FACULTY OF PSYCHOLOGY AND EDUCATIONAL SCIENCES

# GEN Z'S ENTRANCE INTO THE METAVERSE

## AN EXPLORATORY STUDY OF PSYCHOLOGICAL FACTORS IN SOCIAL MEDIA ENGAGEMENT THROUGH QUALITATIVE RESEARCH

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## Abstract

Recent evolutions from Web 2.0 to Web 3.0, transitioning from social media participation to connecting people and giving back control, have brought about new-age technologies such as the metaverse. This technology represents a virtual 3D universe where users interact through immersive technologies like Augmented Reality (AR) and Virtual Reality (VR). This technology will alter the way humans work, learn, and play in all forms. Generation Z, also known as digital natives, is a generation coming of age within these rapidly evolving digital landscapes. By understanding Gen Z's interactions with current digital technologies, behavioral patterns and use motivations will be identified, providing direction for the potential transformation of current digital media within metaverses. This thesis investigates, through qualitative research that is explorative in nature, user motivations among 12-14-year-old adolescents, focusing on their attitudes and personal views. Utilizing a sample of 44 participants divided into 8 focus groups, it explores current social media behaviors, psychological factors and motivations, and their interactions with new-age technologies such as the metaverse, following the Uses and Gratifications Theory. Furthermore, due to the young age of the sample, applications and perceptions of parental mediation strategies are explored and linked to current digital media behaviors. This research reflects on social media's potential to evolve within metaverse technologies, highlighting current perceptions and beliefs about social media and linking these to metaverse use motivations as proposed by Yu (2024). Moreover, these findings shed light on cognitive-emotive aspects that may induce excessive smartphone use and provide insights into effective parental mediation strategies.

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# 1 Introduction

## *1.1. A new digital era*

As a society we are surrounded by multiple technologies and digital services. We have experienced the transition from Web 1.0 to Web 2.0, where static information, under control of the user, was exchanged for dynamic information through collaborative user input.
Or simply, where consuming content, primary in Web 1.0, is transferred to creating and sharing content in Web 2.0 (Ara et al., 2022). Known examples of Web 2.0 are social media platforms like Facebook, X, Instagram or TikTok. These platforms help information to be shared and distributed on the Internet.

Recent years we have seen a new revolution arising, namely Web 3.0, referring to an integrated web where machines understand, process, and integrate data as humans can do these days. Through technologies such as big data, 3D visualization and Augmented Reality (AR), they allow all services and people to stay connected (Newman et al., 2016). Web 3.0 goes beyond simple social networking and is more heavily rooted in increasing the trust between users (Van Der Werff et al., 2018). The existence of Web 3.0 is built on the fundamentals of Web 2.0, where users are actively participating in content generation (Kenton 2023). This new digital era aims further beyond simply connecting people, adding disintermediation and decentralization principles. By offering users control over their experiences, through connecting data and information, this web-based revolution enhances the incorporation of more advanced concepts such as artificial intelligence (AI ), or better known as, machine learning (Dwivedi et al., 2021).

## *1.2. The emergence of the metaverse*

In paving the way to Web 3.0 the emergence of the metaverse arises as the core concept. A term that rings a bell to few but is still unknown to many. To simplify the concept metaverse, this can be described as a virtualized copy of the real world *(*Buana, 2022). Consisting out of a set of virtual spaces where participants can create and explore a world through collaboration with other users without being limited in physical space. By implementing extended reality (XR) techniques, entering these virtual worlds will be experienced as real life.

Impact of this technology will not only be reflected in social structures, but it will impact the social behavior of human beings as well. The way we connect and share experiences with others is likely to be transformed as the virtual and physical world become blurred into one (Dwivedi et al., 2022). How and when this new-age technology will be incorporated and used is still subject to discussion (Lee & L.-H, 2021). Although, interest and relevance has increased ever since the COVID-19 pandemic disrupted our daily physical interactions. Due to restrictions, society was forced to build online relationships through virtual communication and experiences. This pandemic has created a need for online replications of offline experiences leading to skyrocketed investments in the metaverse market. To give an example, Meta, the company formerly known as Facebook, has assigned more than 10 billion dollars into their Reality Labs division. This district within Meta where they design and make metaverse-related hardware. Moreover, another big tech companie, namely Microsoft has acquired gaming company Activision Blizzard in October 2023, which would provide Microsoft with the necessary building blocks for the metaverse. (Microsoft News Center, 2022). To say the least, more than $120 billion has flowed into the metaverse space in 2022, which has, compared to 2021, doubled its number.

Current applications of the metaverse exist for the most part in the gaming industry, making their entrance in mid 2000s, with 3D platforms such as Roblox and Fortnite. Users of these platforms enter a complex, extensive virtual world through avatars that can socially engage with one another. In 2021 social media giant Facebook announced their Horizon World, a “mixed reality” meeting space allowing users to participate in meetings in a virtual world (Dwivedi, 2022).

### *1.3. Metaverse user groups*

The transition into the metaverse will eventually happen, but when this will take place and who exactly will be involved is subject to discussion (L. Lee et al., 2021). The emergence of the metaverse will have an impact on all social, financial, and environmental aspects transcending countries, borders, and gender. Dwivedi et al. (2022) clarified the need for a new perspective is, specifically, one that transcends the existing humanistic approach. To approach this new perspective an understanding of motivations and user intentions of digital technologies is

crucial. According to H. J. Lee and Gu (2022) are Generation Z, together with Generation Alpha and Millennials identified as main users of the metaverse. Most research on metaverse is mainly focused on the technological and investment aspects. In general, there is a lack of research of specific metaverse platforms analyses and certain user behavior intentions in those platforms. Especially when focusing on digital natives and their interaction with these new-age technologies, a gap exists of research in relevant developmental psychology aspects of this process (Kesharwani, 2020). The metaverse is a concept enabled through the Interned combined with immersive content and experiences. The digital native's perception of the Internet is linked to the image of Internet-enabled devices such as smartphones (Brodsky et al., 2022). Moreover, Gen Z's perception of the Internet can be described through functionalities of Internet applications such as information access, socializing via social media and communicating with friends and families. In a study by Brodsky et al. (2022) the internet was rarely described as a connective concept, nor were negative feelings, such as antisocial behavior, mentioned. Even more surprisingly, only half of the students were aware of the Internet's ubiquity, raising awareness about the latter may increase this generation's understanding of data collection and privacy risks that come with Internet usage. To better understand digital natives' use of Internet, and more specifically which functionalities it is used for, this thesis will explore current usage of Internet-enabled devices such as smartphones. Furthermore, as the topic of psychology within these digital natives is gaining attention this research will focus upon their interaction with a new-age technology, namely metaverse (Ameen et al., 2023). Besides exploring beliefs and ideas about the concept, current smartphone use, and more specifically social media behavior, will be explored and questioned within a sample of young adolescents of generation Z.

# 2 Theoretical framework

## *2.1. Uses and gratifications theory*

The proposed purpose of this research is to explore current user motivations and related psychological factors in social media use and engagement among a sample of 12-14 year old adolescents. As it is crucial to identify users' needs and gratifications in media usage, this research will draw upon the Uses and Gratifications Theory (UGT) (Katz et al., 1973).

This theory was firstly introduced within wireless telecommunications research and more broadly within the communication field. The Uses and Gratification Theory states that behavior itself, and behavior intention is influenced by the user's basic usage motivation (Katz et al., 1973).

The user's choice for a specific media and their behavior towards new media depends on specific needs of the user who is looking for gratification of those needs. Users in this theory are assumed to be goal-directed audiences who actively integrate media messages within their daily lives (Rubin, 1986).

When applying the UGT framework certain conceptual issues need to be addressed: the nature of the 'active audience'; role of gratification orientations in mediating effects; the social origins of media needs and uses; and the audience's perceptions of mass media content (Blumler, 1979).

According to Rubin (1993) active participation of media audiences depends on the social context and the potential each media has for interpersonal interaction. For example, Rubin (1993) discovered that when loneliness is experienced, the person will rely more on the electronic media than on interpersonal interaction. Research through UGT has discovered certain needs that explain why consumers actively actively seek out different media being informational, entertainment, social, and escapism needs. Moderating factors such as media self-efficacy, habitual behavior, prior attitudes, and self-regulation are present in understanding the individuals needs and media use (Dimmick et al., 2004).

A study conducted by Rubin stated how instrumental use of media leads to more media use, a more ritualized orientation leads to less active media use. The different media orientations lead to different cognitive, affective, and behavioral outcomes (Rubin, 1993). When users seek certain media for informational reasons, (thus intentional content selection) greater affinity with and realism of that content is perceived (Rubin, 1993).

Rubin stated in 1993 “there is a need for elaborated models of media effects that consider social and psychological attributes, motivation, attitudes, behavior, and outcomes.” As the digital scene constantly evolves, with the emergence of new-age technologies such as metaverse platforms, specific attributes, motivations, and attitudes need to be identified with parallel urgency (Rubin, 1993).

### *2.2. Who is Generation Z?*

Generation Z, referring to those born between 1997 and 2012, is the demographic cohort succeeding Millennials and preceding Generation Alpha (Dimock, 2019). This generation has been brought into the world with a digital footprint even before they leave the womb. Generation Z, also referred to as the digital natives, have lived through significant technological advancements in communication, without ever having experienced life before the Internet (Prensky, 2001). Baudier et al. (2020) discovered how Generation Z, compared to older generations, is more comfortable with, and knowledgeable about innovations. Given, they use AI-enabled products and they incorporate them into their daily lives. With at least 95% of US-teens have access to a smartphone (Statista, 2023). Technology is incorporated in different aspects of their life, such as leisure, communication, and socialization activities (Pichler et al., 2021). Extended research has been done on how this generation interacts with different technologies across various contexts (Anderson et al., 2023)..

### *2.3. Parental mediation strategies*

For example, Milford et al. (2022) discovered how Generation Z shows early engagement with mobile media due to its interactivity and portability of media content, services, and platforms. High engagement on social media platforms through sharing content and creative usage of advanced technologies is conventional for these digital natives (Ameen et al., 2021). Despite the widely accepted normality of mobile media use it has been proven to be negatively correlated with the executive functioning and development of a child (Milford et al., 2022). Research by Fernández-Rovira (2022) revealed how Generation Z perceives themselves as being addicted to social media, but surprisingly very few are willing to change their behaviors

and habits. Discussion is raised whether excessive use is considered as an addiction or simply 'overuse' (Guzmán-Brand & García, 2023).
Different mediation strategies are being set into place by parents, trying to mitigate and control mobile media use. However, there is limited understanding of parental approaches, as they continue to have little awareness about the impact of digital and mobile media on their child's executive functioning. Uncertainty and discussion about the effectivity and perception of the applied mediation strategies and approaches by parents are surfacing (Milford et al., 2022).

Due to little awareness about mediation strategies that are applied by parents concerning mobile media use this research will identify and explore currently used parental mediation strategies within the sample group of 12-14-year-old adolescents. Furthermore different strategies and it's perceptions will be explored from the adolescents point of view. Following research question will be explored through qualitative research techniques.

***RQ1: Which parental mediation strategies are currently applied regarding mobile media use and how are these perceived by 12- to 14-year-old adolescents?***

### *2.4. Social media use predictors and effects*

Technology use is subject to numerous studies, mostly focusing on the quantity of technology use, but still ignoring the quality of certain technology use (Lei, 2010). Moreover, research on digital natives' interaction with new-age technologies is lacking, as well as the developmental psychological aspects of this interaction (Kesharwani, 2020).

Participation in social media affects the user's psychological state, with both positive and negative aspects, it's a multifaceted and complex phenomenon (Hu, 2024). Different psychological phenomena are emerging from Social Networking Sites (SNS) use, which are in turn, boosting social media use and creating a vicious engagement cycle (Buglass et al., 2017). One of the recently observed phenomena enhancing social media use is 'fear of missing out' (FoMO). This concept refers to an all-consuming feeling caused by a compulsive concern induced by someone who is missing out on an opportunity for a socially rewarding experience, mostly seen on social media networks (Zheng, 2022). Research by Al-Busaidi et al. (2022)

indicates how FoMO has a positive impact on both social media engagement and social media addiction. Moreover, FoMO has a negative effect on academic performance. Comparably the phenomenon nomophobia (no mobile phobia), referring to the fear of and distress experienced when not having access to information, communication or losing connectedness (Yildirim & Correia, 2015), which induces excessive smartphone use and stimulates habitual checking behavior (Oulasvirta et al., 2011). Adolescents risk for smartphone addiction behavior is elevated when strong levels need to belong are present (Wang et al., 2017 ). The need to belong seems to best predict FoMO. More specifically, females reported increased social media use when greater group centrality (referring to the extent to which group members feel included in the group) was perceived. On the other hand fear of social exclusion seems to not predict feelings of FoMO (Alabri, 2022).

As this generation has grown up surrounded by distinctive environments the belief of them being more socially inhibited has grown. Describing digital natives as being more cautious and risk-averse than prior generations. According to Schmidt et al. (2023) Generation Z indeed shows significantly higher mean levels of shyness, a trend which the COVID-19 pandemic has not effectively mitigated. Social media platforms are a gateway for self-expression and peer connections for the individual, stimulating individual creativity and contributing to the individual's personal awareness. Content creation, content sharing and avatar based communication are forms of self-expression tools within social media. Users create a visual representation of themselves through avatars, with a means to differentiate the self from others and attracting attention. Users experience higher psychological ownership over the avatar when it is customized and reflects their actual self (Chung et al., 2024). As avatars serve as a proxy for the digital self, conveying a message to a significant other (Vasalou et al., 2008). Through avatar use, digital spaces can function as mediated social environments (Pugliese & Vesper, 2022).

However, excessive use of social media and its effects cannot be ignored (Hu, 2024). Liu et al. (2023) discovered that technology can negatively impact Generation Z's mental health. Outcomes such as information overload, adapted sleeping patterns resulting in fatigue, fear of missing out (FoMO), lack of self-confidence, and negative self-image can be developed by

using digital media technologies (Liu et al., 2022; Hu ,2024). Writer (2017) observed that the prevalence of loneliness and low self-esteem is increasing among current generations.

When compared to older generations, women and girls of Generation Z have less self-confidence. (Ameen, Cheah, et al., 2022). Cameron et al. (2019) discovered how body image is a strongly linked concept to self-esteem, self-concept and general mental health by females of Generation Z (Cameron et al., 2019). Experiencing low self-esteem results in different social media use patterns, in ways that do not reflect a true social life. (Ameen et al, 2023).

