4.0 Introduction

Digital technologies and mental well-being

KATRIN TIIDENBERG

KEY MESSAGES

1. Contrary to popular belief, the use of digital technology is rarely the cause of mental health problems. The impact of digital technology on mental well-being depends on the user, the way they use the technology, and the situation of use.
2. Problematic technology use undoubtedly exists but is statistically far less common than generally believed. In the Estonian media, the discussion of digital technology's impact on mental health tends to be exaggerated.
3. Digital technologies are an underused resource for mental well-being. They act as a self-help tool, help expand and diversify social participation and involvement, help create and maintain meaningful relationships, and support the work of mental health professionals. Mindful use and self-regulation skills are important.

INTRODUCTION

In recent decades, mental health problems have been increasingly associated with digital communication technology, especially the use of smart devices with a screen and social media. However, there is no consensus among researchers on the impact of digital technology. A number of studies find that using smart devices and social media and playing computer games causes mental overload, leading to depression, anxiety, moodiness, sleep and eating disorders, communication problems, and even 'digital dementia'. On the other hand, a similar number of studies claim that the use of these same technologies helps to build relationships, enables participation and belonging, provides support and a sense of security, gives access to information, reduces stress and anxiety, alleviates boredom, provides entertainment, teaches resilience, improves memory in older people, and even helps surgeons achieve a better success rate. The truth does not lie between these two extremes; instead, it lies in the simultaneous validity of both opposing claims. To explain this, I will present some statements confirmed by international studies and discussed in more detail in the articles of this chapter. These help to make sense of how digital technology can support mental well-being even when the relationship between the two continues to be culturally overburdened.

While there are a multitude of digital technologies, this chapter reflects the data available for Estonia and therefore focuses on internet use, computers, smart devices, tracking applications and social media. It looks at mental well-being in general rather than mental health problems in specific. In Estonia, online guided meditations and mindfulness apps are gaining popularity, but the use of digital technologies for activities supporting mental well-being has not yet been sufficiently studied.

'Real life' and 'virtual life'

In public discussion and parenting discourse, the distinction drawn between 'real life' and 'virtual life', although dismissed by researchers, continues to be widespread. In fact, we only live one life but do so in ways that are mediated by technology and in ways that are not. This is not to say there is no significant difference between face-to-face and online communication. But it does mean that the contrast between different instances of face-to-face communication (such as whispering sweet nothings to your lover in the park versus yelling at the opposing team's fans in a stadium parking lot) may be greater than the difference between acts of face-to-face communication and online communication (such as talking with grandma at the summer house versus chatting with her on FaceTime). Online communities can become even more important to people than 'real-world' communities. The articles in this chapter discuss some of the alternative groups that have become popular in Estonia in recent years. New spirituality, folk wisdom and conspiracy theory groups on social media function as interpretive and participatory communities that can have a very real-life impact despite the fact that they exist online.

Contrasting 'real life' with 'virtual life' is pointless. In fact, we only live one life but do so in ways that are mediated by technology and in ways that are not.

Impact on mental well-being depends on the user

How and for what purpose someone uses the internet or smart devices, which needs and desires they seek to satisfy, and what the overall impact of their digital technology use is obviously depends primarily on the user. Some people are more vulnerable to developing problematic (e.g. excessive or obsessive) patterns of technology use due to their personality, level of self-esteem, cultural competences and mental health background. It is important to note the direction of the causality here. Although it is commonly argued that technology use is the cause and poor mental health is the effect, research tends to show the opposite. Poor mental health leads to problematic technology use. How we as a society talk about the impact of technology use matters. One of the reasons why studies consistently find drastic differences between perceived and measured effects is due to media coverage that stirs up moral panic.

Although it is commonly argued that technology use is the cause and poor mental health is the effect, research tends to show the opposite. Poor mental health leads to problematic technology use.

Anxious and sensationalist media coverage that constantly talks about addiction causes people to overestimate their own and others' screen time and the impact technology use has on well-being.

Anxious and sensationalist media coverage that constantly talks about addiction causes people to overestimate both their own (young people) and others' (parents, teachers) screen time and the impact technology has on their well-being.

User-centred studies that analyse the relationship between digital technologies and mental well-being tend to focus on users' age, often looking at children and young people. Despite frequent claims that the mental health of children and young people is deteriorating due to digital technologies, research does not support such generalisations. Based on long-term social studies, Vuorre et al. (2021) analyse how the use of smart devices and social media correlates with depression, suicidality, anger and worry, and compare it with TV watching. They find that the relationship between technology use and depression has actually weakened over the last decade, while social media use is now more strongly correlated with worry and other indicators remain unchanged. Many other researchers collecting data in different countries (see e.g. Rozgonjuk et al. 2020) have arrived at results showing that social media use is not associated with depressiveness. Older people, on the other hand, are facing real mental health risks. In their case, changes in mental

Research does not support the generalisation that the mental health of children and young people is getting worse due to digital technologies.

MORAL PANIC

Public discourse – often transmitted by the media – that amplifies public concern about social order and values is described as 'moral panic'. In a moral panic, a purported problem is exaggerated, and its causes, consequences, victims and villains are sensationalised. For example, a harmless activity (listening to music) may be depicted as leading to terrible consequences (a school shooting). Technology panic is a type of moral panic that focuses on new technologies. As a rule, each new technology panic is almost identical to previous ones. Over the past couple of centuries, the media has claimed that children (and maybe also women) are being corrupted by, alternately, novels, the telephone, cinema, radio, rock and roll music, comic books, television, VHS tapes, Walkman cassette players, computers, the internet, social networking sites, computer games, smartphones and, most recently, TikTok. According to the media, using these technologies leads to delinquency, excessive individualism, and dangerous sexual and health behaviour, destroying the traditional nuclear family, its values and thus, of course, the whole fabric of society.

SOURCE: Tiidenberg and van der Nagel 2021

Older people's mental well-being is threatened by a lack of digital competence and the non-use of digital technologies.

well-being are associated with declining cognitive ability and increasing loneliness, which is why a lack of digital competence and the non-use of digital technologies emerge as risks (Quinn 2018). In this chapter, we look at the connections between the use of digital technologies and mental well-being in children, young people, older people and families. The data gathered in Estonia clearly shows a need to reduce generational inequality in digital literacy and access to participation.

Impact on mental well-being depends on the technology

What digital technology means to the user and how it affects them also depends on the particular properties of the technology. On the one hand, the features and functions of the technology matter – the menu options and buttons, which actions are easy to perform and which are more complicated, and what the rules allow or forbid. On the other hand, users' agency also matters – how people actually use the technology and how they break the rules for ease of use. In academic discourse, the concept of affordances is used to

The data gathered in Estonia clearly shows a need to reduce generational inequality in digital literacy and access to participation.

Platform developers have built their user interfaces based solely on how best to capture and hold users' attention, ignoring our individual and collective well-being.

describe this intersection between the features of the technology and the users' agency. Thus, the fundamental question is this: What are the mental well-being affordances of each particular technology?

The mental well-being affordances (or lack thereof) of today's digital technology are obviously not a result of divine will. Platforms and applications and their menu options, buttons and rules are created by private companies. The current information disorder and platform design that induces social comparison is a product of the last 25 years, during which governments did not interfere much in the digital technology industry, and platform developers built their user interfaces based solely on how best to capture and hold users' attention. They were not thinking about our individual and collective well-being. At the same time, there has been a dangerous concentration of power in the hands of giant platforms (e.g. Facebook), companies that own various platforms (e.g. Meta, formerly Facebook), and app stores or device manufacturers (e.g. Apple). This means that what could be considered internal business decisions about trade secrets (concerning how the service works or what the buttons, toolbar items and rules of use are) actually significantly shape how we treat each other and what we think is right. This is directly linked to mental well-being. For example, Meta has been aware for years that the algorithm that treats Facebook's 'angry' reaction emoji as worth five times more than a 'like' provokes rage and am-

plifies the spread of misinformation. Likewise, Meta is aware that adolescents with fragile mental health can suffer when Instagram's recommendation algorithm systematically feeds them thin-ideal images (Frenkel 2021). Both algorithms were designed to increase engagement and did so successfully, so Meta was reluctant to change their logic, regardless of user well-being.

