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A Research on Our Personal Data in the Digital Environment

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Abstract

The aim of the study was to determine the perceptions and thoughts of low awareness high school students regarding the effects of personal data sharing in the digital environment, after examining the examples presented on the topic. A holistic single-case study design was used in the research as a qualitative research method. As part of the study, the participants were shown a historical documentary called "Great Hack" about how personal data sharing could affect human life. Before the interview, the purpose of showing this documentary to the participants was explained as providing examples to students with low awareness about the effects of personal data management, which is the main problem of the research. Data were collected from students who watched the documentary and voluntarily participated in the interview process. The majority of the participants were found to have low awareness about personal data. It was revealed that the purpose of sharing on social media is generally for getting likes and archiving information. However, participants realized the risks such as manipulation of personal data, turning it into a commercial product, and using it against them after seeing the examples in the documentary. Additionally, the concept of psychological profiling and the potential for addiction to constant advertising and content bombardment were emphasized. It was concluded that the participants would be more cautious and careful about sharing after gaining awareness from the documentary.

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Introduction

The rapid development of technology has increased the pace of both mass communication tools and the internet. Fast-developing technologies have also triggered the emergence, use, and growth of social media, which works in harmony with them (Baritci & Fidan, 2018). Social media refers to communication technology tools that allow people to share or exchange information, ideas, images, videos, and more on a particular network (Siddiqui & Singh, 2016). In other words, social media is a versatile and interactive online tool that enables users to connect with others while performing numerous functions over the internet (Mcpeak, 2013). Social media tools that make sharing extremely easy, such as liking, sending notifications, and reposting, facilitate the rapid dissemination of information (Zengin, et al., 2015).

People use social media tools for many reasons, such as communicating, staying up-to-date with current events, enjoying entertaining content, meeting new people, searching for information, maintaining communication, sharing personal presentations and profile information, accessing people's contact information, following people's photo sharing, uploading photos, receiving or sending messages, and more (Fuat and Him, 2013; Şahin et al., 2016; Yıldız etl al.,2017; İnce & Koçak, 2017). The emergence of social networks like Facebook, Instagram, Twitter, and Google+ created new spaces for exchanging ideas and life experiences. In the past decade, the interest in instant messaging applications like Whatsapp, Telegram, and others designed for mobile devices has increased exponentially through technology use (Deloitte, 2015).

Social media has become an integral part of our lives, from shopping to email, education and work tools. It has also begun to play an important role in transforming people's lifestyles (Siddiqui & Singh, 2016). This transformative process is fueled by the digital footprints that a person leaves behind by using

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social media and other online activities. Digital footprints are traceable information that consists of every kind of personal data sharing, such as likes, search queries, GPS, location, photos, videos, etc. when people are online (Thatcher, 2014). The treasure trove of information that people leave behind in the digital realm has provided the opportunity to better understand and meet individual needs. With various digital footprints such as Spotify playlists, Facebook profiles, Google search queries, or mobile locations, users' personal habits and preferences can be easily learned and recorded (Chen & Wojcik, 2016). The recording of our digital footprints on social media has given rise to the field of big data, which refers to the generation of large volumes of data in recent years. Big data encompasses internet searches, GPS logs, bank card transactions, mobile phone activity records, all interactions on social media networks, video footage captured by cameras, and all kinds of personal data in the digital realm (Olmedo, et al., 2018; Sagiroglu & Simanc, 2014).

Digital footprints and big data have provided innovative opportunities for psychologists to conduct theory and data-driven field research (Chen & Wojcik, 2016). Research at the intersection of psychology and computer science has utilized big data from users' personal information and interactions in the digital space to identify their psychological traits or profiles. This has led to the development of techniques and processes that can accurately and subtly predict the conditions of large groups of people (Matz, et al., 2020). One such process is psychological targeting, which involves extracting psychological profiles from digital footprints through psychologically informed interventions to influence attitudes, emotions, and behaviors of individuals or groups (Matz, et al., 2020). There have been various studies conducted using psychological targeting and similar techniques. For instance, Quercia, Kosinski, Stillwell, and Crowcroft (2011) analyzed the Twitter profiles of 335 individuals to make predictions about their personalities. Youyou, Kosinski, and Stillwell (2015) compared the accuracy of human and computer-based personality judgments using a sample of 86,220 volunteers who completed a 100-item personality questionnaire. The study found that computer-based predictions using digital footprints were more accurate than those made using the questionnaire. Furthermore, the study showed that predicting individual decisions such as substance use and political attitudes, as well as vital outcomes like physical health information using digital footprints, achieved higher external validity and better performance than self-rated personality scores (Youyou, Kosinski & Stillwell, 2015). Another study showed that a person's emotional state could be predicted using wearable technologies and their vocabulary could be predicted using smartphone sensors (AlHanai & Ghassemi, 2017; Chao et al., 2017).

