Instagram use and Identity Development among Adolescents

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Abstract

Introduction

Instagram is one of the most popular social media platforms among adolescents. The platform has many uses, including one that is particularly important for adolescents: expressing identity online. As identity development is one of the core tasks during adolescence, this raises the question how adolescent Instagram use contributes to identity development. A strong sense of identity is important for healthy development during adolescence and later stages of life.

Method

To collect data, 15 qualitative semi-structured interviews were conducted. The sample of participants included 15 young men and women between the ages of 16 and 24 years old. Participants were recruited through voluntary response sampling and snowball sampling. Based on the theoretical framework and the transcriptions of the interviews, a codebook was created through deductive coding. This codebook was used to code all interview transcripts.

Results

Posting impermanent content on Instagram stories seems to be the preferred way of sharing content on Instagram. While a user's Instagram account does give an impression of what the user is like, to fully understand the user's identity it's required to meet up in person. A user's social groups can often be retraced from the user's Instagram account. Finsta's and close friends stories are often used by adolescents to post more personal and raw content on.

Conclusion

This study showed that Instagram can be used as a tool that satisfies both agency and communion needs. On one hand, adolescents decide for themselves what they post and who can see it. On the other hand, sharing content on Instagram and interacting with others can also give us a sense of belonging.

Key words: adolescent identity development, social media, personal identity, self-concept, ideal self, social identity, social comparison theory

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1. Introduction

As of today, adolescents are one of the largest groups using social media platforms. Statistics show that 95% of US teens have access to a smartphone, and 45% of those teens say that they're online "almost all the time" (Anderson & Jiang, 2018). The platform Instagram is quite popular among teens specifically, as 62% of US teens indicate they have used Instagram before (Vogels et al., 2022). Another report by Hootsuite (2021) shows that almost 30% of today's Instagram users are aged 18-24 years old. Instagram is a social media platform on which users share photos and videos with others. Every user has their own profile, which they can use to post content on, or to 'like' and comment on posts of other users. There are multiple ways for the user to share content. Every user has a feed, which shows up when you go to their profile. Content that is shared on a user's feed is posted permanently, as the user's profile always shows their feed and the posts they have decided to share. Another way of sharing content is through "Instagram stories". A story can only be seen for 24 hours, after which it will be deleted. Lastly, the direct messages function of Instagram allows users to send other users messages, photos, videos and posts of other users.

Apart from sharing photos and videos and connecting with others, Instagram can also be used to reflect identity online. The platform allows users to create their own profile on which they can express themselves in their own way. Developing a sense of identity is especially important to adolescents, as it is one of the key developmental tasks during this stage of life (Erikson, 1963, 1968). By forming their identity, adolescents develop a sense of understanding about themselves, not only in a personal context, but also in a social one. Succeeding in developing a strong sense of identity will lead to healthy development during adolescence and later stages of life (Erikson, 1963; de Moor et al., 2019). As social media have become so integrated into daily life, a part of the process of identity development happens on these platforms (Granic et al., 2020). With social media providing a great platform to express identity, and identity formation being of great importance for adolescents, this raises the question how Instagram use contributes to developing and maintaining a personal and social identity during adolescence.

Though quite some literature on social media and adolescent identity development exists, few focus primarily on adolescent Instagram use through the themes of personal and social identity. This study focuses on personal identity in the context of self-concept and moments of pride and regret whereas social identity is explored though group memberships,

in- & outgroup and social comparison. With Instagram being one the most popular social media platforms around (Vogels et al., 2022), it is safe to say the platform plays an important role in adolescents' daily life and thus their identity development. The aim of this paper is to add to the literature gap and to gain a better understanding of how maintaining an Instagram account contributes to identity development among adolescents. The main research question of this study is:

"What role does Instagram play in adolescent identity development?"

As this study takes two different perspectives of identity into account, the main research question can be split up in two sub questions: "*In what ways does Instagram use influence personal identity?*" and "*In what ways does Instagram use influence social identity?*"

The insights of this study will add to the existing literature gap and can also be used to educate and inform young people and their parents about this topic. Understanding how Instagram can be used as a tool to both express and develop identity will contribute to healthy development during adolescence and later stages of life.

2. Theoretical Framework

2.1 Defining Adolescence

Adolescence has been defined in multiple ways. Dahl (2004) describes adolescence as the transition from childhood to adulthood. According to Erikson (1950), adolescence is a period in which the self-system is redefined. Adolescence is also defined as the years between the onset of puberty and the development of independence (Steinberg, 2014). In the book "Adolescence" by Steinberg (2020), the concept is described as a period in which an individual goes through biological, cognitive and social transitions. Biological transitions include all physical changes to the body in adolescents, whereas cognitive transitions during adolescence refer to the changes in the ways adolescents think. Finally, adolescents go through social transitions, which include the change of rights, privileges and responsibilities, for example reaching the legal age to drink, drive or to get married. As this research focuses on identity development, the focus will lie on the cognitive transitions during adolescence.

The World Health Organization (2022) defines adolescents as individuals between the ages of 10 and 19. However, the boundaries of adolescence differ when looking at the context. In terms of legislation, an individual is seen as an adult when they reach the age of 18. In a cognitive context, different cut off points are used when defining the period of adolescence. Whereas some researchers define adolescents as individuals between the ages of 10 to 19 years old (Irwin, Burg & Cart, 2002), others argue that adolescence may extend to the mid-twenties, as the brain is possibly still developing the frontal lobe and the limbic system (Beckman, 2004; Elliot & Feldman, 1990; Steinberg, 2020). This study focuses on somewhat older adolescents between the ages of 16 to 24, as we are interested in their identity development and because older age adolescents are better able to express themselves about these concepts (Steinberg, 2020).

2.2 Adolescent Identity Development

Identity formation is one of the key developmental tasks during adolescence (Erikson, 1968). Erikson (1963, 1968) defines identity as a fundamental organizing principle which develops constantly throughout the lifespan. Identity involves experiences, relationships, beliefs, values, and memories that make up a person's subjective sense of self. By modifying Freud's psychosexual stages of development, Erikson (1968) developed his own psychosocial theory of development, in which he described eight stages of development ranging from infancy to adulthood. During each stage, the individual goes through an inherent conflict or

crisis. If the individual manages to successfully complete a stage, this will lead to a healthy personality. Failing to complete a stage will lead to challenges in further stages and an unhealthy personality.

In these eight stages of psychosocial development, Erikson (1968) describes the stage that happens during adolescence as identity vs. role confusion. During this stage, adolescents try to develop a sense of self and personal identity, dealing with questions such as "Who am I?" and "What do I want to do with my life?" (Block, 2011). Erikson (1968) describes adolescents during this stage as being in a crisis, not in the sense of chaos, but in the sense of dealing with internal conflicts regarding identity. During this stage of life, adolescents experience uncertainty about who they are, but at the same time, they are going through the process of figuring that out. To develop a sense of identity, adolescents start to evaluate values, beliefs, and experiences of others, all while figuring how to create these for themselves (Harter, 2012).