Liu et al (2022) explored different how types of technology uses are associated with different student outcomes. For example, technology use for social communication was significantly positively associated with developmental outcomes such as self-esteem and positive attitudes towards school. Technology uses concerning entertainment and exploration were significantly positively associated with student learning habits.

As stated in the aforementioned literature, social media use impacts the psychological as well as behavioral states of adolescents. This thesis will explore how adolescents, and more specifically 12–14-year-old adolescents, experience of the psychological impacts of social media and smartphone use.

***RQ2: How do adolescents aged 12-14 experience the use of social media and how do they perceive its effects?***

### *2.5. Generation Z as a digital literate generation*

To cope with this rapidly aging information environment, digital media literacy is gaining importance for this generation. Based on the conceptualization proposed by Glukhov (2019), social network digital literacy is an element of network digital culture and general digital literacy. Social network digital literacy consists out of the following competencies: 1) linguistic competence, 2) communicative competence, 3) ethical competence, and 4) self-presenting competencies (Glukhov, 2019). Through digital media literacy users are empowered through freedom of expression and interaction in current mobile media

Current technological advancements are significantly influencing the social communication skills of the tech-savvy generation. When trying to effectively approach this generation it is crucial to comprehend their way of thinking and communicating through their "tech-language' (Ajmain, 2020). Despite extensive research being done to capture and comprehend the media motivations of Generation Z, our understanding of future new-age technologies still contains some gaps (Ameen et al., 2023).

### *2.1. Specific social media use in detail*

In general, social media use can be categorized as functional, entertainment and social as stated by Kietzmann et al. (2011). In addition to this framework, seven building blocks are revealed in social media use: identity, conversations, sharing, presence, relationship, reputation, and groups (Kietzmann et al., 2011). Research on social media engagement behavior by Dolan et al. (2019) reveals that when rational appeals are used in social media this will facilitate active and passive engagement for social media users. The more emotional appeals facilitate passive engagement more than highly active engagement behavior. These findings are surprising considering the social and interactive nature of social media platforms.

Social media is a concept known to many, but according to Treem et al. (2016) social media focuses on three attributes: i) they are web-based, ii) they provide a tool for people to connect and interact with other users and content, and iii) they provide a tool for users to generate and distribute content on distinctive platforms. Kaplan and Haenlein (2010, p. 61) defined social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and allow the creation and exchange of user-generated content". The first recognizable social media platform, created in 1997, was called 'six degrees', based on the principle of six degrees of separation, a principle identified by Milgram (1967). This principle claims that any two strangers are distanced from each other by, an average, of 6.6 degrees of separation (Leskovec and Horvitz, 2008). This platform allowed its users to create profiles and add their friends. The life of Six Degrees ended in 2000s, paving the way for new social media platforms based on the "social-circles network model" such as MySpace, Friendster, LinkedIn and Facebook (Boyd & Ellison, 2007).

Flash forward to today, the social media landscape has evolved and increased at an immense rapid pace. Social Networking Sites (SNSs) allow individuals to create profiles, construct identities, connect with friends, users and other individuals, are able to generate, share, view and comment on content such as photos, messages, videos that has been posted onto their newsfeed (Boyd and Ellison, 2007). In 2023, at least 96% of U.S. teens, users between 13-17 years old, use the Internet at least once a day. Social media platforms such as YouTube, TikTok, Snapchat and Instagram are the most used platforms among U.S. teens. More specifically 71% of U.S. teens report using YouTube on a daily basis. At the same time, 58% of teens are daily users of TikTok, 17% of which describe their TikTok use as almost constant. Snapchat is used by 51% of teens on a daily basis and Instagram by 47% of teens on a daily basis (Anderson et al.,2023).

Each social media platform has distinctive functionalities, such as Instagram focusing on easily shareable visuals, for example photos or videos (also known as Reels). The platform also has a stories functionality that permits the user to share short photos and videos which will be deleted after 24 hours (Van Den Abeele, 2018). Furthermore, YouTube is a platform where influencers and vloggers upload videos showing a glimpse into their lives. These videos are unboxing hauls, tutorials, personal diary vlogs, gameplay video's and more (Lee & Watkins, 2016). In 2021, YouTube has also added a short-video section namely YouTube Shorts, similar to one's TikTok feed (Statista, 2024).

Snapchat is a messaging platform used for ephemeral messaging, deleting content shortly after it is viewed by a receiver (Xu et al., 2016). Users are communicating primarily through sharing selfies and doodles with close friends and family. This form of communication provides self-expression and relational gratifications that remain unfulfilled by text-based application (Waddell, 2016). This application is rather linked to bonding social capital instead of bridging social capital (Piwek & Joinson, 2016).

Another messaging app used by young adolescents is WhatsApp, this app functions for real-time communication through Internet connectivity. Used for both personal and professional use, this social media platform uses an innovative approach to information sharing and social convergence (Srivastava & Kiran, 2016). The fastest growing application of the last decade is

TikTok, reaching an audience of almost 150 million users in the United States as of January 2024 (Statista, 2024). The platform features a short video content between 15 seconds and 3 minutes long, focusing on virality and encouraging memetic remixes (Zeng & Abidin, 2021). Facebook is so far only used for passive viewing by adolescents, only reacting or commenting on what others post instead of posting their own content (Anderson et al., 2023). Recently, a new social media application has entered the scene, bringing forward a new concept by promoting authenticity-as-realness. Users are required to post content once a day, at a specific time and in one take, giving a random, unfiltered, and unvarnished look into one's daily life. Although this app encourages users to present their authentic selves, this app's authenticity is not significantly related to self-concept clarity or self-esteem in adolescents. Nevertheless, using this app engages in social comparison which is related to lower or higher self-esteem (Vanhoffelen et al., 2023).

### *2.2. One screen is not enough*

Young audiences turn to smartphones, social media, streaming services, and videa platforms such as YouTube to consume video and television resulting in a decrease in traditional cable television watching. Moreover, these audiences engage in second screen viewing, using two devices, one to watch video content, and the other to virtually connect with others. Research findings indicate that a second screening does not need to take place simultaneously with video viewing to gratify social needs (Nee & Barker, 2019). On the other hand, smartphones and social media are used for content generation which fulfills multiple socio-psychological needs such as: showing affection, venting negative feelings, gaining recognition, and fulfilling cognitive needs (Leung, 2013).

As stated before, various social media platforms exist providing different gratifications and use patterns for their users. Figure 1 provides an overview of the main features and functions among the most used SNS platforms examined in this sample. In this thesis, the U&G theoretical framework will be applied for further exploration of current use patterns and gratification orientations among a sample of 12-14-year-old adolescents. Exploration of what, how and why distinct social media platforms are used will be the focus of this study.

**Figure 2**

*overview of main features and function of must uses SNS platforms.*

| Social media platform | main features and functionalitites | Descriptions found in literature |
|---|---|---|
| snapchat | Multimedia messaging application<br>*functionalities* are: ephemeral messaging, stories, augmented reality filters, discover section for curated content from publishers | *"spontaneous and ludic social interaction" (Boczkowski et al., 2018)*<br>*"passing time, sharing problems and social knowledge" (Phua et al., 2017)*<br>*"reserved for closest relationships, not strangers" (Vaterlaus et al., 2016)* |
| Instagram | multimedia social networking platform<br>*functionalities*: content generation & sharing, limited direct messaging , engagement tools (likes, comments, hashtags,…) discover section, Stories & Reels (short video-content), analytics tools & engagement, metrics available for user, advertizing, filters, Live Streaming, global community building | *"polished self-presentation through stylized and carefully shaped visual portraits" (Boczkowski et al., 2018)*<br>*"showing affection, following fashion and demonstrating sociability" (Phua et al., 2017)* |
| BeReal | Photo-based sharing and engagement platform<br>*functionalities:* content generation & sharing, limited engagement tools (Realmojis and comments), discover section, photosharing among groups, no filter or edit options, real-time authenticity, dual-camera capture | |
| Whatsapp | broad messaging application<br>*functionalities:* personal & professional communication, end-to-end encryption for privacy and security, real-time communication through internet connectivity, communication of multimedia content to individual or groups, global community building | *"a multifaceted communication space housing various information flows and types of content" (Boczkowski et al., 2018)* |
| TikTok | multimedia social networking platform<br>*functionalities*: short-term video content, video creation and editing tools, discover section by algorithm-driven "For You" feed based on user preferences and engagement patterns, Engagement features (likes, comments, duets, repost), Trends & Challenges, Live Streaming, Monetization opportunities 'TikTok Creator Fund', educational and informative content, global, global community building | *"actively promoting themselves in engaged TikTok video's" (Shi et al., 2024)*<br>*"entertainment purposes, creating content, passive consumption of content and interacting with others" (Montag et al., 2021)*<br>*"identity formation and obtaining feedback" (Montag et al., 2021)* |

***RQ3: Why are certain social media platforms used by 12-14-year-old adolescents explored from a uses and gratification perspective?***

### *2.3.* The emergence of the metaverse

The metaverse technology as a concept was first introduced in 1992. Neal Stephenson used the term 'metaverse' in his novel "Snow Crash" referring to a large virtual environment where users, represented by avatars, enter an Internet-based virtual environment, and manipulate virtual artifacts (Blumler, 1979). Users in the metaverse interact through Extended Reality (XR) technologies, used here as an umbrella term for Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR), allowing them to interact within real and simulated environments using three-dimensional avatars and holograms. XR technologies are often referred to as "cross-reality" (Sherman & Craig, 2019). When entering a virtual reality world, the user is immersed in a synthetic and digitally produced world. This virtual reality represents virtual space where physical and digital realities blend. Virtual reality (VR), a 3D-like virtual world, can be accessed through tools such as headsets or glasses and haptic gloves (Buana, 2022b).

Augmented Reality (AR) supplements reality, rather than completely replacing it (Azuma, 1997). AR refers to a real environment with augmented digitally produced elements and objects. Augmented reality technologies allow the interaction between virtual experiences and the real world by using images, animations, or text. This technology is supported by tools such as smartphones, tablets or smart glasses. The interaction between AR en VR creates a separate world from the real one (Buana, 2022).

Parallel to exiting societies, a monetary system will be put in place. The current monetary system of the metaverse uses Non-Fungible Tokens (NFTs). Through selling all assets owned in the metaverse these NFTs are created. They can be created, sold or bought by users and participants of the metaverse. NFTs can also be rewarded to participants by pursuing a career, buying, or selling land assets, buildings, and cars (Buana, 2022).

### *2.4. Metaverse applications*

Current applications of the metaverse do exist in different forms such as semi-immersive XR spaces, where humans interact with automated entities. Or in more immersive environments like in gaming or fantasy worlds, such as Roblox, Zepeto or Fornite (Anderson et al., 2022). Dwivedi et al., (2023) stated Generation Alpha, Gen Z, Millennials, and Generation Y as the dominant user segments in metaverses. In 2022, metaverse became a known term and became associated with brands like Meta (Formarly known as Facebook), Google, Oculus, Microsoft and Youtube (Statista, 2022).

Given this research is centered on Generation Z, an in-depth examination of an affiliated platform to this generation, namely Roblox, seems fit. Roblox is described by its developers as "the ultimate virtual universe that lets you create, share experiences with friends, and be anything you can imagine" (Roblox, 2024). Roblox users create adaptions within the virtual worlds through 'Roblox Studio', which is a simple and intuitive programming tool (Meier et al., 2020). Roblox is recognized as one of the most popular metaverse games, with 77 million daily active users worldwide as of the beginning of 2024 (Statista, 2024).
Roblox being a gaming application has a young audience, as until 2021 majority of Roblox users were ages 13 years or under. This audience is not addressable for advertising or does not generate sufficient revenues, for example by sales through its digital currency 'Robux'. Over the years the gaming company Roblox has suffered from allegations of insufficient content moderation and user safety features, resulting in users being exposed to inappropriate content or in-game harassment (Statista, 2024).
Parallel to every introduction of a new technology pros and cons arise. According to Babu & Mohan (2022) the metaverse is perceived as being a virtual world creating possibilities and providing more realistic experiences than reality itself.

Beliefs and perceptions exist on how this technology could harm human life. Others are convinced this will improve and help humans in every way (Serpil & Karaca, 2023). The way we connect and share experiences with others is likely to be transformed as the virtual and physical world become blurred into one (Huynh-The et al., 2023). Areas of concern arise relating to ethics, data security, privacy regulation, and safety. More specifically, concerns regarding the potential 'detrimental' psychological impact for vulnerable members of society

according to L. Lee et al. (2021). As users will interpret the virtual online world as a 'free space' where they can do what they want certain restrictions that are valid in current societies will be perceived as invalid in these virtual worlds. Creating a hazard for offensive and undesirable behavior within the metaverse (Buana, 2022).

Drawing on the aforementioned literature, little is known about perceptions of metaverses, especially from those who are already, possibly unconsciously, engaging in metaverses. In this thesis, we will explore current beliefs and knowledge that young adolescents, those being 12–14-year-old, have regarding the concept of the metaverse. We will further explore the use and gratifications of metaverse platforms such as Roblox or Fortnite, if applicable by the sample.

***RQ4:*** **How is the term 'metaverse' evaluated and experienced by adolescents of 12 to 14 year old?**

### 2.5. Motivations for metaverse use linked to social media use

The metaverse technology is applied to various domains such as business, education, entertainment, and healthcare industries, within the latter the metaverse will cover domains like telemedicine, clinical care, education, mental health, physical fitness, veterinary, and pharmaceuticals (Bansal et al., 2022). Creating a possibility for metaverse users to interact with others in real-time, regardless of their temporal or spatial location, this opens up new opportunities for improved social connections and new shared experiences through immersive technologies. (Moro, 2023). All together creating new opportunities for social and economic growth (A et al., 2023).

Metaverse's potential to create new social communication spaces paves the way for social media to transform itself to enter the metaverse. As this new-age technology is supported by mobile-based always-on access connectivity, it complements with Generation Z's behavioral patterns (Park & Kim, 2022). Moreover, Generation Z's social values of distinctive online and offline selves contribute to the integration of metaverses and social media.

To explore how social media would be experienced, used, and applied in the metaverse, user motivation of metaverses will be linked to current uses and gratifications of social media and gaming platforms.

