

Exploring Adolescents' Experiences with Personalized Content on Social Media: A Qualitative Study

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Abstract—This work-in-progress paper examines adolescents' experiences with personalized content on social media and how it influences them. Through group interviews with Norwegian students aged 15 to 19 years, we investigated their awareness, comprehension, and emotions towards targeted and personalized content. The sample consisted of 48 participants (20 males and 28 females). The preliminary analysis uncovered three themes: 1) Encounters, awareness, and comprehension, 2) Emotions, and 3) Increasing use and appreciation.

Keywords—social media; digital competence; influence; adolescent; personalized content.

I. INTRODUCTION

Young people spend a lot of time online. In Norway, the average exceeds five hours a day for adolescents and young adults [1]. This age group is also very active on social media [2], which implies that they are exposed to social influence both in their physical and digital lives. The continuing increase in so-called screen time has caused alarm, among researchers and government agencies alike [3][4]. Adolescents' use of social media has received particular focus, likely due to the time spent, but also because this age group might be less digitally competent than they believe themselves [5][6]. In fact, research has shown that adolescents are largely unaware of how personalization shapes their everyday life [7][8]. Moreover, social comparison and social influence is prominent in adolescents' [9], this may make this age group particularly vulnerable to targeted and personalized online content. On the other hand, some claim that moral panic has biased the research in a negative direction, thus there is a need for more nuanced studies on the impact of social media, including potential positive effects of exposure to social media content [10][11].

The body of research on adolescents' use of social media is substantial [12]. However, recent criticism stresses the methodological limitations of many of the quantitative studies, such as correlations between screen time and mental health measures [4]. A few recent studies have instead used qualitative methods to better understand how adolescents experience social media and their impact. Some look at targeted advertising [13][14], others look at curated news stories [7][15]. Others still attempt to uncover how people reason about the technology behind social media, particularly

algorithms [8][16]-[19], but these do not focus on adolescents as a separate group.

Following the sound direction of recent research, this qualitative study examines adolescents' experiences with personalized content and how personalized content shape the digital world of youth, both positively and negatively. With this work, we wish to address the consequences of social media that remain unclear from the current body of research. This unclarity is partly due to methodological limitations [4], and partly due to contradictory research findings that point to small and large, positive and negative, and sometimes absent effects of screen time, on well-being [20].

Considering that media consumption is no longer a passive process, but a mutual and active exchange of information, we need more insight on this age group's digital competence related to social media technologies, we also need to understand how potentially vulnerable adolescents navigate their personalized internet realities and how they are affected. This need underlines the aim of this study to assess adolescents' experience with targeted and personalized content on social media.

The article is structured into five sections. Following Section I, the introduction, Section II describes the method, including information about the sample, ethical considerations, material, data collection and analysis. In Section III, the preliminary results are presented and discussed; it is divided into three sub-sections, one for each theme. Section IV addresses the study's strengths and limitations. Finally, Section V presents the conclusions.

II. METHOD

The study presented here is a work-in-progress built on a qualitative design with eight focus group interviews. These interviews represent participants' varied experiences, to map out associations, variations, and different aspects of experiences on a selected topic [21]. Thus, the study aims for insight on subjective experiences with personalized content.

A. Sample

Prior to recruitment, principals from two different schools in the same region were contacted through e-mail. Thereafter, an employee at each school was assigned with the responsibility of recruiting students willing to participate, following our inclusion criteria. The students were recruited from different classes and the respective teachers informed the

students about the project. A random draw was done by the teacher in classes where more students than needed were willing to participate. A few participants were unable to attend the interview due to quarantine, in those situations we were able to recruit additional participants from a waiting list.