Impact on mental well-being depends on the way technology is used

It is common to measure the use of digital technology in time. However, the American Association of Pediatrics, which first proposed the globally recognised '2 × 2' rule (no more than two hours of screen time per day and not before the age of two), admitted in 2016 that this recommendation was not science-based and did not fit well with the reality of digitally saturated life. Instead of doggedly counting screen time hours, it is important to think about what people do during their screen time and why, with whom and how they do it (Livingstone 2019). Video-calling your grandma, posting on TikTok, browsing Instagram, and playing a computer game are all 'screen time', but these activities stimulate us differently, satisfy different needs and carry different risks. But even this is an oversimplification. It makes a difference whether the computer game a 9-year-old plays for an hour is Grand Theft Auto or Minecraft and whether the child plays alone or with others, or with strangers or acquaintances. It also makes a difference whether a 14-year-old spends two hours scrolling through fitness model content on Instagram or posting her K-Pop drawings to a small fan community and commenting on others' posts. We know from research that mental well-being tends to be supported by creative and participatory uses of technology that foster relationships, a sense of belonging and self-realisation.

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In addition to using digital technology that supports our mental well-being or is unavoidable for work or school, we should also get enough sleep, nutrition and exercise.

Of course, we all only have 24 hours a day, which means that in addition to using digital technology that supports our mental well-being or is unavoidable for work or school, we should also get enough sleep, nutrition and exercise. While time-based tracking can help families reach agreements, it is important to remember that what we do with the time matters.

Moving forward

When thinking about the future of mental well-being in the context of the digital technologies currently in use and discussed in the articles of this chapter, it is important to note that a significant shift is taking

Digital competence includes digital self-regulation and self-care – turning off reminders and notifications, blocking content and users, and periodically avoiding social media by practising what is known as digital fasting.

place. For ordinary users, digital technology is inescapable, useful and helpful but also intrusive, tiring and disempowering. A critical stance is replacing naive enthusiasm. In the process, more and more people are actively managing their technology use. Based on recent research, people's digital competence increasingly includes digital self-regulation and self-care. This means turning off reminders and notifications, blocking content and users, and periodically avoiding social media or other platforms by practising what is known as digital fasting. Hopefully, this will usher in a more conscious and balanced use of technology that also serves our mental well-being.

Another way to think about the future of mental health is in terms of future technologies. Artificial-intelligence-based diagnostics and treatment and digital pills have been developed but are still in their infancy. Interventionist technologies (apps and online spaces intended to help people with mental health problems or support the work of professionals) have been around for a while longer, but we still have too little data for their evidence-based evaluation.

However, for both current and future technologies, it is important whether they are designed and built to support well-being, and how problems are resolved that become apparent during use. So far, the regulation of digital giants has been driven by the logic of an emerging industry and economic growth – the companies have been largely self-regulating. We now know that this laissez-faire approach has not been justified when it comes to ensuring (mental) well-being. It is time to opt for a human-centred and well-being-oriented approach. Whether digital technologies are developed, designed and regulated to serve well-being is a much more important question for the future of mental health than the number of hours a day people use a computer.

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4.1 Use of digital tools, digital skills and mental well-being

VERONIKA KALMUS, TIINA TAMBAUM AND LIILI ABULADZE

KEY MESSAGE

Estonian internet users aged 12 to 16 have satisfactory digital skills and mental well-being indicators compared with other European countries, while excessive internet use predicts lower levels of mental well-being in young people. The middle-aged and older population (aged 50 and over) tend to have problems with digital skills, while people with better digital skills feel less lonely and depressed. Although the factors affecting mental well-being are different in these two age groups, how and in what context digital skills are acquired is essential in both cases.

INTRODUCTION

In the digital age, information technology tools and environments play an important role in everyday life – in learning, communicating, using services and elsewhere. This is why, in 2006, the European Parliament included digital competence among the eight key competences of the 21st century. A key competence is a combination of knowledge, skills and attitudes that all people need to ensure success, self-realisation and personal development, active citizenship, social inclusion and employment. Therefore, digital competence is vital for all people, regardless of age.

Obstacles to the use of digital tools, including a lack or low level of digital competence, are considered a form of social deprivation. Social deprivation increases the risk of exclusion, which in turn affects mental health and well-being. Children, youth and older people are the most vulnerable. The relationships between digital competence and mental well-being manifest in different ways at different ages. These complex and indirect associations in children and youth have not been researched extensively. Evidence shows that young people's better digital skills are linked to their greater experience with online risks, but there are no links to online harm. Greater digital competence may reduce harm, as digitally competent young people are better able to cope with online risks (Haddon et al. 2020).

While technology is regarded as a stimulating environment for successful ageing, the rapid development of technology also creates psychological pressure in older people. Research reveals that the use of digital tools in older

DIGITAL COMPETENCE is the ability to use information and communication technology to benefit oneself and others in everyday life and reduce potential harm. Digital competence incorporates several digital skills, such as information management and data literacy, communication and collaboration, digital content creation, safety and problem-solving.

age improves the quality of life, subjective well-being and self-reported health. Older people are discouraged by their lack of digital competence (Tambaum 2021). When managing the digital environment becomes too much for older people, they tend to blame themselves and their age and feel they are of less value.

In this article, we look at the mental well-being and coping of two vulnerable groups – Estonians aged 12 to 16 and those older than 50 – in a rapidly changing digital environment and compare this with international results. We focus on the links between mental well-being and the use of digital tools and self-reported digital or computer skills.

Mental well-being of young Estonian internet users in the European context

EU Kids Online, a network of researchers from more than 30 countries who aim to help children be safer and more aware on the internet, has studied the main trends in young people's internet use in Europe, including Estonia. This article is based on data from the second round of the EU Kids Online survey, collected mainly in 2018 in 19 European countries,[1] from children aged 9 to 17 and their parents (N = 25,101). We look at 12-to-16-year-old internet users in our analysis, since in most countries only adolescents were surveyed about digital skills and mental well-being, and 17-year-olds were not included in some countries. For comparability, we included 16 countries (N = 12,018) with weighted data representative of the general population.

The EU Kids Online survey measured young people's mental well-being on a scale of emotional problems consisting of four statements ('I worry a lot', 'I am nervous in certain new situations; I easily lose confidence', 'I am often unhappy, sad or tearful', 'I have many fears and I am easily scared'; response scale 1 – not true for me … 4 – very true for me) and on a life satisfaction scale ('Imagine that the top of the ladder "10" is the best possible life for you and the bottom "0" is the worst possible life for you. In general, where on the ladder do you feel you stand at the moment?').

1 The EU Kids Online 2018 survey in Estonia was funded by the Estonian Internet Foundation, the Ministry of Education and Research (from the European Social Fund), the Ministry of Justice, the Ministry of Social Affairs, and the research projects PUT 44 (Estonian Research Council) and IUT 20-38 (Ministry of Education and Research). Turu-uuringute AS collected the data.

