**Social Media, Connectedness, and Students' Learning Experiences**

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**Abstract**

The possible impact of social media on learning is a widely researched field. The connectedness within social media and its influence on learning has however not been extensively researched. This qualitative study therefore sought to investigate both possible influences by conducting interviews with four different students from the University of Groningen. Participants were of relatively diverse European origin and a similar age-range. Using an inductive overall analysis with a phenomenological approach, four themes were created: (1) General learning outcomes, (2) Distractions, (3) Problems and opposing tactics, and (4) Tools for academic learning. Students generally felt that social media can help with their learning and social connections, if used properly. Nonetheless, cycles of distraction were quick to appear and hinder learning outcomes by reducing attention and motivation. Even though social connectedness was not mentioned directly as a possible mediator for academic experiences, it might help indirectly by strengthening interpersonal student bonds. Overall, this study confirms previous research findings of social media having mixed results on students' learning experiences. Furthermore, it provides necessary data on the relationship between connectedness and learning. Finally, the Limitations, Strengths, and Implications for future research are addressed within.

*Keywords:* Social media, Social connectedness, Learning, University students, Qualitative research, Phenomenological study

**Social Media, Connectedness, and Students' Learning Experiences**

Imagine you have one of the most patience-requiring jobs a person could think of: being a high school teacher. One day, your students are supposed to work on an assignment, and you mention you will leave the room for a few minutes. Returning to the class, you create an interesting and harmless experiment. When entering the classroom, you quickly turn off the lights. This results in some students' faces being quite illuminated, although the room with the closed blinds should of course be relatively dark. The answer to this conundrum of the artificial light source naturally is the item that nowadays more than 80% of people possess - the smartphone (Statista, 2022). These smartphones, by extension, often contain various social media applications.

Quite ironically, I came across the above-mentioned story while browsing YouTube on my phone, and it reminded me of my own time in school. Experiences such as typing numbers to write a SMS, or Twitter being launched, faded incredibly quickly into the modern smartphone and social media era. Indeed, in 2005 only around one out of twenty US adults used social media, whereas now over 90% of US adults do, and by 2027 a staggering 95% will likely use it (Dixon, 2022).

This phenomenon of extended social media use has only been exacerbated by the recent COVID-19 pandemic, and being too involved online might cause increased anxiety or feeling less content (Perna, 2020; Caner et al., 2022; Denti et al., 2012). Additionally, the development of social media addiction has also increased (Brailovskaia, 2021; Marengo et al., 2022). Consequences of a social media addiction may include personal neglect or ignoring real-life problems (Guedes et al., 2016). It could also influence areas such as work, school, and real-life social interactions (Fox & Moreland, 2015; Sun & Zhang, 2021).

**Consequences of Social Media Use**

Despite the negative influences that social media can have on real-life areas, people still get drawn into looking at these applications for hours (Perez, 2022). Modern social media applications also employ advanced algorithms (Barnhard, 2021), which might cause one to spend more time in front of a screen. According to multiple studies, this prolonged exposure to bright screens can cause attention as well as sleep quality to decrease (Evers et al., 2020; Karpinski et al., 2012). As mentioned before, developing a social media addiction is also a possibility (Azizi et al., 2019).

To incorporate more specific interactions, Masciantonio and colleagues (2021) summarize the consequences of social media use by noting that directly interacting with others (active use) is positively associated with well-being. Just reading and consuming other's content (passive use), however, is negatively associated with well-being. Similarly, Midgley and colleagues (2022) found that during times of social isolation, purposeful connections on social media can help attenuate the negative effects on well-being.

**Social Media and Social Connectedness**

*Social connectedness* can be described as experiencing a sense of belonging to a social group or system (Doyle, 2019). Belonging to such a social structure is important for our everyday lives, as it is associated with better health and psychological well-being (Giordano & Lindstorm, 2010). These interpersonal relationships can also be a type of cure for some difficulties with mental health and general well-being (Saeri et al., 2018).

Through social media, people can connect with each other in multiple different ways, whether that is through video calls or just interacting with posts that they enjoy. Despite the positive influence of social media mentioned earlier (see Midgley, 2022), most pre-pandemic literature does not support their findings. That literature mentions an increase in anxiety and loneliness (Best et al., 2014; Coyne et al., 2020) and users making upward comparisons,

resulting in worse feelings about themselves (Vogel et al., 2014). In addition, research has

shown that people actually prefer in-person support to the online counterpart when

experiencing a personal crisis (Rife et al., 2016). The interaction between social media and

social connectedness is therefore likely to be multifaceted (Smith et al. 2021), with the

pandemic posing as another specific case.

**Social Media, Social Connectedness, and Learning**

Earlier, I briefly mentioned some aspects of social media that could pose a challenge

for students when it comes to learning, such as decreased sleep quality (Evers et al., 2020) or

lowered attention (Karpinski et al., 2013). Nonetheless, there could also be some positive

influences, such as students using social media to find better academic information from

multiple sources (Rigamonti et al., 2020), for example, from their connections to other

students online. Importantly, there is a possibility of socialization on social media being

incorporated into learning procedures (Wodzicki et al., 2012), so there could indeed be a

positive influence on offline learning (Zachos et al., 2018).