The inclusion criteria were that the participants had to be students in secondary school, aged between 15 and 19 years old, and willing to participate in the study. The final sample included 48 participants (20 male and 28 female students). The youngest participants (12 males, 12 females) were recruited from the last year of lower secondary school (aged 15-16). The remaining participants were recruited from three levels of upper secondary school, 12 (6 males, 6 females) from level one (aged 16-17), six (1 males, 5 females) from level two (aged 17-18) and six (1 male, 5 females) from level three (aged 18-19). Participants were interviewed with their peers in groups of six, making it a total of eight focus group interviews. One male participant was excluded in retrospect due to his considerably older age; he was judged to be unrepresentative of the sample's general level of digital competence. Thus, there are 19 males included in the analysis.

B. Ethics Statement

After volunteering for the study, participants received and signed an informed consent form, which they later brought to the interview. Students aged 15 years also provided a parent's consent. Each focus group interview started by introducing the purpose and content of the study, including information about their ethical and voluntary rights. The study protocol, data plan and related documents received approval by the Norwegian Centre for Research Data (reference 644850). Anonymization was ensured by transcribing the interviews and allocating fictitious aliases. All participants received a gift card for their time, valued equivalent to 35 USD / 30 EUR.

C. Material

The current study is part of a larger project with an overall aim to assess social media habits among adolescents. The larger project includes an ongoing longitudinal diary study where we aim to follow 24 adolescents through high school. For the purpose of this work-in-progress, only questions and findings on adolescents' experiences with targeted and personalized content on social media are analyzed and reported. For each focus group, a timing of 90 minutes was scheduled, including an introduction for the study's purpose. A semi-structured interview guide was prepared with open-ended questions to ensure a coherent narrative of experiences with targeted and personalized content on social media.

The interviews were recorded with a secure Dictaphone application running on three mobile devices simultaneously, each placed in a different location in the interview room.

D. Data Collection and Analysis

All interviews were conducted between April and June 2021, in suitable rooms at the respective schools. Each interview lasted between 42 to 91 minutes, excluding the introduction and de-brief, and was recorded and transcribed verbatim. Two researchers were present throughout the interviews, the researcher leading the interview was always

the same. The researcher who did not lead the interview used a spreadsheet to note down the time and order of speakers.

The preliminary analysis is based on transcriptions of recorded interviews, aided by notes on speakers and times. Transcripts were reviewed to identify specific experiences, and the initial analysis of the transcripts resulted in temporary themes that originated from the interview guide and the study's intent [22]. Thereafter, a theoretical interpretation was performed, so that the transcripts could be systematized to cover the various themes and sub themes meaningfully.

The analysis was a joint effort that relied on Brinkmann and Kvale's steps [23] for interpretation and conveyance of understanding; participants' quotes represent understanding of self, interpretations of quotes correspond to critical understanding based on common sense, and implications are placed in a larger context of theoretical understanding.

The selection of included quotes is the result of the researchers' mutual agreement on how best to shed light on the relevant major themes that emerged through the data analysis. The quotations presented in this study have been translated from Norwegian to English, they have also been edited for better readability. Nonetheless, the quotations have been kept as close to the original statements as possible.

III. PRELIMINARY RESULTS AND DISCUSSION

All participants had one or more social media profile which they had used from the age of 10 to 12. The main reasons provided for joining social media were fear of missing out and keeping in touch with friends and family. The high availability of having a phone and having a large amount of screen time in general, was mentioned. These findings correspond to the results from a Norwegian national survey on adolescents, where 75 – 79% of females and males between the ages of 15 to 19 reported having minimum 3 hours of daily screen time. Furthermore, 36% of respondents between 13 and 19 years reported spending a minimum of 3 hours on social media [2]. In the current study, the reported average time spent on social media platforms was 3 to 4 hours on normal weekdays. The most popular and most used social media platforms mentioned by our participants were TikTok, Snapchat and Instagram, across all ages. Although the large majority of participants stated that they 'follow' people on social media, meaning that they have taken action to receive content from friends, family, influencers and other celebrities, some of them modified this response later and clarified that they mostly followed friends and only a few celebrities.