There has been extensive prior research exploring metaverse motivations. Oh (2022) identified five key motivations in metaverse use by applying the UGT framework. Moreover, all motivations, being usability, interaction, self-expression, enjoyment, and information acquisition, have significant effects on satisfaction, and all motivations expect the latter to have significant effects on intentions for continuous use of a metaverse. Other research by Jang (2022) identified enjoyment, self-expression, interaction, escapism, and vicarious satisfaction as motivators of metaverse use. Kim et al. (2020) proposed motivations as informativeness, social interactivity and playfulness of usage. Kumar et al., (2023) studied the impact of non-adoption intentions on metaverses, identifying performance, security and psychological risk impacting non-adoption intention toward the metaverse. A study conducted by Yu (2024) revealed how teenagers were generally using metaverses to communicate with friends and entertainment purposes in comparison to adults who typically engage in economic activities. Same research identified four factors for metaverse use motivation being i) communication, ii) experience of new worlds, iii) self-expression (through avatar-use), and iv) economic activity. The latter study will be used as a reference framework to link current social media use statements and quotes from qualitative data gathered through focus group studies from the sample. This framework is chosen as it included a sample of teenagers, who are the most active users of metaverses, as well as participants over the age of 50. The four motivational factors are identified through numerous qualitative interviews, quantitative analyses of results, and multiple validity tests, enabling this recently developed scale as a useful tool for further exploration and measurements of use motivations and use behaviors of metaverses. To further link social media's potential in metaverse environments following research question proposed.

***RQ5:*** **Why would adolescents of 12-14 year old participate in social media platforms in the metaverse?**

# 3 Methodology

The following section describes the methodological framework for the study and includes the description of the data collection, data analysis procedure.

## 3.1. Method

To formulate responses to earlier stated research questions, and elucidate the current usage and behavioral patterns of social media within our target group, we conducted research through focus groups. Each sample consists of four to eight participants within the age group of 12 to 14 year old. Through research via focus groups a topic can be explored by gathering insights, opinions, perceptions, and motivations from participants. Due to the group setting discussion and dialogue is facilitated (Myers, 1998). According to Arrendondo and Domínguez (2019) this design enhances the researcher's ability to delve deeper into obtaining information and generating knowledge from consumer behaviors. Given the exploratory nature of this thesis, the latter statement supports the choice for focus groups.

Data collection through focus groups in this research is preferred over in-depth interviews as in group discussions can engage participants to unveil opinions that might be held back during individual discussions. (Zaharia & Zaharia, 2017). Moreover, during group discussions deeper thoughts and opinions are revealed, especially when exploring a sensitive topic (Oliveira, 2011). Given the topic of social media usage is social and psychological in nature, discussion in groups can result in dialogue on sensitive topics. Moreover, the design and applications of a focus group enhance the researchers' ability to delve into obtaining information and generating knowledge from consumer behaviors. (Arredondo Domínguez et al., 2019)

The focus groups took place between January and May 2023, mostly in schools of participants, except one taking place at home, in the proposed target group. Each sample was audio recorded through a mobile device. Given that participants for this study were minors of age, due to ethical reasons, an 'informed consent' was requested to be signed by the parents or primary caretakers beforehand. A signed 'informed consent' declared their agreement to record the discussion and use of data for further analyses. Participants could not participate in the focus group when the

signed ‘informed consent’ was not delivered. The informed consent used in both Spanish, English and Dutch translations is to be found in appendix A (English version), appendix B (Dutch version, appendix C (Spanish version)

### 3.2. Data analysis

All sample groups were recorded and manually transcribed. Seven out of eight sample groups were written in Dutch, the remaining sample group was written in Spanish. While transcribing the interviews all data identifying the participant was deleted, only gender and age remained accessible. Through anonymization of transcriptions the privacy of the involved individuals is ensured. To become familiar with the collected data the researcher repeatedly listened to all recordings before, during and after the transcription process. A transcription of a focus group helps to analyze the data and understand the reasons behind attitudes and behaviors (Lauri, 2019). All focus group discussions were analyzed through thematic analysis as prescribed by Braun & Clarke (2006). The printed-out transcriptions were read multiple times and manually coded using color coding. Color codes were linked to theoretical concepts as described in the literature review and to the proposed research questions: i) Use of social media platforms explained, ii) exploration of parental mediation strategies, iii) perception and experiences of social media use and its effects, iv) Introduction of the metaverse, v) Social media’s potential in the metaverse. Through an inductive approach as proposed by Kyngäs (2019) data content analysis remained as close to the data as possible.

### 3.3. Respondents

44 participants were present in 8 samples. The data collection process started with one sample in Spain, more specifically in Castellón de la Plana, Valencia. This resulted in six participants with a Spanish nationality, the remaining 38 participants had Belgian nationality. The respondents were selected through schools, utilizing cluster sampling, and contacts with friends and families, which constitutes convenience sampling. The samples in schools were gathered by directors or guidance counselors of that school. The researcher had no saying or involvement in the selection process. The limitation to participate was by age, namely 12-14 years old. 20 participants were attending the first year of high school, 20 participant the second year, and two

participants were attending the third year. The average age of the total sample was 13 years old. The sample consisted out of 24 girls and 19 boys.

All participants owned a smartphone and were active on at least one social media platform. Some of them were using, unconsciously, a metaverse platform but overall, there was a low awareness of the metaverse as a concept. Figure 2 illustrates gender, age, high school year and nationality of participants in the sample.

**Table 1**

*Demographic data of focus group participants*

| participant | Focusgroup | Age | Gender | Schoolyear | Nationality |
|---|---|---|---|---|---|
| 1 | 1 | 12 | M | 1e ESO | Spanish |
| 2 | 1 | 13 | F | 1e ESO | Spanish |
| 3 | 1 | 12 | F | 1e ESO | Spanish |
| 4 | 1 | 13 | M | 1e ESO | Spanish |
| 5 | 1 | 13 | F | 1e ESO | Spanish |
| 6 | 1 | 13 | M | 1e ESO | Spanish |
| 7 | 2 | 12 | F | 1st ASO | Belgian |
| 8 | 2 | 13 | F | 1st ASO | Belgian |
| 9 | 2 | 12 | F | 1st ASO | Belgian |
| 10 | 2 | 12 | F | 1st ASO | Belgian |
| 11 | 3 | 13 | M | 2th ASO | Belgian |
| 12 | 3 | 14 | F | 2th ASO | Belgian |
| 13 | 3 | 13 | M | 2th ASO | Belgian |
| 14 | 3 | 14 | M | 2th ASO | Belgian |
| 15 | 3 | 13 | M | 2th ASO | Belgian |
| 16 | 3 | 13 | F | 2th ASO | Belgian |
| 17 | 4 | 13 | F | 2th grade | Belgian |
| 18 | 4 | 13 | F | 2th grade | Belgian |
| 19 | 4 | 13 | F | 2th grade | Belgian |
| 20 | 4 | 13 | F | 2th grade | Belgian |
| 21 | 4 | 14 | F | 2th grade | Belgian |
| 22 | 5 | 14 | F | 2th grade | Belgian |
| 23 | 5 | 14 | F | 3th grade | Belgian |
| 24 | 5 | 14 | F | 2th grade | Belgian |
| 25 | 5 | 15 | F | 3th grade | Belgian |
| 26 | 5 | 13 | F | 1st grade | Belgian |
| 27 | 6 | 13 | M | 1st grade | Belgian |
| 28 | 6 | 13 | M | 1st grade | Belgian |
| 29 | 6 | 13 | M | 1st grade | Belgian |
| 30 | 6 | 13 | M | 2th grade | Belgian |
| 31 | 6 | 13 | M | 1st grade | Belgian |
| 32 | 6 | 14 | M | 2nd grade | Belgian |
| 33 | 6 | 13 | M | 2nd grade | Belgian |

| | | | | | |
|---|---|---|---|---|---|
| 34 | 7 | 13 | F | 1st grade | Belgian |
| 35 | 7 | 13 | M | 1st grade | Belgian |
| 36 | 7 | 13 | F | 1st grade | Belgian |
| 37 | 7 | 13 | F | 1st grade | Belgian |
| 38 | 7 | 13 | M | 1st grade | Belgian |
| 39 | 7 | 13 | F | 1st grade | Belgian |
| 40 | 8 | 13 | F | 2nd grade | Belgian |
| 41 | 8 | 14 | F | 2nd grade | Belgian |
| 42 | 8 | 13 | M | 2nd grade | Belgian |
| 43 | 8 | 12 | M | 2nd grade | Belgian |
| 44 | 8 | 13 | M | 2nd grade | Belgian |

### 3.4. Topic guide

During the focus groups, discussion was initiated by questions from a semi-structured topic guide. This topic guide was created to fulfill the purpose of gaining insight into how the sample uses social media. Moreover, with a more refined focus on how the user represents himself in these social mediums. We aimed to discover the focus of use and motivation within each social media platform through discussion.

The topic guide was constructed out of four parts. First, social media use was explored and discussed within the group, through questions like: “Which apps are used daily?”. Secondly, the popular applications were discussed through more in-depth exercises like the ‘triadic sorting method’, where three entities are given and have to be split into groups of one and two for categorization purposes (Takane, 1992). And thought experiments were also applied, for example, “Would you still use social media if you had to pay for it? If yes, how much would you be willing to pay?”. Eventually, the concept of metaverse was introduced and explored. The term was first questioned without context, shortly after an explanation was given as starting point of discussion.

Last section was open to random input through questions like: “If you could change something about social media, what would it be?”. This section was integrated to discover undiscussed topics or new trends that the researcher wasn’t introduced to yet. Each topic left room for flexible and intuitive discussion depending on the responses. Motivations and behavioral concepts were discussed within every domain. The topic guide in English is found in appendix D.

# 4 Results

In following section, ideas and comments from discussions within focus groups will be summarized and explored. These experiences and ideas, which are explorative in nature, will serve as answers to proposed research questions in the aforementioned literature. These findings only represent a limited view of participants thoughts, behaviors and attitudes.

## *4.1. Social media platforms of choice*

Within this sample, every participant is connected to at least one social media platform. Most of them have been granted access to all different types of social media. The platforms are used for various functionalities such as communication with friends and family, a source of information, learning, lurking, enjoyment, and entertainment.

Across the sample, different interests of the individuals are mirrored in their choice of games, preference for communication, and entertainment channel of choice. Nevertheless, certain recurring usage patterns emerged among all participants. Social media applications such as Snapchat, WhatsApp, Instagram and TikTok are most used within the sample of 12 to 14-year-olds. Applications such as Facebook, and its coherent application Messenger, were not favored for communication by sample. As argued by (m, 13)*: 'Only my parents have Facebook, but not really somebody else that I know.'* A statement agreed upon by everyone of the sample, namely, Facebook being the platform of choice for older family and friends. The SNS would only be used for i) communication with older family members through family group chats, ii) 'happy birthday' wishes to far family members, as argued by (f, 14): *'On Facebook it appears when it is someone's birthday, so then I do not have to remember it.'* Morover, it is used iii) as an account server to optimize logging into various gaming apps, as this participant (m, 12) explained: *'some people use Facebook because if you want to log into certain games they have an option to log in through Facebook and then you just have to click it, making it so much easier.'* Lastly, some participants argued using Facebook v) to lurk on profiles of somebody they know. A participant (f,14) admitted: *'I use it to 'stalk' my teachers'*, to which another participant (f,13) answered: *'yeah! Like on those profile pictures on Facebook.'*.

In the concept of lurking, applications like Snapchat and Instagram are also used. As this participant commented (f, 13): *'I really love to 'stalk' people and like to see their location.'*

Given that Snapchat has the functionality to demonstrate a person's location, it is ulitized for lurking purposes. Furthermore, some participants state having an anonymous private account on Instagram for lurking purposes.

### (a) Media as peer replacement

Applications for media entertainment and amusement purposes are also widely used by this sample. The majority of music, video and streaming platforms there involve no socialization for this sample. On the contrary, some even use streaming platforms as a replacement for socialization. A participant (m, 13) explained: *'last week I was playing Minecraft and my sister wasn't home, so I thought, if she is not here I can just as good put on a video and watch that something.'* Another participant (m, 12) adds: *'Always when I am playing a game on my own, I go to Youtube and make a queue of some videos, once that is done, I turn the screen into a little box and put it in the corner of my screen.'* Adding to this discussion a participant (m, 13) explained: *'a lot of people do not see the point in watching someone playing a game, but I really like it. It is actually the same as watching football, you can watch it but you can also play it. And it is the same with Minecraft, you can watch it and you can play it.*' A participant (f, 12) explained how she uses podcasts when playing games: *'Listening to a podcast really calms me down, then I'm really chill while playing that game.'* According to participants, watching video's is used as a distraction tool or just to fill the void of not being alone, or as background noice.

### (b)

### (c) Entertainment possibilities

When addressing the social possibilities on Spotify, referring to the listening activity feed from friends or use of shared playlists, a participant (f, 12) argued: *'I sometimes do ask a playlist from someone if they have good songs on it"* to which she also added: *"I do have some shared playlists but that is like with the scouts with all the songs form when we went to summer camp.'* Referring to the sharing options within the music app. All the participants have access to at least one streaming platform for music. With the Spotify streaming service being the most used one. The users who enjoy the premium version, which blocks advertising and allows skipping songs, have been granted the premium service by their parents or other family members. None of the participants used premium accounts financed by their own, nor were they willing to pay for this

with their ‘own’ money. Motivations for this were i) other music streaming platforms such as Soundcloud or Youtube are available, through which a user (f, 14) motivated: *“I have Soundcloud and it is very handy, because like if I would make a new song, I can just put it on there. And mostly remixes are being dropped on that platform.”* and ii) using the Spotify free version is just good enough.

For visual entertainment, lots of options are utilized on a daily basis. Streaming services such as Netflix, Disney +, and the Belgian streaming platform Streamz are mentioned by many of the participants. None of these platforms are funded by the participants themselves, all subscriptions are financed by family members or are accounts borrowed from friends. This participant explained (f, 12) how she watches Netflix: *‘I mostly watch it on my laptop or Ipad, I like to watch it on a bigger screen, because I watch it with more attention than TikTok or something like that.’* A participant comments(f, 13): *‘Sometimes I just watch two series at the same time, then I just listen more to one that I haven’t seen before’* Another user (m,13) specifies: *‘It all depends on what I’m watching, if I’m watching YouTube, I do not really have to concentrate myself to follow the video, so I just start playing a game while watching.’* Another participant (f, 13) agrees with this statement and adds: ‘*Sometimes I’m watching YouTube, TikTok and playing a video game at the same time, then my mom comes in and wonders, how do you not have a headache? But it doesn’t really bother me.’*

A participant (f, 13) explained how she experiences the difference in watching Netflix and YouTube versus the video & entertainment apps like TikTok: *‘when I’m watching Netflix and YouTube I’m mostly choosing what I’m watching compared to TikTok, because on TikTok I’m not really going to search for anything particular.’* Referring to YouTube with active search mechanisms and TikTok more for passive viewing purposes. TikTok is an application that transfers functionalities and is used for both visual entertainment purposes, as well as communication with peers. A more detailed discussion regarding this app will follow.

