyberbullying (Bork-Hüffer et al., 2020), the latter is problematic in terms of privacy and data security.

2. The Ethics of Gatekeeping

For this article, we draw upon the distinction between procedural ethics and ethics in practice to differentiate between the aspects of access and research ethics (Phelan & Kinsella, 2013; Sherwood & Parsons, 2021). Procedural ethics involve seeking approval from ethics committees, review boards, and institutional gatekeepers like school boards. Dependent on federal-state regulations (in Germany for example in Bavaria and Bremen), pupil representatives, as well as parent councils, also need to approve submitted proposals for school-based research. Ethics in practice, however, refer to the everyday ethical issues that arise while conducting research. Regarding school-based research, this compares to the distinction between seeking official approval (i.e., formal legal power to require compliance) and ensuring informal cooperation (i.e., social power to influence behavior in schools; Wanat, 2008). Thus, there is a two-step process to overcome (or even three steps if the child's assent is considered) when ensuring access to the field—convincing (formal and informal) gatekeepers to support the research is a necessary but not sufficient condition as "access does not guarantee cooperation" (Wanat, 2008, p. 207). Morrill et al. (1999) describe two crucial factors for ensuring entry to the field: identifying relevant gatekeepers and determining applicable means to overcome barriers deployed by the organization (such as schools). To facilitate the process, they stress the importance of convincing at least one organizational gatekeeper who in turn might be able to persuade another one on a different hierarchical level to gain access to the field. Additionally, Burgess (1991) points out the importance of building relationships with gatekeepers on lower levels as they in turn closely guard the entities they are in charge of, such as groups of pupils or individuals, and can therefore provide or deny access: "There [is] no individual gatekeeper who could grant or withhold information for the whole school but rather a series of gatekeepers with whom access had to be negotiated and renegotiated" (p. 48).

Educational gatekeepers employ certain "resistance tactics" (Wanat, 2008, p. 203) to prevent successful recruitment and/or cooperation (such as passing responsibility, controlling communication, delaying the process by requesting more information, and forgetting to perform tasks as promised). Stonebanks et al. (2019) found similar stalling methods on the level of official approval. Moreover, the authors identified reasons why teachers themselves would not participate in research projects. Their main concern was not to get involved in a study with an ethically challenging topic. McAreavey and Das (2013) also reported perceived ethical issues (such as privacy concerns and possible harm towards participants) as well as reservations with regard to the validity of the study that led gatekeepers to deny access.

Regarding ethics in practice, all empirical research should adhere to the general principles of respect for autonomy, beneficence, and justice (Beauchamp & Childress, 2019). From them, practical ethical standards are derived like voluntariness and the need for informed consent, confidentiality, and privacy as well as the well-being of the participants (with the latter taking precedence over everything else). These standards need to be addressed throughout the research process while at the same time catering to methodological needs to safeguard reliability and validity (Schlütz & Möhring, 2018). This dilemma between ethical and methodological demands for empirical studies is particularly evident in internet research: With the rise of social network sites and the increase in accessing the internet via mobile devices, researchers see themselves faced with new questions of protecting participants' privacy, ensuring informed consent (both from the participating individuals and from the online communities and system administrators), and managing, storing, and representing the data (franzke et al., 2020). For example, youth internet users are often more inclined to share more (personal) information on quasi-public fora such as social network sites or IM group chats, but nevertheless expect their communication to be private (boyd & Marwick, 2011; franzke et al., 2020). Research ethics in practical research with minors are even more multifaceted because "children are universally treated as a special ethical case" (Nairn & Clarke, 2012, p. 195). Hence, the obligation to protect the rights of the research participants increases if the participants are children and/or minors (Ess & Association of Internet Researchers ethics working committee, 2002). This means, for instance, that not only is there proxy consent from parents to obtain but also the children's own assent (Sherwood & Parsons, 2021). Additionally, notions of power imbalances and representations of the child have to be considered (Oates, 2019; Phelan & Kinsella, 2013). For example, care should be taken to create a research environment where children have agency and are treated as equal counterparts (Phelan & Kinsella, 2013). This may be realized by age-appropriate and child-oriented language in surveys and interviews or by adequate body language when conducting face-to-face interviews or observations. When reporting results, researchers should be sensitive with regard to a fair and dignified representation of children.

In our study, we examined whether aspects of research ethics in general and particularly with regard to minors were anticipated by educational gatekeepers when deciding to grant access and/or participate in a research project. We regard gaining access to conduct empirical research in schools as a complex process influenced by power structures. Gatekeepers on multiple hierarchical levels (i.e., school board, principals, teachers, as well as parents) grant or deny access to pupils as prospective participants. Dependent on the tactics employed, this might introduce a sampling bias, thereby hurting the principle of justice (Groves & Lyberg, 2010). If access is systematically denied, (certain) groups cannot benefit from participating in research. Against this background, we phrase two research questions:

> RQ1: Who functions as a gatekeeper within school-based research and which rationales for granting or denying access do these gatekeepers apply (procedural ethics)?

> RQ2: Which ethical challenges do educational gatekeepers perceive with regard to digital child and youth research, i.e., pupils' IM group communication (ethics in practice)?

3. Method

The subject under study—digital child and youth research and, more specifically, explorations of IM group communication in schools—faces (at least) three intertwined ethical dilemmas: (a) research with minors as a so-called "vulnerable" group necessitating proxy consent and specific rules for interviewing; (b) internet research, calling for privacy considerations; and (c) studying group dynamics and the inherent ethical issues (such as respecting the autonomy and self-determination of all group members). We chose a qualitative approach to adequately address this complexity and to examine the participants' subjective perspective as well as their ethical evaluations of this topic (Colby et al., 1983).

As part of a broader research project, the interview guideline addressed several issues; for reasons of space not all of them can be discussed here. For this article, we will report on the questions regarding research in schools in general, investigating minors, and the challenges of internet research in particular. The question on research in schools in general, for example, was operationalized as follows:

> Next, I would like to talk to you about the topic of research in schools. Asked in general terms: If research projects have been carried out at your school in the past—e.g., by people from academia or research institutes—how did you experience this?

Furthermore, we will present results pertaining to research ethics with regard to pupils' IM group communication. In this part of the interview, we employed a method called "Mary's Mistake" suggested by Östman and Turtiainen (2016). We confronted the interviewees with the following scenario:

> Imagine, for example—even though this is not our intention—that we asked pupils to send us screenshots from their group chats in order to analyze them. How would you feel about this and what problems do you think would arise?

The interviewees were then asked to discuss the inherent ethical dilemmas and possible remedies.

We conducted eight semi-structured interviews with German educators in gatekeeping roles. Participants were recruited from the personal environment of the first author (more or less close acquaintances). In the sense of theoretical sampling (Corbin & Strauss, 1990), we strived for maximal variance by interviewing people of different ages and gender involved in the research process in schools, among them three student-teachers who had prior experience with school-based research, and three teachers and two principals who were also members of the school board (as shown in Table 1). All participants gave their informed consent prior to the interview. The interviews had an average length of 27 minutes (range 20–31 minutes). They were conducted in April 2021 via Zoom. The virtual setting was chosen due to the Covid-19 lockdown in Germany. As suggested by Archibald et al. (2019) the interviews were audio-recorded with the integrated recording feature. All interviews were transcribed using assisted F4x automated audio transcription. They were analyzed via qualitative content analysis following the approach of textual structuring using MaxQDA (Kuckartz & Rädiker, 2019). Adopting this method, we systematically described the interviewees' (ethics-related) perspectives on research in schools as well as on the scenario of IM group communication applying a combined theory-driven and data-driven analysis strategy (deductive/inductive approach; cf. Mayring, 2000). All names were pseudonymized to protect participants' privacy.