The pattern appears to be that most do not have a particular plan for what type of content they want to watch while on social media. Instead, they let the platform make the selection on their behalf, based on the accounts they follow and what they have liked before. As Rebecca (15-16) put it: "Like, I follow only what I find interesting and, um, my friends or people I know". Ethan (15-16) from a different interview added: "I think most people tend to be on 'For You'", referring to the page on TikTok where random videos

pop up based on their previous actions. The overall observation that adolescents do not deliberately seek out and select specific content may indicate that they freely allow social media to influence them, be it a conscious or an unconscious decision.

The reported experiences with targeted and personalized content on social media converged under three main themes: 1) Encounters, awareness, and comprehension, 2) Emotions, and 3) Increasing use and appreciation.

A. *Encounters, Awareness and Comprehension*

Awareness and comprehension about targeted and personalized content differed to some extent across gender and age groups. Participants in the age of 17 to 19 expressed broader understanding and greater awareness of personalized and targeted content throughout the interviews, compared to the youngest age groups. The same pattern of broader understanding and greater awareness was seen for the females as compared to the males. There is little research addressing age and sex differences in social media usage among the young, thus it is premature to extend the interpretation of these differences. However, on the age matter, a qualitative study has shown that students in the age 19 to 22 did have an understanding of personalization [15].

Most of the groups mentioned indirectly that they encountered targeted and personalized content on their most popular social media platforms (Instagram, TikTok, Snapchat, YouTube), before we asked questions related to personalization. TikTok was predominant, and many participants said that they quickly observed that they were receiving personalized content while on TikTok. “But like, the thing about TikTok is that they notice what you like, so they come up with suggestions on videos for you. If, for example, you like a football video, then a lot more football videos may show up”, explained Marcus (15-16). Meredith (17-18) also emphasized and showed a broad understanding of targeted and personalized content: «There are algorithms and such, aren't there? That somehow find out what you look at, what you like and what you sort of bump into, or what you search for and such. That's what kind of makes my TikTok full of food and humor, while um others are full of other things.” As found by Swart [16], some of the algorithms that personalize content are easier to recognize than others. For instance, when labelled as ‘suggestions for you’ or ‘for you’, content can more easily be recognized as personalized compared to more subtle personalization [16]. This was also the case for the participants in our study. Several of the participants explicitly mentioned the ‘For You’ page on TikTok, revealing their reflections on the targeted and personalized content. They also pointed out that the content they encountered on their social media platforms was uniquely selected for them. For example, when we asked what they saw while on TikTok, Victoria (15-16) said: “It’s of course very different the content we get, because it [TikTok] tries to like show you videos that it thinks you will like. So, it’s kind of very different from person to person.”

It emerged through the interviews that most participants had experiences where their engagement to specific content or items on social media and/or online browsing would lead to related advertisement. As Regina (18-19) put it: “Like, if I search for something on a regular website, it’s often that I see advertisement for that thing I searched for, when I enter Facebook.” Rebecca added: “They kind of want you to click on more things, because... Um, one time when I was on TikTok, it came up an advertising link for a product that I looked at. And then when I went on Instagram, the same thing showed up there too [as an advertisement].” Similar experiences with online actions resulting in targeted advertising across platforms, were reported in a qualitative study of Facebook’s newsfeed. Combined, these findings point to a blending of commercial and regular content that may be difficult for social media users to discern. Hence, it might be difficult for adolescents to distinguish whether they are being influenced through social media.

B. *Emotions*

A majority of the participants explained that they enjoyed receiving personalized content because it brought them relevant and interesting content, rather than irrelevant and uninteresting. This was prominent both for regular content and for commercial content and advertising. For example, when we asked participants how they felt when they received targeted and personalized content, Joanna (16-17) replied: “It’s nice, then only content you like to watch appears”, with some fellow classmates agreeing with her. Even though Joanna did not use the word ‘influence’, she indirectly conveyed that personalized content had a positive influence on her daily life and well-being. Other participants shared similar appreciations of social media’s positive influence. Enjoyment of targeted and personalized content has been reported earlier, for instance with young people emphasizing the benefits of recommended systems [16].