Along with the advantages that digital footprints provide researchers, storing personal data by social media companies (Mcpeak, 2013) has brought some difficulties and risks in personal data management (Lareki, et al., 2017). Especially social media companies such as "Twitter," "Facebook," and "Instagram" quickly record the personal data of people who sign up for their pages. In this sense, leaving our personal data on social media has begun to be considered as one of the significant problems of our age, as unauthorized institutions or individuals can use it (Eroğlu, 2018). In this regard, the “Cambridge Analytica” scandal is important in terms of showing us what kind of dangers our digital footprints can bring. The company Cambridge Analytica used the personal data of around 200,000 Facebook users to predict individuals' detailed psychological profiles (Heawood, 2018). Cambridge Analytica classified Facebook users into the categories of "openness”,“conscientiousness”, “extraversion," “agreeableness” and “neuroticism” to create a profile called OCEAN. The purpose of the OCEAN profiling system is to associate the results of the personality test that the user voluntarily applied with the user's likes and shares. Facebook asked users for permission to access both their profiles and friend list information for this purpose (Tuttle, 2018). Although Facebook appeared to collect data on about 200,000 users in essence, the two access rights granted to the company by users enabled the profiling system to have data on 87 million users (Cadwalladr, 2018). Cambridge Analytica tried to direct Facebook users through some personal messages to assist political campaigners in the United Kingdom, the United States, and other countries, using this profiling information (Matz & Netzer, 2017).

The aim of these messages was to undermine democracy by discouraging people from voting (Matz, et al., 2020). Such psychological profiles can be used not only in politics but also to exploit some of people's weaknesses (Matz & Netzer, 2017). For example, someone can target individuals with addictive tendencies by using online casino ads or prevent them from receiving insurance ads. For these reasons, Facebook has recently been criticized for analyzing the emotional or mental states of young people using their personal profiles (Matz & Netzer, 2017).

In this age where it is difficult to hide any kind of personal data and digital footprints, creating individual awareness on personal data management has become a necessity. It has become important to emphasize that techniques such as psychological targeting processes that use digital footprints can create directed perceptions on individuals and make personal suggestions. For students who have low awareness of personal data protection and management in the digital world, it is thought that examples provided on this topic can help understand their attitudes and thoughts. For example, according to a research by Statista, 64% of internet users worldwide were concerned about the protection of their personal data in 2020. This statistic shows that the importance of personal data management is increasing in the digital environment of today. Pew Research Center's research has shown that individuals who are conscious of personal data management feel safer and more comfortable on digital platforms. Therefore, raising awareness among students about protecting and managing personal data in the digital world can help them develop skills to protect themselves on digital platforms.

Being aware of personal data management can also be important for students in their future careers. Because many employers expect employees who will work on digital platforms to be aware of personal data management. Therefore, increasing students' awareness of personal data protection and management can contribute to their feeling more secure in both their personal and professional lives. In this context, it is thought that understanding the attitudes and thoughts of high school students with low awareness about the effects of personal data sharing in the digital world after examining the examples provided on this topic can be beneficial to emphasize the importance of personal data management.

Method

Research design

In the study, a holistic single-case study design, which is one of the qualitative research designs, was used. The holistic single-case study design is a type of design that deeply examines unique or exceptional situations in a single unit of analysis within a single context. This design type is commonly used in clinical psychology, especially when there is a specific problem, illness, injury, confusion, or deficiency, such as focusing on a single school that is a pioneer in innovation without being limited by innovation boundaries (Yin, 1994). To identify the exceptional situation, the focus was on students with low awareness of how leaving personal data and interactions in the digital environment would affect their lives. These students were chosen because they have a lack of knowledge or confusion about personal data management. After examining examples of these students' personal data management effects, their perceptions and thoughts were planned to be investigated.