### *4.2. Adolescents and screentime*

Noteworthy some users were not aware of their screen time, as this participant (v, 13) states: *‘I’m really in shock to see how long I actually use my phone, because you would think ‘oh it is just two hours’ and in reality, I’m already using it 4 hours.’* There is a general trend of more

screen time during weekends than during weekdays. Participants argue that during weekends more free time is available. As during schooldays their 'free time' is used for homework, sports activities or family time. A participant states (f,12): *'Last Wednesday my screen time was 12 hours as I was lying in bed all day, and I wasn't in the mood to do homework.'* Important to add that a screen time of 12 hours is considered as an exception but not as impossible. Most participants state when having 'free days' their phone use can increase up to 10-11 hours.
Overall screen time, if there are no parental limitations this varies from 4-6 hours during weekdays and 6-10 hours on weekends. During weekdays phones are primarily utilized in mornings, after school and late at night. An interesting note was shared by this participant (m, 13): *'when my screen time runs out, I just continue to watch YouTube or Netflix on my computer in my room'*. Other participants agree to this statement, most of them claim having access to a tablet or computer in their room. To which a participant added how he stayed awake until 2 am due to tablet usage. There were no statements shared on effects on well-being or effects as sleep deprivation among the sample.

### *4.3. Specific social media use: What, why and how?*

As discussed, there are certain applications used by all participants daily in this study. As mentioned in the literature, an overview of each social media's main feature is found in fig 2? Each application will be discussed in more detail, explaining use purposes, motivations, and rituals.

***Snapchat* –** The number one social media app used by young adolescents Generation Z is Snapchat. This platform is the most accessible and easygoing communication platform as it is the preferred platform for this sample when reaching out to 'inner-circle' friends. Most participants are part of group chats with friends or school members, more specifically class group chats. A participant explained (f, 12): *'We have two class chats, one on WhatsApp, and one on Snapchat, but the one on Snapchat is for less important stuff'*. Implicating the informal nature of Snapchat. Moreover, Snapchat is use for sharing photographs and other documents and engaging in *Streaks*, a function referring to the number of consecutive days of engagement or activity with a specific person. This is a highly valued function within Snapchat. When engaging in streaks, the right person needs to be selected by the user, based on trust and

dedication to not neglect the streak. The following participant (m, 13) explained: '*It doesn't really matter if you are good friends or not, you just have to trust them to open the snap.'* A statement to which this participant (m,13) comments: *'I hate streaks, but I have to do it, otherwise they would just complain.'* Demonstrating peer selection and peer pressure in Streak engagement. Snapchat is opened as the first app when the participants wake up. For example, this participant (f ,12) motivated: *'I open all chats in the morning because I can't stand not doing it, I am way too curious.'* When picking up the phone during the day, regardless of the time or place, this app is opened first.

***Instagram*** **–** The second most used social media app by majority of the participants is Instagram. This is an account-based application providing a newsfeed filled with User Generated Content. This app is mostly used by the sample for passive viewing, more specifically for viewing stories from friends and celebrities. This participant (13, m) stated: *'Watching insta-stories is like reading the newsletter, but after 10 minutes I am tired of it.'*. Posting pictures or scrolling through the newsfeed is considered as boring and not less dominant to the platform. As this participant (f, 13) explained: *'I do not really use Insta, I just scroll or send funny videos to friends, but I never post anything'*

Users of this app have, in most cases, multiple accounts. For example, a participant (f, 13) explained: '*I have one personal account and one private which is anonymous and which I use to lurk on people's profiles.'* In cases where only one account is registered, the account represents a private but personal account. The username indicates to personal information of the user, combined with an access control mechanism safeguarding the privacy of the accounts content. When multiple accounts are registered and used by the participant various reasons exist in why this is, such as i) private anonymous accounts for lurking ii) old inactive accounts due to forgotten passwords, iii) public accounts and iv) accounts for showcasing personal creations and artwork.

The majority of the users only post stories when they participate in a social event, such as meeting up with friends, going on vacation, or celebrating a person's birthday. Creating controlled self-presentation opportunities through content creation. Even though this app is mostly utilized for passive viewing, it is still used on a daily basis. Generally, they open this app as the second 'task' when unlocking their phone, but quickly close again when no messages

or new stories have been posted, habitual checking behaviors are reported contributing to social surveillance feelings.

***BeReal*** – Bereal is a social media application which permits the user to post a dual camera captured picture on time of notification once a day. Only when a real-time picture is posted, users are allowed to see posts of friends. As this app only gained popularity since 2023, this generation are first users of the app. Most participants state using the app BeReal, others are engaged in its TikTok replica version called 'TikTok Now'. The following user (m, 13) explains why he prefers BeReal over TikTok: *'I was using TikTok Now, but apparently BeReal was better, so now I just use* BeReal' Another user (m, 13) adds: *'I also have BeReal but I never use it because I think it is useless'*. This user comments (f, 12): *'I kinda like posting a BeReal but it feels the same as posting an Instagram story.'* When asked what motivated the participants in downloading this new application, a participant argued (f, 15): '*I downloaded it because all my friends in my volleyball were questioning me like 'huh why don't you have it yet?''* All participants in this sample state downloading BeReal due to peer pressure and curiosity. Someone (f, 12) even commented: *'It just downloaded it because everybody had it and I kinda liked it to see what everyone was doing.'* Another user (f, 14) stated: *'I don't like it because I always have to make 10 remakes, I never look good in it.'* Interesting to add is that majority of users would delete this app if they had to choose one. Moreover, most users agree with this statement (f, 13): '*It is just another social medium that is not really necessary.'*

***WhatsApp* –** The third social media used by all participants is WhatsApp. This application is used for communicating with friends and family regarding practicalities. This participant (m, 13) explained: *'I use it to talk to my parents, and I also have a group chat with my cycling friends, another one as well with my scouts' group.'* This app constitutes the normal messages app as it reaches out to a person's phone number but through an internet connection. This advantage is said to be useful when going on vacation or to reach someone who goes abroad.

***TikTok* –** Last but not least, the application used daily by the majority of the participants is TikTok. This app is considered as revolutionizing media behavior combining user-generated video media with social media, combined into millions of distinctive algorithms resulting in

addictive use patterns. It is shocking to see that half of participants' screen time is dedicated to TikTok.

Through the implementation of the 'Endless Scroll' this app is changing use patterns and affecting the attention spans of their users. A participant (m, 13) explained: *'Actually on TikTok I'm just scrolling brainless, I do not gain anything from it but either way I still do it.'*
TikTok is utilized for entertainment purposes or as a distraction from tasks such as doing homework. Following participant (m,14) adds: '*When I'm watching a YouTube video and I start thinking 'oh this is actually boring' I constantly switch to TikTok. I end up just watching 1 second of that Youtube video but I still sit through the whole video, just not with my full attention.'* Remarkable to add is that even though this app is widely used, a negative connotation is forming among teenagers. As a female user argued (f,13): *'Sometimes I open TikTok, I watch like 2 videos and start thinking 'why do I even have this app?' Because it is actually really boring.'* Another user (f,12) adds: *'I have now put a limit of an hour on TikTok because I really have to quit using it, it can be so addictive sometimes as you can just keep scrolling. Even though I'm aware that I have been using the app for a long time, I just keep scrolling.'* This statement, and a lot more like this (m,13) indicates that users are aware of its addictive nature: *'I find TikTok very addictive, but I do think I do not need it. Like it's not like I would die if I would not have the app.'*
Following participant (f, 13) explained why she thinks the app is addictive: *'You just continue being triggered to look, even if it isn't triggering at all.'* Generally, teenagers report lacking tools to handle this addiction. Some state having downloaded apps limiting access to TikTok, or having to 'scroll endlessly' to enter the app, trying to avoid getting their attention triggered by the algorithm. Only limitations being set in place by parents are eventually persisting usage limitation.

TikTok is an app distributing UCG through distinctive algorithms. Most users of TikTok have several accounts due to different algorithms customized to interests and watching behavior for each account. A participant (f,13) explained her use for different accounts as: *'One account is private and there I post videos with friends, the other one is public but anonymous, so nobody*

*knows it's me, there I have a nicer feed, the algorithm is different, it's more closely to my interests.'*

### *4.1. Safety and security*

Privacy, safety and security are crucial values to this generation. When asked what they would change about social media most answers were given concerning safety on social media. Users state having seen explicit content on various social media platforms. For example, as a participant (f, 13) explains: *'There was this video going around from a cat being put in a blender, and people were just randomly sending that video to everyone, even when nobody asked'*. This person refers to those video's going around as a 'trend'. Participants perceive content like this as negative, such as this participant commented (m, 13): '*I have this friend that watches those videos but I have really told him to stop or I will get very mad at him*.' Recently applications like Instagram and TikTok have added a second layer to media functioning as a warning sign for the viewer of explicit content. Unfortunately, this update does not include all explicit content, as this participant (m, 13) explains: *'It only detects blood content, because when someone gets shot or when you see videos of child labor, no warning signs are there.'*

Privacy and control are values highly centered when using different platforms. Users indicate the importance of having private accounts and being able to control who follows you. As a participant (f, 12) argues: *'Like on Instagram you can see people who are half naked, and in those cases I sometimes think they really need to have a private account.'* Other users (f, 13) state: *'There are some people that try to impersonate you or fool you through a fake account, and I think I could be a person that would fall for a trap like this, so they should really control this better.'* Other participants highlighted the need for better security systems, as this person (f, 13) comments: *'My Snapchat got hacked and I lost all my saved pictures, there was nothing I could do to get it back I really cried for days when that happened'*. To which another participant (m, 13) added: *'I would just change social media in a way there are no hackers anymore!'*

Although improvements for security are already present, experiencing hacked accounts and having banned accounts appears to be happening regularly in gaming and social media. This

happens on platforms such as Instagram, Snapchat and TikTok, as well as games like Roblox and Fortnite. The security regulations on TikTok and other games are perceived as strong due to their low threshold banning procedure. A participant (m, 13) argued: *'I think it there is one thing very stupid about Rocket League (game), and that is how you get banned from the moment u just tells a little lie.'* Or another participant (f, 12) stated: *'I really get banned a lot on Roblox, but I never know why.'* In general users state being banned for i) looking too young, ii) showing too much (revealing) skin, iii) engaging in racist or explicit commentary or iv) reasons unknown to the user. Users commented on being banned with statements like this (f, 13): *'If I get banned I just make a new account and it is fixed.'*

As technology evolves, lots of data is being gathered by social media and gaming applications. Participants in this sample state being aware of this, for example when discussing the 'myAI' this participant (m, 13) commented: '*They know way too much about us! Like they know where we live, they know our location, like where we are at all times.'* To which another user (m, 14) agreed: *'Yeah, it is not healthy anymore!'* The following user (m, 13) explained how he does not trust TikTok: *'TikTok knows everything, compared to Snapchat they really don't, Snapchat is not going to look into your chats for example'*

Current social media platforms can be entered from the age of 13 years old. Most users enter the platforms before reaching this age, resulting in lying methods about age. When entering a fake age, most users use the same birthday across different platforms as it is easy to remember. Mostly users use the birth year 2000 and 2003. Once on the platform and reaching the access threshold, the age is not changed anymore. Leading to accounts with fake ages. The online gaming application Roblox can be entered for users younger than 13 years. They enter the game with censored content and limited gameplay options. To which a participant (f, 13) motivated: *'But then it is really stupid because you can't play most games and a lot of things you can't see or read.'*

### *4.2. Language skills*

Something to point out is that how this generation is exposed to various languages and cultures through all types of social media, streaming services and gaming. A participant (m,13) explained that in games you can enter chats: *'When we enter a game chat there are a lot of*

*people who speak a weird language, I think it is Turkish or Moroccan, but I do not really know how that sounds, but I have never heard Dutch.'*

This exposure has various cognitive and social effects. Their level of English is better than their French, which are both second languages to these teens. The only difference is that French is already educated to Belgian participants from the age of 11 (last year of middle school). English is only introduced in the first grade of high school (age 12). Resulting in experiences described by thing person (f, 12): *'Actually I can't write English, but I can understand it very good.'* A participant explained she assists her sister in games like Roblox as her younger sister was not able yet to write or read English. Forcing her to adapt to an English environment as there wasn't a Dutch version available. She then added (f,12): '*For sure my English took this giant leap through all these games and TikTok, I'm sure if I wouldn't have had it, I would not know English.'* The participants from the Spanish sample also support these findings. A participant explains how she enters game chats with German and Russian people, stating that due to talking to them in English her level got increase immensely.

### *4.3. Parental limits*

The sample group of this study are teenagers between 12- to 14-year-old. At this age the majority is attending first and second grade of high school. Due to their young age, parents authorize smartphone use for their children. According to this sample the teenagers receive their first smartphone when turning 12 years. Therefore, also receive their first gateway to social media platforms. Only a few exceptions are raised according to the sample in having a smartphone before the age of twelve. Reasons being: i) having divorced parents or ii) going to school at long (> 30min) travel distance from home are justifications for a smartphone at an early age. Moreover, participants agreed with their parents' choice of age for smartphone use. As this user (f, 12) reflects: *'It's not really useful to have a smartphone too soon. You're only starting to really go out with friends from that age and then you really need a phone to let your parents know where you will go.*

Having a smartphone, most users in this sample are restricted by limitations brought by their parents. Various limitations exist such as i) time limitation on certain applications or total screen time, ii) parental control; download request is sent to parents when downloading a new app, iii)

daily smartphone blockage schedule, and iv) smartphone curfew; which requires the teenager to leave smartphone downstairs when going to bed. Not all limitations are considered as rules, but more as guidelines in smartphone behavior set in place by the parents. Such as this user (m,13) explains: *'I do not really have to hand in my phone but if I would have trouble waking up in the morning, they would actually ask my phone back. But if not, they do not really care.'* Certain limitations are perceived to the users as understandable and helpful. For example, a user (f,13) explains: *'We used to put our phones in a bowl when going to sleep, now we don't do that anymore, but it was actually better when we did that, because now I really spend too much time on my phone.'* Participants also argue that when not having limitations, their smartphone usage increases. Following participant (m,13) states: '*I do use my phone every second of the day, from the moment I get home.'* There is a general trend of disregarding parents' authorization in second year of high school. A user (m, 13) explained that he took his smartphone into his bedroom on 1st of September, it being the first day of attending high school. He further argued that his parents did not question this behavior and since then all limitations have been disregarded. Other users stated that parents just care less, or do not say anything about it anymore once the age of 13 is reached.