Erikson (1968) describes how young children conform to the beliefs and values of their family and peers, whereas adolescents start to re-evaluate their own beliefs and values and compare them with those of others. Whereas communion plays a big role during our childhood, during adolescence we experience a need for agency (Granic et al., 2020; Locke, 2015). Rather than identifying with the ideas and perspectives of those around them, adolescents try to develop try own ideas and perspectives in order to create a positive sense of identity. Regarding identity, another need arises during adolescence, namely that of communion. Whereas agency refers to exploring new values and beliefs that make an individual different, communion refers to the need of wanting to belong to different social groups and to find values and beliefs they share with others (Granic et al. 2020). In order to develop a positive and healthy identity, adolescents have to find a balance between agency and communion. This study will focus on the main ideas of agency and communion. On one hand, there is the need to stand out (agency), whereas on the other hand there is a need to fit in (communion). These ideas relate to personal and social identity respectively: personal identity, which focuses on uniqueness, social identity focuses on sameness and similarities between an individual and the people around the individual.

2.3 Personal identity

Personal identity is a concept that focuses on the uniqueness of an individual, with the key question being: 'what makes a person stand out from the others?'. When we talk about

personal identity, self-concept is a term that is frequently used. Self-concept is a collection of knowledge about oneself. This includes a description, evaluation, and perception of oneself, what we think we are capable of, what we think we are worth, how we see ourselves in terms of appearance and personality and also an idea of the kind of person we want to become (Eccles et al., 1989; Harter, 2012). It also includes what we think others think of us. This idea others have of us becomes more and more important during adolescence, along with actual peer relationships (Westenberg et al., 2004). An adolescents' personal identity can be developed by exploring ideas, values and beliefs based on the adolescent's own interests. Digital platforms such as Instagram provide adolescents with features that cater to their agentive needs. Through posting either on their feed or on their story, adolescents express to others what they like and dislike (Granic et al., 2020).

As (personal) identity is a complex concept, this raises to question as to how we can collect data on this topic. The McAdams life story interview (2007) contains questions that don't directly ask the interviewee to describe their identity as a whole but ask the interviewee to explain a moment of pride, a moment of regret and a turning point in their life. An example of one of these questions is: " Please identify a particular episode in your life story that you now see as a turning point in your life. If you cannot identify a key turning point that stands out clearly, please describe some event in your life wherein you went through an important change of some kind. (McAdams, 2007, p. 2).

These life story interview questions require the interviewees to reflect on moments that have shaped their identity in some way. Taking into account these moments of pride, moments of regret, turning points in life and goals and dreams will shed light on the adolescents' beliefs, values and concept they have of themselves.

2.4 Social identity

Another key component of identity is considering one's social identity: defining oneself in terms of group memberships. To clarify, social identity is not about what an individual thinks that others think of them (this is included in one's self-concept), it is solely about how an individual identifies themselves in relation to others (Deschamps & Devos, 1998). The type of group memberships a person can have are usually categorized in terms of social, physical, and cognitive characteristics of individuals. Examples of such characteristics are age, gender, race, socioeconomic status, religion and (dis)abilities.

The social identity theory by Tajfel et al. (1979) explains how individuals' self-concepts are derived from their group memberships. The theory describes three processes that contribute to developing a social identity: self-categorization, self-identification, and social comparison. First, individuals categorize themselves to understand which groups they do or do not belong to. The process of categorization is based on the information individuals have about themselves and others. We try to detect similarities between ourselves and others, then we try to structure those similarities (Krueger, 2001). Self-identification refers to the process of an individual identifying themselves with the groups they have placed themselves in. They may start to behave more similarly to others in said groups. The groups an individual belongs to are called in-groups, while groups the individual is not part of are called out-groups. People tend to prefer members of their in-groups, as opposed to people belonging to out-groups (Leaper, 2011; Tajfel et al., 1979). Lastly, the process of social comparison takes place. In this process, individuals compare their own groups to other groups (Festinger, 1954). The idea that we have about our in-group should be more favourable than that of our out-groups. This phenomenon is called downward social comparison, meaning we deem our own situation to be better than that of others. When the out-groups' situation is preferred instead of our own, upward social comparison takes place (Abrams, 2001; Latif et al., 2021; Tajfel et al. 1979).

2.5 Social Media and Identity Development

Both personal and social identity development are influenced by social life and interaction (Erikson 1963, 1968). Although adolescents have different environments in which they interact with people, such as school, sports, jobs and at home, a lot of their interaction with others takes place on social media platforms (Steinberg, 2020). Young people are still forming their personal and social identity during adolescence and recently, they have been using social media platforms to do so (Davis, 2013). Granic et al. (2020) state that we are living in a 'hybrid reality', in which digital spaces are linked to everyday life. Adolescents have adopted these digital spaces so rapidly, that we cannot look at their psychological and social functioning without considering their online activities. Manago (2015) also states that online and offline identities are intertwined with each other. Adolescents project their offline identity onto their screens, especially on social media platforms where interactions are based on offline relationships, such as Instagram (Hollenbaugh, 2021).

Now that we know more about both the personal identity (agency) and social identity (communion) perspective, the next step is to investigate how these perspectives apply to Instagram use among adolescents. Personal identity is about how we see ourselves, so from this perspective we look at what makes adolescents feel like they are unique. By asking about self-concept, we will gain some insight into how adolescents see themselves and we can find out whether there are differences between different ages. It is expected that older adolescents have a stronger sense of self compared to younger adolescents, as they are likely further in the process of identity development (Erikson, 1963, 1968). The questions of the McAdams life story interview (2007) require reflection on impactful moments in life that have shaped our identity in some way. Whether or not adolescents choose to share content on Instagram about these moments will help us understand whether Instagram is a suitable social media platform to use when it comes to developing personal identity. It is expected that Instagram is mostly used to share positive moments (or in this case moments of pride) and that negative moments (moments of regret) are considered not suitable to post on a user's main Instagram account (Kang & Wei, 2020; Williams, 2022). However, it likely that negative content is posted on Instagram through the means of finsta's and/or close friends stories (Huang & Vitak, 2022). These are relatively new Instagram functionalities that have become popular in the last few years (Huang & Vitak, 2022; Kang & Wei, 2020; Williams, 2022).

When it comes to social identity, we look at how we define ourselves compared to others. To gain more understanding of adolescents' social identity, this study investigates adolescents' group memberships and how these are presented on adolescents' Instagram profiles. It is likely that groups such as friends, sports and hobbies are often represented on user's accounts. Posting a picture of oneself can also reveal information such as age (group), gender and ethnicity. When it comes to in-group versus out-group favouritism, it is expected that adolescents' interaction on Instagram mostly occurs with members of their in-group, as described by Leaper (2011) and Tajfel et al. (1979). Social comparison, as described by Festinger (1954) occurs in real life, but it most likely occurs when using Instagram as well. Users can compare the way their account looks to that of others and either feel better or worse about their own, in which case they experience either upward or downward social comparison (Abrams, 2001; Latif et al., 2021; Tajfel et al. 1979).

3. Methodology

This study focuses on gaining more insight into how Instagram use contributes to adolescent identity development, in which personal experiences, attitudes and behaviours are the types of data that provide answers to the research questions of this study. It is often difficult to quantify these types of data, hence a qualitative approach is preferred (Tenny, 2017). Quantitative designs are often used to test certain theories and hypotheses, whereas qualitative designs allow for rich descriptions and a better understanding of certain phenomena (Sofaer, 1999). As the goal of this study is to describe and explain the role that Instagram plays in adolescent identity development, a qualitative study design was chosen.