It seems possible that social media connectivity in particular can improve learning

experiences, although research on this topic is scarce. This could be because it is such a small

subfield of social media interactions and is therefore not often included in possible mediators

for students' learning experiences. However, one study by Moll and colleagues (2015) did

look at these combined factors in an educational setting. One of their conclusions was that the

experiences on social media and the concomitant connectedness did not necessarily lead to

the "effective harnessing […] for new or enhanced learning" (Moll et al., 2015, p. 29).

Along these lines, Kolhar and colleagues (2021) found that the use of social media for

academic purposes was actually very rare at just 1%, and the rest was spent either chatting

with friends or browsing the web to pass time. Around 52% of students reported a negative

influence on their school performance by social media, most likely caused by the impacted

factors of sleep duration and physical inactivity. What's also worth mentioning is that the more time one spends on social media, the larger the decrease in academic performance might become (Abbas et al., 2019; Owusu-Acheaw & Larson, 2015).

Considering this, during the COVID-19 pandemic more people used the internet (Feldman et al., 2020), and by extension also social media (Dixon, 2022). So, while social media can have a positive impact during online learning (Friedman and Friedman, 2013), the extended usage might lead to problems such as mind wandering, increased distractions, and therefore lower academic performance (Hollis & Was, 2016).

**Purpose and Research Question**

The purpose of this qualitative study is to explore how modern social media applications and the concomitant social connectedness could influence the learning experiences of different students. Due to the topic's nature, most of the research tends to be conducted in formal educational settings, such as schools or universities. Similarly, this study's focus lies on university students' personal experiences. Because of this focus on individual experiences, I will adopt a phenomenological research approach. Essentially, this approach investigates the universal essence of a specific phenomenon by exploring it through the perspective of those that have experienced it (Teherani et al., 2015). Therefore, the concrete research question can be phrased as follows:

*How do social media applications and the concomitant connectedness mediate students' learning experiences?*

Research on this topic is important because social media is such a rapidly evolving field. Papers that are only a few years old might already not include applications like TikTok, which has risen to over 700 million active users (Ceci, 2022). Opposite to this, the well-known giant Facebook recently had a decline of around 30% in teen users (Vogels et al., 2022). Furthermore, qualitative studies in the area of social media and learning are still scarce

compared to their quantitative counterparts. This shows not only how quickly the field is developing but also the ever-present need for new and up-to-date studies, whether qualitative or quantitative.

## Method

### Design Overview

The research design includes four interviews with students from the University of Groningen as participants, with each interview planned to last from 40 to around 60 minutes. Recruitment was done over WhatsApp as well as in person, and three of the four participants knew the researcher before the research began. Participants were sufficiently informed about data treatment and specifics of the research topic. Ethical approval was provided by the Institutional Review Board of the University of Groningen, and data collection was halted after the fourth interview due to time constraints.

Main data-collection strategies were comprised of an Interview Protocol with mostly open questions, which were altered after the first interview to increase question relevancy. Interviewees were alone during the audio-recorded conversation and had planned extra time in case the 60-minute mark would be exceeded. The interviews were conducted from the 23rd of November 2022 to the 30th of November 2022, with the analysis beginning shortly afterward.

Data-analytic strategies included an (1) inductive as well as a (2) generally phenomenological approach (3) at an explicit level, and (4) conducting an overall analysis. This means that coding categories and themes were derived solely from the data, are strongly linked to it, and the entire data set was used. This was done in accordance with the group coordinator's recommendation. Analysis units include the transcriptions, codes, and themes, using ATLAS.ti as the main analysis software. During writing, integration of multiple themes into one as well as a change of the research question occurred. The focus now lies on the

influence of "social media *and* the connectedness within" on learning, rather than just the influence of "the connectedness *within* social media". This was done to make better use of the interviews.

**Data Sources**

The researcher has not conducted a qualitative study before, and most of their previous knowledge mainly included quantitative research designs. They have personally had different experiences and felt consequences from using social media applications, both positive and negative. It was therefore concluded beforehand that they feel knowledgeable on the topic, but might have preconceived notions of the interview answers. This includes the fact that the researcher is personally avoidant of social media usage and does not use most social media applications, such as TikTok or Twitter.

Social connectedness within social media and its possible influence on learning was not something previously thought of by the researcher, but certain expectations developed before data collection began. Because of the emergent expectations, the interview questions were adapted to reduce leading questions, and the researcher actively tried reducing biased responses while interviewing. Some aspects that were expected to come up included a general negative influence of social media as seen in addiction or less learning motivation.

In total, four interviews were conducted, then transcribed verbatim by the interviewer, and subsequently analyzed (the full interview transcripts may be requested from the group coordinator). The participants' places of origin included Germany, the Netherlands, Cyprus, and France, with all interviewees being of Caucasian origin. Additionally, ages included two 21-year-olds and two 23-year-olds, resulting in a mean age of 22. Genders included three females and one male. According to previously set rules regarding participant selection, all participants were current students at the University of Groningen. Three out of four attended the psychology program, while one attended the biology program and a psychology minor

program. Beyond this, the researcher did not find specific demographic or cultural information that might influence the collected data.

Three of the four participants were previously known to the researcher. No previous relationship existed for the fourth participant, and both parties met for the first time for the interview.

**Participant Recruitment**

The previously known participants were recruited face-to-face, and by WhatsApp. The previously unknown fourth participant contacted the researcher after an open invitation for participation was posted in one of the psychology bachelor WhatsApp groups.