4. Results

In the following we will discuss the two research questions formulated above addressing aspects of procedural ethics (RQ1) and ethics in practice (RQ2), respectively. Additionally, we will report on an overarching topic that came up in the interviews unasked, that is the association of research ethics and methodological quality (Schlütz & Möhring, 2018).

4.1. Procedural Ethics: Hierarchical Gatekeepers and Their Rationales for Granting Access for School-Based Research

Regarding RQ1, we found that there are gatekeepers to be faced on multiple levels when conducting research in schools (see also Stonebanks et al., 2019). In addition to institutions like school boards, principals take up an important position in the process of granting or denying access (to pupils and teachers, respectively). They can be seen as first-level educational gatekeepers. The (interviewed) principals differed remarkably in their willingness to allow research projects at their schools. In the recruitment process, one principal even refused participation altogether. Another potential participant asked her principal for permission but was denied. Additionally, one of our interviewees reported on the rejectionist attitude of school boards: "And…the announcement from our school was definitely that…they…only allow more elaborate things if the school itself profits from it" (B2). He further reported that the school board rejected all projects requiring informed consent from either pupils or parents because of the high costs in terms of time and human resources. In contrast, a school board member (B6) mentioned his welcoming attitude towards research conducted at his school, provided that the results were made accessible in order to be incorporated into everyday school life. These examples accentuate two things: the general influence principals exert as first-level gatekeepers and the personal attitudes guiding their decision-making.

Additionally, we found that first-level gatekeepers apply various rationales when deciding whether to allow research to be conducted at their schools: One teacher reported that the school board used their fear of "lawyer-parents'' as an argument to deny all research including pupils. Participants also expressed their concern that requests from research projects would be (deliberately) "forgotten" due to the expected organizational expense. Some interviewees further recognized a general skepticism of new things among their school

Table 1. An overview of the interview sample.

Pseudonym	Age (years)	Gender	Position	Type of School
B1	25	Male	Student-teacher	Middle school
B2	27	Male	Student-teacher	Grammar school
B3	26	Female	Student-teacher	Grammar school
B4	25	Female	Teacher	Grammar school
B5	25	Male	Teacher	Grammar school
B6	55	Male	Principal	Middle school
B7	28	Female	Principal	Integrated comprehensive school
B8	64	Male	Teacher	Integrated comprehensive school

Notes: All interviewees were employed at schools in North-Western Germany; the types of school have been translated from the German school system as follows—Middle school = *Oberschule ohne gymnasiale Oberstufe*, grammar school = *Gymnasium*, integrated comprehensive school = *Gesamtschule mit gymnasialer Oberstufe*.

board and cited this as a reason for particularly innovative projects being rejected.

According to the interview partners, not only the school board and/or principals but also the teachers themselves act as educational gatekeepers in the research process (second-level gatekeeping). Their willingness to allow research projects in their classes also varied greatly. For instance, interviewees reported that the length of a survey played a crucial role: While short surveys (max. 10 minutes) were described as unproblematic, longer-lasting projects were perceived as interfering with teaching. Additionally, one teacher (B7) suspected younger colleagues to be more open to research as they were more likely to remember the challenges of conducting it themselves. Another aspect that was mentioned was their workload. Interviewees stated that in stressful periods they were more likely to reject requests to avoid potential extra work—regardless of the actual length of the survey or extra work for the teacher:

> Then, I think it also depends a lot on the current workload….When I get a request like that and I'm up to my neck in revisions, I shy away from it, even though I don't know how much time it would have taken. (B7)

Besides workload, there were other practical issues teachers perceived as potential challenges if they were to grant access. They pointed out how time-consuming working with researchers was stressing the high organizational effort of multiple follow-up loops to ensure sufficient return rates of informed consent forms from parents and pupils, respectively. With regard to concrete implementation, the teachers stated that the time frame (max. 10 minutes) and the age-appropriate wording of questions should be adhered to, especially in the case of interviews. Furthermore, they mentioned the great variance in pupils' backgrounds depending on the type of school. The interviewees expected this to influence the return rate of informed consent forms as well as the pupils' willingness to cooperate.

Concerning the pupils' necessary assent (and possible self-selection bias; Queirós et al., 2017), they themselves can take on a gatekeeping role at the third level. In general, pupils were described as quite open to participating in research projects—even though the interviewees suspected the pupils' willingness to be dependent on their interest in the respective research topic. Moreover, the implementation of surveys during class was stated to offer several advantages compared to asking pupils to fill out (online) questionnaires at home in their own time. Teachers commented that outside of the classroom setting, researchers were reliant on available technology as well as on the participants' willingness to sacrifice their free time.

Taken together, with regard to procedural ethics we identified (at least) three different groups of gatekeepers on varying hierarchical levels: principals and members of the school board, teachers as well as the pupils themselves. Additionally, parents can be seen as fourth-level gatekeepers since they have to give proxy consent for minors and their attitude toward research projects is an important factor in teachers' and principals' decision-making process. For each group, the interviewees gave various rationales for granting or denying access that were largely practical in nature. Besides those, our study aimed specifically at identifying ethical challenges educational gatekeepers perceived when investigating pupils' IM group communication. They will be covered in the following.

4.2. Ethics in Practice: Gatekeepers' Ethical Rationales for Granting Access to Pupils' IM Group Communication

In relation to RQ2, we analyzed gatekeepers' rationales regarding their ethical evaluation of research projects. We did so by introducing an ethically challenging scenario concerning a hypothetical research project on pupils' IM group communication (Mary's Mistakes method; Östman & Turtiainen, 2016). Overall, teachers were highly skeptical about whether or not pupils would be willing to allow access to their chat groups and/or share their group chat histories. Several interviewees suggested talking to pupils about the chats instead of trying to access them directly and hoping for pupils' honesty and willingness to cooperate. As one participant (B6) explained, he expected different levels of willingness to let researchers see pupils' group chats: While access to chats of a deeply personal nature would most likely be denied, chat groups that were used to discuss school-related content only would probably be shared. The interviewees, therefore, identified the perceived level of privacy and/or intimacy of the (content of the) chats as well as the sensitivity of the data as relevant factors.

Additionally, the interviewees saw pupils' willingness to grant researchers access to their IM group communication as highly age-dependent. Older pupils such as teenagers were described as having more experience in regard to group chats compared to younger ones and would therefore be more willing to cooperate with researchers wanting to investigate their group chat communication. It was suspected that younger pupils could still be encouraged to participate—as long as communication before and during the process of data-collection was age-appropriate, the objective of the study was made transparent, and anonymity was guaranteed. These findings align with the literature review where minors are discussed as a vulnerable research group requiring special attention (Phelan & Kinsella, 2013; Sherwood & Parsons, 2021). Congruently, our participants also described minors as a particularly vulnerable group whose privacy required special protection. Besides stressing again the importance of using age-appropriate language when interacting with young children, the interviewees pointed out that researchers should meet adolescents with empathy and respect in order to establish a friendly relationship.