3.1 Procedure

To recruit participants, an Instagram story was posted along with a message that was sent out in several WhatsApp group chats. Both the Instagram story and the WhatsApp message contained general information about the study, participant inclusion criteria and contact details of the researcher. Participants that met the criteria and were willing to participate were asked to provide their e-mail address. Then, a follow up e-mail was sent that contained information about the purpose of this study, available timeslots for the interview and the question whether the participant preferred to do the interview in person or online on the platform Zoom.

Before the start of each in person and online interview, the participants were asked if they read the background information. Then a brief introduction to the interviews was presented, to inform all participants of the purpose of the study. Lastly, all participants filled in an informed consent form (see Appendix A). Once participants had signed the consent form, the interviews started. The recordings of the interviews were stored on a password-protected Google Drive to which only the researcher had access. During all interviews, the set of questions regarding Instagram use in general, personal identity and social identity was covered with the interviewee. Each interview took about an hour to complete. In total, fifteen semi-structured interviews were conducted. The study design and procedure were approved by the ethics committee of the Faculty of Behavioural, Management and Social Sciences of the University of Twente (221401).

3.2 Interview questions

The data for this study was collected through semi-structured interviews. Miles and Gilbert (2005) state that the flexibility of semi-structured interviews allows for a great way of collecting data to answer a "why" question. This type of interview allows the interviewer to ask the participants to elaborate on their answers, while also allowing the interviewer to ask extra questions where they see fit. Lastly, semi-structured interviews allow for a more natural flow of communication between the interviewer and the interviewee.

Prior to the interviews, a set of prefixed questions was prepared to ensure all topics of interest were covered. The set of interview questions was based on the concepts related to personal and social identity, including self-concept, moments of pride and regret, group memberships, in- & outgroup and upward & social downward comparison. Next to that, some questions about participants' Instagram use were included at the beginning of the question set. Some topics of the McAdams life story interview were used to gain more insight into the participants' self-concept and ideal self, including questions about a high point, a low point, a turning point in the participant's life and the participant's plans for the future (McAdams, 2007). Example questions are: "Some events in life can be described as turning points, which are events that mark a significant change in you or your life story. Could you tell me about a turning point in your life? Think about what happened, who was involved and what you were feeling during this event." and "When we look at the future, are there any goals/dreams you want to achieve? What kind of person would you like to become?"

Before using the set of questions during the actual interviews, the set was pre-tested twice with two participants each time. The initial set of questions can be found in Appendix B. By pre-testing the interview questions, it became clear that some questions were not yet clear enough and needed some more explanation beforehand. For example, the question "Let's say your Instagram represents the online version of yourself. Is this online version of you similar to your offline self?" was changed into "People have certain perceptions of you based on the interactions you have with them in life. Some of these interactions take place on Instagram. These interactions are different from real life interactions, as Instagram is an online platform. Let's say your Instagram represents the online version of yourself. Is this online version of you similar to your offline self?" This gives the participant a clearer understanding of the question that is asked and what kind of answer they are expected to give. The pre-tests also showed that the participants gave fairly short answers and needed to

be asked follow up questions in order to give more detailed and in-depth answers. These final set of questions can be found in Appendix C.

3.3 Sample method

Participant recruitment was done through non-probability sampling, which means that the participants of this study were selected based on non-random criteria (Acharya et al., 2013; Etikan, 2017). This type of sampling is widely used for qualitative studies. Moreover, a combination of voluntary response sampling and snowball sampling was used during this research, as these methods are straightforward and inexpensive (Acharya, 2013). The first four participants were gathered through voluntary response sampling, as they indicated they wanted to participate after seeing the message sent through WhatsApp. After they finished their interview, they were asked if they knew other people that fit the participant criteria and who would be interested in participating in this study. This resulted in finding eleven other participants through snowball sampling.

3.4 Participants

This study included 15 participants, including 12 female and 3 male participants. The youngest participant was 16 years old, and the oldest participant was 24 years old. All of the participants use Instagram at least once a day, with more than half of the participants' daily use being between one to two hours each day. Five of the participants estimated their use to be under 30 minutes per day. Eight of the participants indicated to use Instagram between 30 and 60 minutes every day. The other two participants estimated their use to be over 60 minutes every day. All participants indicate to open the app multiple times a day, which implies that their time of use is divided into multiple sessions. All participants' descriptive statistics can be found in Table 1. All participants' ages can be found in Figure 1.

Table 1

Descriptive statistics of participants

	Mean	S.D.	Min.	Max.
Age	19.46	2.20	16	24
	Frequency	Percentage		
Gender				
Male	3	20		

Female	12	80
Age range		
16-18 years old	6	40
19-24 years old	9	60
Instagram use		
Up to 30 minutes every day	5	33.33
30 to 60 minutes every day	8	53.33
More than 60 minutes per day	2	13.33

Figure 1

Participants' ages
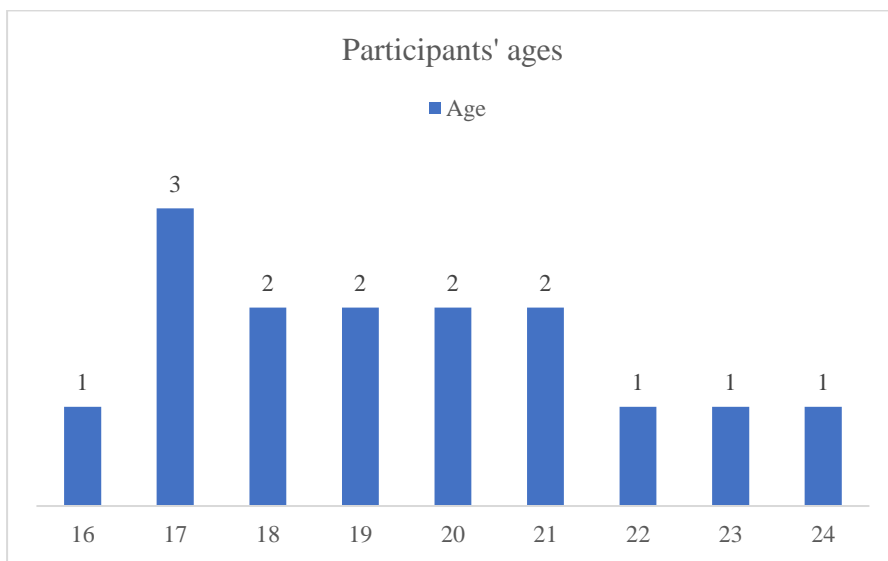
3.5 Data Analysis

After the data collection, the recordings of the interviews were used to transcribe the interviews. The data was processed through intelligent verbatim transcription (McMullin, 2023). All the participants' names were anonymized, and the recordings of the interviews were deleted after the transcriptions were finished. After transcribing the interviews, a codebook was created through both deductive and inductive coding. The deductive coding method is helpful if the goal of the research is to generalize analytically across different cases (Eisenhardt, 1989; Linneberg & Korsgaard, 2019; Rowley, 2002). Inductive coding allows the researcher to reflect on the links between the research topics and the findings from the data (Thomas, 2003). First, a set of codes was made based on the interview questions and the theoretical concepts described in the introduction. After coding three interviews, some slight adjustments to the codebook were made. Some new perspectives on certain topics such as group memberships and social comparison arose during the interviews. Hence, a couple of subcodes were added to these topics in the codebook.