After confirming their interest, all were sent general information on the research topic, as well as a consent form and a more detailed study information document. Both documents were provided by the group coordinator and included necessary clarifications on data treatment. Other than the four final participants, three other students also known from previous courses were initially contacted by email, but none responded.

Ethical approval was provided by the Institutional Review Board of the University of Groningen, with the application being filled out by the group coordinator. No incentives or compensation were provided for any participant. Each interview was only conducted once (1) the interviewees explicitly confirmed their understanding of the topic as well as the data treatment, and (2) the researcher had acquired the filled-out consent form from the relevant person. The study purpose was not portrayed differently to participants.

The number of participants was pre-determined by the group coordinator to be a minimum of four, and a recommended maximum of six. The interviews for this study were conducted between the 23rd of November 2022 and the 30th of November 2022. Sites and types of data collection included (1) one face-to-face interview in the interviewer's own

apartment, (2) one face-to-face interview in the interviewee's own apartment, and (3) two online interviews conducted via Google Meet.

No specific data source selection process was determined before data collection began, but can now be best described by convenience sampling. Every participant was somehow related to the psychology bachelor course and therefore most easily accessible to the researcher.

**Data Collection**

Data collected took the form of audio recordings for each interview, using the researcher's personal laptop. Face-to-face interviews were recorded using the audio recorder program Audacity, while the program Open Broadcaster Software (OBS) was used for the online interviews. All data were subsequently saved in the mp3 format on the researcher's personal device.

The data-collection protocol included an interview protocol created by the researcher beforehand, the structure of which was inspired by Carspecken's (1996) book on critical ethnography. After the first interview, this protocol was slightly altered to remove less relevant questions and instead include others focused more on the social connectedness aspect of the research. Afterwards, changes only included a slight question order adjustment and more clear phrasing. Besides this, no other alterations in data collection strategies were used. The majority of questions were open, and if a closed question was used it was ideally followed up by an open question asking for more details (see Appendix A for the full interview protocol). Questions were not always asked exactly as stated in the protocol but rather slightly paraphrased. During the interviews, the researcher had a small notebook ready to write down relevant points. However, during the actual interviews, this rarely extended beyond two or three short keywords.

Data was only collected once for every participant, with no one else being present either during the face-to-face or online interviews. The researcher ensured that the interviewing spaces were quiet, and participants had sufficient buffer time in case the interview would go on longer than initially planned. The interviews were held for 42 to 66 minutes with an average time of 58 minutes.

**Analysis**

Coding was done solely by the researcher, who, as previously mentioned, had no specific experience with qualitative research and therefore also coding.

The data analysis was conducted under the guidance of the group supervisor and following Braun & Clarke's (2006) text on thematic analysis. The guidance included a (1) inductive as well as a (2) generally phenomenological approach (3) at an explicit level, and (4) conducting an overall analysis. Coding categories and themes were therefore derived only from the explicit content of the data and the researcher did not attempt to go beyond this content. Codes and themes are strongly linked to the data themselves, but are slightly influenced by the theoretical interest of the researcher and the research question, as non-relevant codes are excluded. Lastly, usage of the entire data set was chosen to maintain a rich overall description.

Units of analysis include the interview transcriptions, the individual codes from each interview transcript, as well as the themes created by the researcher (see Appendix B for the full thematic analysis report.)

Software used for coding includes both the web and desktop versions of the qualitative data analysis application ATLAS.ti. Initial coding was done in the web version, while sorting codes in clusters and creating themes was done using the desktop version.

Methods and procedures used for data analysis included reading the interview transcriptions multiple times, creating the codes, and organizing them into related clusters. Created codes

resemble the interviewee's words closely but are sometimes paraphrased to see possible connections between participants easier. However, the researcher took explicit care to ensure that their opinion did not play a role in how the paraphrased code was written. Themes were chosen after rereading the interview transcripts and organizing codes in the ATLAS.ti desktop application.

When writing the Results section, some themes were integrated with each other, as the relevant codes did not warrant a full theme by themselves. During this time, the research question was also slightly altered after approval by the group coordinator. Rather than focusing on "the connectedness *within* social media", the focus is now on the effect of both "social media applications *and* the connectedness within" on learning. This change was done as during writing, few data were mentioning a relation between connectedness and learning. Therefore, the more general influence of social media on learning was included to guarantee good usage of the interviews.

Points mentioned by the participants that were irrelevant to the overarching research question were excluded of the analysis. Additionally, the Results section only includes points made by the participants, most commonly seen through the use of quotes. When quotes are not used, points made are paraphrased either directly from the relevant transcript or the codes in ATLAS.ti. Finally, the participants' names have been changed to ensure anonymity. These pseudonyms include Lisa, Emma, Zoe, and Alex.

## Results

### Theme 1: General Learning Outcomes

This first theme provides a general overview of the participants' general learning outcomes with social media and the connectedness within as mediating factors. Note that applications that are more focused on communication and not generally seen as social media, in this case only WhatsApp, were still classified as social media by the participants. This was

done because it provides the same abilities regarding connecting as applications like TikTok or Instagram do, such as sharing videos, photos, and texting.

All four participants mentioned that social connectedness is important to them, and that social media plays an important role in their lives. An important factor of general social media usage for Lisa was "[it being] really much easier […] to get in contact with other people", especially during the COVID-19 pandemic. For Alex it was also an "active, big part of [his] life".