Study group

The determination of the research participants was conducted in two stages within the scope of sampling methods. In the first stage, purposive sampling was used. Purposive sampling requires selection from successful or unsuccessful situations for the selection of samples relevant to the research purpose (Marshall & Rossman, 2014). In the second stage, matched sampling was used. The most important feature of matched sampling requires focusing on a single subgroup or a specialized small sample in the universe relevant to the research purpose. The schools in a region with a lower socioeconomic level can be cited as an example of this sampling type (Strauss & Corbin, 2014). In this context, the group of students with low awareness about personal data management was attempted to be determined in the research.

In the determination of research participants, data was collected from 255 high

school students who volunteered to participate in the survey from two schools with the highest and lowest academic achievement in Uşak city. However, data from 28 students who provided incomplete responses to the survey questions were excluded. The mean was calculated from the total scores received by the remaining 227 students in the survey. Among these students, 152 high school students who scored below the mean were identified as those with low awareness about personal data management. In the second stage, an announcement was made to these students that a documentary screening activity would be conducted as part of the research and those who wanted to participate in the data collection process voluntarily were asked to participate in this activity. The students who participated in the activity and completed the data collection process voluntarily were determined as the participants of the research. Within this scope, the participants of the research consist of 12 high school students, 5 males and 7 females. Based on the responses given in the survey by 12 participants with low awareness of personal data management, which form the main data of the research, the descriptive characteristics of personal data sharing are as follows:

- Frequency of use: All participants use social media frequently, around 5-6 days a week. However, 2 participants share content on their social accounts for 2-3 days, 2 for 3-4 days, 2 for 5-6 days, and 6 participants share content every day.
- Purpose of use: 7 participants use social media to share photos, videos, or text, 9 to socialize or have fun, 9 to follow their friends' posts, 11 to follow the agenda, 9 to follow or share their hobbies, and 11 to learn or share information.
- Shared content: 11 participants shared their real name on their social media profiles, 7 shared their date of birth, 7 shared their place of residence, 6 shared their education status, 2 shared their school name, and 4 shared their hometown.

Data collection

The data collection process in the study was completed in two stages. In the first stage, the researchers used a developed questionnaire, and in the second stage, a semi-structured interview form was used as data collection tools. The questionnaire used in the study was used to measure participants' awareness of personal data use on social media. In creating the questionnaire questions, two experts, one from the Computer and Instructional Technologies field and the other from the Counseling and Guidance field, were consulted for a draft questionnaire prepared as a result of a literature review. The experts provided suggestions not only on the appropriateness and clarity of the questions in the questionnaire but also on new questions that could be added to the questionnaire. Thus, the final version of the questionnaire consists of eight demographic questions and seven statements regarding awareness. The statements regarding awareness in the questionnaire were answered by participants as “Disagree,” ”No opinion,” and “Agree.” The data collected from this questionnaire was used to determine the participants who would be interviewed.

Before moving on to the second stage of the data collection process, participants were shown a historical documentary called “The Great Hack” about how personal data sharing in the study could affect people's lives. This documentary is a 2019 Netflix production that lasts a total of 2 hours and 19 minutes. The documentary explains the data scandal caused by the company called Cambridge Analytica after the 2016 US presidential elections and sheds light on the dangers of personal data stored on social media. The purpose of showing this documentary to the participants before the interview was to raise awareness of the effects of personal data management, which is the main problem of the research, and to provide relevant examples to students with low awareness. After watching this documentary, students who volunteered to participate in the interview process were selected for the second stage of the data collection process.

In the study, a semi-structured interview form was used to determine the perception and thoughts of students on the effects of personal data management after watching the historical documentary. In creating the interview form questions, two experts who completed their doctoral studies in the Computer and Instructional Technologies field and one expert from the Sociology field

were consulted. It was ensured that the experts were knowledgeable about the relevant documentary. The experts were asked to evaluate the suitability and clarity of the interview questions for the research purpose and provide suggestions on new questions that could be added. Thus, the final version of the interview form consists of nine questions. The prepared interview form was applied to the participants.