The codebook consists of several code groups. The first two groups are 'demographics' and 'Instagram Use'. The theoretical concepts of personal and social identity were also added to the codebook as code groups. These code groups were then split up into codes, of which each of the codes is connected to one of the interview questions. To specify even further, each code is split up into two or more subcodes. For example: the code 'Reasons for Instagram Use' is split up into four codes: entertainment, connect with friends, inspiration and self-expression. The codebook can be found in Appendix D.

To make sure the codebook was reliable, Cohen's Kappa was calculated to test the intercoder reliability. The intercoder reliability reflects on how different coders agree on the constructs found in the data, so it can be used as a proxy for the validity of the constructs found in the data (Cheung & Tai, 2021; Kurasaki, 2000; Ryan, 1999). For this study, a Cohen's Kappa score of 0.81 was calculated. According to the strength of agreement for the Kappa statistic of Landis & Koch (1977), this indicates an almost perfect agreement.

4. Results

4.1 Instagram use in general

Among the participants, the most common reason to use Instagram was to check up on their friends' activity. When a friend has posted something, it is very common to interact with that content, either by liking the post or commenting on it. One participant even described that they felt some kind of peer pressure to like and comment on their friends' content. She explained: "We always like and comment on each other's photos, it's weird and maybe even kind of mean if you don't." The direct messages function is often used to communicate with other Instagram users, often close friends and family.

Another frequently used reason to use Instagram is entertainment. Popular content of humorous nature, commonly known as 'memes' often appear on the participants' feeds and search pages. These 'memes' are often exchanged with friends and/or family throughout direct messages. Some participants indicated they can 'spend hours on their search page'. Apart from finding and interacting with memes, some participants also indicated they use Instagram as a source of inspiration. Participant 1 and 3 mentioned they often find recipes and outfit ideas on the app. No participant explicitly mentioned self-expression as a reason to use Instagram.

Whereas all participants were active on Instagram in the sense that they were online a few times each day, they did not spend all of their time on the app posting. Posting stories seemed to be more popular among the participants, with one story per week on average. These Instagram stories are not permanently visible on adolescents' Instagram accounts, they disappear 24 hours after the moment the content was posted. The participants don't post much on their feed anymore, most participants indicated to post content on their feed once every few months. There seems to be an agreement between participants that a picture is usually only posted on their feed when the user thinks they look nice, pretty or appealing in said picture. The content seen in the participants' stories is usually either a picture or video showing an impression of the location the user was at, or content the user themselves didn't deem 'nice enough' to be posted on their feed.

4.2.1 Personal identity and Instagram use

When asked to give a description of oneself based on the life story interview question by McAdams (2007), a small difference was seen between the age groups. The older age

group of 19–24-year-olds seemed to have a slightly more defined self-concept compared to the younger age group of 16–18-year-olds. The older age group also seemed a bit more confident when talking about their qualities, whereas some of the participants of the younger age group seemed hesitant while thinking of their answer. For example, participant 3, who's 23 years old, described themselves as follows: "*Okay I need to think about this for a little while. I guess I'm a pretty cheerful and happy person, I'm not happy all the time but I'm usually in a good mood and I feel like that spreads to other people. I am also very caring for others, it's important to me that other people feel good, and I always try my best to make sure other people feel good. I'm also very outgoing, I love meeting new people and trying new things. I am confident and I am not afraid to say what I think. I'm pretty good at communicating with people, especially now that I've gotten a little bit older. I've always been very mature for my age, and I still am now. I'm thinking about more things about myself [laughs]. I'm a little bit of a nerd I guess I know a lot of things about a lot of things. Lastly, I would say I am pretty creative, yeah.*" Participant 2, who is 17 years old, answered: "*Okay, well. I would say I am a nice person. I am smart and I work hard at school. I'm a little shy sometimes, I do like meeting new people but sometimes I just don't know what to say. I am pretty happy most of the time and I try to cheer up everyone around me. I don't know, this is hard.*" These quotes are an example of a difference that was seen often when comparing the answers of the younger adolescents to those of the older adolescents. The main differences were that the older participants gave longer answers, used more detail to describe themselves and gave better examples of how they use their traits and characteristics in real life.

4.2.2 Online vs. offline self

When asked whether the participants thought if their online self was similar to their offline self, all participants seemed to agree that their online and offline identity were similar. However, when asked to elaborate, different opinions about the online and offline self-emerged. More than half of the participants seem to agree on the fact that an Instagram profile does show parts of someone's identity, but that it's hard to assume what someone is like based on their Instagram account only. Multiple participants indicated that it would require meeting a person in real-life to better understand their identity. Participant 15 explains: "*When you talk to someone face-to-face, it's much easier to understand them than when you talk to someone online. You can see their reactions and it's also much easier to understand what someone is saying when you can actually hear them say the words as opposed to reading them off of a screen.*"

A few participants do mention that some important parts of identity can easily be recognized through someone's Instagram profile. Participant 11 elaborates on this: "*I feel like it's especially easy when you look at a student's account; within the first few posts you'll know which student house they live at, if they're active in their student or study association and what sports they play.*" Participant 14 adds that it's common to post pictures with friends on Instagram: "*By taking a look at someone's profile you can easily find out which friend group someone belongs to. Knowing who they're friends with can tell you something about what they're like as well.*" Other participants mentioned that some of their online interactions on Instagram are rooted in their offline interactions. Participant 1 mentioned that the people they interact with on Instagram are often people who are close to them: "*My friends know how I talk in real life, so when we talk in direct messages it's pretty much the same as a conversation in real life.*" Participant 14 also mentioned: "*I feel like my friends would say my Instagram gives a pretty good idea of who I am in real life, but that's also because we hang out in real life. They know a side of me that's not really visible on my Instagram.*"

4.2.3 Sharing impactful moments in life on Instagram

When it comes to the questions about moments of pride, regret and turning points in life, the participants all described very different types of experiences. When talking about moments of pride, the participants that mentioned academic and sports achievements as their proudest moments considered those moments to be fairly common to post about on Instagram. Participants 4, 5 and 7 mention that they have posted a picture of their sports achievement on Instagram. They explain how they thought it was fair to show off their achievement and how they thought that their followers would enjoy that type of content. Participant 13 commented on posting a picture of them wearing a gold medal: "*Posting a picture like that and getting a lot of likes and comments just makes me feel good about myself.*" This may imply that this participant was looking for recognition and maybe even appreciation from others. Other participants thought differently about posting moments of pride on Instagram. Participant 11 commented: "*I never felt the need to post about it. I didn't work that hard just so I could post on Instagram that I got a good grade.*" She also explained how she doesn't need confirmation of others to know that she's done well. Participant 14 added to this: "*Posting stuff like that is only asking for attention. I don't need others to tell me I can be proud of myself.*"

One of the participants explained how they thought that the moment they were proud of was "too personal" to post about on Instagram. Participant 3 stated: "*We don't even share our deepest thoughts with everyone around us in real life, so why would we do that on social media?*" Participant 11 also commented on their moment they were proud of: "*I feel like this is something I'd write in my journal rather than posting on social media for everyone to see. Working on yourself is something most people do in private.*"

When it comes to moments the participants' regret, it seems all participants agreed that it's not common at all to post about these moments on Instagram, regardless of the type of moment. Multiple participants explained why they thought so. Participant 5 elaborated on this: "*I think it's pretty obvious that people only post positive stuff on Instagram. Everybody just wants to show the best part of themselves, right? You don't see pictures of people crying or someone posting their bad grade.*" Participant 11 also mentioned that Instagram is a platform '*you only share happy moments on*' and that it's strange to her how people aren't more open on Instagram like they are on other social media platforms like TikTok or Snapchat. One participant has posted about a moment they regret. Participant 4 has posted a picture of her getting a silver medal while she regrets not coming in first place in her swimming match. She explains that even though she regrets that she wasn't good enough to win the match that day, she still shows sportsmanship through congratulating her fellow athletes.