Connections within student groups on WhatsApp were explicitly seen as non-relevant and utilitarian to Alex, since other students "were […] just focusing on this part of their life [as] students" and not on connecting. Subsequently, he only utilized student groups "to find summaries [and not] social connectedness". In these student groups, connections could "hypothetically [occur but it] never happened".

These opportunities for connection were important for learning as well. For example, Zoe pointed out that one could easily access and "read through other people's summaries […] just to compare [them]" as well as "compare notes with a friend or two".

Despite the increased connectedness that social media provided for the learning processes of the participants, for Emma it was still "easier to meet someone in real life". Similarly, Zoe felt that during lectures, the "exchanging [of] ideas or opinions [made her] feel much more socially connected". This increased connectedness also forced her "in some way to listen to […] what [you're] supposed to listen to [in] the lecture", and not get distracted.

**Theme 2: Distractions**

This theme is about general descriptions from the participants of what getting distracted by social media entails, combined with the results of their learning experiences.

Distractions were remarked as occurring "quite easily" and for Lisa included "things in [the] surroundings or […] things online, or sometimes social media". Multiple participants

mentioned these distractions to be about news and events that they were interested in. Lisa noted that essentially there can be "a bunch of […] nonsense on there, which you just keep watching anyways, and then an hour has passed".

When scrolling through content, Alex felt like he "just gets [drowned] into it" as "it's way easier to just scroll [on your phone]". For Zoe, this caused "[going] down rabbit holes on TikTok very easily, depending on the content you watch". Subsequently, three of the participants mentioned a cycle of distraction where if they are "doing things that are not really self-controllish [sic]" "you can just get really into the zone of social media and it's really hard to […] go back to focusing on your work".

As mentioned in the first theme, social connectedness with friends was important to multiple subjects. However, these online interactions also led to social distractions, which included the need to text friends to stay connected with them or receive updates. For Alex, this took the form of watching friends' stories or reels on Instagram. Similarly, learning with social media was seen as difficult when studying on your own, and for multiple participants it was "harder to focus if you got notifications on, especially with WhatsApp". When getting a lot of notifications, immediately responding to them was considered a "sort of reflex" for Lisa. Furthermore, receiving messages sometimes made Alex feel "like it's a drug, [you] can feel the dopamine coming".

Emma and Zoe also felt that "social interactions might generally delay the studying process" since "while [they were] supposed to write an assignment, [they would] rather sit on [their] phone and talk to friends". Online education increased this feeling, as keeping a good learning schedule and being attentive during it was already seen as difficult. On-site learning on the other hand provided Lisa with "less distractions in [the] environment" and one was less likely to use their phone. However, she further elaborated that "maybe without [the existence of] social media there [simply] would have been other distractors" in one's environment.

**Theme 3: Problems and Opposing Tactics**

This theme looks at specific problems that participants experienced during their social media usage, which also influenced their feelings about studying. Afterwards, individual tactics are named that helped avoid these problems, especially those that increased learning effectiveness.

Zoe talked about multiple problems, including how general social media consumption "[shaped her] awareness for things and […] the directions [her] thoughts would go into" and how it "made [her] feel more sad and melancholic". When trying to learn, Lisa added that longer social media usage "might decrease [the] motivation to study". These motivational problems also extended to online learning, where Alex designated social media exposure as "a difficulty when you're learning by your own" by "[damaging] your attention when you need it".

For Alex it was also "a learning process" to remain in control of his usage by actively reducing it or avoiding social media altogether. Different participants had specific strategies for reducing their usage, such as using a time limiter for certain applications, disabling notifications, switching into airplane mode, or turning off the phone entirely. More permanent options were specified as deleting specific apps or turning off personalized content to reduce distraction spirals. Alex even "[removed] all social medias [once] just to check how life [is] without". On the other hand, Emma voiced that one would then "miss all the social connectedness that [you are] trying to achieve through it".

From the comments a general behavior pattern for reducing learning distractions by phone can be summarized as follows. (1) Do not look at your phone after waking up, (2) start studying relatively soon afterwards and (3) beforehand put your phone far away. Emma and Alex also mentioned waking up and immediately start studying, as you can then "do whatever you want afterwards". Finally, Alex added that "you have to use [social media] as a tool and

not be instrumentalized by it" and "[if] you have enough self-control […] the positive will outweigh the negative".

**Theme 4: Tools for Academic and Casual Learning**

This last theme describes how participants used social media and the interactions within to aid them in their academic and casual learning processes. Academic tools are related to necessary studying, such as learning for exams, while casual tools are about hobbies or interests.

Emma deemed information transfer online as "extremely fast", helping with the gain of knowledge and material for both offline and online exams. This leads to WhatsApp as the main connector for general study information. It aided with getting summaries from student groups, "[comparing] notes with a friend", and "[reading] through other people's summaries as well, just to compare [them]". General social media also helped Zoe to find "that [specific note-taking method] that helps […] a lot to study" and examples of "some scientific papers using APA to see what it's supposed to look like". Additionally, Alex mentioned the online tool 'Slimstampen' as a supportive tool for exam preparation.