Safety of the digital environment and emotional problems

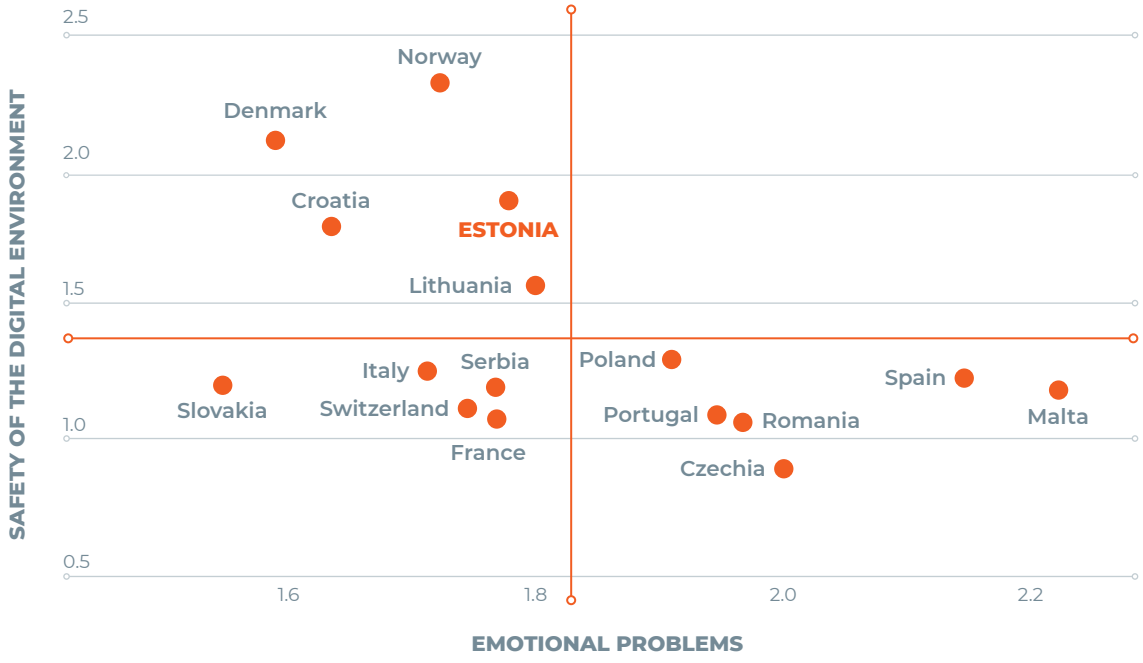
Young people who perceive the digital environment as safe have somewhat fewer emotional problems.

We assume that the digital environment, where young people operate every day, influences their mental well-being. The EU Kids Online survey reveals that young people who perceive the digital environment as safe have somewhat fewer emotional problems (Pearson's r = -0.11; p < 0.001). The same pattern is evident when comparing the average aggregate indicators of the countries (see Figure 4.1.1; Pearson's r = -0.47; p = 0.07).

On the international comparison matrix (Figure 4.1.1), Estonia's young people have slightly fewer emotional problems than the average in the 16 European countries, but their perceived safety of the digital environment is significantly higher than the average in the 16 countries. Estonia is most similar to other countries in the Scandinavian and Baltic region – Lithuania and Norway. For example, only 3% of 12-to-16-year-olds in Estonia stated that they never feel safe on the internet, while more than 14% of young people in Romania, Italy and Switzerland agreed with that statement (Figure 4.1.2).

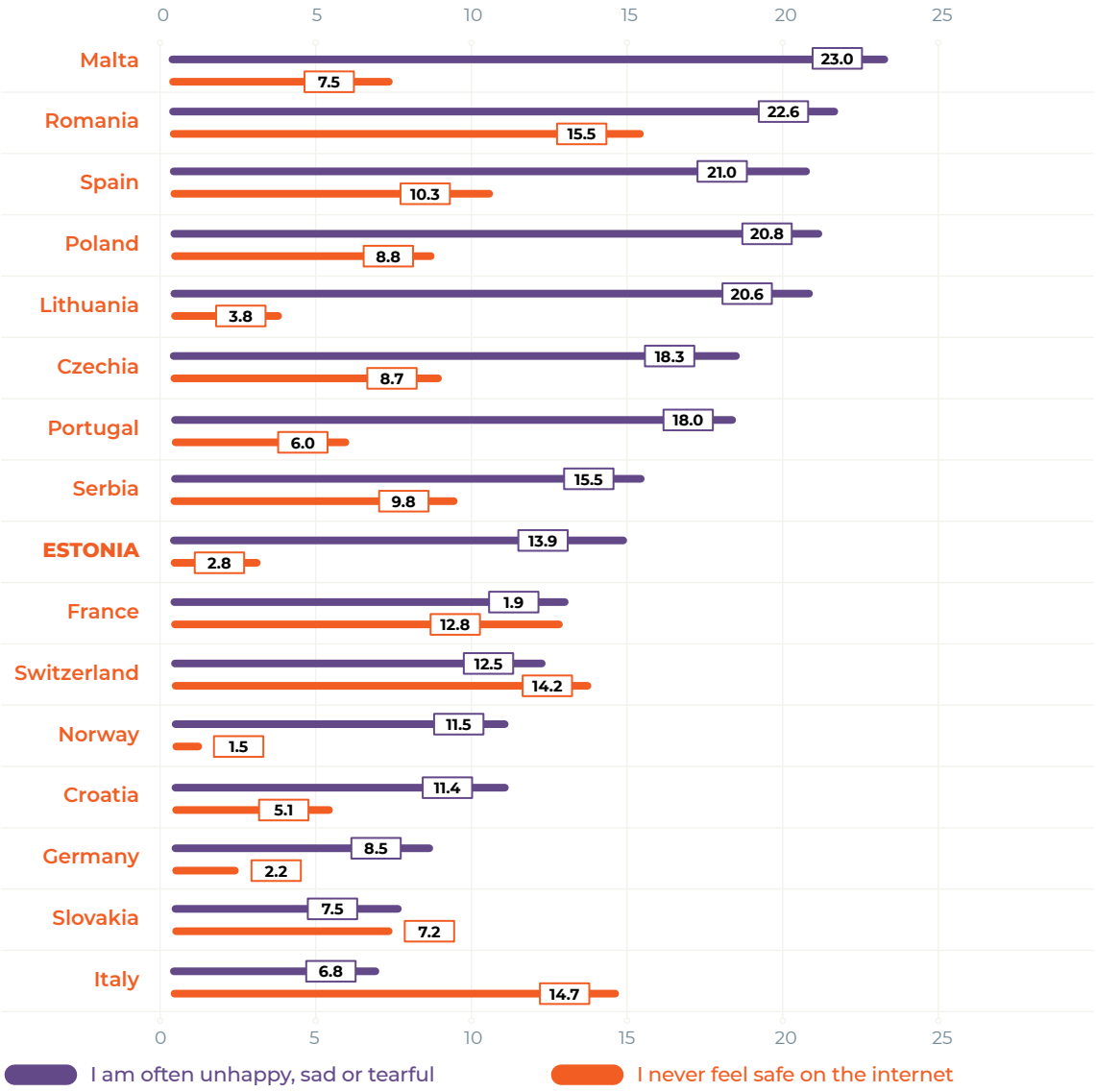
One in seven Estonian adolescents stated that they are often unhappy or tearful (Figure 4.1.2), which indicates a serious problem in their mental well-being. The average level of unhappiness was higher in eight countries and lower in seven. Thus, according to one of the

Figure 4.1.1. Emotional problems and the perceived safety of the digital environment among 12-to-16-year-olds in European countries (averages of the scales; lines indicate the average of the sample)



SOURCE: figure by the authors, based on EU Kids Online data from 2018

Figure 4.1.2. Self-reported internet safety and emotional state of 12-to-16-year-old young people in European countries (percentage of those who agreed with the statement)



SOURCE: figure by the authors, based on EU Kids Online data from 2018

main indicators and the aggregate feature consisting of four indicators presented in Figure 4.1.1, Estonia falls within the average of the European countries studied in terms of the prevalence of emotional problems among young people.

Digital skills and life satisfaction

Digital competence plays an important role in coping with modern life. Therefore, we hypothesised that young people's digital skills are related to another indicator of mental well-being – life satisfaction. A weak link was revealed: European adolescents who consider themselves more digitally com-

Adolescents who consider themselves more digitally competent tend to be slightly more satisfied with their lives.