Regarding the participants' turning points in life, it seems to be unusual to post about on Instagram. Most of the participants linked their turning point to the moment they regret, so the moment has a negative connotation. Most of them also explained that the reason they don't post about this turning point is the same reason they don't post about the moment they described as regretful, which confirms again that Instagram is a platform on which users only show the best side of themselves. Another reason for this may be that the lesson the participants learned from their turning points are too personal to post about online. As mentioned earlier, the participants seemed to think that personal matters are not to be shared on Instagram.

When asked about goals and dreams for the future, "*I want to be happy*" was the most common answer among the participants. Only when asked to elaborate, new and more detailed descriptions emerged. For some participants, "*being happy*" meant having a job they enjoyed, for others it's having their own house and a family. One of the participants even

described a wish to become a top athlete. Participant 8 and 11 explained that they want to become better at their hobby and maybe even make some money off of their hobby in the future. The participants' opinions seemed to be divided when asked about posting their goals and dreams on Instagram. Participant 13 stated: "*I think posting about your goals can give you opportunities to achieve those goals. Some of your followers may know that one person that could help you on your journey to fulfil your goals.*" Another participant disagreed: "*I think it's better to keep your plans to yourself, you wouldn't want everyone knowing about your plans or even worse: someone copying your plans.*" Some of the participants divided their big goals up into smaller goals. Participant 11 explains how she tries to sell her beginners sewing projects on Instagram. She thought that is one of the first steps to take when starting your own business. Participant 4 explained how dividing big goals into smaller goals is the first step of reaching your big goal. She stated: *"... I posted about the next national swimming match instead of posting about wanting to go to the Olympics because that (the next national swimming match) would be my next step.*" Participant 7 supported this: *"If you want to reach a goal, you should make a plan on how to get there. Every step of the way is a smaller goal that will eventually lead you to reaching the big goal."*

4.3.1 Social identity and Instagram use

All of the participants were able to name a fair amount of the groups they belonged to. The groups age, gender, sexual orientation, religion, ethnicity, sports and hobbies were asked for during the interviews. Some participants came up with new groups themselves such as educational level, study profile at high school and (dis)abilities. Those groups were added to the codebook. When asked about the group the participants identified most with, the most common answer was age. Almost all participants mentioned that age is very important as most of their friends were in the same age group. Another common answer was to mention a favourite hobby, which was either be a sport or another hobby, such as working out, football, painting, crocheting and reading. A few participants also mentioned speaking Dutch as one of the most important groups, as most of the people they interact with speak Dutch as well. Participant 15 explained: "*I would say age, my friend groups from home and Enschede and my hockey team. Those are the people I hang out most with anyway.*"

More than half of the participants agreed that their groups are represented on their Instagram account. Some groups are more obvious than others, such as age and gender. Participant 8 and 9 explained how posting a picture of yourself already reveals groups like

age, gender and in some cases ethnicity. Groups such as educational level and (dis)abilities are not as easily recognized compared to age and gender. Lastly, a few participants mentioned that it's common to post content about groups like hobbies, friend groups and sports. Participant 14 elaborated on this: "*I think people usually post about the groups they belong to, to also show other people on Instagram that they belong to certain friend groups*".

4.3.2 Interaction with others on Instagram

Almost all participants agreed on the fact that interactions with others on Instagram occur between both people in their in-groups as well as their out-groups. Participant 3 mentioned: "*... this is a yes and no. For example, one of my friends from yoga, she's obviously my friend through our yoga classes, but she is from Spain. This means we share the group yoga, but we don't share the group ethnicity.*" Participant 1 explained how she both agrees and disagrees: "*I guess the most important thing is that you have at least one thing that connects you to other people, the rest of their groups can be very different from your own.*" Interaction between members of an in-group seems to occur more frequently.

Participant 4 explained how people outside of his groups interact with him on Instagram: "*Maybe those scammers that everyone gets under their pictures? Somehow the most random people will comment underneath your posts for money or a follow back.*" He also explains how that interaction is unwanted but does not necessarily have to do with the fact that it's coming from a stranger of an outgroup. More than half of the participants indicated there aren't any outgroups they wished they were part of, as they were happy with the groups they were a part of at the moment of the interview. The participants that did want to be a part of an out-group, mentioned groups such as business owners, parents and even top athletes. However, they didn't actively seek out interaction with those groups on Instagram. Participant 15 states: "*I mean, I want to be a mom but realistically it's not going to happen soon. Right now, it's not really relevant for me but maybe when the time comes you look up more stuff about babies and being a parent.*"

Almost half of the participants had their Instagram account set on private, whereas the other half doesn't. Some participants mentioned they wanted to decide for themselves who is allowed to follow them. These participants also mentioned wanting to keep "*creeps*" and "*scam accounts*" away. Other participants claimed they don't mind who follows them and that they have no secrets whatsoever. After all, unwanted followers can be blocked and removed from an Instagram account even when the account is not set on private.

4.3.3 Finsta's & Close friends stories

A few participants mention that they don't have a close friends story or a finsta. They seemed fine with posting whatever they want on their regular account. Participant 7 stated: "*I don't really see the point of either of those, just post whatever you want to post. People that don't like it can unfollow you, it's that easy.*"

Almost half of the participants admitted to having a close friends story. Not all of these participants use this story as often, but they have mentioned that it sometimes just feels better to post on their close friends story as opposed to their regular story. One participant mentioned that she can "*post freely on my close friends story without getting the feeling I'm being judged*" and that "*seeing the green circle (which indicates you're allowed to see someone's close friends story) makes people feel special, which means they also interact much more*" Another participant described the content in her close friends story as "*too wild*" for her regular story or feed. She stated: "*I'd rather not post a video of me when I'm drunk on my regular story. I'm just aware of my digital footprint.*"

Two of the participants revealed that they have a finsta account. All of these extra accounts are set on private and only accessible to the participants' closest friends and family. Participant 12 explained how she uses her finsta account as a sort of diary. "*I post a lot and I think most of the content on there would bore most of my followers on my regular account. I'd say it's more like a personal diary for me and my closest friends.*" The other participant explained how she puts "*crazy*" content on her finsta: "*Stuff like drinking and smoking aren't really considered as good things. On my finsta account I can post stuff like that without anyone judging me.*"

4.3.4 Social comparison

The participants were asked if they compared their own Instagram account to that of others. Different ideas about social comparison arose. Over half of the participants agreed that they compared their Instagram profiles to those of others. However, it only made a few participants feel negative about their own Instagram accounts. Participant 12 explained she's well aware of the fact that her friends have profiles that look "*nicer*" than her own. "*I try to take pictures like they do and make up my feed the same way, but it just doesn't turn out good when I do it.*" Participant 1 described how she experiences upward social comparison but handles it well: "*Sometimes I wish I could take nice pictures, just like some of my friends, but I've come to accept that maybe that's just not me. As I get older, I also start to care less*

about social media and more about real life." Some participants claimed they don't compare their Instagram to those of others. Participant 5 stated: *"I don't care that much about how my Instagram looks. I like it, and that's enough."* Participant 3 mentioned: *"Of course you look at other people's Instagram and in the back of your head you'll be like 'oh my god their pictures are much nicer than my own'. But then you think about what you'd have to do to get those pictures and you're like never mind. I think everybody compares but you can still be neutral about it."* This participant implied that everyone experiences upward or downward comparison, but not everyone experiences negative feelings after doing so. Participant 15 explicitly mentioned she experiences downward social comparison: *"I do take some time to take nice pictures for my Instagram and I make sure my feed looks nice. I don't like to look down upon others, but I do think my account looks better compared to that of an average user."* The data implies that with the exception of this participant, most of the participants have experienced upward social comparison.