Specific learning videos online were subdivided into two parts. First, the so-called 'study with me' content, which according to Zoe "might be positively impacting for […] people who might not have the innate […] motivation to do so themselves". Second, general educational videos, which were mentioned by three of the four participants as often being more helpful than their professors. As Alex said, if "you are in the good part of YouTube, you can learn a lot of great things", such as the actual application of materials in real situations. However, Zoe also mentioned that online "everyone can claim to be an expert", which was seen as possibly detrimental to learning efforts if background research was not done. Lastly, social media assisted both Alex and Zoe to find people with common interests and knowing

that these people exist was deemed as positive. These communities helped to form certain skills or find new information the participants wanted to learn about.

## Discussion

This study aimed to explore how social media and the concomitant connectedness promote four different students' learning experiences. Considering learning as the important common denominator, participants primarily voiced the influence of social media on it. The direct effect of social connectedness within social media on learning was mentioned very rarely, which, as discussed earlier, can also be reflected in the general lack of research on the topic.

During the data analysis, four distinct but interconnected themes came to light. These include *'General learning outcomes'*, *'Distractions'*, *'Problems and opposing tactics'*, and *'Tools for academic and casual learning'*. Rather than discussing each theme individually, related aspects from these interconnected themes are combined.

Social media and social connectedness were important to every participant, which is also something well-known in the literature (Dixon, 2022; Giordano & Lindstorm, 2010). In the context of the present research, social media did not only help people stay in contact with others. They could also access material for their studies, such as summaries. WhatsApp appeared as the main connector for these social interactions. This is not surprising, considering that it is the most used messaging application in Europe (Mehner, 2022). While none of the students mentioned it explicitly, one could hypothesize that this ease of access also strengthened interpersonal relationships between students. For example, advice for an exam might be reciprocated by providing a summary. As Midgley and colleagues (2022) mentioned, an increase in these purposeful connections could have also helped people cope with the difficult times of social isolation during the COVID-19 pandemic.

This interpersonal strengthening is strongly related to social connectedness as well, and the possible formation of friendships from such student group interactions can be of further aid when studying (Wodzicki et al., 2012; Zachos et al., 2018). Many of the students mentioned that social media helped them find different helpful things for learning, which is likely to include recommendations from other students. One can find many tips and tricks online that claim to be beneficial for learning, and it can be hard to discern which ones actually are. I believe that when a peer recommends a learning tool, it is not only more likely to also be adapted by the other person but also genuinely beneficial to their studying. While research on this last point is scarce, it should be relevant as long as the recommended tools are not extremely specialized to one specific learning style (Rezaeinejad et al., 2015).

Also noteworthy was the possibility of so-called *'study with me'* content possibly influencing academic learning, and online communities helping with personal learning. I believe that learning motivation can increase after watching such content. To the best of my knowledge, this methodology has however not yet been explored. Having someone essentially study with you could help with feelings of connectedness and therefore combat a lack of motivation and isolation. Other benefits might include inspiration to have better time management and tracking. Certain creators might also foster a hard-working community environment, which leads to a supportive online environment. Searching for specific influences of personal online learning communities on learning also yielded sparse results. Nonetheless, I believe that the participants' positive feelings toward learning communities are indeed relevant. I propose that both 'study with me' content, as well as personal learning communities, can certainly be helpful for learning.

Similar to the previously discussed literature (Evers et al., 2020, Best et al., 2014), however, social media was not only beneficial to students' learning. It also caused distractions, anxiety, and decreased motivation by affecting their attention. An essential part

of this finding was what I named a *'distraction cycle'*, which students found themselves in. Only one participant mentioned dopamine rewards, but they are likely to play an essential role in the distraction cycle of every participant, as these rewards are essential for motivational control (Bromberg-Martin, 2011). Other studies call the distraction cycle a '*feedback loop mechanism'*, which is also well researched and closely related to developing a social media addiction (Burhan & Moradzadeh, 2020). Simply put, distractions have a clear detrimental effect on learning (Jamet, 2020; May & Elder, 2018).

I argue that the most likely course of distraction occurred when students did not follow their recommended plans on how to study most effectively. This could mean that they probably looked at their phone shortly after waking up or did not place their phone far away once they actually started studying. In my opinion, to get back to studying, one must have willpower and focus. However, prolonged social media exposure likely makes returning your focus more difficult (Evers et al., 2020).

Partially responsible for this prolonged social media usage was the need to connect with friends. This leads me to believe that students' need for connectedness can also directly impact their learning experiences. Generally, students resisted social media temptations by placing their phone far away, switching off notifications, or deleting applications. This connection reduction was seemingly worth it to them since it increased felt learning effectiveness. However, this reduced connectedness might only be acceptable to students that want to drastically improve their learning results. If one already has decent grades, trading social connections for only a slightly better grade might not be worth it for them. This proposition is relevant mainly because there is such little research on the specific impact of connectedness and how it mediates learning. Further exploration of this topic is therefore recommended.

At this point, I want to highlight a specific comment by one student, which I think summarizes my findings quite well. They noted that you have to use social media as a tool and not be instrumentalized by it, and that if you have enough self-control, the positive will outweigh the negative. This was true for every participant since all mentioned problems with social media but still had clear ideas on how to avoid them and subsequently improve their learning. Furthermore, research clearly links self-control to academic achievement since good learning requires close attention to the material (Duckworth et al., 2019). Essentially, I believe that every student had the possibility of using social media and the concomitant connectedness to their advantage and not be caught in cycles of distraction; yet this does require a certain amount of awareness and discipline.