Another aspect that the interviewed educational gatekeepers found to be ethically challenging was the combination of the online setting of the subject under investigation and the fact that it was multiple individuals communicating with each other. Overall, research accessing and investigating pupils' online group chats was described as a massive intrusion of privacy requiring special awareness with regard to a set of (ethical) challenges. Firstly, the interviewees stated that researchers would have to deal with pupils' fear of data misuse such as data collection without prior consent or sharing the content of the chats with third parties. Secondly, they pointed out that researchers would have to obtain consent from all group members (prior to the process of data collection) to make sure that no third-party data were included (Schlütz & Möhring, 2018). Otherwise, this would harm the principles of (informational) self-determination and autonomy violating ethically sound research practices. The participants emphasized the fact that consent was to be obtained before gathering data in order to adhere to ethical principles:

> Especially because you would be asking retrospectively, I assume that you would be looking at things that the pupils wrote weeks or even months ago. And the chats were written at that time with…the understanding that they would remain in this group. (B4)

Correspondingly, they were highly critical of asking pupils to share screenshots of their school-related group chats (as per the scenario we discussed during the interviews) because they originated without the awareness of outsiders (here: researchers) accessing them at some point in the future. Therefore, the educational gatekeepers questioned whether it would be possible for the pupils to give their informed consent regarding the retrospective nature of this type of data collection and advised against it.

Overwhelmingly, teachers and principals in gatekeeping roles regarded the preservation of their pupils' anonymity as the most important prerequisite for all privacy-related concerns. The fact that the scenario we presented investigated pupils' IM group communication was reason for even more concern: The interviewees remarked that not just the (user)names of the people chatting but also the names of people referenced in the messages would have to be anonymized as a prerequisite to obtaining consent to both collect and analyze the chats. Overall, it was made clear that the participants saw pupils as a vulnerable group and regarded their (private) group communication as worthy of a high level of protection from outside access by researchers. The interviewed gatekeepers' main focus was to shield pupils (as their protegees) from harm and suggested creating a trust-based research context in which researchers would ensure the prevention of possible damage by taking appropriate measures (e.g., obtaining consent from all chat group members, adhering to principles of data protection during and after data collection, anonymizing names in the chat protocols).

4.3. Ethical Standards and Their Impact on Research Quality

Without being prompted, the interviewees weighed methodological and ethical considerations regarding school-based research. They discussed how ethical standards have to be addressed throughout the research process, while at the same time meeting methodological requirements to ensure reliability and validity (cf. Schlütz & Möhring, 2018). For instance, they named various suitable measures to uphold ethical principles during the research process and raised concerns about the impact of these measures on the validity of the results. One important measure teachers named for establishing research ethics is transparency towards the pupils both in terms of the research purpose and the data collected. However, teachers pointed out pupils may communicate differently when they are aware of being observed (reactivity effect; Schlütz, 2017). The presence of an observer may also lead to changes in the pupils' behavior:

> It is quite conceivable or perhaps obvious that a "WhatsApp group 8B" will then be maintained for the "research ethics aunt." And then there is the "Class Chat 8B Real Talk" or something. I think it's really hard to get material that is as authentic as possible. I think if you do it ethically, things are always falsified, even if the pupils give information to the best of their knowledge and belief. It's still just filtered and somehow not as transparent as if you could just look in. (B3)

As a further measure to uphold principles of research ethics, the interviewed teachers suggested obtaining pupils' informed consent. At the same time, however, they voiced their concern of a resulting bias, for example through the self-selection of particularly relevant and/or extreme cases (e.g., bullying pupils; outsiders). Similar problems might occur when parental proxy consent has to be obtained. According to the teachers, particularly concerned parties so-called "helicopter parents"—"a parenting behavior that is considered to be overly involved, overly controlling, and developmentally inappropriate among parents of emerging adult children" (Love et al., 2020, p. 327)—were most likely to speak out against their child's participation. In order to minimize sampling bias due to a challenging research design (as presented in the given scenario) teachers suggested interviewing individual pupils instead of observing whole chat groups. However, they addressed possible validity problems here as well: "You probably won't have direct access to the pupils' chat histories. That means you then have to rely on the honesty and…the memories of the pupils and…hope that they reveal the information as it really happened" (B1).

Exchanging methods and measures within the given research design (retrospective self-reports rather than real-time observations; cf. Naab et al., 2019) leads to a dependency on the pupils' memory and willingness to report honestly. In addition, the analysis of interactions is rendered impossible. This leads to a loss of authenticity limiting the validity of the study.

5. Discussion

In this article, we discussed the ethics of gatekeeping by exploring how questions of access influence digital child and youth research. Our research was guided by the question of how perceived ethical challenges influence gatekeepers' decisions to grant or deny access to research with minors in schools. As an example, we used a fictitious study on pupils' IM group communication. We approached the question from two perspectives (Phelan & Kinsella, 2013; Sherwood & Parsons, 2021): (a) concerning the aspect of procedural ethics, we identified hierarchical power structures with multiple levels of gatekeeping; (b) at the level of ethics in practice, we revealed rationales to deny access based on ethical considerations with regard to the scenario of pupils' group communication.

Regarding procedural ethics we found—congruent with extant literature—that access to empirical research in schools is a complex process influenced by a hierarchically structured multi-level-gatekeeping system including principals, teachers, parents, and pupils themselves. While Wanat (2008), who found a similar hierarchical gatekeeping structure at schools, focused on the gatekeepers' tactics of resistance, we examined their prevalent rationales for granting or denying access. In line with Wanat, we found that resistance tactics were mostly based on practical considerations such as the suspected amount of work required and the disruption of school processes. The rationales we found, however, were more to do with the research project itself (object of investigation, research design, and children as research subjects) and the connected ethical questions. Thus, we expanded the perspective on the gatekeeping process as a whole. In doing so, we opened up opportunities to facilitate access to the field by optimizing and, maybe even more important, convincingly communicating information on both aspects (practical considerations and the research design) to the gatekeepers on all levels. As we also found indications that denial of access is systematically linked to the gatekeepers' particular perceptions, experiences, background, and contexts, however, sometimes even the best communication strategy is prone to fail. The ensuing (self-)selection bias goes along with ethical consequences since the gatekeepers are the ones to decide which groups are investigated and consequently, who benefits from the results.

By implementing the Mary's Mistakes method (Östman & Turtiainen, 2016) adapted to the special case of IM group communication we contributed to the research on challenges posed by technological developments of the last few years—for the study of minors, in an online context, and in relation to groups. Our findings provide a starting point for how future research in this complex environment can be approached in an ethically sound way. Furthermore, we contributed to the research on online PLE—a topic strongly influenced by digitalization and prone to constant change. A further, unexpected finding of our study was the reported need of educational gatekeepers to weigh methodological and ethical considerations when evaluating research on pupils" online group communication. This is congruent with the findings of McAreavey and Das (2013) who reported that perceived ethical issues as well as reservations with regard to the validity of the study lead some gatekeepers to deny access. This shows their awareness of the need to balance ethical principles and methodological procedures in order to ensure the quality of data obtained. With this, our study contributes to the much-needed discourse within the field of digital studies "on how to conduct both ethically and technically sound standardized research" (Schlütz & Möhring, 2018, p. 34)—especially when pupils and their online group communication are explored.

Despite our cohesive findings, we have to address some limitations. In addition to the established restrictions of qualitative research (e.g., interview as a social situation, self-selection bias; Queirós et al., 2017), there are further limitations to be considered here. A weakness of our research is that we did not talk to the pupils themselves. This was a conscious decision, however, as we wanted to focus on the preceding gatekeepers in the hierarchical process: the pupils can only become "gatekeepers" once administrative and school officials, teachers as well as parents have granted access to them. Nevertheless, we acknowledge that pupils" gatekeeping rationales are an integral component of the research process and should therefore be considered in following studies. A further limitation of the sample is its homogeneity in terms of geographical and social context, since all our interviewees were teachers at German schools. Further studies should consider a more heterogenous sample including a wider range of geographical and cultural backgrounds (such as researching educational gatekeeping in different federal states in Germany). Furthermore, by using a very specific scenario in the Mary's Mistakes method (namely pupils' IM group communication) we linked our findings very closely to this specific aspect. Since ethically challenging subjects within the field of digital child and youth research are much more widespread, future research should investigate other school-related aspects, for instance other parts of pupils' PLE such as school cloud-based services, World Wide Web's offerings for studying at home, or the digital devices, platforms, and applications used for studying. Since we put our focus on (group) communication among minors, another central and ethically challenging aspect remained unexplored: the IM-based

communication between pupils and teachers, acknowledging that this would introduce an even higher level of complexity. Our narrow focus on online group communication also does not shed light on the question of whether or not the respective research topic has an influence on the gatekeepers' decision. This aspect should also be explored in further studies.