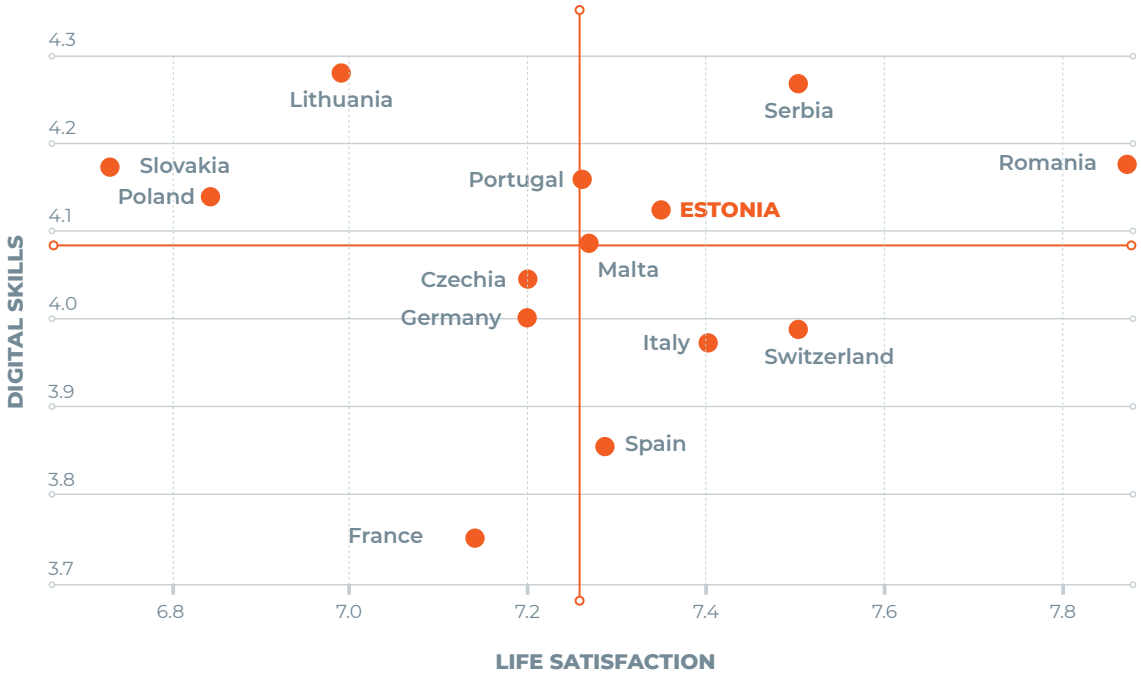
petent tended to be slightly more satisfied with their lives. Estonia is among the countries where the average indicators of both young people's life satisfaction and self-reported digital skills are slightly higher than in the other countries studied (Figure 4.1.3). Lithuania stands out among neighbouring countries: young people's self-reported digital skills are significantly higher, while the level of life satisfaction is considerably lower.

In summary, the indicators of mental well-being of Estonian youth aged 12 to 16 are average or satisfactory compared to 16 other European countries. Among other things, the fact that Estonian adolescents perceive the digital environment as relatively safe and that their digital skills are good compared to other countries could play a role in this. Unlike in some other countries, there are no gender or age gaps in the digital skills of young people in Estonia (Smahel et al. 2020, pp. 37–38).

How important is the digital environment's influence on the mental well-being of Estonian youth?

The role of the digital environment in shaping mental well-being must be viewed in a broader context and considering social inequality. For this, we first analysed Estonian adolescents' emotional problems and life satisfaction by gender, age, ethnicity, type of residence and perceived socioeconomic status (see Figure 4.1.4). Emotional problems are significantly more prevalent

Figure 4.1.3. Self-reported life satisfaction and digital skills of 12-to-16-year-olds in European countries (averages of the scales; lines indicate the average of the sample)



SOURCE: figure by the authors, based on EU Kids Online data from 2018

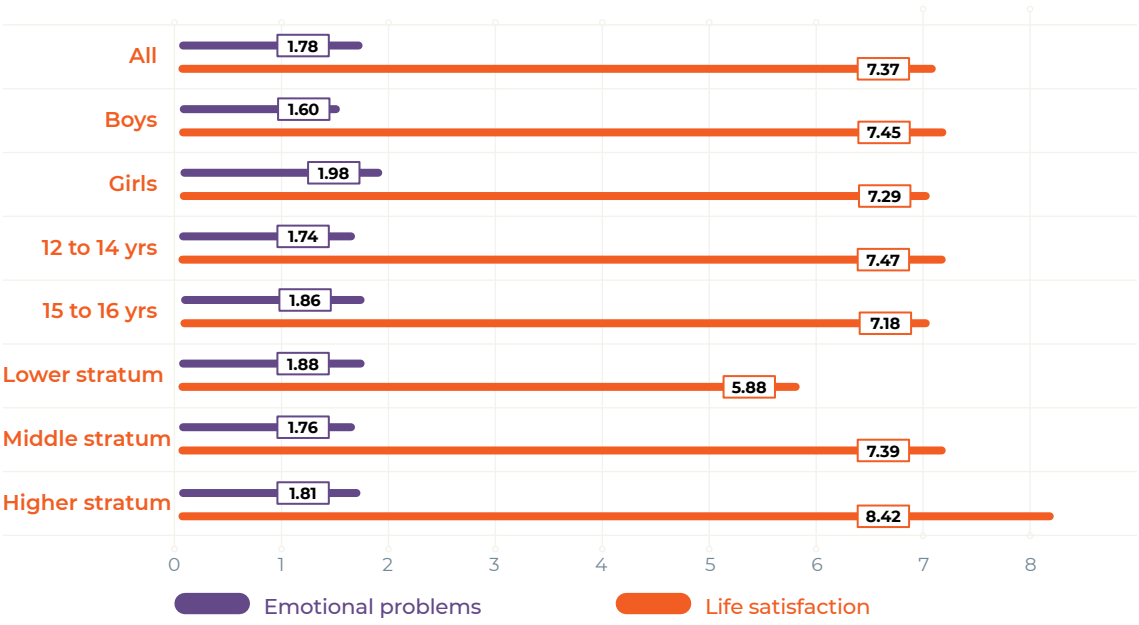
in girls (significant difference at level $p < 0.001$) and somewhat more prevalent in 15-to-16-year-olds ($p = 0.06$). Furthermore, older adolescents have slightly lower life satisfaction ($p = 0.08$).

We used self-reported social status to indicate the socioeconomic dimension. It was measured on a ten-step social 'ladder', where the respondents could place themselves and their family based on wealth and parents' level of education and employment position. As expected, young people's life satisfaction is strongly correlated with perceived social status ($p < 0.001$): adolescents who place themselves in the lower stratum (ranking 0–5) are the least satisfied with their lives, and those placed in the higher stratum (ranking 8–10) rate their life satisfaction the highest (Figure 4.1.4). Young people's emotional problems do not depend on the socioeconomic dimension. The mental well-being of Estonian youth is not related to ethnicity (based on response language) or type of residence (size of settlement).

In order to find out what the mental well-being of Estonian youth depends on the most, we analysed gender, age and social status alongside personality traits and characteristics describing the digital environment, school and family environment in regression analysis models. The personality traits and environmental characteristics we tested included sensation seeking, the safety of the digital environment, digital skills, the variety of online activities, parental and teacher mediation of internet use, and support from peers and friends. The model in which being female, perceived discrimination (bullying) and self-reported excessive internet use played the largest role

Emotional problems occur significantly less in young people with higher self-efficacy.

Figure 4.1.4. Emotional problems and life satisfaction of Estonian youth aged 12 to 16 by gender, age and social status (averages of scales)



SOURCE: figure by the authors, based on EU Kids Online data from 2018

SELF-EFFICACY is an individual's belief that they can cope with goals, tasks, new situations and problems. Among European and Estonian youth, self-efficacy is strongly related to digital competence (Mascheroni et al. 2020). In the digital age, self-efficacy increases with growing digital competence, which in turn promotes mental well-being.

Table 4.1.1. Variables affecting the mental well-being of Estonian youth aged 12 to 16 (red/green background colour = a higher value of the predictive variable decreases/increases mental well-being)

PREDICTIVE VARIABLES	DEPENDENT VARIABLE: EMOTIONAL PROBLEMS	DEPENDENT VARIABLE: LIFE SATISFACTION
Gender (0 = boy, 1 = girl)	0.240	
Age	0.097	
Higher social stratum		0.442
Excessive internet use	0.205	-0.102
Self-efficacy	-0.116	0.178
Perceived discrimination	0.213	
Supportive family environment		0.164
Supportive school environment		0.099

SOURCE: figure by the authors, based on EU Kids Online data from 2018

best predicted the likelihood of emotional problems (Table 4.1.1). Emotional problems occur significantly less in children with higher self-efficacy and in younger children.

High self-reported social status, self-efficacy and a supportive family environment (meaning that their family listens to them and provides help) best predict life satisfaction in adolescents. A lower level of self-reported excessive internet use and a supportive school environment (supportive fellow students and teachers) are also important.