**Challenges, Strengths, and Limitations**

During the study design, the interviews, and in the subsequent analysis, different challenges presented themselves to the researcher. These include an initial problem with finding enough participants and several rearrangements of the interview schedule to dates that were outside the specified data-gathering timeframe. At the beginning of conducting the analysis, the researcher had problems with how to code and create themes correctly. However, after further research and help from the group coordinator, these concerns were cleared up. No further challenges were identified during the rest of the study.

Limitations of this study include a relatively low sample size of four students. Because of the in-depth analysis of each participant, qualitative research is naturally less inclined to have big sample sizes and there is no closely defined size rule (Patton, 1990). However, four participants could be considered little even for qualitative research. This lower sample size was also caused by the strict time schedule throughout the thesis project.

Additionally, due to selection criteria, the student sample only included local University students and none from other academic institutions. Furthermore, all participants

were pursuing a bachelor's level education, had close connections to the psychology program, and were only of an age range of 22 to 24 years. The last point is important because social media develops so quickly, that an 18-year-old student might have different lived experiences (Turner, 2015; Wood et al., 2015), and subsequently different learning experiences with social media. It is difficult to ascertain the definite implications of having only bachelor students that are closely connected to the psychology program. In its essence, these may just be seen as further sample diversity limitations.

Moreover, while the four participants originated from a relatively diverse range of western countries, the sample cannot be considered representative of all countries in Europe, or countries outside of it. Cultural differences are important to consider, because culture, among other things, shapes how people communicate and build relationships with each other (Gudykunst et al., 1996). Culture can also influence social media usage and the attitude towards it (Muralidharan et al., 2015; Ji et al., 2010). For example, Korean students focused more on obtaining social support there, rather than entertainment, like their American counterparts (Kim et al., 2011). This extends to the usage of social media for academic purposes as well (Qiao & Shih, 2018). Future studies in this area should therefore seek to broaden their participant pool to aid with a more accurate student representation and take factors such as culture into account.

Other limitations can be generalized to the nature of the qualitative research process itself. They include not being able to objectively verify the collected results, an increased difficulty in investigating causality, replication difficulties due to every study being essentially unique, and it not being statistically representative (Crescentini & Mainardi, 2009).

Besides the limitations, some alternative explanations for the present findings could exist. These include the possibility of participant bias, as the students knew this research was done as a bachelor's thesis program. They might have therefore provided answers that they

thought would be relevant to the researcher, rather than their honest opinions. This might additionally be exacerbated by the fact that three out of the four participants knew the researcher beforehand. Another factor is interviewer bias, in which the researcher had subtle preconceived notions that might have influenced the interviewing process. Even though the researcher tried reducing personal expectations and bias as much as possible, some might have still occurred.

When summarizing the limitations and alternative explanations, some could have been avoided, for example, a participant pool where no one knows the researcher. Others are simply part of the type of conducted research and are harder to correct (Crescentini & Mainardi, 2009). Finding the best ways to compensate for these limitations and collect relevant data will help future studies to increase their internal validity and should therefore be of high importance.

The main strength of this study lies in the overall rich and detailed descriptions of the different students' lived experiences. Choosing an inductive and explicit analysis allowed for closely linking the codes and themes to the data themselves, rather than going beyond what the participants reported. This likely reduced any further limitations of the researcher's own opinions influencing the data interpretation. Lastly, this analysis approach and the general usage of qualitative research allowed for reporting individual results in significantly more detail than a quantitative analysis. This is important as different students can have distinct experiences and feelings about the research topic.

### Conclusion and Implications

This study looked at how social media and the concomitant connectedness can influence different students' learning experiences. Interviews with four students from the University of Groningen were conducted to discover what their personal experiences and feelings on the topic were. Participants reported multiple factors as being important for

learning, mainly including the general importance of avoiding too much social media, and the indirect help that social connectedness online can provide. The main detriments to learning experiences were prolonged social media exposure and distraction cycles.

This study provides an important addition to qualitative research, as well as the topic of how social media and the concomitant connectedness interact with felt learning experiences. Generally, students' positive experiences on social media were related to being able to see friends or further their academic and personal learning goals. However, when not attended to correctly, social media exposure did indeed mediate learning experiences in a negative way. Negative consequences include reduced attention and motivation, which students had to avoid. Actions for avoidance constituted mainly of reducing the exposure to their phone. The concomitant connectedness did not have a strong direct result on learning but should not be forgotten in the grander scheme of the research. To summarize, similar to other previously mentioned studies such as Masciantonio and colleagues (2021), a mixed result of both positive and negative factors was found.

Implications from this study that may be useful to both educational systems and future research include: (1) The possible dangers of social media if not used properly. I suggest that younger students are educated further on the dangers that social media can have on their learning by sharing individual stories and presenting easily understandable research. (2) The seemingly small role of social connectedness and its influence on learning. My findings show that students do not mention social connectedness often as a direct mediator of learning. However, it is unclear if this result can indeed be transferred to most other students' experiences. I, therefore, advocate for further research on this topic.

It should also be noted that in qualitative research, transferability is usually aimed for instead of generalizability (Willig, 2013). The findings of this study should therefore not be

generalized beyond this sample. Readers should instead feel invited to make connections between certain elements of this study and their personal experiences.

Finally, future studies, whether qualitative or quantitative, are needed to investigate the effect of social media and the connectedness within on lived learning experiences. In particular, the direct effect of social connectedness on learning needs further research, considering the essential role social relationships play in our everyday lives.