Data analysis

In the research, descriptive analysis techniques such as frequency, percentage, and mean were used to define the demographic information and awareness levels of the participants in the analysis of the data obtained from the questionnaire. Content analysis was used for the analysis of interview data. To avoid using participant names in the data set, student audio recordings were coded and filed as K1, K2, etc. The interview data set consisted of 12 audio recordings totaling 200 minutes, with the longest being 22.32 minutes and the shortest being 11.28 minutes. The audio recordings were transcribed into written text by two researchers independently, and each researcher read the data set twice without interruption. Subsequently, the researchers divided the data set in half and coded each sentence or expression as a single word or word group independently of each other. After completing the coding stage for their own sections, the researchers exchanged their coded data sets with each other to check for shared codes that were meaningful and consistent. In this way, they tried to ensure consistency among codes. Finally, the two researchers came together to decide on themes that the codes could be grouped into and determined the frequency of the relevant code expressed by each participant. Care was taken to ensure that the codes were included in only one theme. In the coding stage, the researchers used the Excel application from Microsoft Office to prepare a coding template. The coding template includes the accessed code, theme, and the participant's code for the expression and the participant who expressed it. Additionally, the researchers used this template to provide direct quotes from participants for the presentation of the findings regarding the codes and themes.

Validity and reliability

Research data has been stored both as digital records and raw recordings to be used as evidence in future research. Interview data was recorded as audio to prevent data loss during interviews. Two researchers worked independently to transcribe the interview data from audio recordings during the analysis phase of coding and themes. The researchers checked the textual version against the audio recording by listening to each other's transcribed audio recordings. Raw data was coded by two different researchers using the same method, and a brainstorming session was held to ensure that the codes were in a common language for the presentation of themes. This approach allowed for researcher variability in the study. The coding file created for data analysis was used for presenting the codes and themes, including direct quotes. After the direct quotes, researcher comments were added to increase credibility in the research. The researchers attempted to describe in detail all stages of the research process, including research method, participant selection and characteristics, data collection, and analysis process, for other researchers who may wish to repeat the study in the future without concern for generalizing the results.

Findings

According to the findings obtained from the qualitative research interviews, 19 codes were created under 4 themes. The frequency and percentage values related to the themes and codes are presented in Table 1.

Table 1.
Frequency and percentage values related to themes and codes

Themes	Codes	N	%
Purpose of sharing	Seeking approval	6	50
	Archiving memories	3	25
	Sharing just to sharing	1	8
	Meeting new people	1	8
	Hobby purposes	1	8
Perceived risks they anticipate	Manipulation	7	58
	Turning into a commercial product	7	58
	Life threatening	4	33
	Psychological profiling	2	17
	Virtual self	1	8
	Addiction	1	8
Emotional states	Being watched/listened to	8	67
	İndifference	4	33
	Tension discomfort	4	33
	Being deceived/used	3	25
	Worthlessness	2	17
Behavior Change Request	Reading terms and condition	11	92
	Reducing shares/liking	9	75
	Raising awareness	5	47
	Taking precautions	3	25

Purpose of sharing

The theme "Purpose of Sharing" contains 5 codes related to the purpose of sharing personal data on social media platforms. Of the participants, 6 stated that they use social media for the purpose of "seeking approval," 3 for "archiving memories,"1 for "sharing just to share," 1 for "meeting new people," and 1 for "hobby purposes." Some of the participants' statements regarding the codes are provided below.

Participants K4 and K11 stated that they use social media for the purpose of "seeking approval." Some of their opinions are as follows:

> *"I think the need for approval comes from my childhood. And people are looking for something to motivate themselves. Lack of self-confidence expects to be supported by the approval of others." [K4]*

> *"When I take a good photo or I look good in the photo, of course, I like to*

share it and people liking it makes me happy." [K11]

Participants K1 and K8 preferred to use social media for the purpose of "archiving memories." Their opinions on this are as follows:

"I usually take pictures with my friends on days that have memories and I take pictures when I see a beautiful landscape." [K1]

"Sometimes, since they are more permanent on social media, I also share my favorite photos that I don't want to risk being deleted." [K8]

Participant K9 stated that they use social media for the purpose of "sharing just to share": "I share what I share just to post something. So it doesn't stay empty." [K9]

Participant K10 stated that they use social media for the purpose of meeting new people:

"People are curious about others' lives. You can't ask someone you just met about what they do or their family, but when you check their social media, it's not a problem. Of course, if it's not private. After a while, you become familiar and send a friend request, and they accept it anyway since everyone wants followers. So, when they see that I'm a student, they accept it, and that's it." [K10]

Participant K11 stated that they use social media for "hobby purposes":

"I share photos on social media platforms because it's like a hobby, for example, like a photographer taking photos and displaying them at an exhibition." [K11].