Therefore, the mental well-being of Estonian youth is largely influenced by individual traits and the immediate social environment. Self-reported excessive internet use turned out to be the most important digital environment trait. In more serious cases, this could also be connected to mental health problems (Sisask and Streimann 2020).

The mental well-being of youth in Estonia is largely influenced by individual traits and the immediate social environment.

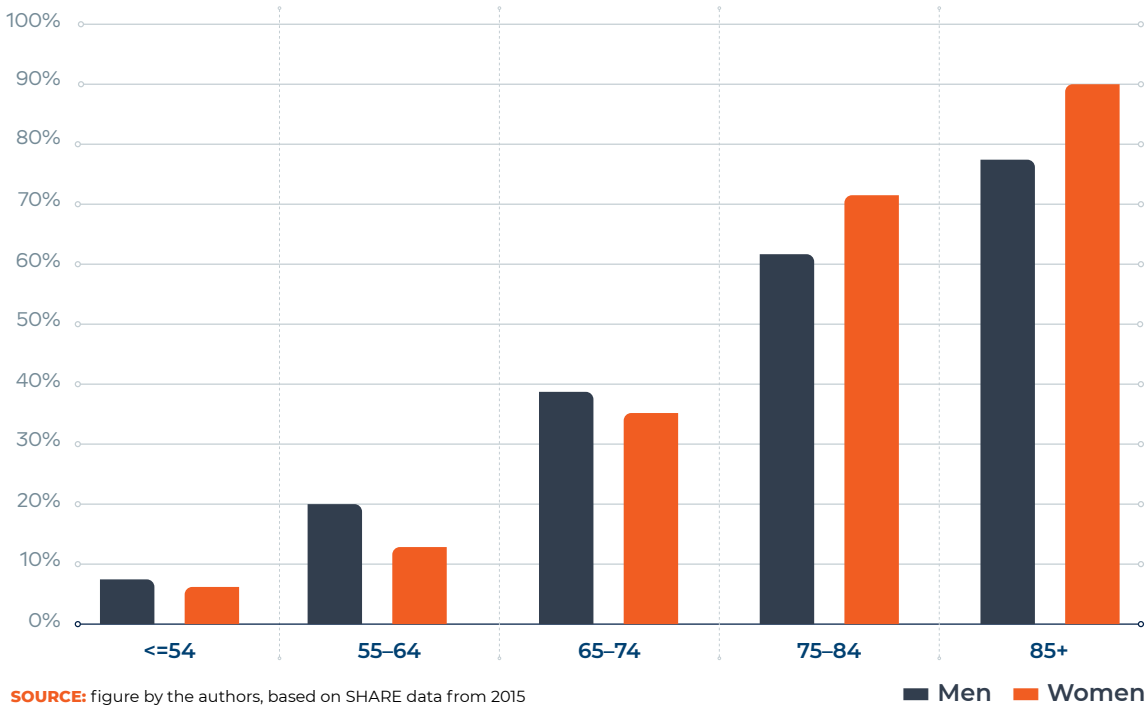
Computer literacy and internet use of middle-aged and older Estonians

The international longitudinal study SHARE (Survey of Health, Ageing and Retirement in Europe) covers the Estonian population aged 50 and over and their use of digital tools, self-reported digital skills and subjective well-being, quality of life and cognitive abilities. In Estonia, more than 7,500 people aged 50 and over have been surveyed every other year since 2011. The following questions were asked about the use of digital tools in 2013 and 2015: 'Have you used the internet at least once in the past seven days to send e-mails, search for information, make purchases or for other purposes?' Self-reported digital skills were measured with the question 'How would you rate your computer skills? Would you say they are ... excellent, very good, good, fair, poor?' There was another option: 'I never used a computer' (checked only if the respondent said this spontaneously).

In 2015, 38% of people aged 50 and over in Estonia had never used a computer; two years earlier, the same figure was 45% (Tambaum 2019). According to this measure, Estonia ranks only slightly above the average among 18 European countries. As expected, there are more people not using a computer in older age groups, but, for example, 20% of men and 13% of women aged 55 to 64 had also never used a computer (Figure 4.1.5).

Computer and internet use by middle-aged and older people is primarily influenced by external circumstances, especially whether they needed to use a computer in their current or most recent job. Only 16% of employed people do not use computers and the internet. This figure is 60% among not employed respondents. Estonian men between the ages of 55 and 64 differed the most from other SHARE countries. Half of Estonian men of this age did not use the internet regularly, while in the other countries the figure is

Figure 4.1.5. Estonian people over 50 who have never used a computer, by gender and age (% of age group)



SOURCE: figure by the authors, based on SHARE data from 2015

The main reason older adults do not use the internet is not the absence of opportunities but the lack of skills.

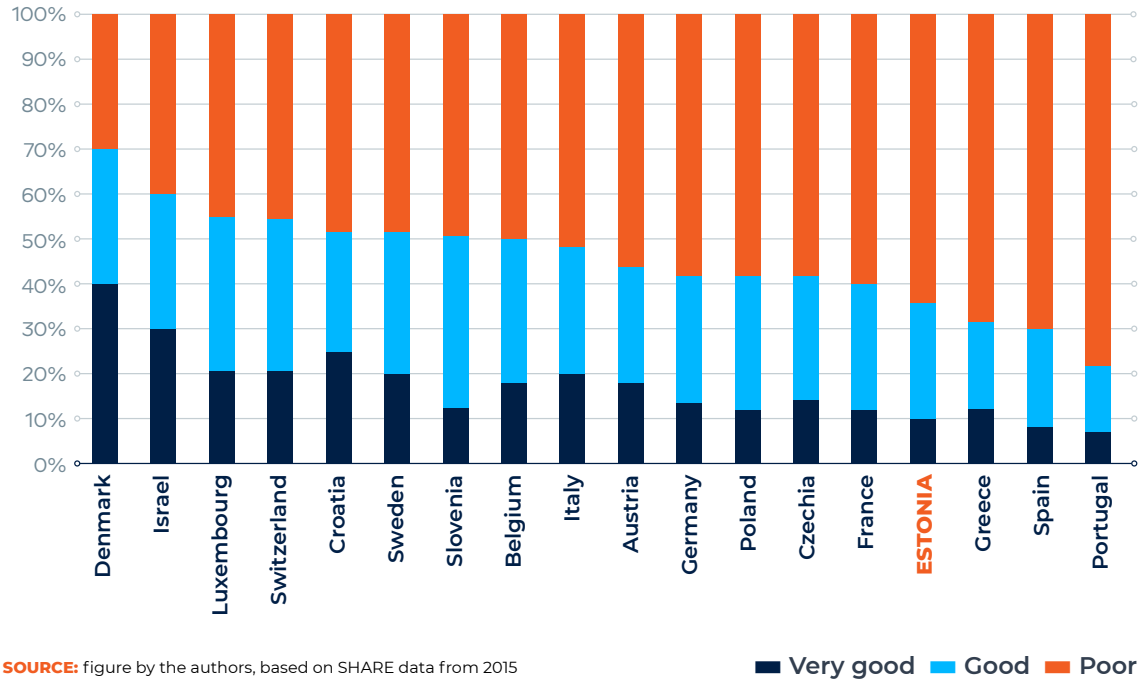
30%. Men who live with a partner use the internet more than those who live alone (39% and 56%, respectively). Estonian older adults' relative lag in digital skills is also evident in the use of public e-services. This, in turn, points to years of unequal treatment in communication with the state and in participation in democratic governance (Solvak et al. 2019).

The main reason older adults do not use the internet in Estonia and Europe is not the absence of opportunities but the lack of skills. The PIAAC survey (Programme for the International Assessment of Adult Competencies) revealed that although older people in Estonia are outstanding in both functional reading and mathematical literacy, their problem-solving skills in a technology-rich environment are weak (Halapuu and Valk 2013). According to the SHARE survey, 64% of people who used the internet in 2015 evaluated their computer skills as fair or poor (Figure 4.1.6).

The data of the two waves of SHARE surveys show that self-reported digital skills tend to decrease over time. In the space of three years (2013–2015), only 5% of Estonian people aged 55 to 64 in 2015 and participated in both waves acquired computer literacy. In the same group, 17% experienced a drop in self-reported skills, and 5% assessed their skills as having become nonexistent. On the one hand, the

In older age, digital skills are always related to a specific need, and when the need disappears, certain skills tend to fade.