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**Appendix A**

Complete Interview Protocol

Topic Domain One: Social media in general

*Lead-off question*

„I'd like to start off by talking about social media in general, please be as specific as you'd

like. Do you generally use social media in your life? Ok, which apps/ sites are you using?

Could you go into a bit more detail and describe your everyday use with it?"

(Covert Categories: Most common social media apps; Their perceptions of them; Views on

other people's social media use; …)

*Possible follow-up questions*

1.  "So, you said you use [these apps/ sites]. How long do you usually use them in a day?

    During what timeframes, morning, evening, etc.?"

2.  "You said you don't really use social media that often. Why do you believe that is? /

    You said that you use social media quite often. Why do you believe that is?"

3.  "Regardless of whether or not you use it a lot, why do you think you use social

    media?"

4.  What do you think of social media in general? + steelman the opposite argument

5.  What do you think is the most common emotion you feel when you use social media?"

6.  ("Could you tell me how you feel about attention in combination with social media?")

Topic Domain Two: Social connectedness in social media

*Lead-off question*

"Now that I have talked a bit about social media, could you talk more about the actual 'social'

aspect of it? For example, how you connect with people, experience other people's content, etc."

(Covert Categories: Do they feel pressured to use social media? What do they think happens if they don't use it? Bullying on social media; …)

[Social connectedness is a **sense of belonging** to a group, family, or community. It's about the relationships people have with each other and their engagement with the broader community. Social connection is an integral component of health and well-being.]

*Possible follow-up questions*

1. "Do you usually interact with people on social media apps? Like friends, people you do not know, or online personalities (influencers)? How do those interactions make you feel?"

2. "How important do you believe social connectedness is for you?"

3. "Is there a difference of how you connect with people on different apps?"

4. "Would you consider looking at/ interacting with friend's social media post as building social connectedness with them? Why or why not? And with strangers?"

5. "Do you think social connectedness can be "built up" in the same way online than in real life? Why or why not?"

6. ("What do you think about influencers on social media?")


Topic Domain Three: Learning

*Lead-off question*

"Now I'm interested in what your learning experiences are like in university. Could you just give me a general overview of how you usually learn?"

(Covert Categories: influence of social media and learning, actual feelings of online and offline classes, motivation during learning)

*Possible follow-up questions*

1. "For example: do you make a schedule, do you just learn whenever you want to, etc.?"

2. "What were some difficulties that you might encounter when trying to learn?"

3. "Overall, how interested are you in your classes? Why is that?"

4. "What would you say has been the hardest part of completing your schoolwork?"

5. "Has your learning changed after the switch to online learning? If so, how?"

6. "Do you have a preference between online and offline learning? Why is that?"

Topic Domain Four: Combination of every aspect

*Lead-off question*

"I'd now like to combine basically every aspect we've discussed, so social media and your

interactions there combined with your learning experiences. Could you tell me whatever

feelings and thoughts come to mind regarding that combination?"

(Covert Categories: possibly too much social media use during learning; influence of it on

studying experiences/ results; their motivation while online creators show off wealth, etc.; …)

*Possible follow-up questions*

1. "Could you elaborate a bit further, maybe with some factors like your attention or
   motivation in mind?"

2. "How useful do you believe social media to be for learning?"

3. "Okay, so you said that social media has definitely had an influence on your
   learning. Why do you think that is? Do you believe there's a way to avoid that in
   the future?"/"You're saying it did not really influence your learning experiences.
   What do you think might have had an influence then?"

4. Was there anything that I did not mention that you would like to talk about?

**Appendix B**

Thematic Analysis Report

<u>Note:</u> The thematic analysis report contains larger quotes taken directly from the interview transcripts. Repetitions and spelling errors are therefore included.

<u>Theme 1: General learning outcomes</u>

The first theme provides a general overview of the participants' general learning outcomes with social media and the connectedness within as mediating factors. WhatsApp was still classified as social media since it also provided similar features such as texting and sending pictures.

Social connectedness and social media were both mentioned as important by all four participants. Lisa said the following: "Yeah well, the nice thing about social media, it's really much easier for people to get in contact with other people", also during the COVID-19 pandemic. Alex noted further: "I'm thinking about that, that, the questions of social connectedness and social medias every day. And it's an active, it has an active big part of my life".

Alex also saw student groups on WhatsApp only in a utilitarian sense, after he initially wanted to connect with people, but the other students seemingly did not want to. In this regard he said: "I had some trouble with students where I thought that they could be friends but they were really just focusing on this part of their life you know, students. And I'm not used to that like I'm used to bond with people, more than being uh, uh study peers, you know." When asked if connections could be built hypothetically, he clarified: "Yeah, I mean hypothetically it could. It never happened, even when I was a bit more active in these groups".

Opportunities for connecting with each other were important for learning as well. In this regard, Zoe said: "I like to read through other people's summaries as well, just to compare

mine to theirs and to see if we share the same contents, yeah. Despite the fact that social media seemingly provided a good source of connections and learning materials, social relations in real life were still seen as better. As Emma said: "I think that for me personally it's easier to meet someone in real life um. And um, you get a lot, a lot more from someone's personality when they're actually in real life". Zoe also added relevant notes about in person lectures: "I'm sitting in a lecture hall full of people, sitting with some of my friends there, even like exchanging ideas or opinions on certain topics during a lecture um makes me feel much more socially connected and it forces me in some way to listen to, or actually listen to what I'm uh supposed to listen to like the lecture. And um being able to talk to my friends about this during the break um or after the lecture".