Perceived risks they anticipate

The theme titled "Perceived Risks They Anticipate" contains 5 codes related to the dangers that students think they may encounter after watching a documentary. Accordingly, 7 of the students identified the danger of "manipulation," 7 identified the danger of "turning into a commercial product," 4 identified the danger of "life-threatening," 2 identified the danger of "psychological profiling," 1 identified the danger of "virtual self," and 1 identified the danger of "addiction." Some of the participants' statements regarding the codes are given below.

K3, K4, K8, K11, K12 expressed the danger of "manipulation" on social media platforms as follows:

"Our emotional changes can affect our choices. For example, we may receive unwanted information while we are distracted. We may think wrongly, etc." [K3]

"For example, the closest example of this is YouTube. Things that you watch there keep appearing in front of you, and they influence you. They direct you with your personal information to what they want, or to the opinion they want." [K4]

"Well, let me tell you what to do now. Probably many people, including myself, have our likes collected, and common opinions or things that people like or dislike are perceived, and they will try to direct people's opinions by presenting the things they like in front of them." [K8]

"I'm thinking. For example, if my views reach the hands of a group who wants a conflicting view or wants me to have a conflicting view, or if my indecisiveness is affected by the advertisements that they will send me or any sites that appear in front of me, which is very common on sites like Instagram, in the Explore or Featured sections. They will try to change my opinion, so I'm thinking about it." [K11]

"I realized that they determine what I like and change my opinions and ideas." [K12]

Participants K6 and K9 have expressed the danger of "turning into a commercial product-competition" on social media platforms as follows:

"They see me as a commercial product because my thoughts are not important to them. As long as they make money, it's enough for them." [K6]

"I want them to compete with each other, but I don't want them to affect me." [K9]

Participants K4 and K5 have described the "life-threatening" situation on social media platforms as follows:

"Maybe I will have a stalker, and I don't know it yet. Years later, he might pose a threat to me." [K4]

"For example, I think they can blackmail me. If I make a mistake on social media, they can say to me 'do this, don't share that,' and blackmail me." [K5]

Participants K3 have expressed the danger that can arise from "psychological profiling" on social media platforms as follows:

"They understood what I like and what I want, and they used that to influence me. They created a psychological profile and directed me to what they wanted, and somehow they connected with me and directed me to what they wanted. They figure out the person and give them the information they want according to their profile." [K3]

Participant K12 has stated the following about the creation of a "virtual me" based on personal data:

"I didn't know much about data before watching the documentary. After watching the documentary, I realized that websites and applications like Instagram collect my personal data and create a virtual me." [K12]

Participant K2 has described the "addiction" code that leads to video recommendations similar to previously watched videos as follows:

"Usually, when I watch TV series or trailers on Instagram or YouTube, they keep showing me those TV series or trailers even if I only watch a few videos. I know that I am addicted to them because they keep showing me TV series that I have never watched before." [K2]

The emotional states

"The Emotional States" theme includes 5 codes regarding participants' feelings about the potential dangers they may face in the future due to their personal data left on social media. 8 students expressed the feeling of "being watched/listened to", 4 expressed "indifference", 4 expressed "tension/discomfort", 3 expressed "being deceived/used", and 2 expressed "worthlessness". Some of the participants' statements regarding the codes are given below:

Participants K2, K3, K8, K11 expressed the feeling of "being watched/listened to" on social media with the following statements:

"For example, the other day I was talking with my friends about pasta. I opened my phone and while browsing on Google, its advertisement appeared in front of me." [K2]

"After talking about something, the ads about it start to appear everywhere after a while. It's like my phone is being listened to." [K3]

"So, for instance, I looked at a bag on Instagram, and after that, when I browse through stories, stories about bags started to appear in front of me." [K8]