Building on our results as well as the reported limitations, future studies should investigate online-related resistance tactics of gatekeepers to adapt the findings of Wanat (2008) to the current state of digitalization. Furthermore, our findings could be a starting point to systematically explore possible ways for researchers to counteract the described resistance tactics and develop a guide with practical suggestions. As shown above, especially in relation to IM group communication, the perspective of pupils in their role as gatekeepers is also worth exploring. Their perspective on the relevance of IM group communication in general and the IM-related research should thus be taken into account. Additionally, we revealed in our study that not only researchers but also gatekeepers themselves see the need to balance methodological and ethical considerations. They even integrate this balancing act in their own decision-making process of granting or denying access. Therefore, our findings might enable future research designs to better meet both the needs of adolescents as participants and challenging research objects. This will ensure that future research including minors is not only valid and reliable, but feasible in terms of research ethics, and thus more prone to be supported by educational gatekeepers.

Acknowledgments

This work was supported by the German Federal Ministry of Education and Research (BMBF, grant numbers 01PH20009A; 01JD2004B).

Conflict of Interests

The authors declare no conflict of interests.

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COGITATIO

Media and Communication (ISSN: 2183–2439)
2022, Volume 10, Issue 1, Pages 371–383
https://doi.org/10.17645/mac.v10i1.4858

Article

The Privacy Paradox by Proxy: Considering Predictors of Sharenting

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Submitted: 31 August 2021 | Accepted: 25 November 2021 | Published: 29 March 2022

Abstract
Despite being worried that children may compromise their privacy by disclosing too much personal data online, many parents paradoxically share pictures and information about their children *themselves*, a practice called sharenting. In this article we utilise data from the EU Kids Online survey to investigate this paradox. We examine both how individual characteristics such as demographics and digital skills, and relational factors, including parental mediation styles, concerns about children's privacy, and communication between parents and children influence sharenting practices. Counter-intuitively, our findings show that parents with higher levels of digital skills are more likely to engage in sharenting. Furthermore, parents who actively mediate their children's use of the internet and are more concerned about the privacy of their children, are also more likely to engage in sharenting. At the same time, and further emphasising the complexities of this relational practice, many parents do not ask for their children's consent in advance of sharing information about them. Overall, parents seem to consider the social benefits of sharenting to outweigh the potential risks both for themselves and for their children. Given the paradoxical complexities of sharenting practices, we propose further research is required to distinguish between different kinds of sharenting and their potential implications for children and young people's right to privacy.

Keywords
children online; children's digital rights; Europe; parental mediation; privacy paradox; sharenting

Issue
This article is part of the issue "Digital Child- and Adulthood: Risks, Opportunities, and Challenges" edited by Claudia Riesmeyer (LMU Munich), Arne Freya Zillich (Film University Babelsberg KONRAD WOLF), and Thorsten Naab (German Youth Institute).

1. Introduction

"Sharenting," a portmanteau of share and parenting, refers to parents sharing personal information, such as stories, photos and videos about their children's lives online (Steinberg, 2017, p. 842). Sharenting can reveal aspects of children's behaviour and development and parents' feelings towards children (Marasli et al., 2016). As such, it can be seen both as a form of self-presentation and a relational practice that represents the relationship between parents and their children (Blum-Ross & Livingstone, 2017, p. 111). It can therefore have both positive and negative implications. The practice is also paradoxical, as parents are on the one hand responsible for protecting their children, but at the same time disclose personal information that might compromise the privacy of their children online (Blum-Ross & Livingstone, 2017; Cino & Formenti, 2021).

Despite expressing privacy concerns, individuals might still regularly disclose personal information online. This gap between intention and behaviour is recognised as "the privacy paradox" (Norberg et al., 2007, see also Barth & de Jong, 2017; Kokolakis, 2017). Previous research on the privacy paradox has typically focused on individual motivations, concerns, and practices implemented to manage privacy (Barth & de Jong, 2017; Harigattai & Marwick, 2016). Users of social networking sites might for example engage in a balancing act

between protecting their privacy and exploring the potential of these platforms (see for instance Chalklen & Anderson, 2017; Taddicken, 2014). Reasons for sharing personal information despite significant concerns about privacy have been found to include perceived short-term benefits of information disclosure, a lack of knowledge about the potential consequences of disclosure, and an overestimation of the benefits and underestimation of the risks involved (e.g., Gerber et al., 2018; Hoffman et al., 2016; Kokolakis, 2017). However, the extent to which individual disclosure of personal information also introduces privacy risks *for others*—a privacy paradox by proxy—has not been sufficiently investigated.

Therefore, in this article, we seek to better understand the relational dimensions of the privacy paradox. To do this we specifically explore predictors of sharenting amongst European parents. Sharenting is a pertinent example for our investigation as parents have both a direct continuous relationship with their children and significant knowledge of and access to their child's personal information. At the same time, parents have the responsibility to keep their children safe, including protecting their autonomy and privacy. Article 16 of the UN Convention on the Rights of the Child (UNCRC) provides that children "should not be subjected to arbitrary or unlawful interference with his or her privacy" (Convention on the Rights of the Child, 1989, p. 5). At the same time, it is noted that children are particularly vulnerable to breaches of their privacy because of the range of situations in which adults have power over them. Furthermore, Article 12 of the UNCRC provides that children have a right to be heard in all matters affecting them and that the views of the child should be "given due weight in accordance with the age and maturity of the child" (Convention on the Rights of the Child, 1989, p. 4).

Thus, understanding more about parents who choose to share information about their children, and about the factors that influence their sharenting practices, might further our understanding of overall privacy dilemmas regarding digital participation.

To achieve this, we use data from the EU Kids Online survey, a cross-national representative survey with children aged 9 to 17 and one of their parents. Parents from Norway, Estonia, Germany, Poland, Russia, and Spain answered questions about sharenting as part of this survey (n = 5,630). Harnessing the potential of this combined dataset we add to the evolving body of research on sharenting which to date consists largely of studies limited to one country or online context (such as Twitter, Instagram, or a specific forum). We analyse how various individual and relational factors that have previously been found to influence the extent to which parents engage in sharenting, contribute to our understanding of this paradoxical practice. These include individual demographics, digital skills, approaches to parental mediation, and concerns about children's privacy. We also investigate how communication between parents and children about sharenting influences sharenting practices. In doing so, we highlight how and why it is important to consider the relational aspects of the privacy paradox and the factors that perpetuate this paradox and complicate our understanding of it.

2. Previous Research on Sharenting Practices

Previous research about the privacy paradox indicates that individuals share personal information online because they overestimate the short-term benefits of such disclosure. Research on sharenting has identified that motivations for this practice are diverse and include: (a) collecting and curating memories (Blum-Ross & Livingstone, 2017; Kumar & Schoenebeck, 2015); (b) staying connected with family and friends (Brosch, 2016); (c) getting affirmation and support (Duggan et al., 2015; Marasli et al., 2016; McDaniel et al., 2012) or exchanging advice about parenting challenges (Blum-Ross & Livingstone, 2017); and (d) impression management or presenting oneself as a good parent (Kumar & Schoenebeck, 2015, see also Verswijvel et al., 2019).