Even though parents forced limitations on smartphone use, awareness of what children do on these applications is low. As a participant (m, 13) explained: *'My parents really do not care what I do with my phone, so why should they know?'* Even though these users are not hiding anything specific from their parents, as this female user (f, 13) argues: *'My parents do not know everything, but it is not like I'm holding something back.'* Some users state that when parents do ask about certain posts or apps, they are willing to show them. Or parents just take action, as this user explained (f, 14): *'Sometimes when my phone just lays there, my mom picks u my phone and starts scrolling through everything. But I actually feel really uncomfortable with that.'* To which a user commented (f, 15): *'I hate it when people take my phone, I could really start to flip.'* Some participants do hide things, like this participant (f, 13) admits: *'I have my parents on Snapchat, but I do use private stories on which they cannot see what I have posted. They simply do not have to know everything.'* There is one app that is hidden from parents across all participants, and more specifically male users, namely the application 'Pornhub', due to feelings of shame and awkwardness.

Concerning location checking, most parents of this sample have access to their children's location. Important to note that this function is only used when both parents and child have an iPhone. If not, the location is shared through Snapchat, but in this case some gateways are already known to the sample. For example, this participant explains (f, 13): *'If I'm going somewhere with my friends, and I know it is somewhere they would not approve of, I just do not open my snapchat anymore and my location won't be changed.'*

### *4.4. Metaverse as a concept*

To explore the concept metaverse, participants were asked to share ideas and first impressions when being introduced to the term metaverse. The following quote's and discussion findings will serve as an answer to research question five, namely, *'How is the term 'metaverse' evaluated and experienced by adolescents of 12-14 years old?.*

When the term was introduced to a Spanish participant, her first thought was (f,12): *'The term sounds familiar, isn't it something to like create a metaverse and to live it in?'.* To which another person (m,13) added: *'the metaverse is like the creator of Facebook, no?'*. Reflecting to the name change of Facebook to Meta in 2021. In another sample Facebook was also mentioned in more detail, namely following participant (m, 13) shared: *'isn't the metaverse something from oculus quest one from Facebook? Like the online platform from Facebook and VR?'* When the term was introduced to a sample that was not very active in the gaming industry responses varied from (m, 13): *'euh, the only thing I can think of is superman'* to (m, 12): *'it feels like something special that is going to happen.'*

When the concept of metaverse was further explained by the researcher this participant (f, 12) added: '*I saw an news item on that on TikTok, where they created a metaverse but more with like an online office?'* When introducing the term within a Belgian sample, this participant (f, 12) added: *'I heard something about a game with like VR-glasses where you see the metaverse.'* Another participant (m, 13) shared his thoughts being: *'I think it will be like a website where you can see everything and do everything that you want, but like see crazy things.'*

### *4.5. Social media's potential in the metaverse*

As stated in the literature the framework proposed by Yu (2024) for metaverse use motivations will be used to explore social media's potential and its transformation into the metaverse. This framework consists out of 13 motivations loading onto four motivational factors. Factors being: i) communication, ii) experience of new worlds, iii) self-expression (through avatar-use), and iv) economic activity. Discussion and remarks from samples will be discussed approaching each factor, if applicable.

**i) communication**

When discussing metaverse applications games like Roblox, Minecraft and Ghensin Impact – an open-world action role-playing game where players complete fantasy quests using unique avatars – are mentioned by the participants. Roblox, being the stereotype metaverse game, was played by a substantial part of participants. Users stated taking pleasure in playing Roblox due to its social component. As this user (f, 13) explains: *'The most fun part for me is being able to have fun with friends and to communicate with them.'* Another participant (f, 12) added: '*If nobody of my friends can join then I will still play the game but not so long, mostly just a half-hour*.' When mentioning games like Minecraft or Fortnite similar statements were raised, such as this participant (m, 12): *'I like playing Minecraft with friends because it is a form of social contact. Even though I am not really good at it, sometimes you can play in teams and together you can win, I like the competitiveness.'* Playing games serves as a substitute for social gatherings according to this participant (m, 13): *'Usually if we want to do something together but we do not really want to go outside, we go online.'* Another participant adds (f, 13): '*I play this one game always with the same friend from high school, and the fun part is that is how we stay in contact.'* It is important to point out that Roblox or Minecraft do not have an audio communication function. A participant explained how he used Discord to call his brother as they are sometimes not with the same parents, due to divorce. Participants state using applications like i) WhatsApp, ii) Snapchat, iii) Discord, and iv) Teams to call, both through either video call or audio call, while gaming. Another participant (m,14) explains how playing games with friends is experienced as more fun because when he is playing alone, he gets bored. While some use online worlds for communicating and socializing with existing friends, the other gain new friends through these virtual world gaming applications. This girl (f, 13) shares her experience: *'Last year I was talking to my friend about the game Ghensin Impact and I was*

*explaining how I got this new character, than this girl across the room turned around and shouted "Who got that character?!?", and that is a really funny way to make friends because now we can play together and talk about it.'*. Another interesting observation is that participants sometimes join discord servers from strangers or YouTube streamers. This person explains: *'I don't join when it's a call, but I do join the chat which is always in English.'* Another participant (f, 13) also describes the chats being 'cozy': '*Sometimes there are chatbots in the call playing music, but it is not really that special, just cozy sometimes.'*. Participants explain they try to stay in contact with a few gaming friends from all over the world through social media applications such as Instagram. For example, this participant pointed out (f, 14): *'I join the calls, but it is not like I'm going to tell everyone where I live and where they can find me'*. Demonstrating awareness of privacy importance and how they should not share everything online.

Some participants outed some concerns about the metaverse concept, following participant (f, 13) points out how she would not like this technology to take place, she motives: *'It does not really sound very social, like what can I actually do? Will I have friends because I do not want to be alone'*. A participant explains how she reaches out to her friends through Snapchat, and preferably in case she has a long story to tell she prefers reaching out with a voice note or video. She (f,13) explains her motives for doing so: *'If I have a long story to tell, I mostly make video because then you can also see the emotions, or if I do not feel like typing I use a voice note then it really feels like you are listening to a podcast.'* When discussing communication with friends in the metaverse she adds: *'It would be nice to see the person in front of you if you would call them, the only thing I would worry about is how everybody would be able to hear our conversations.'*

**ii) experience of new worlds**

As stated before, the metaverse is perceived by some users as 'a place where everything is possible'. A participant (m, 13) adds how he would love to do things simultaneously, for example: *'If you can play games, but then see everything, like everything next to each other.'* To which he (m, 13) adds: '*you know what could be really cool? Seeing things in a game in real size like all those VR games that already exist.'* The participant sums up games like Roblox

VR, Minecraft VR and gorilla tag to which another user adds: *'Oh, it looks really cool and I would love to have it, but it is way too expensive!'*. During the discussion a participant shares his experience with VR glasses: *'I have VR glasses at home, it's not with a controller but I do see everything, so it works.'*

When more gaming discussions were raised, the virtual reality game 'The Sims' was mentioned, and users of the game explained their enthusiastic thoughts about the game being (f, 13): *'I like the building part, because playing with the people I find pretty boring.'* To which another user (f, 14) adds: *'I also like the building part, and just the freedom to choose what they can do for work and stuff'*

**iii) self-expression**

The self-expression metaverse use motivation refers to ways in which an individual can represent their identity, creativity, and personality within virtual worlds. During discussions anticipation on segmented interests of participants were reflected through, for example, the use of different TikTok algorithms according to the interest of the user. Furthermore, self-expression through creativity in this generation is explored through gaming applications like Roblox where participants can create own games, applications like the Sims, where participants can build houses and give form to their sims' lives, or through avatar construction and selection. Self-expression in the online world is further made possible through tools such as usernames, avatars, filters, and profiles. Avatar use is applied by the social media app Snapchat, as well as by games like Roblox, Minecraft, and lots of others. The creation process of an avatar is sometimes inspired by the user's own reflection, but not always, this user (f, 13) explains the avatar creation process: *'I actually do something completely different than what I look like. I just select what I like and then I just put it on.'* Another participant (m, 14) points out: *'You can actually change to character to whatever you want, and sometimes you can even make it a little too weird.'* The latter statement refers to a character resembling a duck made by a friend.

Usernames in Roblox can be hidden from other users, protecting the user's personal information. When opinions on this function are asked, a participant (f, 12) makes the following remark: *'I don't really mind it if Roblox has access to this information, as they can't really do something wrong with it.'*

Snapchat allows the user to create avatars through Bit-emoji's. Recently a new function was added to the application, namely myAI. This function is an artificial intelligence chat that has been given an avatar as well. A participant proudly showed his 'myAI' avatar and adds: *'I wanted to delete it, but then I turned her (referring to the avatar) into something really pretty.'* Another participant (m, 13) enters the discussion and further adds: *'I do not even use it, but I did change her (referring to the avatar).'*

Next to avatar use there are different platforms that allow users to experiment with Augmented Reality filters, such as Instagram, Snapchat and TikTok. Participants explain how they use these filters to look better. Most filters are used on TikTok, as this is the platform that is mostly used by this sample. Make-up filters, or pimple correction filters are the most used filters among female users. Male users state not using filters that much and if they do, they are often memetic ones Snapchat. Referring to a picture showed to the researcher of a basketball-head filter.
Lack of filters were raised discussing the BeReal application, a participant commented (f, 13): *'I never look good on it.'* To which another participant added (f, 14): *'I don't like it because I always have to make 10 remakes, I never look good in it.'* Knowing that this application does not use filters or picture corrections. Furthermore, a participant raised her worries about self-presentation habits on social media platforms (f, 13): *'There is this idea that everything always needs to be the perfect image, like on TikTok everyone seems to have the perfect body and is skinny and pretty. I know that a lot of people get insecure by this.'*

In general, participants use different forms of self-expression, whether through filter use on social media, personal preference for streaming content or avatar preference in games.

Important to add is how publishing posts and content is decreasing from the moment participants turn 13 years. As this participant explains (f, 14): *'I just put everything on TikTok in my drafts now, I don't know why, but it feels embarrassing to publish something now.'* There was a general agreement with this statement. To which this participant (f, 13) justified: *'I used to post a lot on TikTok, but now I don't do that anymore, only did that when I was little!'* Another participant (f, 13) added: *'It's like embarrassing to do so now.'*

**iv) economic activity**

The factor of economic activity in this framework explains how users are motivated to enter/use metaverses to make money from user-generated content, products or NFT transactions in the metaverse. As this sample is still young of age, most users are not motivated by economic incentive, nor are they able to generate money on their own. Some participants do engage in buyer-vending applications like Vinted. For example, this user (f, 13) states: *'I have put some clothes on Vinted to sell, but nobody actually buys it'*. Another participant explains how he plays Roblox Studio, which is a platform in where users can create games for the Roblox platform. He (m, 13) adds: *'you do not have to pay for it, but you can actually earn something from it, if you are old enough and your game gets popular you can earn money'.* To which a participant (m, 13) adds: *'There was this guy from 13-14 years old who made a very popular game and now he is rich, but his parents do not even know it.'* Showing awareness of economic activity and its possibilities on different social platforms, but none of the participants identified money as use motivation for specific SNS's or games.

# 5 Discussion and conclusion

This qualitative master's thesis explored current use motivations of social media specifically within the age group of 12–14-year-old adolescents. These attitudes and personal views towards uses and motivational factors in social media use were explored and discussed with participants of the sample. Ideas, beliefs, attitudes and experiences of metaverse and metaverse motivations were explored and discussed. In sample of 44 participants was gathered, divided into 8 focus groups. Findings will be discussed in following sections.

## *5.1. Use of social media and its motivations*

Adolescents reported that social media and smartphone use formed a dominant part of their lives. However, participants stated not being aware of the amount of their daily smartphone and social media use. Moreover, some participants state underestimating their mobile use, but surprisingly report being aware of both positive and negative affects experiences of use, as described by Hu (2024). Findings of Oulasvirta et al. (2011) are supported namely how the fear of losing smartphone access (also known als nomophonia) results in excessive smartphone use

and stimulates habitual checking behavior. Comparably the concept of FoMO was reflected in the results of this research as well. Given participants confessed to downloading and trying out new applications due to peer influence. Moreover, findings resonate with social media being used as social surveillance mechanism to check on peers and others' social behavior and experiences. Negative aspects of excessive social media such as information overload, adapted sleeping patterns resulting in fatigue, as described by Hu (2024) are nog mirrored by this sample. Nevertheless, lack of self-confidence, negative self-image and FoMO are experienced by this sample. Such as participants who state using beauty filters and retaking selfies until they 'look good', reflecting an impact on the user's self-image. As mentioned in results, participants are aware of this perfect image being constructed on social media, but still fear becoming victims of its negative impact, specifically on their self-esteem as proposed by Cameron et al. (2019).

Positive impacts of social media are experienced by participants primarily as boosting peer connection and maintaining social relationships. Participants reported using social media and gaming applications mainly for relational gratification instead of self-expression options. Difference in SNSs were perceived to serve different relational gratifications and self-expression options. Snapchat being the preferred platform for bridging social capital as proposed by Piwek & Joinson (2016). This application allows for more detailed and broad self-expression options through voice messages and videos/vlogs, filter use and Bit-emojis (account avatars Snapchat). Avatars represent participants ideal self instead of their actual self, which contributes to less psychological ownership over the avatar a proposed by Chung et al. (2024). Participants expressed a compulsion to check Snapchat as the first app when opening their phone due to obsessive preoccupation or a feeling of FoMO to miss out on opportunities for last-minute meetings with peers. In general, Facebook was the least favored SNS by adolescents due to its use by older generations.