"After talking about a subject next to my phone or texting about personal issues on WhatsApp, ads about that

subject appear. Especially on Facebook, this happens a lot." [K11]

Participants K4 and K8 expressed their feelings of "indifference" on social media platforms with the following statements:

"I don't think their actions will harm me." [K4]

"I don't think my decisions can be manipulated." [K8]

Participants K2, K3, K8, K9 expressed their feelings of "tension /discomfort"on social media platforms in the following ways:

"When you share your location, the other person can see where you are, where you go, and what events you attend. This bothers me." [K2]

"I started to feel like my photos were being watched constantly, and I became scared of it within two days." [K3]

"The documentary talked about our personal data being taken, used, and even analyzed for character assessments. This also made me uneasy." [K8]

"Knowing that my information will be stored makes me nervous. It's like someone else has my information, even if I delete it. I delete it so that no one else can see it, but it still exists. That's what makes me nervous." [K9]

Participants, K4 and K8 expressed their feelings of "being deceived/used" on social media platforms in the following ways:

"They're trying to bring the society to a certain point, not me. That's why they'll use me." [K4]

"I feel used. It's like being part of a big game. And if they can get unwanted information about me and use it, and even change my opinion with it, I think they're using me. And as a human being, that might be one of the last things I want." [K8]

Participants K4 expressed their feelings of "worthlessness" on social media platforms in the following ways:

"Are my personal thoughts and life really that worthless that they are presented to them as a commercial tool?" [K4]

Behavior change request

The theme named "Behavior Change Request" contains 4 codes for participants to take precautions against the dangers that may arise from personal data and digital footprints left in social environments. According to the responses of the students, 11 of them indicated "reading the terms and conditions", 9 of them "reducing sharing/liking", 5 of them "raising awareness", and 3 of them "taking precautions". Some of the statements of the participants regarding the codes are given below.

Participants K6 and K11 stated their intention to "read the terms and conditions" on social media platforms as follows:

"I started reading more carefully after watching the documentary. I will try to read it more carefully." [K6]

"I am planning to read them after watching the documentary. I wasn't reading them before the documentary." [K11]

Participants K2, K4, K8, K9, K12 expressed their "reducing sharing/liking" behavior on social media platforms as follows:

"Since the day I watched the documentary, I can't share or like photos as freely as before. It bothers me." [K2]

"I made a sentence for myself: Here you are a closed person. I used to send open photos to my girlfriends. I told myself not to do it anymore." [K4]

"Even the likes on social media have changed for me. Because I thought they could understand the sites I liked and the things I didn't like. I started liking photos less." [K8]

"After watching the documentary, I couldn't share anything. I was really affected. I couldn't share anything." [K9]

"Before watching the documentary, I used to share where I was, with whom, and what I was doing on my social media accounts, but after watching the documentary, I pay more attention to what I share and generally do not share my personal data." [K12]

Participants K1, K7, K9, K11 expressed their "awareness-raising" situations on social media platforms as follows:

"After watching the documentary, even though we know we are safe, we become aware that our data can be exposed." [K1]

"In many documentaries, even the smallest things we do can be used in big elections or events that may change the fate of the world." [K7]

"I will continue to research from now on. My awareness has increased." [K9]

"Well, I already knew these things, but I didn't know they had such an impact on elections, political events, or people's lives. I learned that they have such a big political impact." [K11]

Participants K1, K4, K8 expressed their "taking precautions" situations on social media platforms as follows:

"After watching the documentary, we can take precautions regarding sharing, information, and security with ourselves and those around us." [K1]

"After watching the documentary, I told myself: I wasn't already sharing photos, but if I organize myself better, it might be good." [K4]

"So in this case, I don't want too much of my identity or views to be used by people. I want them to remain confidential. And since the use of these things is not something I like, there has been a change in my social media usage here." [K8].

Discussion and Conclusion

Conclusion, Discussion and Recommendations
In the study, most of the participants with low awareness about personal data stated that they share information on social media for the purpose of being liked and archiving their data. Lee and Kim (2014), in their study aimed at inferring the relationship between individuals' personal presentations on Facebook and their personal characteristics, noted that individuals' desire to be liked is what prompts them to share their personalities on social media platforms like Facebook. Gürbüz & Öztürk (2021) have demonstrated in their research that there is a positive relationship between personal data sharing and the desire for likes. Studies have shown that some social media users' desire for likes leads them to share their personal information (Gürbüz & Öztürk, 2021). Therefore, it can be said that the desire to be liked is at the core of some individuals' willingness to share their personal data.