5. Discussion

This study focused on investigating Instagram use and its role in adolescent identity development. By conducting semi-structured interviews, the concepts of Instagram use in general, personal identity and social identity were explored. Overall, the data shows a lot of overlap with the themes of agency and communion. As Instagram is a social media platform, it seems apparent that the platform is developed in way that satisfies communion needs rather than agentive needs. However, as the platform allows every user to have their own profile on which they can post whatever they want, the platform also satisfies agentive needs at the same time. Social identity is expressed through interactions with other users on the apps, and also through posting content. Posting content on Instagram is a process that works in two ways. Posting a picture with friends, for example, can give an adolescent a sense of belonging to that friend group. On the flip side, feeling connected and relating to a friend group may also cause an adolescent to post about that experience more.

5.1 Agency

While participants mention several reasons for using Instagram, such as checking up on their friends' activity, consuming funny videos and finding inspiration, none of the participants mentioned self-expression as a reason to use the platform. A reason for this may be that users are unconsciously self-expressing on Instagram without them realizing it (Oakley & Halligan, 2017). Another explanation for this result may be that even though the participants spend a fair amount of time on the platform every day, they spend very little time actually posting content. The data shows that they post approximately one story per two weeks and that they rarely post something in their feed. This may be explained by what Nesi et al. (2018) describe as 'permanence'. This refers to the extent to which content is accessible after the initial moment of posting it. Adolescents may feel like posting on their feed on Instagram is too permanent, as the posts are always visible whenever another user goes to see their profile. Instagram Stories disappear 24 hours after the moment they were posted, so these Stories aren't as permanent as posts on their feed. Granic et al. (2020) also discuss how posting impermanent content with features such as Instagram Stories can foster feelings of agency.

Most of the participants seemed to agree that their Instagram profile reveals some information of what they could be like in real life. Some of the participants explain how they think that some information, such as gender, friend groups and hobbies are easier to find on a

person's Instagram profile. On the other hand, a few participants commented on how it's difficult to find out someone's personality traits and characteristics based on the photos on their Instagram account. Furthermore, participants stress that it's important to meet someone in person to get a better and clearer idea of someone's identity. This implies that the participants link their online identity to their offline identity, which is also described in earlier work by Granic and colleagues (2020) and Manago (2015). The results also suggest that a lot of the interaction between Instagram users occurs between users that know each other in real life. This relates to the studies of Boyd (2010) and Granic et al. (2020), as these studies explain how online and offline social interactions are not two separate things, but rather merged with each other.

The sample seems to agree on the fact that it's fairly common to share about moments of pride on Instagram. The results imply that sharing content about academic, career and sports achievements is seen regularly and has several reasons behind it. These reasons include wanting to celebrate their achievements with others, wanting a confidence boost and feeling proud of themselves. This is supported by the research of Lee et al. (2015), which explains how community support and status seeking are reasons for sharing photos and videos on Instagram. A few participants seem to think that posting achievements is a way of asking for attention. Of course, posting about achievements is a way of asking attention, the issue here is that these participants probably have their own reasons for not wanting to attract that kind of attention. The data also implies that feeling proud of oneself because of personal or spiritual achievements is extremely uncommon. Multiple participants have explained how Instagram is a platform that users show the best side of themselves on, which does not include posting content about matters deemed "too personal".

The same reasoning is seen when the participants were asked about a moment they regret. Regardless of the nature of the regretful moment, participants explain how they think nobody posts content about moments they regret on Instagram. Again, it is mentioned that Instagram is a platform on which only positive moments of users' lives are shared on. One of the participants mentioned that they think that Snapchat and TikTok are platforms on which it is more accepted to post negative content. As users present themselves in a certain way to influence how others see them, namely by posting positive content only, these results can be linked to the studies of Hollenbaugh (2021) and Schlosser (2020). The data shows that turning points are often linked to negative moments in life. Participants tend to think of their turning point as a moment in which their life need change for the better, which is why they

often think of that moment in a negative way. This resulted in participants mentioning the same reasons for not posting about turning points in life; Instagram is used to post about positive moments in life, leaving the negative moments out of the picture.

The sample had different opinions about having a close friends story and finsta's. Some of the participants didn't seem to mind posting whatever they wanted on their story, whereas other felt a need to create a separate story or account to freely share pictures and videos on. Close friends stories and finsta's allow a user to control whoever is able to see the content posted on there. In most cases, only close friends and family are added to these stories and finsta's. This again confirms that interacting with others part of our in-groups is preferred. It also sheds light on a new issue, namely that of some users not feeling comfortable enough to share their content on their regular profile. One of the reasons for this may be a need to control one's digital footprint and public image. Some users try to shield off their content to others as it may lead to negative consequences, such as not getting a job. Another reason could be that a user is afraid of feeling judged by others, especially those who are not very close to them. A close friends story or finsta offers the user a "safe space" to post whatever they want, without risking the judgement of others. This phenomenon is also explained in earlier work by Huang & Vitak (2022), Kang & Wei (2020) and Williams (2022).

5.2 Communion

Regarding group memberships, participants were able to name many of the groups they belonged to. The data also shows that the groups the participants identified most with, are hobbies, friend groups and age. An explanation for this may be that peer relationships are of high value to adolescents, which is also described by Westenberg et al. (2004). The groups "friend groups" and "hobbies" seem to be the groups that users often post content about. Deschamps & Devos (1998) describe how one's social identity is based on how an individual relates themselves to others, which can also be done through using Instagram. Users often post content that include their groups, which is a way of showing other users what groups they belong to.

There seemed to be an almost unanimous agreement that interaction with others occurs between both members of the users' in-groups, as well as members of the users' out-groups. The results indicate that the participants were well aware of the fact that other users can simultaneously be part of their in-group, as well as of their out-group. A user can interact

with someone they share the same age with, but not the same hobbies. What we can conclude from these results is that in most cases, the users an adolescent interacts with usually share at least one group with the adolescent. The participants seem to prefer to interact with others within their in-groups, which is in line with the findings of Leaper (2011) and Tajfel et al. (1979).

Some surprising results were found in the data regarding social comparison. More than half of the sample agreed that they compare their Instagram profiles to both others in their in-group, as well as others in their outgroup. Social comparison takes place, also on Instagram. This led to the users feeling more negative about themselves, which indicates the users experience downward comparison. Earlier work from Abrams (2001), Latif et al. (2021) and Tajfel et al. (1979) has also explained how social comparison takes place. What's surprising, however, is that none of the participants felt negative enough to change anything about their Instagram profiles. The participants seem to think that others' accounts often look better than their own, but they don't care enough to take any action to change that feeling. Also, it seems that though adolescents spend a lot of time on Instagram, they don't actually care all that much for the way their profile looks. Instagram can be used to express identity but connecting with others and consuming funny content seem to be more important reasons for adolescents to use the platform.