Instagram and WhatsApp are also bonding social capital applications but used within a wider reach of the peers' social environment. WhatsApp is positively evaluated across participants, with focus on its innovative approach to international direct messaging. This online messaging platform is perceived as being more practical-focused, satifying communication gratifications for big groups such as classrooms and family chats, discussing professional and practical

content. Instagram is perceived by this sample as 'the newsletter of Generation Z', referring to the scrolling of stories. This SNS is used for positive self-presentation only as well as for peer comparison which contributes to feelings of FoMO. Even though participants report perceiving this social medium as 'useless' and 'unnecessary' feelings of FoMO drive continuous engagement and Instagram addiction behavior resulting in habitual checking of the app.
In general, contact with current peer connections was initiated, maintained, and nurtured via all closely specified social media platforms. Social media use appears to be influenced by the SNS context and its perceived benefits, which is motivated by specific online peer interactions.

Recent SNS's like BeReal and TikTok also induce a feeling of FoMO, especially BeReal which triggers the users need to belong to their social group. Bereal seems to trigger a social comparison mechanism due to individuals feeling pressure to look good on BeReal posts. These feelings result in individuals taking time to present an enhanced version of themselves. This app also functions as social surveillance for users as posting is motivated by their need for awareness of what friends were doing. Last but not least, TikTok is experienced and perceived to be the most addictive SNS by users due to user loss of control, initiated by the 'endless scroll', and never-ending attention triggers. This loss of control feeling can be explained by adolescents' sensitivity to reward-sensitizing effects of social stimuli paired with their incapacity to undermine impulsive responses (Albert et al., 2013). Users are aware of its addictive nature and seek tools to handle this behavior, which could form subject for future research. TikTok is experienced as an self-expression app due to its personalized algorithms and creative video use. The innate human need for social comparison leads to the creation of multiple accounts. One account is used for ego validation of the user through posting selective content available to peers only. The other account is used as an anonymous privatized account by which the user avoids feelings of judgment by peers.
In general, in this sample social media use is motivated by FoMO, need for control, peer comparison and the need for ego validation of the user. These factors contribute to excessive smartphone use and habitual checking behavior and negative self-prestation of the user.

### *5.2. Exploration of parental mediation strategies*

Adolescents of this sample are aged 12-14 years old. Given most participants receive their first smartphone shortly before this age, there seems to be a general trend of mediating the adolescent's smartphone use by the parents. In general, limitations and mediation strategies were respected and accepted by the participants given their awareness of excessive smartphone use. The most used parental mediation strategies were i) time limitations on certain application or total screen time, ii) parental download control, iii) daily smartphone blockage schedule and iv) smartphone curfews. Users in this sample perceived time limitations, blocked schedules, and smartphone curfews as the most influential limitations. From the moment these limitations were disregarded, users even admitted their need for them given the experienced increase in smartphone use. This indicates the importance and relevance of parental intervention and mediation in media use for adolescents this age. To some participants, parents were tracking and checking their children's location, social media profiles or phones. These strategies were perceived as a violation of their privacy and caused negative uncomfortable feelings by the user. This parental behavior was perceived as a lack of trust by which future research could explore its effect within familial relationships. It is interesting to note that participants state not hiding anything relevant for their parents, except adult entertainment media. Moreover, all participants were willing to share content and social media use if it was questioned.

### *5.3. Social media and its metaverse potential*

To understand this generation's behavior within new-age technologies such as metaverse, beliefs, thoughts and use motivations were discussed and explored. Findings show little awareness of applications that are used by 12-14 year old adolescents. As all participants state having used metaverse applications such ass Roblox, some even used Fortnite or others, few are aware of this technology in its full form. Mixed connotations were reported to the term metaverse. Some recalled metaverse related to the recent name change of Facebook to Meta, or one that were published in the news like Oculus. Others described their idea of metaverse through terms like 'a free space', which is probably created through experiences within applications as Roblox and Fortnite. Furthermore, some participants state being worried and afraid of these technologies, which could linked to the perceived distrust of participants in new technologies such as TikTok algorithms, or myAI in Snapchat.

Exploration of current behaviors and beliefs and linking them to the metaverse user motivations through the framework proposed by Yu (2014) revealed interesting insights on possible metaverse use of this sample. Use of social media and game is mostly motivated by social gratifications. Users state taking pleasure in being connected with peers through all types of SNS's. Peer connection and communication through these sites support the gaming activities of the sample and are even considered as gaming behavior motivations. Moreover, this sample states that they are taking part in the international calls, events, and games of metaverse and social media platforms, connecting users from all over the world. This need for connection motivates adolescents to engage in social media and games, which could also reflect in metaverse use motivations. SNS's enabling connections between peers could potentially evolve into the metaverse environment supporting peer connections. To give an example as Snapchat is most commonly used for inner-circle communication and has the multifunctional advantage of merging different messaging forms, such as voice notes, messages, vlogs, videocalls, into one, it's role as a central hub for social connectivity and communication could be extended through metaverse integrations serving extended social interactions.

Furthermore, avatar and Augmented Reality filters use are indispensable and valuable features within metaverse applications. This sample shows increased adoption and acceptance of certain functions or features when avatars or Augmented Reality filters are present. For example, the myAI tool in Snapchat was accepted and increased psychological ownership through the possibility of avatar creation, a finding supported by Chung et al. (2024). Moreover, SNS without adaptable and customizable self-presentation features were negatively evaluated by the sample, as seen within the BeReal application.

Another motivation in metaverse use is to experience new worlds. Participants in this sample state being more intrigued by building and creating new worlds and things instead of actually exploring new worlds an such. Tools that enable the exploration of new worlds, such as VR-glasses, are positively evaluated and could increase the user's motivation to use metaverse application. Considering the young age of this sample tools are perceived as too expensive and need strong motivations and parental economic support to be acquired by the participants. This could serve as a hindrance to metaverse use within this sample.

Engagement and participation in economic activity of this sample is small and is not used or as motivator by participants to engage in social media or games.

### *5.1. Practical and theoretical implications and further research*

Given this research focuses on a young age group, it was crucial to explore parental involvement within media use to shed a realistic light on current technological uses and motivations among adolescents of 12-14 years old. Findings of this thesis can contribute to recommendations, guidelines and intervention regarding parental mediation strategies with consideration of the adolescents' perspectives on current approaches. Further, this research addresses the negative consequences of smartphone use, and more specifically social media use, by giving insights into use motivations and relevant socio-psychological factors leading to these maladaptive principles. These insights could contribute to prevention research and efforts within educational and community environments. But will also help inform public policy and clinical practitioners to deal with excessive smartphone behavior, problems of self-esteem, and other negative outcomes discussed in this thesis. Further research is needed on how each of these variables and peer processes influence outcomes such as excessive smartphone use and addiction.

Findings and perceptions of game use in this sample could help identify the gaming landscape of 12-14-olds. By understanding their use motivations and their underlying psychological motivational processes games could be altered to enhance health outcomes and decrease their impact on loneliness and self-esteem outcomes as identified by Writer (2016).
Furthermore this research provides insights into the sample's digital literacy level, which can inform the development of educational interventions to promote strategies that enhancing positive digital behaviors and attitudes and foster healthy game use.

This research provides directions for future research in areas such as consumer psychology, developmental psychology, and Gen Z's interaction with new age technologies focusing on advancing affordances of its interaction to members of Gen Z.

### *5.2. Limitations and potential further research*

As this research is exploratory in nature the limited sample of only 44 participants is considered as appropriate. Therefore, findings are not generalizable for the complete age group of 12-14-year-olds, as they should be replicated within a larger and more diverse adolescent sample using various data collection methods (Mortelmans, 2013).
Given data was collected through focus groups, data collection could be sensitive to several biases influencing outcomes and discussions. Biases such as group thinking, and social desirability could influence opinions shared by participants. Second, a selection bias is present even though a Spanish sample was included, 38 participants remained form Belgian origin, making this sample relatively homogeneous in ethnic backgrounds. Third, as most participants were gathered through schools there could be a bias present on how the professor/director selects participants to be involved. For example, only participants with gaming interests could be selected disregarding opinions on games and metaverse of other members in that school.

Important to mention that findings of this study represent a sample within Generation Z are not generalizable to the entire age group of 12-14 year olds, nor to Generation Z as such, nor to larger cohorts.
In this thesis, the proposed age group is considered as part of Generation Z, though there is ongoing debate regarding the precise boundaries of this generational cohort. Some consider this age group part of Generation Alpha, the generation succeeding Gen Z. This difference in classification could impact further research towards Generation Z and Generation Alpha as behavioral assumptions and data interpretation specific to each generational cohort. Therefore, should findings of this study be interpreted within its context and with caution in terms of its temporal validity, as the technological environment continues to change at a rapid pace.

Furthermore, the social media landscape is considered to evolve continuously with new SNS arising at all times, impacting the temporal implications of these results. Future research could identify other motivations, use intentions and different social media engagements.

Findings of this thesis provide directions for future research in areas such as consumer psychology, developmental psychology, and research on Gen Z's interaction with new age technologies focusing on advancing affordances of its interaction to members of Gen Z.

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### *6.1. Appendix A – Englisch version*

# Information letter and consent Form

Target audience: adult volunteers

Legal ground: consent

Language: English

All text depicted in orange is explanation for the researcher and should be replaced or deleted in the document used for participants.

Example texts are always preceded by "E.g.". These are for illustrative purposes only and may therefore be replaced, deleted or modified.

## Artikel II.

# Artikel III. PART 1 – INFORMATION LETTER

Title of study: Characterizing social media and it's metaverse potential among 12-14 year olds

This is a study conducted by Ghent University in collaboration with <name external institution/company>. The researchers responsible are:


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## A. Information about the study

Dear,

Your Son/Daughter has been invited to participate in a study conducted by a student of Ghent University. Please take enough time to read this information letter carefully before you decide to participate in this study. Do not hesitate to ask questions to the researcher if there are any confusions or if you would like additional information. Make sure you understand everything. Once you have decided that your son/daughter may participate in the study, you will be asked to sign the consent form at the end.

### (a) What is the purpose of the research?

To get insights in the use of social media of 12–14-year-olds. For what reasons they use each social media platform, what are their opinions about it. What values are important for them in this social media world. We will also discuss their social media use, and their thoughts on the metaverse potential of each of these platforms.

### (b) Ethical approval

The study is conducted according to the guidelines set out in the General Ethical Protocol of the Faculty of Psychology and Educational Sciences (Ghent University)[1]. The researchers conduct this study in accordance with accepted standards of scientific and ethical conduct. In doing so, they apply good research practices and adhere to the principles of research ethics as described in "Ethics in Social Science and Humanities" (EU, 2018)[2].

[1] https://www.ugent.be/pp/en/research/ec/overview.htm#Rules,protocols&templates
[2] https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020_ethics-soc-science-humanities_en.pdf

## B. Information regarding participation

### (c) What does taking part in this study involve?

Your son/daughter will be participating in a focus group that consists of 4 to 8 people. This conversation will take 1-2 hours depending on how in depth the conversation is going. This focus group will be the only session in which you son/daughter will have to participate. This participation of the focus group is completely voluntary and there can be no coercion in any way. If during the conversation your son/daughter (aka the participant) wants to refuse to take part or wants to withdraw from the focus group, this is possible at any time without having to give a reason. If your son/daughter refuses to participate, this will in no way affect their continued relationship with the researcher, the evaluation and/or further implication in the study.

If you as a parent wishes to have a summary of the study findings after the study is completed and the results are known, this is possible. To get a summary, you can request this from the researcher you are in contact with. This study is predicted to be finalized in June 2024.

### (d) What are the risks and benefits of participating in this study?

There is no known permanent risk associated with this study.

Possible benefits that your son/daughter will retrieve from this participation are: awareness of their social media use, and reflecting on their values and beliefs of the different social media platforms.

### (e) Is any compensation or reward provided for participation in this study?

There will be given no compensation, rewards or allowances of the participation in this study.

## C. Information on Privacy and Personal Data

There will be personal data collected during or as part of the research. The only data that will be used in this study is the nationality, postal and the specific age of the participant. Other personal data information will not be a part of this study and will also not be relevant for data-collection.

The legal framework for the processing of personal data and confidential information in the context of this study is determined by:

- The European General Data Protection Regulation 2016/679 of 27 April 2016, effective since 25 May 2018 (this is the AVG or GDPR);
- The Belgian Law on the Protection of Natural Persons with regard to the Processing of Personal Data of 30 July 2018

Researchers must comply with the Ghent University generic code of conduct for processing personal data[3].

(f) What personal data are collected?

The following personal data of your son/daughter will be processed:

- Nationality, postal code, education, age, gender

The following special categories of personal data will be processed:

- voice or image/video recordings of the participant
- data of values and beliefs about the subject of the study

(g) Why are these personal data collected?

The personal data such as nationality, postal code, age and education are necessary to compare indifferences within and/or between countries that are participating in this study. Next to cultural differences also age-dependent research will be conducted. Voice and image recording will be used to make transcripts after the focus group. By which these transcripts will form the base of information for further analyses and research within this master thesis.

(h) On what legal ground will the data be processed?

To process this described personal data from your son/daughter, your explicit consent will be sought. This is done by signing a 'consent form'. This consent can be withdrawn at all times by the participant by notifying the principal investigator.

(i) Who has access to my (personal) data?

Within this study the principal researcher, the promotor and the researchers within the same research group and subject, will have access to this data. This data will be kept in this context for a minimum of 1,5 years. By which once the study is finished all data will be deleted. The data will be processed anonymously by the researcher while making the transcript of the focus group. Once the personal data is anonymised, the possibilities for identification have been 'irreversibly' removed by means of a processing technique.

The data will not be shared with persons outside Ghent University or with people who do not have a joint project or research with Ghent University.

(j) Reuse of data

The research data collected here may also still be useful in answering other research questions. Therefore, the possibility exists that the research data may be reused at a later date for another research. The reuse of the research data can be done both within the own research team and by

[3] https://www.ugent.be/en/ghentuniv/privacy/code-of-conduct-personal-data.htm

external researchers within and outside the European Union. To this end, research data will be made available in a controlled manner via a dedicated research data sharing platform. In doing so, all necessary measures will be taken to guarantee the confidentiality of your son/daughter's personal data as prescribed in the Ghent University Generic Code of Conduct for handling personal data and confidential information.

### (k) What rights do you have as a participant regarding your personal data?

In accordance with European and Belgian privacy legislation[4], your son/daughter's privacy is respected. As already indicated, they can withdraw the consent at any given moment and without giving any reason. This means that your son/daughter's data will not be further processed from the moment of withdrawal.