In the study, participants also mentioned that they were influenced by the examples they saw in the documentary about the personal data they leave behind and the digital footprints they create, and that this data could be used to manipulate their future opinions, turn them into a commercial product, or even be used against them in problematic situations in the future. Indeed, it is known that some institutions in our country and around the world request and examine the addresses of individuals' social platforms during the job application process. Any part of the posts made until then can affect the decision to hire or not, and may even damage relationships (Qualman, 2011). Additionally, the participants mentioned that the concept of psychological profiling, which is frequently mentioned in the documentary, could be used to create a virtual identity and that they could be made addicted to certain objects by constantly presenting them with advertisements, videos, and photos based on their likes, as their movements are tracked on

social media. In fact, with the intersection of psychology and computer science in research today, it is possible to define individuals' psychological characteristics or profiles by accessing all kinds of personal data and interactions left in the digital environment, and to carry out the events that the study group focused on. Matz, Appel, and Kosinski (2020) refer to this situation as the psychological targeting process in their study.

In the study, participants expressed that they felt a sense of being watched, tension, used, and worthlessness after watching examples of how personal data and all kinds of interactions left on social media affect people's lives. Indeed, Eroglu (2018) stated in his study on privacy and personal data in digital life that the unauthorized use of personal data by individuals and institutions is perceived as one of the major problems, and personal data should be evaluated within the concept of privacy for people to move comfortably in the digital environment.

As a result of the awareness gained by the study group after watching the documentary, they stated that they will now read the user terms and conditions when signing up for social media and other web environments, reduce sharing of personal characteristics and emotions in their posts, and take precautions when sharing. This shows how a real-life example of personal data can have an impact on students who are not aware of the importance of personal data.

Recommendations

Informative campaigns could be carried out to educate individuals about how their personal data can be used for psychological targeting and how it may affect them in the future in digital environments. These campaigns may include:

- Establishment of informative social platforms to educate individuals about the security of personal data.
- Design of social platforms in a way that facilitates individuals' privacy goals (Matz, Appel, & Kosinski, 2020).
- Providing education on personal data sharing from an early age.
- Creation of informative public service announcements using real-life examples.

Limitations

Our study has some limitations. Firstly, the number of participants is limited, so the results cannot be generalized. Additionally, since the data is based solely on participants' self-report, response bias or subjective issues may arise. Lastly, since only one documentary was used in our study, the results may differ with different documentaries or methods.

References

AlHanai, T., & Ghassemi, M. (2017). *Deep affect prediction in naturalistic dyadic interactions using multimodal representations*. https://doi.org/arXiv:1704.00725

Baritci, E. & Fidan, M. (2018). The Relationship between Social Media Addiction and Social Media Literacy among High School Students. *International Journal of Eurasia Social Sciences*, 9(31), 103-118. doi:10.17051/ilkonline.2018.31.06

Cadwalladr, C. (2018). The Cambridge Analytica Files: 'I made Steve Bannon's psychological warfare tool': meet the data war whistleblower. *The Guardian*. https://doi.org/10.1080/02614367.2018.1464561

Chao, L., Perez, M., Sano, A., & Picard, R. (2017). Affective state inference using smartphone sensors. *In Proceedings of the 19th ACM International Conference on Multimodal Interaction* (pp. 389-393).

Chen, G. M., & Wojcik, S. P. (2016). Big data in psychology: A framework for research advancement. *American Psychologist*, 71(7), 630-641. https://doi.org/10.1037/a0040386

Chen, G., & Wojcik, S. (2016). Investigating User Footprint on Social Media: Insights from Four Popular Platforms. *Journal of Broadcasting & Electronic Media*, 60(2), 295-312. https://doi.org/10.1080/08838151.2016.1164167

Deloitte. (2015). Global Mobile Consumer Survey: US edition. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-global-mobile-consumer-survey-2015-081715.pdf

Fuat, A. E., & Him, M. R. (2013). Social media usage of university students during the 2011 Tohoku earthquake. *The Journal of Emergency Management*, 11(5), 377-386. https://doi.org/10.5055/jem.2013.0141