Conversely, several of the participants expressed that they felt unease towards targeted and personalized content. “It’s like seeing my phone predict my next choice (...). Your phone or an app based on what you have pressed or which videos you have liked, somehow in a way can predict how you are as a person. It's a little, or it's not a little, it's very scary”, said Mia (15-16). Even though many agreed with her and shared her fear, several of the participants disagreed and held on to the positive sides of personalized content on social media. Nevertheless, a couple did express some fear when it came to how much the applications knew about them. Lucas (16-17 years) explained one of the reasons for why he thought of personalization as ‘scary’: “If one is on a website, they know exactly how fast I move the mouse to when I press on that thing [I’m looking at]. And they can take that data to different advertisers.” Not everyone felt unease, however, some simply felt annoyed. When Noah (16-17) shared his thoughts on targeted and personalized content, he said: “Well, it's good that they do it, but it can sometimes be a bit too much. For example, if I search for a hoodie I want, then

advertisements come up all the time for it, for a few months on all my social media channels.” His voice stressed the words ‘all’ and ‘all the time’. A mixture of negative emotions towards receiving targeted content have also been found in previous studies; Youn & Kim [13] found that some of the young adult participants voiced their experiences with personalized advertisement as scary and creepy, whereas others found it annoying and irritating.

Receiving personalized advertisement without ever searching for the product was something many participants had experienced. Several expressed that they had a feeling that the phone could hear them, adding that this experience was the scariest when it came to personalization. Miranda (15-16) explained: “It has happened to me, that I have talked about one thing [verbally], and then a few days later a lot of advertisement has shown up for that thing [I talked about]. Then I’m like, was I kind of monitored now?” This feeling was shared by many participants across interviews. These experiences have also been shared by participants in other qualitative studies [17][19]. However, these statements represent personal theories, theories that have yet to be scientifically verified [25]. As Meredith added: “It might just be a conspiracy theory.”

No clear age difference was found for the themes relating to emotions of enjoyment and unease concerning personalized content, although the participants from upper secondary school came across as the most reflected age group. Furthermore, there were participants across all groups who said they did not care that they received personalized content. Although the younger participants expressed little reflection on the reason, the participants from the two highest levels of upper secondary school hypothesized that the lack of concern was due to them becoming accustomed or acceptive of personalized content. The age group differences stand in accordance with the oldest showing better general comprehension and expressing more advanced reflections on targeted and personalized content. For example, Richard (15-16) said: “I don’t think as much about it [personalized content], because clearly I like it.” On the other hand, the older Regina said: “Like, I know many people who thinks it’s [personalized content] kind of uncomfortable. But I notice that I don’t really care so much about it, because you do accept it.” A fellow female classmate Ashley (18-19) added: “I think many of us have gotten used to it, being tracked online. You are aware of it, but everyone gets tracked online anyways, so you can’t really do anything about it unless you just decide to not have social media anymore.” Considering that adolescents have previously been found to be less digitally competent than they themselves believe [5], [6], it follows that the lack of concern may be more than habituation. The acceptance of algorithmic intervention may be partly driven by superficial comprehension of how the technology accomplishes personalization, as well as a lack of understanding of how it influences them. On the other hand, it may also be motivated by benefits that in certain contexts

are deemed to outweigh the cost of giving up personal data [26].

C. *Increasing Use and Appreciation*

Where some participants were mostly uneasy, others were ambivalent on the topic of personalization, others again were positive. Across several interviews, participants expressed how the personalization improved their experiences with social media. These participants shared an appreciation towards the applications for making social media a nice and easy experience with their personalized strategy. For example, Maria (16-17) said: “I kind of think that if I only got content on my phone that wasn’t interesting to me, I probably would have used social media much less. So that’s probably the reason to why I use social media a lot, because I only receive content I find interesting”, with many of her fellow classmates agreeing with her. Her comment sheds light on how personalized content not only influences, but also increases social media usage. Relatedly, algorithmic awareness has previously been found to increase social media usage; one proposed explanation is that an adolescent’s knowledge of algorithmic selections leads to more control and acceptance [8].