You have the right to inspect the data collected about your son/daughter and you may also request a copy, provided this does not infringe the rights and freedoms of others, including those of Ghent University. Any inaccurate data about your son/daughter can be corrected at your request. Furthermore, your son/daughter have the right to be forgotten. This means that, after withdrawing your consent, you may ask for your son/daughter's personal data to be deleted.

To exercise any of the above rights, please contact the researchers concerned at ude.craeynest @ugent.be

### (l) If you have a complaint

If you would like to file a complaint about the way your son/daughter's personal data is handled or if you have any questions regarding your personal data in the context of this study, you may contact Ghent University's Data Protection Officer at privacy@ugent.be or T 09 264 95 17.

You may also file a complaint with the Data Protection Authority, Drukpersstraat 35, 1000 Brussels (e-mail: contact@apd-gba.be) and/or the Vlaamse Toezichtcommissie (e-mail: contact@toezichtscommissie.be).

[4] These are: the European General Data Protection Regulation 2016/679 of 27 April 2016, effective since 25 May 2018; the Belgian Law on the Protection of Natural Persons with regard to the Processing of Personal Data of 30 July 2018; the Belgian Law of 22 August 2002 on Patients' Rights.

# Artikel IV. PART 2 – Consent form

## A. Consent regarding participation in the study

| **Please tick the appropriate bullet** | **Yes** | **No** |
|---|---|---|
| My son/daughter participates voluntarily in this scientific study. | o | o |
| My son/daughter knows that he or she may withdraw from the study at any time without giving a reason for this decision and that this will not in any way affect their further relationship with the researcher. | | |
| I have read the information form and received sufficient explanation about the nature, purpose, duration, and anticipated effects of the study. I was given the opportunity to ask questions and I received satisfactory answers to all my questions. | | |

## B. Consent regarding the processing of personal data

| **Please tick the appropriate bullet** | **Yes** | **No** |
|---|---|---|
| I know that I have rights to safeguard my son/daughter's privacy (including access, correction, deletion) and to whom I should turn to exercise these rights. | o | o |
| I give permission to the researchers to collect, process, store, analyse and report on my son/daughter's (personal) data for the purposes of this study. | | |

## C. Consent regarding re-use and sharing of data

| **Please tick the appropriate bullet** | **Yes** | **No** |
|---|---|---|
| I give permission to researchers of the research group to reuse my data for further similar scientific research. | o | o |
| I give permission to the researchers to share my data for further similar scientific research and this within and outside the European Economic Area. In doing so, all necessary measures will be taken to protect the confidentiality of my personal data. | o | o |

| Name of participant | Name of researcher |
|---|---|
| | |
| Date: | Date: |
| Signature: | Signature: |

*6.2. APPENDIX B – Spanish version*

# CARTA INFORMATIVA Y FORMULARIO DE CONSENTIMIENTO

**Destinatarios:** Padres o tutores legales de voluntarios de 12 a 14 años

**Fundamento jurídico:** consentimiento

**Idioma:** español

# PARTE 1 - CARTA INFORMATIVA

Título del estudio: Characterizing social media and it's metaverse potential among 12-14 year olds.

Se trata de un estudio realizado por la Universidad de Gante e
Los investigadores responsables son:


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BERT WEIJTERS
Research group work, organisation, and society
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## A. información sobre el estudio

Estimado/a,
Su hijo/a ha sido invitado/a a participar en un estudio realizado por un estudiante de la Universidad de Gante. Por favor, tómese el tiempo suficiente para leer detenidamente esta carta informativa antes de decidirse a participar en este estudio. No dude en hacer preguntas al investigador si hay alguna confusión o si desea información adicional. Asegúrese de entenderlo todo. Una vez que haya decidido que su hijo/hija puede participar en el estudio, se le pedirá que firme el formulario de consentimiento al final.

### *¿Cuál es el objetivo de la investigación?*

Conocer el uso que hacen de los medios sociales los jóvenes de 12 a 14 años. Por qué razones utilizan cada plataforma de medios sociales, qué opiniones tienen al respecto. Qué valores son importantes para ellos en este mundo de las redes sociales. También hablaremos del uso que hacen de los medios sociales y de sus opiniones sobre el potencial metaverso de cada una de estas plataformas.

### *Aprobación ética*

El estudio se lleva a cabo de acuerdo con las directrices establecidas en el Protocolo Ético General de la Facultad de Psicología y Ciencias de la Educación (Universidad de Gante). Los investigadores llevan a cabo este estudio de acuerdo con las normas aceptadas de conducta científica y ética. Al hacerlo, aplican buenas prácticas de investigación y se adhieren a los

principios de ética de la investigación descritos en "Ética en Ciencias Sociales y Humanidades" (UE, 2018).

## B. Información relativa a la participación

### *¿En qué consiste la participación en este estudio?*

Su hijo/a participará en un grupo de discusión formado por 4 a 8 personas. Esta conversación durará entre 1 y 2 horas, dependiendo de lo profunda que sea la conversación. Este grupo focal será la única sesión en la que su hijo/hija tendrá que participar. Esta participación del grupo focal es totalmente voluntaria y no puede haber ningún tipo de coacción. Si durante la conversación su hijo/a (también conocido como participante) quiere negarse a participar o quiere retirarse del grupo focal, esto es posible en cualquier momento sin tener que dar una razón. Si su hijo/hija se niega a participar, esto no afectará en modo alguno a su relación continuada con el investigador, a la evaluación y/o a su implicación posterior en el estudio.
Si usted, como padre o madre, desea obtener un resumen de los resultados del estudio una vez que éste haya finalizado y se conozcan los resultados, esto es posible. Para obtener un resumen, puede solicitarlo al investigador con el que esté en contacto. Se prevé que este estudio finalice en junio de 2024.

### *¿Cuáles son los riesgos y beneficios de participar en este estudio?*

No se conoce ningún riesgo permanente asociado a este estudio.
Los posibles beneficios que su hijo/a obtendrá de esta participación son: tomar conciencia de su uso de los medios sociales y reflexionar sobre sus valores y creencias de las diferentes plataformas de medios sociales.

### *¿Se ofrece alguna compensación o recompensa por la participación en este estudio?*

No se dará ninguna compensación, recompensa o subsidio por la participación en este estudio.

## C. Información sobre privacidad y datos personales

Durante la investigación o como parte de ella se recogerán datos personales. Los únicos datos que se utilizarán en este estudio son la nacionalidad, la dirección postal y la edad concreta del participante. Otros datos personales no formarán parte de este estudio y tampoco serán relevantes para la recogida de datos.

El marco legal para el tratamiento de datos personales e información confidencial en el contexto de este estudio viene determinado por:

- El Reglamento General Europeo de Protección de Datos 2016/679, de 27 de abril de 2016, en vigor desde el 25 de mayo de 2018 (esto es la AVG o GDPR);
- La Ley belga de protección de las personas físicas en lo que respecta al tratamiento de datos personales, de 30 de julio de 2018.

Los investigadores deben cumplir el código de conducta genérico de la Universidad de Gante para el tratamiento de datos personales.

***¿Qué datos personales se recogen?***

Se tratarán los siguientes datos personales de su hijo/a:

- Nacionalidad, código postal, estudios, edad, género

Se tratarán las siguientes categorías especiales de datos personales

- grabaciones de voz o imagen/vídeo del participante
- datos de valores y creencias sobre el tema del estudio

***¿Por qué se recogen estos datos personales?***

Los datos personales como la nacionalidad, el código postal, la edad y la educación son necesarios para comparar indiferencias dentro y/o entre los países que participan en este estudio. Además de las diferencias culturales, también se llevará a cabo una investigación en función de la edad. Se utilizarán grabaciones de voz e imagen para realizar transcripciones tras el grupo de discusión. Estas transcripciones constituirán la base de información para posteriores análisis e investigaciones en el marco de esta tesis de máster.

***¿Con arreglo a qué fundamento jurídico se tratarán los datos?***

Para tratar estos datos personales descritos de su hijo/a, se solicitará su consentimiento explícito. Para ello se firmará un "formulario de consentimiento". Este consentimiento puede ser retirado en todo momento por el participante notificándolo al investigador principal.

***¿Quién tiene acceso a mis datos (personales)?***

Dentro de este estudio, el investigador principal, el promotor y los investigadores del mismo grupo de investigación y tema, tendrán acceso a estos datos. Estos datos se conservarán en este

contexto durante un mínimo de 1,5 años. Una vez finalizado el estudio, se eliminarán todos los datos. Los datos serán procesados de forma anónima por el investigador mientras realiza la transcripción del grupo de discusión. Una vez anonimizados los datos personales, se habrán eliminado "irreversiblemente" las posibilidades de identificación mediante una técnica de tratamiento.
Los datos no se compartirán con personas ajenas a la Universidad de Gante ni con personas que no tengan un proyecto o investigación conjunta con la Universidad de Gante.

***Reutilización de los datos***

Los datos de investigación aquí recogidos también pueden seguir siendo útiles para responder a otras preguntas de investigación. Por lo tanto, existe la posibilidad de que los datos de la investigación puedan reutilizarse posteriormente para otra investigación. La reutilización de los datos de la investigación puede hacerse tanto dentro del propio equipo de investigación como por investigadores externos dentro y fuera de la Unión Europea. Para ello, los datos de investigación se pondrán a disposición de forma controlada a través de una plataforma dedicada a compartir datos de investigación. Al hacerlo, se tomarán todas las medidas necesarias para garantizar la confidencialidad de los datos personales de su hijo/a, tal y como se prescribe en el Código Genérico de Conducta de la Universidad de Gante para el tratamiento de datos personales e información confidencial.

***¿Qué derechos tiene como participante en relación con sus datos personales?***

De conformidad con la legislación europea y belga sobre privacidad, se respeta la privacidad de su hijo/hija. Como ya se ha indicado, pueden retirar el consentimiento en cualquier momento y sin dar ninguna razón. Esto significa que los datos de su hijo/a no serán procesados a partir del momento de la retirada.

Tiene derecho a consultar los datos recogidos sobre su hijo/a y también puede solicitar una copia, siempre que ello no vulnere los derechos y libertades de terceros, incluidos los de la Universidad de Gante. Cualquier dato inexacto sobre su hijo/a podrá ser corregido a petición suya. Además, su hijo/a tiene derecho al olvido. Esto significa que, tras retirar su consentimiento, puede solicitar la supresión de los datos personales de su hijo/a.
Para ejercer cualquiera de los derechos mencionados, póngase en contacto con los investigadores en cuestión en **ude.craeynest@ugent.be**

***Si desea presentar una queja***

Si desea presentar una reclamación sobre la forma en que se tratan los datos personales de su hijo o hija o si tiene alguna pregunta sobre sus datos personales en el contexto de este estudio, puede ponerse en contacto con el responsable de protección de datos de la Universidad de Gante en *privacy@ugent.*be o en el T *09 264 95 17*.

También puede presentar una reclamación ante la Autoridad de Protección de Datos, Drukpersstraat 35, 1000 Bruselas (correo electrónico: contact@apd-gba.be) y/o la Vlaamse Toezichtcommissie (correo electrónico: contact@toezichtscommissie.be).

# PARTE 2 - FORMULARIO DE CONSENTIMIENTO

## A. Consentimiento relativo a la participación en el estudio

| **Marque la casilla correspondiente** | **Sí** | **No** |
|---|---|---|
| Mi hijo/hija participa voluntariamente en este estudio científico. | o | o |
| Mi hijo/hija sabe que puede retirarse del estudio en cualquier momento sin necesidad de justificar su decisión y que ello no afectará en modo alguno a su futura relación con el investigador. | | |
| He leído el formulario de información y he recibido explicaciones suficientes sobre la naturaleza, la finalidad, la duración y los efectos previstos del estudio. Se me dio la oportunidad de hacer preguntas y recibí respuestas satisfactorias a todas mis preguntas. | | |

## B. Consentimiento para el tratamiento de datos personales

| **Marque la casilla correspondiente** | **Sí** | **No** |
|---|---|---|
| Sé que tengo derechos para salvaguardar la intimidad de mi hijo/hija (incluido el acceso, la rectificación y la supresión) y a quién debo dirigirme para ejercerlos. | o | o |

| | | |
|---|---|---|
| Autorizo a los investigadores a recoger, procesar, almacenar, analizar e informar sobre los datos (personales) de mi hijo/a a los efectos de este estudio. | | |

# C. Consentimiento para reutilizar y compartir datos

| **Marque la casilla correspondiente** | **Sí** | **No** |
|---|---|---|
| Autorizo a los investigadores del grupo de investigación a reutilizar mis datos para investigaciones científicas similares. | o | o |
| Autorizo a los investigadores a compartir mis datos para investigaciones científicas similares, tanto dentro como fuera del Espacio Económico Europeo. Al hacerlo, se tomarán todas las medidas necesarias para proteger la confidencialidad de mis datos personales. | o | o |

| **Nombre del participante:** | **Nombre del investigador:** |
|---|---|
| | *Ude Craeynest* |
| **Nombre del padre/tutor del participante:** | / |
| | / |
| **Fecha:** | **Fecha:** *19 enero 2023* |
| **Firma:** | **Firma:**  |

UNIVERSITEIT GENT

*6.3. Appendix C – Dutch version*

# Informatie- en toestemmingsformulier

Doelpubliek: 12-14 jarige jongeren

Rechtsgrond: toestemming

Taal: Nederlands

## Artikel V.

UNIVERSITEIT GENT

## Artikel VI. LUIK 1 – Informatiebrief deelnemers onderzoek

Titel van de studie: Karakterisering van sociale media en het metaverse potentieel ervan bij 12-14 jarigen

Dit is een onderzoek dat wordt uitgevoerd door de Universiteit Gent. De verantwoordelijke onderzoekers zijn:


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1E MASTERSTUDENTE BEDRIJFSPSYCHOLOGIE
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Tel. nr.: +32 471 45 30 50

**BERT WEIJTERS**
ONDERZOEKSGROEPWERK, ORGANISATIE EN SAMENLEVING
Universiteit Gent
E-mail: bert.weijters@ugent.be


### D. Informatie over de studie

Beste,

Uw zoon/dochter wordt uitgenodigd om deel te nemen aan een studie van de Universiteit Gent. Neem voldoende tijd om deze informatiebrief aandachtig te lezen voor u beslist deel te nemen aan deze studie. Aarzel niet om vragen te stellen aan de onderzoeker als er onduidelijkheden zijn of indien u bijkomende informatie wenst. Zorg ervoor dat u alles begrijpt. Eens u beslist heeft om deel te nemen aan de studie zal men u vragen om het toestemmingsformulier achteraan deze bundel te ondertekenen.