Furthermore, Kumar and Schoenebeck (2015) identified four types of pictures typically shared: photos of important milestones, photos with family and friends, funny, and cute pictures. In line with this typology, some studies suggest that parents post mainly "pictures of happy moments" (Verswijvel et al., 2019, p. 110) including daily life, outings, and special occasions, as well as joint social activities. However, research has also found that some parents disclose more serious and sensitive information about their children online, including health and educational issues (Marasli et al., 2016).

Thus, sharenting occurs for a range of reasons and represents diverse aspects of the relationship between parents and their children. From this point of departure, we seek to understand more about parents who engage in sharenting, and about whether they understand the risks involved, and the actions they might take to mitigate against these risks.

2.1. How Socio-Demographic Factors Relate to Sharenting

Previous research investigating how socio-demographic factors relate to sharenting is somewhat inconclusive. In a systematized review of the field, Cino (2021) finds that while some studies imply that mothers are more prone to sharenting than fathers, this could be because the aim of these studies has been to investigate the practice amongst mothers. At the same time, no gender-specific trends are found in studies investigating sharenting amongst both men and women (Bartholomew et al., 2012; Livingstone et al., 2018). The review also revealed no correlation between parents' age and frequency of sharenting (Cino, 2021). Livingstone et al. (2018) find in addition that higher levels of socio-economic status correlate positively with sharenting.

2.2. Digital Skills and Sharenting

One potential explanation for the paradoxical practice of sharenting is that parents may not have the skills required to protect their privacy, or the privacy of their children, in digital environments. Barnes and Potter (2021) found for example that parents' digital skills may not always extend to understanding when their sharenting practices might compromise their child's privacy (see also Choi & Lewallen, 2018). In this regard, Livingstone et al. (2018, p. 1) found that only 58% of parents in their study were able to change their privacy settings. Overall, younger parents in this study were better able to manage their privacy online.

2.3. Parents' Strategies Towards Their Children's Internet Use and Privacy

Turning to more relational aspects of sharenting, previous research has explored how parental mediation strategies influence sharenting practices. In general, parents are considered to adopt two broad kinds of strategies when mediating their children's use of the internet. These include "enabling mediation" where parents encourage their children to use the internet, increasing their opportunities for online interaction but also their exposure to related risks, and "restrictive mediation" where parents take measures to restrict their children's internet use, reducing their exposure to risk, but also their opportunities (Livingstone et al., 2017). Some parents mediate their children's use of the internet by establishing privacy-related rules, e.g., to protect identity and personal information (Hiniker et al., 2016, p. 1380).

It could be assumed that more restrictive approaches to mediation correlate with lower levels of sharenting, as parents who restrict their children's internet use would also be less likely to disclose personal information online themselves. However, Garmendia et al. (2021), building in part on data gathered from the EU Kids Online survey implemented in Spain in 2018, found that both the use of enabling strategies (apart from encouraging children to learn things on the internet) as well as restrictive strategies are significantly associated with a lower frequency of sharenting. Furthermore, restrictive parents in the Spanish context tend to publish significantly less information without their child's consent compared to those who use enabling strategies. We therefore considered it relevant to further explore how various mediation strategies related to parental sharenting practices.

2.4. Parents' Concerns About the Privacy of Their Children

Research on the privacy paradox indicates that individuals may engage in self-disclosure online because they do not fully understand the risks involved (Gerber et al., 2018; Hoffman et al., 2016). Despite the benefits that sharing information about children can have for parents, the practice of sharenting can present an indirect risk to children's right to privacy in digital environments. Specifically, sharenting can interfere with children's right to a private identity, autonomy, impression management and safety (see also Donovan, 2020). Both parents and third parties can also potentially use data about children in ways that can be revealing, embarrassing or even dangerous (Convention on the Rights of the Child, 1989; Holiday et al., 2022; Ranzini et al., 2020). This includes:

> The misuse of children's pictures and information for purposes such as harassment by paedophiles, digital kidnapping (stealing images of children to be re-posted as one's own), potential commercial misuse of children's images to sell products, or children's monitoring for commercial purposes. (Jorge et al., 2021, p. 2)

Parents may therefore fail to understand how sharenting introduces risks for themselves and their children (see Choi & Lewallen, 2018). For example, the regularity and public nature of sharenting vary (Lipu & Siibak, 2019; Siibak & Traks, 2019) and can be considered key factors that enhance risks to children's privacy. However, previous research indicates that parents are aware of the risks involved in disclosing personal information online and take measures to mitigate these risks when sharenting. Such measures include sharing content with family and friends only (Livingstone et al., 2018) or not publishing child-focused content on a regular basis (Ranzini et al., 2020).

Interestingly, however, Ranzini et al. (2020, p. 1) found that parents' privacy concerns were uncorrelated with sharenting, and that parents' privacy self-efficacy did not play a role in the extent to which they shared information about themselves or their children. They discovered on the contrary that having a network supportive of sharenting positively predicted this practice. Related to this, Livingstone et al. (2018) found that British parents who were especially concerned about privacy also shared more images or videos of their child(ren) online. The authors propose that the benefits of sharenting, including specifically staying connected with family and friends, may outweigh privacy concerns for these parents.

Research to date is inconclusive with regard to the extent to which parents' concerns about the privacy of their children, and their own privacy correlate with their sharenting practices. The relationship between parents' concerns for the privacy of their children and sharenting therefore merits further consideration.

2.5. Communication Between Parents and Children About Sharenting

Discussing the need for an increased awareness of group privacy in social networking sites, Helm (2018), building on Altman (1975), argues that it is important that

privacy be understood as a social practice that is necessary to sustain intimate relationships. This may also apply in relationships between parents and their children. However, sharenting can happen both with and without children's consent (Udenze & Bode, 2020), thus representing a potential infringement of children's right to privacy in digital environments. A report examining Norwegian children's experiences of sharenting based on the children's data from the EU Kids Online 2018 survey found that one in three children had experienced that a parent had posted something about them online, without asking for permission first (Staksrud & Ólafsson, 2019). Furthermore, an Estonian study examining pre-teens' and parents' reflections on information disclosure and sharenting on Facebook found that "even when the parents knew that their children resented sharenting, they still continued this practice" (Lipu & Siibak, 2019, p. 63).

Unsurprisingly, children and pre-teens are particularly inclined to object to sharenting where it involves photos that they consider embarrassing, visually unflattering or otherwise negative (Lipu & Siibak, 2019, p. 65). As children get older and become teenagers, their disapproval of sharenting seems to increase. Verswijvel et al. (2019), found that most of the teenagers surveyed considered it embarrassing and useless. This was especially true for adolescents who perceived sharenting as an impression management issue and those who were more concerned about their online privacy. Furthermore, Hiniker et al. (2016) found that, in general, children view sharenting as more problematic than their parents. They also report that parents should not "overshare" information about them online without their permission (p. 1385).

At the same time, not all sharenting practices are considered problematic by children. Children might be okay or even comfortable with their parents sharing photos that support positive online identities, such as achievements in school or sports or "information that reflects a positive parent-child relationship or happy family life" (Moser et al., 2017, p. 5224). Furthermore, Verswijvel et al. (2019) found that girls and teenagers who had a closer relationship to their parents were more positive about their parents' sharenting practices.