Figure 4.1.6. Self-reported computer literacy (% of those who have skills) among Estonian computer users aged over 50 (very good: evaluations 'excellent' and 'very good'; poor: evaluations 'fair' and 'poor')



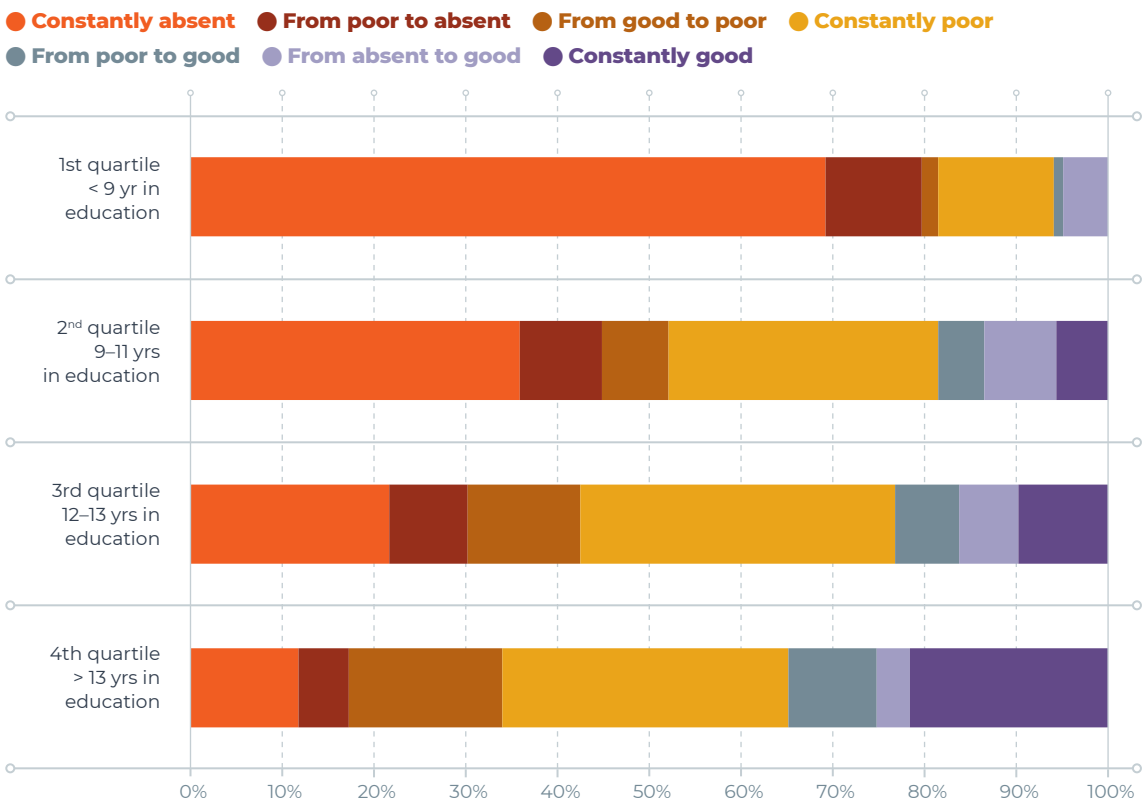
SOURCE: figure by the authors, based on SHARE data from 2015

People who do not have constant access to digital skills instruction have fewer opportunities to keep up with changes in technology and software.

deterioration of digital skills is related to changes in the lives of the observed age group, such as leaving the workforce. In older age, digital skills are always related to a specific need, and when the need disappears, certain skills tend to fade. On the other hand, these skills are dynamic, as digital technology changes and develops constantly, and subjective self-reports are influenced, among other things, by how other age groups' increasing skills are perceived. People who do not have constant access to digital skills instruction have fewer opportunities to keep up with changes in technology and software. Moreover, in adult education in Estonia, digital skills are mainly taught through imitation. When learning through imitation, new skills are acquired, but with no complex understanding, so the person cannot transfer the skills to a changed situation.

At first glance, it is surprising that the higher the respondent's level of education, the more likely self-reported skills were to decrease over time (Figure 4.1.7). People with higher education are probably more likely to take part in digital skills courses without a specific goal, just in case. If the training does not help with applying the skills and no further training is provided as technology progresses, the skills will disappear. This can explain why

Figure 4.1.7. Change in computer literacy by quartile of years in education in Estonia between 2013 and 2015, among those who were aged 55 to 64 in 2015 (% of people who responded in both waves)



SOURCE: figure by the authors, based on SHARE data from 2013 and 2015

the change in skills over time is greater among the highly educated than among the less educated. It is also common for people to pick up unskilled jobs as they get older, and the digital skills they acquired for a profession are no longer needed.

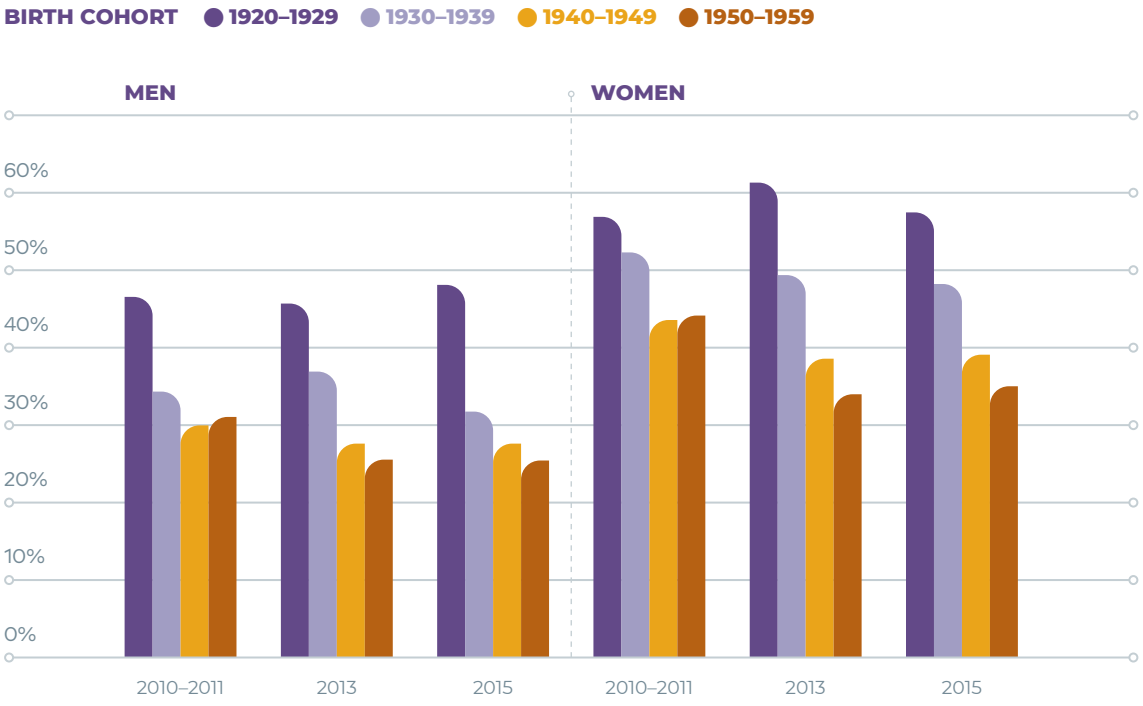
Depressiveness and loneliness in middle-aged and older adults and their association with digital skills

In the SHARE survey, depressive symptoms are assessed with the EURO-D scale, which includes low mood, suicidal ideation, pessimism, guilt, irritability, feeling lonely, changes in sleep and appetite, lack of interest, fatigue, decreased concentration, tearfulness and lack of enjoyment. A person who reports at least three of these symptoms coming up in the previous four weeks is considered depressive (Abuladze et al. 2020).

Loneliness – the lack of meaningful human relationships and communication – is one of the signs and risk factors of depressive symptoms. Loneliness is measured in the SHARE survey on the R-UCLA three-point scale, asking the respondents how often they feel a lack of companionship, exclusion or isolated from others. Total points on the scale range from 3 to 9. People with 5–9 points are considered very lonely; those with 4 points are considered moderately lonely; and those with 3 points are considered not lonely.