#### (a) Wat is het doel van het onderzoek?

Inzicht krijgen in het gebruik van sociale media van 12-14-jarigen. Om welke redenen gebruiken ze elk social media platform en wat zijn hun meningen over deze platformen? Welke waarden zijn belangrijk voor de doelgroep binnen de social media wereld. We zullen ook hun gebruik van social media bespreken met daarnaast hun gedachten over het metaverse potentieel van elk van deze platforms.

### (b) Ethische goedkeuring

De studie wordt uitgevoerd volgens de richtlijnen uit het Algemeen Ethisch Protocol van de Faculteit Psychologie en Pedagogische Wetenschappen (Universiteit Gent)[5]. De onderzoekers voeren dit onderzoek uit in overeenstemming met de geaccepteerde maatstaven voor wetenschappelijk en ethisch gedrag. Hierbij hanteren ze goede onderzoekspraktijken en houden zij zich aan de principes van onderzoeksethiek zoals beschreven in "Ethics in Social Science and Humanities" (EU, 2018)[6].

## E. Informatie m.b.t. deelname

### (c) Wat houdt deelnemen aan dit onderzoek in?

Uw zoon/dochter neemt deel aan een focusgroep die bestaat uit 4 tot 8 personen. Dit gesprek zal 1-2 uur duren, afhankelijk van hoe diepgaand het gesprek is. Deze focusgroep zal de enige sessie zijn waaraan uw zoon/dochter moet deelnemen. Deze deelname aan de focusgroep is volledig vrijwillig en er kan op geen enkele manier sprake zijn van dwang. Als uw zoon/dochter (de deelnemer) tijdens het gesprek wil weigeren om deel te nemen of zich uit de focusgroep wil terugtrekken, kan dit op elk moment zonder opgave van reden. Indien uw zoon/dochter weigert deel te nemen, zal dit op geen enkele wijze de verdere relatie met de onderzoeker, de evaluatie en/of verdere betrokkenheid bij het onderzoek beïnvloeden .

Indien u als ouder een samenvatting van de onderzoeksresultaten wenst nadat het onderzoek is afgerond en de resultaten bekend zijn, is dit mogelijk. Om een samenvatting te krijgen, kunt u dit aanvragen bij de onderzoeker met wie u contact heeft. Naar verwachting zal dit onderzoek in juni 2024 worden afgerond.

***Wat zijn de risico's en voordelen van deelname aan dit onderzoek?***

Er is geen bekend permanent risico verbonden aan dit onderzoek.

Mogelijke voordelen die uw zoon/dochter zal halen uit deze deelname zijn: bewustwording van hun social media gebruik, en daarnaast reflectie op hun waarden en overtuigingen van de verschillende social media platforms.

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[5] https://www.ugent.be/pp/nl/onderzoek/ec#Regelsenprotocollen

[6] https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020_ethics-soc-science-humanities_en.pdf

### (d) Wordt er een vergoeding of beloning gegeven voor deelname aan dit onderzoek?

Er wordt geen vergoeding, beloning of toelage gegeven voor deelname aan deze studie.é

## F. Informatie m.b.t. Privacy en Persoonsgegevens

Tijdens of in het kader van het onderzoek worden persoonsgegevens verzameld. De enige gegevens die in deze studie zullen worden gebruikt, zijn de nationaliteit, postcode en de leeftijd van de deelnemer. Andere persoonlijke gegevens zullen geen deel uitmaken van deze studie enzullen ook niet relevant zijn voor de gegevensverzameling.

[

Het wettelijk kader voor de verwerking van persoonsgegevens en vertrouwelijke informatie in het kader van dit onderzoek wordt bepaald door:

- De Europese Algemene Verordening Gegevensbescherming 2016/679 van 27 april 2016, die van kracht is sinds 25 mei 2018 (dit is de AVG of GDPR);
- De Belgische Wet betreffende de bescherming van natuurlijke personen met betrekking tot de verwerking van persoonsgegevens van 30 juli 2018

De onderzoekers dienen zich te houden aan de generieke gedragscode voor de verwerking van persoonsgegevens van de UGent[7].

### (e) Welke persoonsgegevens worden verzameld?

De volgende perosonsgegevens van uw zoon/dochter worden verwerkt:
- nationaliteit, postcode, opleiding, leeftijd, geslacht
De volgende speciale categorieën persoonsgegevens worden verwerkt:
- audio-opnames van focusgroep van de deelnemer
- gegevens over waarden en overtuigingen over het onderwerp van de studie

### (f) Waarom worden deze persoonsgegevens verzameld?

De persoonlijke gegevens zoals nationaliteit, postcode, leeftijd en opleiding zijn nodig om de verscshillen binnen en/of tussen de landen die aan deze studie deelnemen te kunnen vergelijken. Naast culturele verschillen zal ook leeftijdsafhankelijk onderzoek worden gedaan. De audio-opnames worden gebruikt om an de focusgroep transcripties te maken. Deze transcripties zullen de basis vormen voor verdere analyses en onderzoek binnen deze masterproef.

[7] https://www.ugent.be/nl/univgent/privacy/gedragscode-persoonsgegevens.htm

### (g) Op basis van welke rechtsgrond worden de gegevens verwerkt?

Voor de verwerking van deze beschreven persoonsgegevens van uw zoon/dochter wordt uw uitdrukkelijke toestemming gevraagd. Dit gebeurt door ondertekening van een 'toestemmingsformulier' (deze 'informed consent'). Deze toestemming kan te allen tijde door de deelnemer worden ingetrokken door kennisgeving aan de hoofdonderzoeker.

### (h) Wie heeft toegang tot mijn (persoons)gegevens?

Binnen deze studie hebben de hoofdonderzoeker, de promotor, de onderzoekers binnen dezelfde onderzoeksgroep, en de onderzoekers met hetzelfde onderwerp toegang tot deze gegevens. De data wordt in dit kader minimaal 1,5 jaar bewaard. Na afloop van het onderzoek wordt alle data gewist. De data wordt anoniem verwerkt door de onderzoeker tijdens het maken van het transcript van de focusgroep. Zodra de persoonsgegevens geanonimiseerd zijn, zijn de mogelijkheden tot identificatie "onomkeerbaar" verwijderd door middel van een verwerkingstechniek.

De data wordt niet gedeeld met personen buiten de Universiteit Gent of met personen die geen gemeenschappelijk project of onderzoek hebben met de UGent

### (i) Hergebruik van gegevens

Bv. De hier verzamelde onderzoeksgegevens kunnen ook nog nuttig zijn bij het beantwoorden van andere onderzoeksvragen. Daarom bestaat de mogelijkheid dat de onderzoeksgegevens worden hergebruikt op een later tijdstip voor ander onderzoek. Het hergebruiken van de onderzoeksdata kan zowel gebeuren binnen het eigen onderzoeksteam, als door externe onderzoekers binnen en buiten de Europese Unie. Hiertoe zullen de onderzoeksgegevens op een gecontroleerde wijze ter beschikking worden gesteld via een speciaal daarvoor bedoeld deelplatform voor onderzoeksdata. Hierbij worden alle nodige maatregelen genomen om de vertrouwelijkheid van uw persoonsgegevens te garanderen zoals wordt voorgeschreven in de UGent Generieke Gedragscode voor het omgaan met persoonsgegevens en vertrouwelijke informatie.

### (j) Welke rechten heeft u als deelnemer met betrekking tot uw persoonsgegevens?

In overeenstemming met de Europese en Belgische privacywetgeving[8] wordt uw persoonlijke levenssfeer gerespecteerd. Zoals reeds aangegeven, kan u op elk gegeven moment uw toestemming intrekken en dit zonder opgave van reden. Dit betekent dat uw gegevens niet verder verwerkt zullen worden vanaf het moment van intrekking.

U heeft het recht op inzage van de gegevens die over u verzameld werden en u kan eveneens een kopie vragen, voor zover dit geen afbreuk doet aan de rechten en vrijheden van anderen, waaronder die van de Universiteit Gent. Elk onjuist gegeven over u kan op uw verzoek verbeterd worden. Bovendien heeft u recht op vergetelheid: dit betekent dat u, na het intrekken van uw toestemming, kan vragen om uw persoonsgegevens te laten verwijderen.

Om een van bovenstaande rechten uit te oefenen, kan u contact opnemen met de betrokken onderzoekers via ude.craeynest@ugent.be

### (k) Heeft u een klacht?

Als u een klacht wil indienen over de manier waarop uw persoonsgegevens worden behandeld of als u vragen heeft met betrekking tot uw persoonsgegevens in het kader van dit onderzoek, dan kan u contact opnemen met de functionaris voor gegevensbescherming van de Universiteit Gent via privacy@ugent.be of T 09 264 95 17.

U kan ook een klacht indienen bij de Gegevensbeschermingsautoriteit, Drukpersstraat 35, 1000 Brussel (e-mail: contact@apd-gba.be) en/of de Vlaamse Toezichtcommissie (e-mail: contact@toezichtscommissie.be)

[8] Dit zijn: de Europese Algemene Verordening Gegevensbescherming 2016/679 van 27 april 2016, die van kracht is sinds 25 mei 2018 (dit is de AVG of GDPR); de Belgische Wet betreffende de bescherming van natuurlijke personen met betrekking tot de verwerking van persoonsgegevens van 30 juli 2018; de Belgische wet van 22 augustus 2002 betreffende de rechten van de patiënt.

# Artikel VII. LUIK 2 – Toestemmingsformulier

## D. Toestemming m.b.t. deelname aan de studie

| **Gelieve het juiste bolletje aan te kruisen** | **Ja** | **Nee** |
|---|---|---|
| Mijn zoon/dochter neemt vrijwillig deel aan deze wetenschappelijke studie. | o | o |
| Mijn zoon/dochter weet dat hij of zij zich op elk ogenblik uit de studie mag terugtrekken zonder een reden voor deze beslissing op te geven en zonder dat dit op enige wijze een invloed zal hebben op zijn/haar verdere relatie met de onderzoeker. | | |
| Ik heb het informatieformulier gelezen en heb voldoende uitleg gekregen over de aard, het doel, de duur, en de voorziene effecten van de studie. Ik kreeg de gelegenheid om vragen te stellen en ik heb op al mijn vragen een bevredigend antwoord gekregen. | | |

## E. Toestemming m.b.t. de verwerking van persoonsgegevens

| **Gelieve het juiste vakje aan te kruisen** | **Ja** | **Nee** |
|---|---|---|
| Ik weet dat ik rechten heb om de privacy van mijn zoon/dochter te vrijwaren (o.a. inzage, verbetering, verwijdering) en tot wie ik me moet richten om deze rechten uit te oefenen. | o | o |
| Ik geef toestemming aan de onderzoekers om voor de doelstellingen van deze studie (persoons)gegevens van mijn zoon/dochter te verzamelen, verwerken, bewaren, analyseren en erover te rapporteren. | | |

Sectie 7.01

## Sectie 7.02 C. Toestemming m.b.t. het hergebruik en delen van data

| **Gelieve het juiste vakje aan te kruisen** | **Ja** | **Nee** |
|---|---|---|
| Ik geef toestemming aan onderzoekers van de onderzoeksgroep om de gegevens van mijn zoon/dochter te **hergebruiken** voor verder gelijkaardig wetenschappelijk onderzoek. | o | o |
| Ik geef toestemming aan de onderzoekers om de gegevens van mijn zoon/dochter te **delen** voor verder gelijkaardig wetenschappelijk onderzoek en dit **binnen en buiten de Europese Economische Ruimte**. Hierbij worden alle nodige maatregelen genomen om de vertrouwelijkheid van mijn persoonsgegevens te beschermen. | o | o |

| | |
|---|---|
| Naam deelnemer: | Naam onderzoeker: |
| | *Ude Craeynest* |
| Datum: | Datum: *2 maart 2023* |
| Handtekening: | Handtekening: |
| | |

**Appendix D – Topic Guide English version**

PURPOSE: Understanding how adolescents use social media. How do they represent themselves as users within social media. Within each social media platform, where is the focus

1) **Social media mapping**
    a. What apps are you using?

       Note here not social media! Also functional apps like teams, zoom, google docx, dropbox. Also video games like fortnite, roblox, minecraft, discord & twitch → make an overview of usage

        i. Why do you use these apps?
        ii. What do you like within these apps?
        iii. Do you use any avatars or filters within these apps?

    b. Top 5 used apps?

    c. Screen time analysis.
        i. Which apps take up most of your time?
        ii. Which apps do you open multiple times a day?

    d. The social media train:
        i. Which app is opent first? why?
        ii. Which app do you quicly forget that exists?

    e. Swot analyse a social media app?

2) **What, how and where?**
    a. Triad sorting methode => means and chain analyse

       = 3 products (which are similar and which are differentiatied?)

       This can be based on the top 5 apps given within the answers

Interesting to also do this with apps that were not given as answers, that are not used?

b. If you could not use 1 app within your top 5, which use will it be?

c. Which way do you communicate with your peers the most?
    i. Which channels do you prefer?

d. Would you use social media if you had to pay for it?
e. Would you pay for a social media platform?
    i. If yes, which platform?
    ii. If yes, how much, and do you have a limit?
    iii. Would you pay this yourself if parents would not sponser this?

**3) Metaverse**

*a.* Do you know what the 'metaverse' is?
*= extended reality/augmented reality / virtual components within ordinary world => using real time interacting with virtual world.*
*Think of use of avatars and NFT's*

b. Where and when did you first learn about the metaverse? Like platforms such as Fortnite and Roblox.

c. Would you use certain metaverse platforms? Like Fornite or Roblox?
    i. If not, why not?
    ii. If yes, why so?
        1. Since when have you been using these platforms?
        2. What are the main reasons for using these platforms?
        3. Do you communicate with others while using this platform?

d. Would you pay money to use a metaverse platform?
e. Do you think you would use a metaverse platform in the future?
    i. If yes, for what?
    ii. How would you feel?

**4) Varia**

a. In case you could change something about social media or smartphones in general, what would you change?

b. In case you could change something about metaverse platforms what would you change?
c. Is there something anything related to social media or metaverse that we have not discussed today but that you would like to share?