In their study of sharenting practices among parents in the UK, Livingstone et al. (2018) found that parents who engaged in sharenting more often were more likely to ask their children for permission before sharenting, or to have shared content at the child's request. The authors submit that it would therefore seem likely that, rather than not sharing at all, these parents communicate with their children to try to develop acceptable forms of sharenting.

Drawing on previous research investigating the privacy paradox, as well as these findings that indicate the complexities of sharenting, we seek to further investigate the predictors of sharenting. Specifically, we want to examine whether and how age, gender, and other sociodemographic factors are associated with sharenting. We also want to investigate how parents' levels of digital skills relate to their sharenting practices. Furthermore, and related to the extent to which individual practices can also introduce privacy risks *for others*, we want to investigate how different approaches to parental mediation, concerns about children's privacy and communication between parents and children influence sharenting. We therefore ask the following research questions:

RQ1: How do parent and child demographics, including age and gender, influence the extent to which parents share child-related content online?

RQ2: How do parents' digital skills relate to their sharenting practices?

RQ3: How do parents' mediation strategies, e.g., whether they allow their children to share information online or not, relate to sharenting practices?

RQ4: How do parents' concerns about children's privacy and their own privacy influence their sharenting practices?

RQ5: How does parent and child communication about sharenting influence sharenting practices?

3. Methods and Measures

We analyse data from the EU Kids online survey, a representative study of children aged 9–17 and their parents, conducted between 2017 and 2019 (Smahel et al., 2020). Data were collected either in households or at school by using CASI/CAWI (computer-assisted self-interviewing/computer-assisted web interviewing), CAPI (computer-assisted personal interviewing), or PAPI (paper-assisted personal interviewing). The survey was mainly aimed at children, but countries could implement an optional parent module. Six countries (Estonia, Germany, Spain, Norway, Poland, and Russia) included questions related to sharenting. The overall sample included 5,630 parents across all six countries. Not all of the questions were used in every country. As a result, the number of valid cases varies between different sections of the analysis (see notes for the figure and tables). It should be noted in this respect that the aim of the analysis is not to generalise about point estimates in the population of parents but rather to estimate the effect of different variables on sharenting practices. We acknowledge that there are likely to be cross-national and cultural differences when it comes to sharenting practices, but we feel that exploring these would go beyond the scope of the data.

3.1. Measures

Sharenting is measured by the question "how often do you share/post/blog photos/videos of your child online?" Answers ranged from *never* (classified as non-sharers)

and *hardly ever* (classified as infrequent sharers) to *at least every month*, *daily* and even *several times each day* (all classified as frequent sharers).

Demographics include age of parent (ranging from 25 to 65 years and with a median age of 42 years), gender of parent (41% men), age of child (ranging from 9 to 17 and with a median age between 12 to 13 years), and gender of child (58% boys).

Parent digital skills in this survey encompass an expanded range of digital skills. This includes the adoption of the Internet Skills Scale, as developed and validated by van Deursen et al. (2016). This identifies skills measures in five areas of competence: operational skills, including safety skills; information navigation skills, which enable critical engagement with online information; social skills, i.e., the ability to manage online relationships with others; creative skills, namely the capacity to produce online content; and mobile skills, related to the use of mobile devices. This also includes 11 internet-related activities where respondents can say how true it is that they can do them. Responses are added up to form a scale ranging from 0 to 10. We have classified those ranging between 0.0 and 7.9 as being lower-skilled (47%) while those ranging from 8.0 to 10.0 are classified as higher-skilled.

Parental mediation is measured on two dimensions (enabling and restrictive) in line with the approach suggested by Livingstone et al. (2017). Enabling mediation is measured by seven questions where parents indicate how often they do the following: Encourage your child to explore and learn things on the internet (27% *often* or *very often*), suggest ways to use the internet safely (44% *often* or *very often*), talk to your child about what they do on the internet (53% *often* or *very often*), do shared activities together with your child on the internet (16% *often* or *very often*), help your child when something is difficult to do on the internet (25% *often* or *very often*), explain why some websites are appropriate or inappropriate (43% *often* or *very often*), and help your child when something bothers them on the internet (35% *often* or *very often*). For each of these questions, the parents could indicate that they do them *never*, *hardly ever*, *sometimes*, *often* or *very often*. The scores for all seven questions were added up and the scale set to range from 0 to 10. Those scoring between 0.0 to 5.0 (48% of parents) were classified as lower on enabling mediation and those scoring between 5.1 to 10.0 as higher on enabling mediation. Restrictive mediation is measured by three questions asking parents if they allowed their children to do the following things on the internet or if they needed permission to do them: use a web or phone camera (46% allowed to do that any time), download music or films (54% allowed to do that any time), and use a social networking site (57% allowed to do that any time). For these three questions, we count the number of things the parents say their child is not allowed to do at any time. Parents allowing their child to do at least two of these things any time are classified as less restrictive (54%) and those allowing either one or none of these things any time are classified as more restrictive.

Parents in all countries, except Poland, were asked if they worried a lot about a range of things related to their child's internet use, including their child "revealing personal information online" (42% yes). This is used as a measurement of parents' concerns about their children's privacy online. Furthermore, information about parents' attitudes towards their own online privacy was available for two countries (Norway and Poland). This is measured by answers to the statement "I am worried about my privacy on the internet." Parents could choose between four response options, *strongly disagree* (6%), *somewhat disagree* (15%), *somewhat agree* (50%), and *strongly agree* (29%).

Parents' communication with their children about sharenting are measured with reference to whether they asked their child if it was OK to share content about them in advance (38%), whether they never ask their child if it is ok to post videos of them (7%), whether their children asked them to post the photos/videos online (10%), and whether their child asked them to remove something the parent had posted about them online (7%).

3.2. Data Analysis

Results are shown in graphs and tables with percentages for selected response options. We have weighted the data so that each country contributes equally to the results as the sample size is not the same in all countries, except where results are analysed by country. We also use binary logistic regression analysis to assess the effect of various independent variables while controlling for the effects of demographics and country differences.

4. Results

In response to RQ1, Figure 1 explores the effects of parent and child demographics on the extent to which parents share child-related content online for the combined data across all six countries. More than half of parents (57%) say that they have shared photos or videos of their child but of those, the vast majority seldom does so. A little under one in five parents are what might be called "frequent sharers" (blogging or posting photos or videos of their child monthly or more often). Looking at parent and child demographics, the age of parents has the strongest correlation with frequency of sharenting with 24% of the youngest age group (parents aged 40 years or below) being frequent sharers compared with 13% and 12% of parents in the older age groups. Parents in the oldest age group (51 years or older) are also most likely to be non-sharers. Children's age correlates to a certain extent with the frequency of sharing but this might be because parents of older children are on average older than parents of younger children.