Among European countries, Estonia has one of the highest rates of depressiveness in middle-aged and older people. According to 2011 data, 42% of people in Estonia aged 50 and over were depressive. In 2013, this figure dropped to 34%, and in 2015, it stayed the same. Figure 4.1.8 shows the change by gender and birth cohort. In general, depressiveness is more prevalent in women and people aged 80 and over – more than half of them reported depressive symptoms in all waves of the survey.

Figure 4.1.8. Prevalence of depressiveness (%) and change by birth cohort 2010–2015 in Estonian men and women



SOURCE: figure by the authors, based on SHARE data from 2010–2011, 2013 and 2015

There are rather few very lonely people in Estonia – 2.0% of the total sample in 2013 and 2.2% in 2015 (Figure 4.1.9). Very high loneliness is more common in older age; differences between genders are less noticeable here. In 2013, 5.6% of men born in the 1920s were very lonely; in 2015 this figure increased to 10.3% (the figures are similar among women). Among younger people, the respective indicators are in the range of 1.0–1.5%. People with less education (eight years or less) have a higher risk of loneliness than those with more years spent in education.

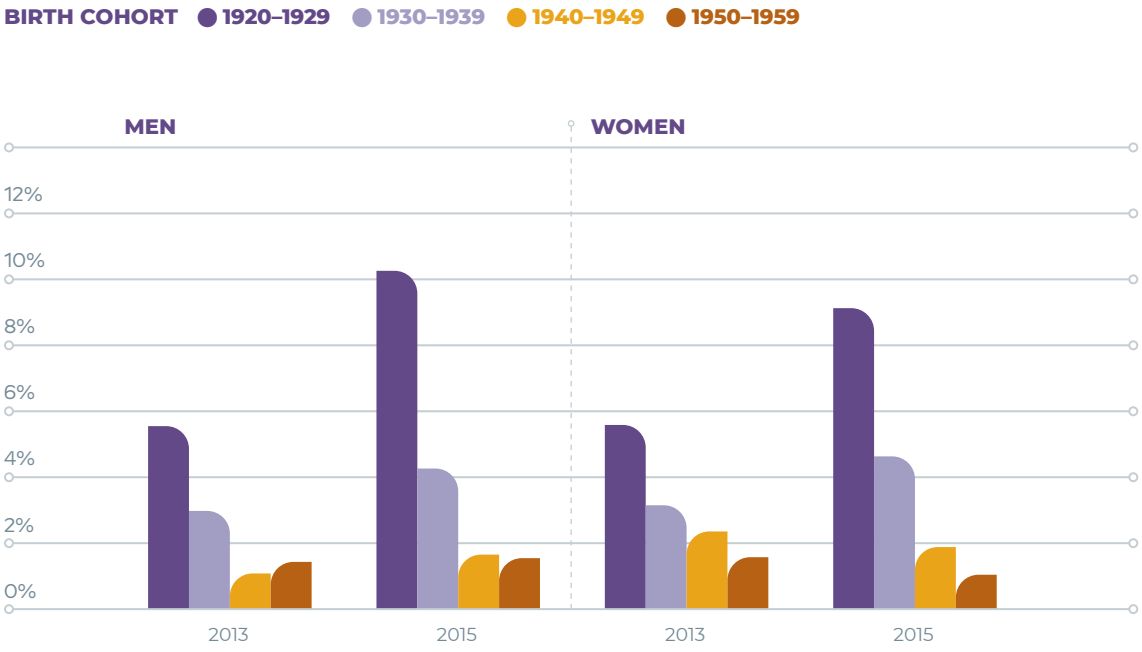
SHARE 2015 data reveals that Eastern European countries have some of the highest rates of lonely men. The rates of lonely women are highest in Southern Europe and the Mediterranean countries, followed by Eastern Europe.

The number of depressive symptoms among middle-aged and older people who use the internet is somewhat lower than among non-users in Estonia and the other countries that participated in the survey. Also, not using the internet has a significant relationship with loneliness. In Estonia and the other countries, loneliness among internet users is below average (< 4), and non-users have a higher than average feeling of loneliness (> 4).

The occurrence of depressiveness is also significantly related to the level of computer literacy. The more literate people were, the fewer depressive symptoms they had on average, among both men and women in Estonia and in the other countries (Figure 4.1.10).

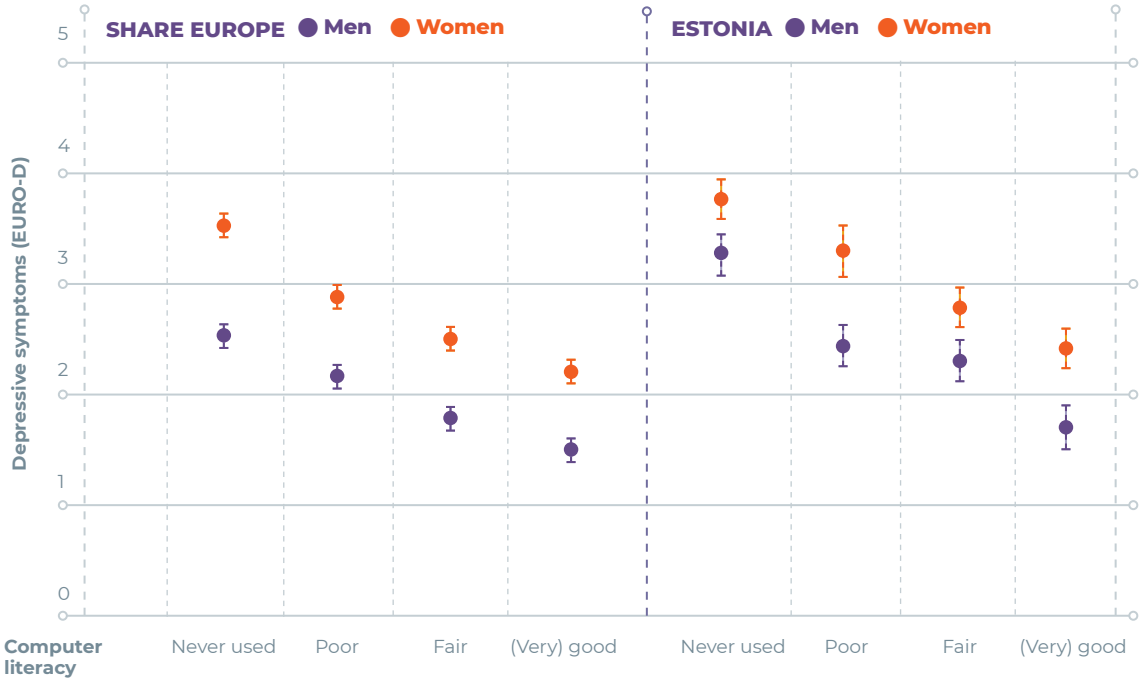
Loneliness among middle-aged and older internet users is below average, and non-users have a higher than average feeling of loneliness.

Figure 4.1.9. Share of very lonely people (%) and change by birth cohort 2013–2015 in Estonian men and women



SOURCE: figure by the authors, based on SHARE data from 2013 and 2015

Figure 4.1.10. Depressiveness in all SHARE European countries (left) and in Estonia (right) in men and women, by self-reported level of computer literacy (average number of depressive symptoms with 95% confidence intervals)