5.3 Limitations & future research

Based on the conducted study and the key findings above, some limitations should be mentioned. First of all, the sampling method didn't allow for an extremely diverse sample. As snowball sampling results in participants suggesting people close to them, a lot of the participants had similar demographics and maybe even similar life experiences. When it comes to qualitative research, it is important that the sample size is saturated. Saturation implies that no additional data would be found if the researcher were to include more participants in their sample (Hennink & Kaiser, 2022). Because of convenience sampling, it may have been the case that the sample size wasn't fully saturated and that different participants may have provided other ideas and insights. Also, it needs to be acknowledged that a larger sample would have yielded more results, which in turn leads to results that are easier to generalize (Dworkin, 2012; Mason, 2010).

In addition, during the interviews it became clear that some of the participants had some trouble wording their answers. This is a result of either the participants' age, their level

of English or the fact that identity itself is quite a complex concept to think and talk about. Whereas all of the participants did speak English fluently, it was difficult for some participants to find the right words to some of their answers, which lead to the researcher assisting to translate the Dutch words for the participant. Some participants indicated that describing themselves was really hard as they don't think too much about their identity in their day-to-day life. It's understandable that it may have been difficult for the participants to talk about identity, not only because of the fact that the participants are still developing their identities, but also because identity development and expression often happen unconsciously (Oakley & Halligan, 2017). This could have slightly affected some of the answers given during the interviews.

As the findings from this study suggest, it may be wise to include other social media platforms in a study like this, as it seems that identity is expressed in different ways across these platforms. One of the participants claimed that platforms such as Snapchat and TikTok are different in a way that users often show more vulnerable sides of themselves, which seems uncommon to do on Instagram. According to the data, the type of content posted on other social media differs a lot from the type of content posted on Instagram. Some literature on adolescent identity development and separate social media platforms exists (Charteris, Gregory & Masters, 2014; McRoberts et al.; 2017; Rogers, 2021), but it could be interesting to investigate identity expression across different platforms in one study. To get a more complete idea of how Instagram affects adolescent identity development, the use of close friends stories and finsta's should be more thoroughly investigated. Since the data of this research doesn't fully explain this type of online behaviour, exploring these topics may yield some interesting results. Though research on the use of finsta's exists (Huang & Vitak, 2022; Kang & Wei, 2020; Lee & Whittaker, 2020; Tao & Ellison, 2023; Williams, 2022), most of them do not relate to adolescents and identity development in particular. Understanding why finsta's serve as a safe space for adolescents to fully be themselves may help in developing a more positive identity.

5.4 Conclusion

To summarize, the main findings of this study are that Instagram can be used as a tool to satisfy both agency and communion needs. The 'stories' features of Instagram seems to be the preferred way of posting content among adolescence, most likely because of its' impermanent nature. Older adolescents are able to give a more detailed description of their

self-concept compared to younger adolescents, which is more likely influenced by age than it is by Instagram use. A user's Instagram profile gives away some information about the user, but to fully get a grasp of the user's identity, meeting up in-person is required. This implies that adolescents online and offline identities are closely tied together. This study showed that Instagram is mostly used to share the best sides of ourselves and that's it's rare to post negative or personal content on the platform. Adolescents tend to prefer interactions on Instagram with members of their in-groups, as opposed to members of their out-groups. Social comparison occurs between users and members of both their in-groups and their out-groups. Though feeling negative about one's Instagram account happens frequently, most adolescents don't feel the need to change anything about their profiles in order to feel less negative. Lastly, finsta's and close friends stories act as a safe space for the user to post more raw and real content for only their closest friends to see.

Though most of the results of this study aren't entirely unexpected, this research has provided some new insights that add to the literature gap on this topic. These new findings can act as a source of knowledge to educate young people and their parents about healthy identity development, as well as a starting point for future research on social media and adolescent identity development.

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Appendix A

Consent Form for Bachelor Thesis – Instagram Use and Identity Development among
Adolescents

YOU WILL BE GIVEN A COPY OF THIS INFORMED CONSENT FORM

Please tick the appropriate boxes	Yes	No
Taking part in the study		
I have read and understood the study information dated [DD/MM/YYYY], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	☐	☐
I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.	☐	☐
I understand that taking part in the study involves an audio-recorded interview, which will be transcribed into text after the interviews have taken place. After the interviews are transcribed, all audio files of the interviews will be deleted.	☐	☐
Use of the information in the study		
I understand that information I provide will be used for a Communication Science student's bachelor's thesis.	☐	☐
I understand that personal information collected about me that can identify me, such as [e.g., my name or where I live], will not be shared beyond the study team.	☐	☐
Consent to be Audio/video Recorded.		
I agree to be audio recorded. Yes/no	☐	☐

Signatures

_____   _____   _____

Name of participant   Signature   Date

I have accurately read out the information sheet to the potential participant and, to the
best of my ability, ensured that the participant understands to what they are freely
consenting.

_____   _____   _____

Researcher name   Signature   Date

Study contact details for further information:

Researcher email:

l.karakoc@student.utwente.nl

Supervisor email:

h.scholten@utwente.nl

if you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by ethicscommittee-hss@utwente.nl

Appendix B

Initial set of interview questions

Instagram use

How often do you use Instagram?

What do you use Instagram for?

Which features of Instagram do you use the most? (Posting content, sending chat messages etc.)

Personal identity: self-concept, ideal self

Could you describe to me what kind of person you are?

What makes you different from other people?

What kind of content do you share on your personal Instagram page? (Selfies, pictures with friends/family, hobby's & sports etc.)

Is there anything you don't feel comfortable sharing on Instagram? If so, why?

Let's say your Instagram represents the online version of yourself. Is this online version of you similar to your offline self?

Do you edit your pictures/videos in any way? If so, why?

Social identity: in- & outgroup, upward & downward social comparison

Is your account set on private? If so, how do you decide on who can and can't follow you?

What groups would you say you belong to? Think of your school, your sports team, friend groups etc. Do you show which groups you belong to on your Instagram?

With what kind of content do you interact the most on Instagram? Are there any accounts you interact with that are not a part of your 'groups'?

When you post something on Instagram, do you think about who might see your post and how they would think about it?

Do you check who interacts with your content on Instagram? If so, why?

Do you take inspiration from other Instagram accounts that you apply to your own Instagram page?

Do you compare the way your Instagram page looks to those of others?

Do you have a 'close friends' story on your personal page or maybe even a second finsta account? If so, why?

Appendix C

Final set of semi-structured interview questions

Note: It might occur that the questions during the actual interview may be asked a little differently or that follow up questions are asked depending on the context.

General questions and questions about Instagram use

1. How often do you use Instagram?
2. What do you use Instagram for?

Questions about personal identity: self-concept, self-disclosure

3. How would you describe yourself as a person? Think of your qualities, abilities and characteristics? You may take some time to think about it.
4. Can you tell me about a moment in your life that you are very proud of? What happened in this moment?