The parents belonging to the group of frequent sharers (posting photos or videos at least monthly) were

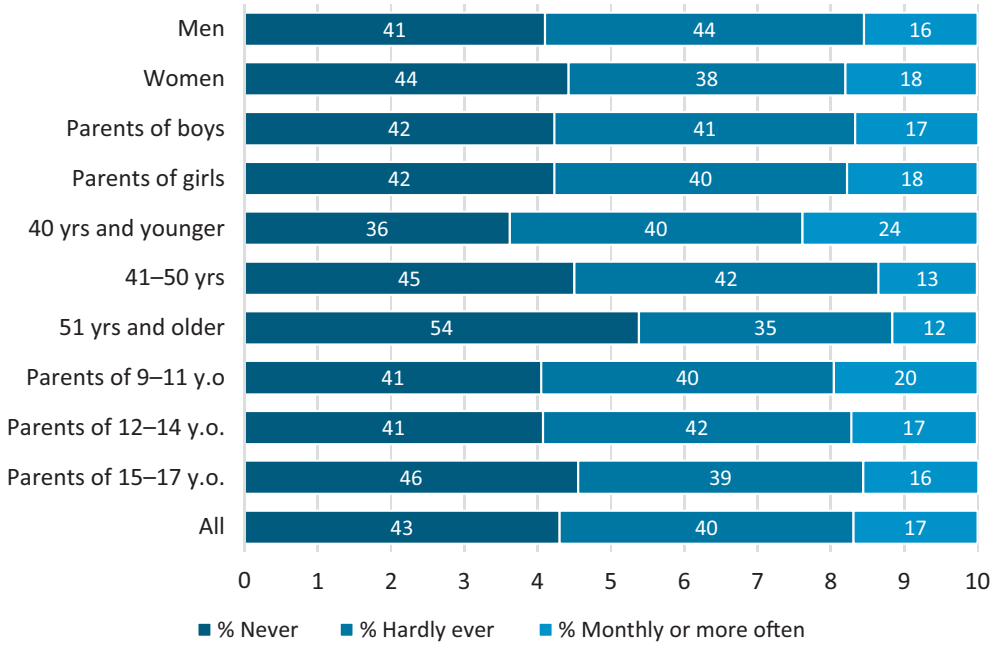

Figure 1. How often do you share/post/blog photos/videos of your child online? By gender and age of parent and child. Notes: Data from all countries; parent gender n = 5,461, gender of child n = 5,265, parent age n = 5,424, age of child n = 5,286.

asked about the number of items they shared online in the past month. Mostly the parents said they shared somewhere between one and 10 items. Looking at the reasons for sharing photos or videos 61% of those engaged in any kind of sharing said they did this to "keep in touch with their families and friends."

In response to RQ2, and to test the explanation that the privacy paradox arises because of a lack of digital skills, we examine whether parents' level of digital skills influences their sharenting practices. We look at digital skills as measured by the digital skills scale (van Deursen et al., 2016). Surprisingly, our data reveals that parents who are more skilled share more frequently and are much less likely to belong to the group of non-sharers (see Table 1).

Considering more relational aspects of sharenting, and in response to RQ3, we examine whether and how parents' mediation strategies correlate with their sharenting practices. We use a measurement of mediation practices along two dimensions, enabling and restrictive mediation (see Livingstone et al., 2017). On each dimension, the parents are defined as higher or lower along a median split. Table 2 shows the percentage of parents falling into each of the three groups in terms of frequency of sharing by their approaches to mediation of their child's online practices. This shows that parents who use strategies that would be labelled as enabling share photos and videos more frequently. The same applies to parents who use strategies that would be labelled as restrictive, i.e., these also share more frequently.

In response to RQ4, and to examine whether parents' concerns about the risks that sharenting presents influence their sharenting practices, we looked at how parents responded to a question about whether or not they worry a lot about their child revealing personal information online. This information is available for all countries except Poland (i.e., 5,222 parents in five countries responded to this question). Table 3 shows the percentage of parents falling into each of the three groups in terms of frequency of sharing by whether or not they worry a lot about their child revealing personal information online. Paradoxically, the tendency seems to be for

Table 1. How often do you share/post/blog photos/videos of your child online? By parent digital skills.

	Parent digital skills	
% Parents who share…	Lower	Higher
Never	49	32
Hardly ever	38	47
At least every month	12	21
Total	100	100

Notes: Data from all countries, except Germany; parent skills scale n = 4,451.

Table 2. How often do you share/post/blog photos/videos of your child online? By parent mediation strategies.

	Parent enabling mediation		Parent restrictive mediation	
% Parents who share…	Lower	Higher	Lower	Higher
Never	48	39	42	44
Hardly ever	39	41	42	39
At least every month	14	20	16	18
Total	100	100	100	100

Notes: Data from all countries; enabling mediation n = 5,494; restrictive mediation n = 5,480.

Table 3. How often do you share/post/blog photos/videos of your child online? By whether or not parents are worried about their child revealing personal information online.

	Worry a lot about their child revealing personal information online	
% Parents who share…	No	Yes
Never	42	38
Hardly ever	41	41
At least every month	16	21
Total	100	100

Notes: Data from all countries, except Poland; parent worries n = 4,806.

parents who are worried about their children revealing personal information online to share photos/videos of their child more frequently.

In addition to recording the extent of parents' concerns about their children revealing personal information online, parents in two countries (Norway and Poland) responded to whether or not they agreed with the statement "I am worried about my privacy on the internet." 81% of respondents in Norway and 74% in Poland somewhat or strongly agree with this statement. Table 4 shows the percentage of parents in each country falling into each of the three groups in terms of frequency of sharing by whether or not they agree with the statement "I am worried about my privacy on the internet."

Parents in Norway who are more worried about their online privacy may share less frequently than others. However, the same pattern is not observed in Poland. This could be related to the fact that parents in Poland are overall much more likely than parents in Norway to belong to the group of non-sharers.

Binary logistic regression (see Table 5) was performed to further assess the impact of the factors presented in Figure 1 and in Tables 1–4). The same set of variables are not available for all of the countries so each model controls for age and gender differences as well as country differences in addition to the other factors tested. Norway is used as the reference point as there is data available for Norway in all instances.

The first model includes only demographics (age and gender of both parent and child as well as controlling for country differences). This model uses age as a continuous variable and confirms the importance of parent age over other demographics. The likelihood of the parent being a frequent sharer is cut on average by 7% for each year the parent grows older. The second model confirms the correlation between higher digital skills and

Table 4. How often do you share/post/blog photos/videos of your child online? By country and by whether or not parents are worried about their online privacy.

		I am worried about my privacy on the internet	
	% Parents who share…	Disagree	Agree
Norway	Never	21	29
n = 981	Hardly ever	60	60
	At least every month	18	12
	Total	100	100
Poland	Never	59	55
n = 408	Hardly ever	32	36
	At least every month	10	10
	Total	100	100

Table 5. Logistic regression models predicting the likelihood of a parent being a frequent sharer of photos/videos.

	Demographics		Parent skills		Mediation strategies		Privacy worries	
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Sig.	Sig.	Sig.	Sig.
Constant	0.18	0.11	0.18	0.17	0.00	0.00	0.00	0.00
Estonia	1.15	1.26	1.08	1.18	0.28	0.61	0.13	0.33
Germany	0.88		0.95	0.88	0.35	0.68		0.36
Poland	0.56	0.62	0.52			0.01	0.04	0.01
Russia	1.43	1.59	1.37	1.45	0.01	0.02	0.00	0.01
Spain	1.79	1.77	1.75	1.67	0.00	0.00	0.00	0.00
Women (vs men)	1.27	1.41	1.25	1.24	0.03	0.02	0.00	0.01
Girls (vs boys)	1.06	1.04	1.04	1.03	0.71	0.56	0.67	0.41
Age of parents (centred on 40 yrs.)	0.93	0.94	0.93	0.93	0.00	0.00	0.00	0.00
Age of child (centred on 12 yrs.)	1.00	1.01	0.98	1.00	0.79	0.22	0.56	0.75
Parent worried about child revealing personal information online				1.26	0.01			
Higher on enabling mediation			1.45			0.00		
Higher on restrictive mediation			0.75			0.00		
Parents with higher skills		1.84					0.00	
−2 Log likelihood	4,640	3,726	4,593	4,285				
Cox & Snell R^2	0.04	0.05	0.05	0.04				
Nagelkerke R^2	0.07	0.09	0.08	0.07				
X^2	219	222	245	209				
Sig.	< 0.001	< 0.001	< 0.001	< 0.001				
Number of valid cases	5,144	4,098	5,120	4,664				

increased likelihood of parents being frequent sharers of photos or videos. The effect of mediation strategies is interesting in the multivariate context. There is a relatively strong effect for parents who are above average on enabling mediation to be more likely to fall into the group of frequent sharers. In the multivariate context when demographics have been controlled for and even more importantly, when the effects of enabling mediation have been considered, parents who are more restrictive are less likely to be frequent sharers. The final model shows that even after controlling for country differences and other demographics parents who worry about their own child revealing personal information about themselves online are 26% more likely to be frequent sharers than parents who do not worry about their child revealing personal information online.