Theme 2: Distractions:

This theme is about general descriptions from the participants of what getting distracted by social media entails, combined with the results on their learning experiences.

Distractions occurred quite easily and included several different aspects. Lisa for example mentioned: "I get distracted by things quite easily. So just things in my surroundings or yeah, things online or sometimes social media". General distractions were mentioned by multiple participants to be about news or events that they are interested in. For Zoe this was clarified as the following: "I really enjoy that from time to time just seeing news on there as well". Furthermore, Alex added: "I like to watch my friends' stories, sometimes just to know where they're at in their life, especially uh friends that have uh a professional aspect, that like, like artist friends, I would watch their stories to know what they're making and where they're going with their work." Lastly, Lisa noted that "I sometimes feel kind of, kind of guilty after just scrolling through social media, Instagram there's like a bunch of, actually, nonsense on there which you just keep watching anyways".

When scrolling through content, Alex felt that "then you just uh, just gets um drown into it just have to, to scroll". Furthermore, Zoe said "I found that you can go down rabbit holes on TikTok very easily, depending on the content you watch". Subsequently, three of the participants mentioned getting distracted if they are not actively controlling their usage. Lisa also felt that "social media can be very distracting. You can just get really into the zone of social media and it's really hard to, to go back to focusing on your work".

As mentioned in the first theme, social connectedness with friends was important to multiple subjects. However, these online interactions also led to social distractions. These include the need to text friends to stay connected with them or receive updates. For example, Alex "would say I like to watch my friends' stories, sometimes just to know where they're at in their life, especially uh friends that have uh a professional aspect, that like, like artist friends". Similarly, both learning and social media were seen as difficult when studying alone, and for multiple participants it was harder to focus with notifications on, especially when they came from WhatsApp. "You could get, a lot of people get a lot of notifications and they sort of become sort of reflex, I think, to just immediately respond to that", said Lisa. It also made Alex feel "really kind of excited, you know, like it's a drug. I can feel the, the, the dopamine coming, you know."

Emma also felt that social interaction can delay the studying process, with Zoe adding that "while I was supposed to write an assignment, but I'd rather sit on my phone and talk to friends or whatever, which I wouldn't be able to do during offline education, because then I wouldn't be at a lecture". Online education increased this feeling, as keeping a good learning schedule and being attentive during it was already seen as difficult. On-site learning on the other hand provided Lisa with "less distractions in my environment" and one was less likely to use their phone. However, she further elaborated that "I do think that it has kind of a big impact but maybe without social media there would have been other distractors".

Theme 3: Problems and opposing tactics

This theme looks at specific problems that participants experienced during their social media usage, which also influenced their feelings about studying. Afterwards, individual tactics are named that helped avoid these problems, especially those that increased learning effectiveness.

Zoe mentioned multiple points on the topic, namely that "I really disliked how it was able to shape my, shape my awareness for things and shape um, the direction my thoughts would go into and um what I really dislike about social media is that everyone can claim to be an expert or act as an expert". These motivational problems also extended to online learning situations. Alex explained this phenomenon by stating "I should not be attracted to other things, for example, social medias, when you're learning because they can uh, uh damage your attention when you need it. No, I think social medias are a difficulty when you're learning at by your own in fact".

The participants had to avoid specific social media applications, which was a learning process. They had to actively reduce their usage with strategies such as having a time limiter for social media time in between studying, turning off notifications or switching into airplane mode, or turning off the phone entirely. Interestingly, Alex also added: "When I was about 20 years old, I decided to remove all social medias just to check how life without, without them would be". Emma and Alex also mentioned waking up and immediately start studying, as you can then "do whatever you want afterwards". Alex also added: "you have to use it as a tool and not be instrumentalized by it" and "If you have enough self-control to use it, you will, the positive will outweigh the negative"

Theme 4: Tools for academic and casual learning

The last theme describes how participants used social media and the connections within to help in their academic and casual learning. Academic tools are related to necessary studying, such as learning for exams, while casual tools are about hobbies or interests.

WhatsApp was the main connector for acquired study information, as it helped with getting summaries from for example student groups. Zoe said that "I like to compare notes with a friend or two who take the same course, um yeah. And generally, I like to read through other people's summaries as well, just to compare mine to theirs and to see if we share the same contents, yeah". She also found a specific note taking method and "I did use LinkedIn for that one, to see some scientific papers using APA to see what it's supposed to look like. Um it definitely helps to give you examples and certain parts." Additionally, Alex mentioned Slimstampen as a supportive tool for exam preparation.

Zoe said about study with me content that "I can also see how it might be positively impacting for other people who might not have the innate or intrinsic uh discipline and motivation to do so themselves. And maybe it might be motivating for them to see someone else do it". General educational videos were mentioned by three participants as often being more helpful than their professor. Alex had a specific opinion on YouTube as a learning platform "YouTube is really great for that because you just start on the video and then you have another video that, that is either related to it in a way or not at all. But if you are in the good part of YouTube, you can learn a lot of great things". Lastly, social media assisted both Alex and Zoe to find people with common interests and knowing that these people exist was deemed as positive. These communities helped to form certain skills or find new information the participants wanted to learn about.