    Follow up: Who was involved? Why did it make you feel proud? Did you learn anything from this event? Why is this moment important to you?
5. Have you shared anything about this moment on your Instagram account? If so, could you explain why you chose (not) to share this on your Instagram page?
6. Can you tell me about a moment in your life that you regret? What happened in this moment?

    Follow up: Who was involved? Why did it make you regret your decision? Did you learn anything from this event? Why is this moment important to you?
7. Have you shared anything about this moment on your Instagram account? If so, could you explain why you chose (not) to share this on your Instagram page?
8. Some events in life can be described as turning points, which are events that mark a significant change in you or your life story. Could you tell me about a turning point in your life? Think about what happened, who was involved and what you were feeling during this event.
9. Have you shared anything about this turning point on your Instagram?
10. People have certain perceptions of you based on the interactions you have with them in life. Some of these interactions take place on Instagram. These interactions are different from real life interactions, as Instagram is an online platform. Let's say your

Instagram represents the online version of yourself. Is this online version of you similar to your offline self?

> Follow up: Do you think people could get an idea of what you are like based on your Instagram profile?

Questions about personal identity: ideal self

11. When we look at the future, are there any goals/dreams you want to achieve? What kind of person would you like to become?

> Follow up: Is there anything that could stand in the way of you achieving these goals?

12. I would like you to think about the life events and goals for your future we just talked about. Have you shared anything about these life events/goals for the future on your Instagram?

> Follow up: If so, how do you decide which events/goals you share?

13. Do you divide bigger goals up into smaller goals? Do you prefer to share big or small goals, or maybe a combination of both?

Questions about social identity: group memberships, in- & outgroup

14. Every individual has a sense of who they are based on the groups they belong to. Examples of groups are age, gender, ethnicity, religion, sexual orientation, language, sports, hobbies, classes etc. What groups do you belong to? You are free to use the example groups I mentioned, or you can come up with your own groups. Also, feel free to leave out any groups you don't feel comfortable sharing with me.

15. Which of your group memberships have benefited you? Which of your group memberships have brought on challenges for you?

16. Do you think your Instagram profile shows others which groups you belong to?

17. Are there any groups you are currently not part of, but that you would like to be part of? If so, please elaborate.

18. Do the accounts you interact with on Instagram belong to people within your groups? Are there accounts you interact with on Instagram that belong to people outside your groups?

19. Is your account set on private? If so, how do you decide on who can and can't follow you?

20. Do you have a 'close friends' story on your personal page or maybe even a second finsta account? If so, why?

Questions about social identity: upward & downward social comparison

21. Do you compare the way your Instagram page looks to those of others? If so, to whom do your compare your own Instagram account?

22. Do the people you compare your own account to belong to your 'groups'?

23. Does comparing your Instagram page to those of others make you feel more positive or negative about yours?

Appendix D

Codebook

Table 1

Codebook

Code group	Code	Sub-code	Definition	Example
Demographics	Age	1.1 16-18 years old 1.2 18-24 years old	Refers to the participant's age	"I'm 20 years old"
Instagram use	Instagram use	2.1 More than 60 minutes every day 2.2 30 to 60 minutes every day 2.3 Up to 30 minutes every day	Refers to the participant's Instagram use	"I would say about half an hour a day"
	Reason for Instagram use	3.1 Entertainment 3.2 Connect with friends 3.3 Inspiration 3.4 Self-expression	Refers to the motivation behind the participant's Instagram use	"I check whether my friends have posted anything and sometimes I look for outfit ideas"
Personal identity	Self-concept	5. Self-concept	Description of how the participant sees themselves	"I think I am a kind person"

	Online vs. offline self	6.1 Similar 6.2 Different	Refers to whether the participant thinks their online self is similar or not	"I think there's more to me than I can or want to show on my Insta, so no"
	Moments of pride	7.1 Share Yes 7.2 Share No	Refers to whether the participant shares their moments of pride on Instagram	"I posted a picture of my committee after the week was done because I was proud of them"
	Moments of regret	8.1 Share Yes 8.2 Share No	Refers to whether the participant shares their moments of regret on Instagram	"I wouldn't share anything about that moment because it's way too personal"
	Turning point	9.1 Share Yes 9.2 Share No	Refers to whether the participant shares their turning points on Instagram	"I think it's a bit too personal to post about"
	Goals and dreams	10.1 Share Yes 10.2 Share No	Refers to whether the participant shares their goals/dreams on Instagram	"I try to sell my sewing projects on Instagram"
	Divide big & small goals	11.1 Divide Yes 11.2 Divide No	Refers to whether the participant divides their goals into big and small ones or not	"Dividing your big goals into small goals is the first step of reaching your big goal"

Social identity	Group memberships	13.1 Age	Refers to the groups the participant belongs to	"I was born in Turkey, but I've lived in the Netherlands for almost all my live"
		13.2 Gender		
		13.3 Ethnicity		
		13.4 Religion		
		13.5 Sexual orientation		
		13.6 Sports		
		13.7 Hobbies		
		13.8 Education level		
		13.9 Studies/profile in high school		
		13.10 (Dis)abilities		
	Interaction with others	14.1 Inside	Refers to whether the participant interacts with people inside or outside their groups	"I mostly just check my friends' stories and direct messages"
		14.2 Outside		
		14.3 Both		
	Desired group memberships	16.1 Other groups Yes	Refers to whether the participant wants to be a part of groups they're currently not a part of	"I dropped out of university this year but I'm hoping to start a new course next year"
		16.2 Other groups No		

	Private account	17.1 Private yes 17.2 Private no	Refers to whether the participant has their account set on private	"I don't care who sees my Instagram, so it's open for everyone"
	Finsta/close friends story	18.1 Finsta yes 18.2 Finsta no	Refers to whether the participant has a finsta or close friends story	"My closest friends can follow my finsta"
	In- & outgroup	19.1 Comparison Inside 19.2 Comparison Outside 19.3 Comparison Both 19.4 Comparison No	Refers to whether the participant compares themselves to people inside or outside their groups, if at all	"I don't really look at the accounts of others, just their stories if they have posted anything"
	Upward & downward social comparison	20.1 Upward social comparison 20.2 Downward social comparison	Refers to whether the participant experiences upward or downward social comparison	"I don't really feel negative after seeing others' Instagram profiles"

Appendix E

Literature Search Log

Date	Database	Search string	Total hits	Remarks
3.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity development" AND "online")	3	3 useful articles
3.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity" AND "online"	20	6 useful articles
3.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity development" AND "social media")	12	3 useful articles
3.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity development")	101	17 useful articles
3.4.2023	Scopus	TITLE-ABS-KEY ("personal social identity" AND "adolescent")	33	5 useful articles
3.4.2023	Scopus	TITLE-ABS-KEY ("social comparison" AND "adolescent" AND "identity")	52	6 useful articles
3.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity" AND "social comparison theory" OR "social comparison")	2	0 useful articles
8.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity" AND "digital media")	2	1 useful article
8.4.2023	Scopus	TITLE-ABS-KEY ("adolescent identity" AND "Instagram"	1	1 useful article
18.4.2023	Google Scholar	TITLE-ABS-KEY ("adolescent identity development" AND "online")	43	9 useful articles
18.4.2023	Google Scholar	TITLE-ABS-KEY ("adolescent identity development" AND "social comparison theory" OR "social identity theory")	7	2 useful articles