Finally, in response to RQ5, we investigate how sharenting practices are influenced by the type of communication that parents and children might have had about sharenting. We look at four types of communication for those parents who have shared, posted or blogged photos or videos of their child online. Overall, some 34% of parents who share say that they have "asked my child if it was OK in advance" whereas 6% say they agree with the statement: "I never ask my child in advance if it is ok to post photos or videos of him or her."

Table 6 shows the percentage of parents who are engaged in sharenting and can be classified as "frequent sharers" (as opposed to "infrequent sharers") by how they have responded to the four questions on communication about sharenting.

All four types of communication about sharenting are correlated with a higher frequency of sharing. This applies in particular to parents who say that they "never ask my child in advance if it is ok to post photos or videos of him or her" where 49% of parents engaged in sharenting are frequent sharers. Overall, about a third of parents who are engaged in sharenting can be classified as frequent sharers.

5. Discussion, Conclusion, and Limitations

Sharing photos and videos on social media is popular with both children and parents. However, when parents share information about their children online, they take risks with regard to their children's privacy. This

Table 6. Sharenting practices by type of parent and child communication about sharenting.

When you have shared photos or videos of your child and/or children online has any of the following happened?		% Of respondents who are frequent sharers
1. I asked my child if it was OK in advance[a]	No	34
	Yes	30
2. I never ask my child in advance if it is ok to post photos or videos of them[b]	No	28
	Yes	49
3. My child asked me to post the photos/videos online[c]	No	29
	Yes	54
4. My child asked me to remove something I posted about them online[d]	No	31
	Yes	47

Notes: (a) Includes data from all countries, n = 2,830; (b) includes data from all countries, except Germany and Spain, n = 1,935; (c) includes data from all countries, except Germany, n = 2,401; (d) includes data from all countries, n = 2,823.

happens in spite of the fact that parents are responsible for protecting their children, including protecting their privacy. We describe this complex relational practice as a privacy paradox by proxy. Research exploring the privacy paradox to date has focused on individual concerns and practices regarding self-disclosure online, and not on how self-disclosure can introduce risks for others. Our study, therefore, contributes to developing an understanding of the relational dimensions of the privacy paradox. In doing so, we further our understanding of overall privacy dilemmas regarding digital participation.

Most parents reported that they engaged in sharenting to stay connected with their families and friends. Sharenting therefore has an important social function. However, we find that only 17% of parents in our survey posted a photo or video of their child online once a month or more. We consider these parents to be frequent sharers. Of all parent and child demographics, age correlates most strongly with frequent sharenting. 24% of parents aged 40 or below engaged in this practice at least once a month.

Complicating previous understandings of the privacy paradox, we also find that sharenting does not correlate with a lack of digital skills. Parents who are more skilled share more frequently than others. One explanation for this could be that parents consider their own digital skills (including privacy management) to be good, which could give them a sense of control and/or lead them to underestimate the risks of sharenting, in particular as these risks relate to their children. It could also mean that parents who have higher levels of digital skills are more aware of the measures they can take to protect their privacy.

Turning to more relational aspects of sharenting and specifically how sharenting relates to parents' engagement with their children's use of the internet, we find that parents with an enabling mediation style are more likely to share content about their children. This applies to parents who use both enabling and restrictive mediation strategies. This could indicate that parents who are more engaged with their children's internet use, and employ either enabling or restrictive strategies, are also more aware of how to develop strategies to protect their own privacy and the privacy of their children online. Interestingly, our finding in this regard (based on data from six European countries) contrasts with the findings of Garmendia et al. (2021) who found that both enabling and restrictive mediation strategies were associated with a lower incidence of sharenting in Spain. Further research is therefore required to confirm the positive association we find between parental mediation strategies and sharenting practices.

Paradoxically, and building on previous research about the privacy paradox, we find that parents who *worry a lot* about their child revealing personal information online also tend to share *more* frequently, thereby potentially compromising their children's privacy. This finding emphasises the importance of investigating relational dimensions of the privacy paradox. In fact, parents who worry a lot about their children's privacy are 26% more likely to share information about their children than parents who do not share their concerns. Overall, our findings suggest that parents are aware of the risks involved in revealing personal information on the internet. However, either the benefits of sharenting (e.g., staying in touch with family and friends) outweigh the potential risks, or they feel they can manage these risks.

In general, many parents are aware that sharenting can have negative consequences for their child if their privacy and rights are not respected. Importantly, children may object to content that is shared about them online, either because they find it embarrassing or otherwise. At the same time, children may also find that the content their parents share about them is unproblematic and may even request that their parents post videos or photos about them online. Communication between parents and children about sharenting appears to be important to develop strategies that acknowledge and respect children's attitudes towards sharenting and their right to privacy in digital environments and beyond. However, our data reveals that only 38% of parents asked for their children's permission before sharing content about them

online. Furthermore, 49% of parents who are frequent sharers state that they "never ask my child in advance if it is ok to post photos or videos of him or her." This further emphasises the complex relational dimensions of this paradoxical practice. Parents who are more skilled, more engaged with their children's internet use (via mediation strategies), and more concerned about their children's privacy, share more but are also less inclined to ask their children for permission to do so. This indicates that parents may need to develop strategies to negotiate appropriate forms of sharenting with their children.

Overall, our findings enhance our understanding of sharenting as a paradoxical practice. We highlight important relational aspects that influence this practice. While on the whole, the social benefits of sharenting appear to outweigh the consequences for parents who engage in this practice, the longer-term implications of sharenting for children and their parents are less clear. Both parents and children have little control over data that they post online. Videos, photos and other data shared can be copied, stored, and used out of context—also by third parties. In the case of sharenting, parents are taking risks both on their own behalf and on behalf of their children. It is therefore problematic that many parents do not ask their children for permission before sharing content about them. In this context, it may be helpful to increase parents' awareness of their children's perspectives about their online actions. Parent–child discussions could lead to family agreement on how to handle sharenting. This would in turn strengthen children's right to self-determination.

5.1. Limitations

This study provides interesting findings about sharenting; however, some limitations pertain. The variation in data collection methods described above precludes a direct comparison between countries. The respective surveys were conducted by different sampling procedures, i.e., partly in the home and partly at school. However, while we have not been able to systematically compare countries in this study, our findings suggest that country-specific differences should be investigated in future research.

Furthermore, our findings indicate that more research is needed to distinguish between more and less problematic forms of sharenting, and the long-term consequences of different types of sharenting practices for children. Qualitative studies in particular could further explore relational aspects of the privacy paradox by investigating how parents' motivations and perceptions of the risks involved inform their sharenting practices. Research is also needed to further explore how communication between parents and children about sharenting can inform practices that respect children's perceptions of sharenting and their right to privacy in the digital environment.

Acknowledgments

The authors acknowledge the thorough and constructive feedback provided by peer reviewers and editors.

Conflict of Interests

The authors declare no conflict of interests.

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Media and Communication (ISSN: 2183-2439)

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