Among the participants in this study, some of the youngest males were impressed with the social media applications. A few talked about how the algorithm works, and even though it scared them to a small extent, it did not bother them as much. “It’s actually very impressive. They find out what I like very fast”, said David (16-17). This echoes the ambivalence expressed by others, possibly indicating that not all situations are controllable and not all content is acceptable. A few participants explained that they were aware of the option to unselect content they are not interested in; for example, Rebecca explained that by doing this “they [social media platforms] make sure that the content [you are not interested in] gets taken away from your feed.” At the same time, the participants who brought up this subject also had a tendency to add that they rarely made use of the option to unselect or block content; unless the content was especially disturbing, they would simply scroll on. The tendency to ignore rather than block content coincides with Swart’s results [16], findings from both studies point to acceptance and appreciation of personalized content among adolescents. It remains unclear whether the tendency to not act, but rather ignore, unwanted content is only due appreciation, or whether it also reflects a lack of critical reflection and digital competence.

IV. STRENGTHS AND LIMITATIONS OF THE STUDY

Our study adds to a research field built mainly on a large body of quantitative studies, using focus group interviews that contribute insight based on a qualitative approach. This is a first strength of the study. Second, internal validity was prioritized by including a researcher with experience in qualitative research to supervise the data analysis. Third, both mixed and same-sex focus groups were used to enable a

variety of opinions and interactions during the discussions. Fourth, our sample size is large considering the qualitative design. Throughout the interviews most themes and topics were repeated, supporting the assumption that topics relevant to personalized content on social media was sufficiently described and discussed. Fifth, most of the participants were unaware of the monetary compensation prior to volunteering, hence financial motivation was likely not present.

There are some limitations to this study that are important to mention. First and foremost, although the study was designed to be explorative, we might have missed determinants due to selection bias. Moreover, a rather homogeneous sample was included, particularly in upper secondary school where female participants outnumbered the males. Additionally, this study is based on a cross section. Even though we did find differences across age and gender, we do have the grounds to predict individual development over time. Finally, it should be noted that the study was conducted in Norway where internet usage and social media are widely common [2]. This may cause a skew in our participants' experiences on social media and their understanding of personalization; although their digital competence may have shortcomings, it may still be more advanced than what can be observed among adolescents in other countries in- and outside Europe. Consequently, our results may not be generalizable to populations where social media are less common and digital competence is lower.

V. CONCLUSION

Social media were actively used by all participants, with TikTok, Snapchat and Instagram being used the most. The majority of the participants revealed that they did not have a plan when using social media, many tended towards using different systems for recommendations. Most had encountered targeted content, but only the older participants delivered reflections on how their previous actions could facilitate this personalization. Personalized content improved experiences with social media for several participants, which also led to increased social media usage. Regarding their emotions towards targeted content, the participants typically enjoyed and appreciated personalized content. Some, however, shared sentiments of unease, this was predominant for targeted advertisement. Moreover, some of the participants did not care whether they received targeted content, instead they stated that they had chosen to 'just accept it'. This may represent a lack of choice when it comes to receiving personalized content, particularly salient for adolescents who want to be on social media partly due to fear of missing out. Few participants used available options to block content, most would simply scroll on. Unexpectedly, several participants believed that their phone could hear them. Even though the participants themselves assumed that this was a conspiracy theory, it was a prominent finding and a sentiment shared by participants across interviews. This finding exemplifies that adolescents' understanding of social media personalization does not always reflect advanced

digital competence. Future research should aim for longitudinal studies that follow individuals' development over time, to obtain more accurate predictions and a more comprehensive overview over adolescents' experience with targeted and personalized content on social media. This work is currently ongoing by this project group.

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