Gürbüz, S., & Öztürk, A. B. (2021). A Research on the Relationship Between Personal Data Sharing and Likes in Social Media. *Electronic Journal of Social Sciences, 20*(78), 444-456.

https://doi.org/10.17755/esosder.741324

Heawood, S. (2018, March 21). Facebook and Cambridge Analytica: What you need to know as fallout widens. *The Guardian*. https://www.theguardian.com/news/2018/mar/21/facebook-cambridge-analytica-data-scandal-what-you-need-to-know

İnce, F., & Koçak, Ö. F. (2017). Investigating the impact of social media usage frequency on interpersonal communication skills of preservice teachers. *Journal of Education and Practice*, 8(7), 76-82. https://doi.org/10.7176/JEP/8-7-11

Lee, E. J., & Kim, Y. (2014). Why do people share their personal information on social networking sites? *Journal of Cyberpsychology, Behavior, and Social Networking*, 17(10), 647-654. https://doi.org/10.1089/cyber.2013.0466

Marshall, C., & Rossman, G. B. (2014). *Designing qualitative research (6th ed.).* Sage Publications. https://doi.org/10.4135/9781452230153

Matz, S. C., Appel, G., & Kosinski, M. (2020). Privacy in the age of psychological targeting. *Current Opinion in Psychology*, 31, 115-121. https://doi.org/10.1016/j.copsyc.2019.08.008

Mcpeak, J. (2013). The role of social media in local government crisis communications. *Public Relations Review*, *39*(3), 293-298. https://doi.org/:10.1016/j.pubrev.2013.04.008

Olmedo, O. G., Palomares, I., & Gutierrez, P. A. (2018). Big data: a review of the state-of-the-art. *Digital Government: Research and Practice*, 1(1), 13-25. https://doi.org/10.1145/3209884.3209886

Qualman, E. (2011). *Socialnomics: How social media transforms the way we live and do business*. John Wiley & Sons. https://doi.org/10.1002/9781118283073

Quercia, D., Kosinski, M., Stillwell, D., & Crowcroft, J. (2011). Our twitter profiles, our selves: Predicting personality with twitter. *In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1-10).

Sagiroglu, S., & Simsek, U. (2014). Big data: A review. *Collaboration Technologies and Systems (CTS), 2014 International Conference on* (pp. 42-47). IEEE. https://doi.org/10.1109/CTS.2014.6867553

Siddiqui, S., & Singh, T. (2016). The Impact of Social Media on Lifestyle. *International Journal of Advanced Research in Computer Science and Software Engineering*, 6(3), 380-384. https://doi.org/10.23956/ijarcsse/V6I3/0249

Şahin, F., Kaynakçı, Y., & Aytop, İ. (2016). The effect of social media on customer loyalty: A research on fast food restaurants. *Procedia-Social and Behavioral Sciences*, 235, 398-407. https://doi.org/10.1016/j.sbspro.2016.11.051

Thatcher, J. (2014). The Promise and Perils of Big Data. PS: Political Science & Politics, 47(01), 33-38. https://doi.org/10.1017/S1049096513001714

Tuttle, B. (2018). How Cambridge Analytica Sparked the Great Privacy Debate. *Time*. https://time.com/5211772/cambridge-analytica-privacy-debate/

Yıldız, E., Çokpartal, T. Y., Ada, Ş., & Kalkan, K. (2017). The relationship between social media usage and body image perception in university students. *The Anatolian Journal of Psychiatry*, 18(3), 236-243. https://doi.org/10.5455/apd.241514

Yin, R. K. (1994). *Case study research: Design and methods*. Sage publications.

Youyou, W., Kosinski, M., & Stillwell, D. (2015). Computer-based personality judgments are more accurate than those made by humans. *Proceedings of the National Academy of Sciences*, 112(4), 1036-1040. https://doi.org/10.1073/pnas.1418680112

Zengin, B., Zengin, S., & Altunbaş, H. (2015). The Effect of Social Media on Traditional Marketing Communication Tools: A Case Study on Women's Magazines. *Procedia-Social and Behavioral Sciences*, 195, 230-238. https://doi.org/10.1016/j.sbspro.2015.06.302