SOURCE: figure by the authors, based on SHARE data from 2015

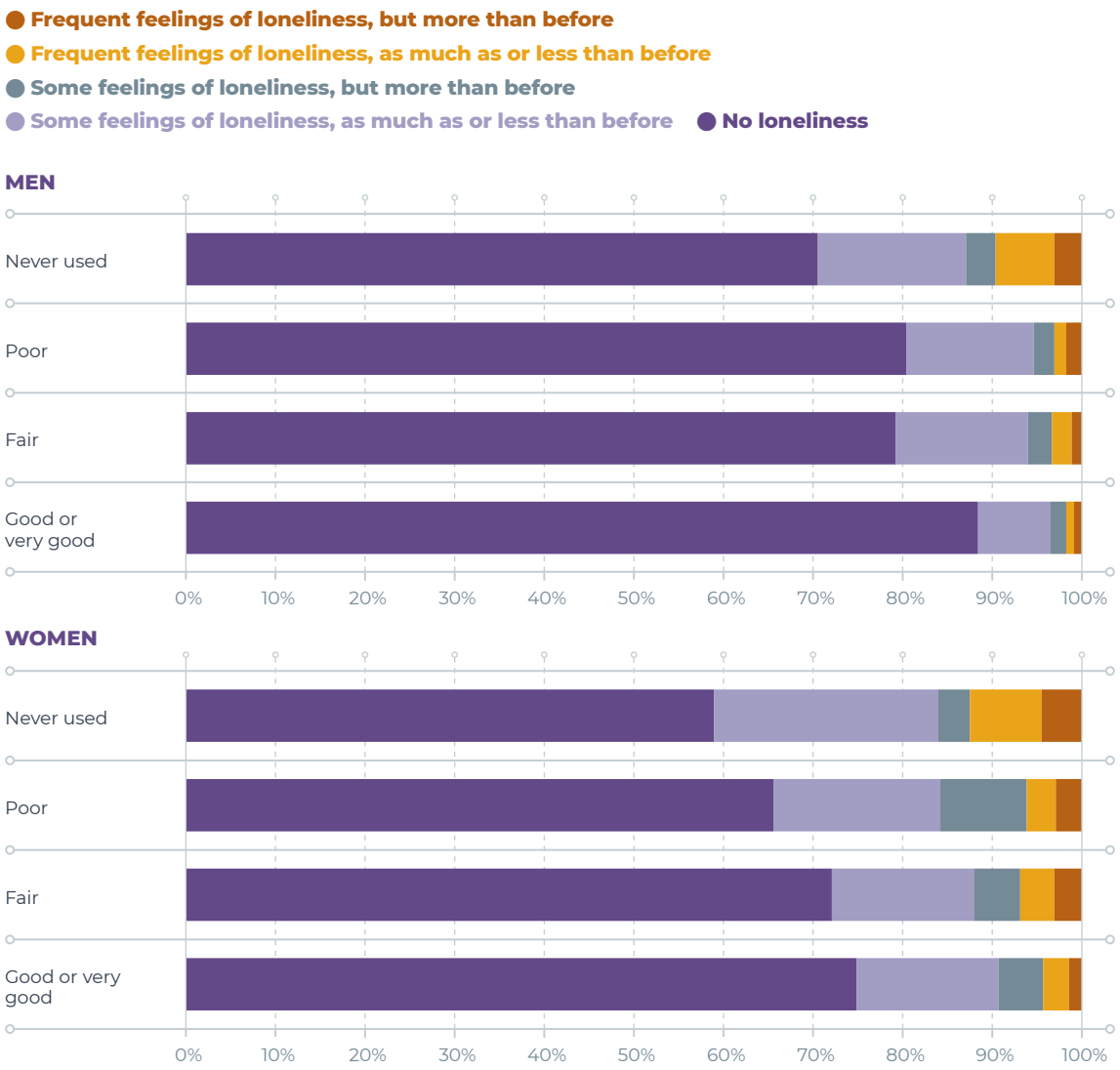
Mental well-being of middle-aged and older Estonian population during the COVID-19 pandemic

To study depressive symptoms (EURO-D scale) and loneliness during the first wave of the COVID-19 pandemic[2] and their association with digital skills, people aged 50 and over taking part in the SHARE panel survey were interviewed by phone in June and July 2020. In general, the first wave of the coronavirus pandemic did not have a significant impact on the loneliness and depressiveness of middle-aged and older people in Estonia. During the first wave of the pandemic, there were very few cases of COVID-19 in Estonia, and so the new situation may not have affected people's health much yet. Internet use and the confidence that comes from having good digital skills, however, helped ward off feelings of loneliness both before and during the coronavirus crisis.

Among internet users, 16% of men and 26% of women felt lonely before the pandemic and during the COVID-19 restrictions as well. The corresponding indicators were higher among non-users: 27% of men and 39% of women felt lonely. There were no differences in depressiveness between internet users and non-users. People with higher computer literacy were also less lonely (Figure 4.1.11), both before and during the first wave of the pandemic.

2 Loneliness was measured in the SHARE COVID questionnaire with two questions: (1) How much of the time do you feel lonely? 1. Often 2. Some of the time 3. Hardly ever or never; and (2) Has that been more so, less so or about the same as before the outbreak of COVID-19? 1. More so 2. Less so 3. About the same.

Figure 4.1.11. Loneliness and its change (%) during the first wave of COVID-19 in 2020 among men (above) and women (below) over 50 in Estonia, by self-reported level of computer literacy



SOURCE: figure by the authors, based on SHARE COVID-19 study data from 2020

People aged 50 and over who rarely or never communicated with their children were more likely to feel lonely. Changes in communicating with other people were not clearly related to loneliness. It is possible that when the COVID-19 restrictions were introduced, the use of technological tools increased mainly because of the need to communicate with people close to one. People who had less contact with their children overall used computers less during the coronavirus pandemic.

Internet use and the confidence that comes from having good digital skills helped ward off feelings of loneliness both before and during the coronavirus crisis.

SUMMARY

Using digital tools and developing the necessary skills is not just another interesting activity for young people or middle-aged and older people – it is closely connected to their mental well-being. The situation of Estonian 12-to-16-year-olds is satisfactory in comparison with the other European countries studied, but there is room for improvement in the development of young people's digital competence and mental well-being. Although Estonian adolescents perceive the digital environment as quite safe and their self-reported digital skills are relatively good, a significant number of young people have emotional problems. The mental well-being of Estonian youth is largely influenced by individual traits, especially self-efficacy, and the immediate social environment – a supportive family and school, and relationships with peers. Self-reported excessive internet use turned out to be the most important trait related to the digital environment. This could lead to a vicious circle: excessive use of the internet causes problems at home and school, and without finding support and help, young people escape even further into the depths of the online world.

The situation of middle-aged and older people in Estonia is more problematic. Although their average indicators of loneliness are lower than in most of the European countries examined, the level of depressiveness among people aged 50 and over in Estonia is one of the highest in Europe. The prevalence of depressiveness and the risk of loneliness increase with age, but age should not be considered the main or the direct cause of mental health problems. Since, among middle-aged and older people, not using the internet and having little or no computer literacy are significantly related to both depressiveness and loneliness, the causes of problems with mental well-being are related, among other things, to their ability to function in the digital environment. The period of COVID-19 restrictions clearly showed that more frequent communication with children and using technological tools is associated with less depressiveness and feelings of loneliness.

Unfortunately, Estonian people aged 50 and over report their computer literacy as relatively poor in the context of other European countries, and their subjective perception of their lag in skills rather increases over time. Furthermore, a digital divide is evident in this age group: older people, people with a lower level of education and those not employed are significantly more likely to have lower computer literacy.

The gaps between different generations increase as digital tools are used more and more in everyday life. The generational digital divide, or the problem of middle-aged and older people not using digital tools or having few skills, is not the problem of one or two generations. It is a phenomenon that accompanies the developing digital society, and it requires systemic and structural solutions (Tambaum 2021). Although different issues affect the mental well-being of young and older internet users, the ways and the contexts of acquiring new skills and the ways of providing instruction are increasingly important for both groups.

Using digital tools and developing the necessary skills is not just another interesting activity for young people or middle-aged and older people – it is closely connected to their mental well-being.

When teaching older people outside the home, the instructors should be people who know not only how to use digital tools but also how to share those skills (Tambaum 2021). In addition to digital skills, young people need to develop their self-efficacy and social sensitivity and learn self-management and social coping skills.

The more digital tools are used in everyday life, the more the gaps between different generations increase if the older generations do not get support in developing their skills.

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4.2 Participatory culture and digitally mediated mental well-being practices

KATRIN TIIDENBERG, BERIT RENSER, MARKO UIBU AND RIIN SEEMA

KEY MESSAGE

In Estonia, alternative social media groups fill the gaps created by a lack of resources in the healthcare system; yet, they are outside of the remit of the healthcare system. For many, alternative groups are one of the few spaces where they can talk about topics important to them and find understanding and support. The views shared in these groups can empower individuals, but in doing so, they can both support and undermine their mental health and well-being.

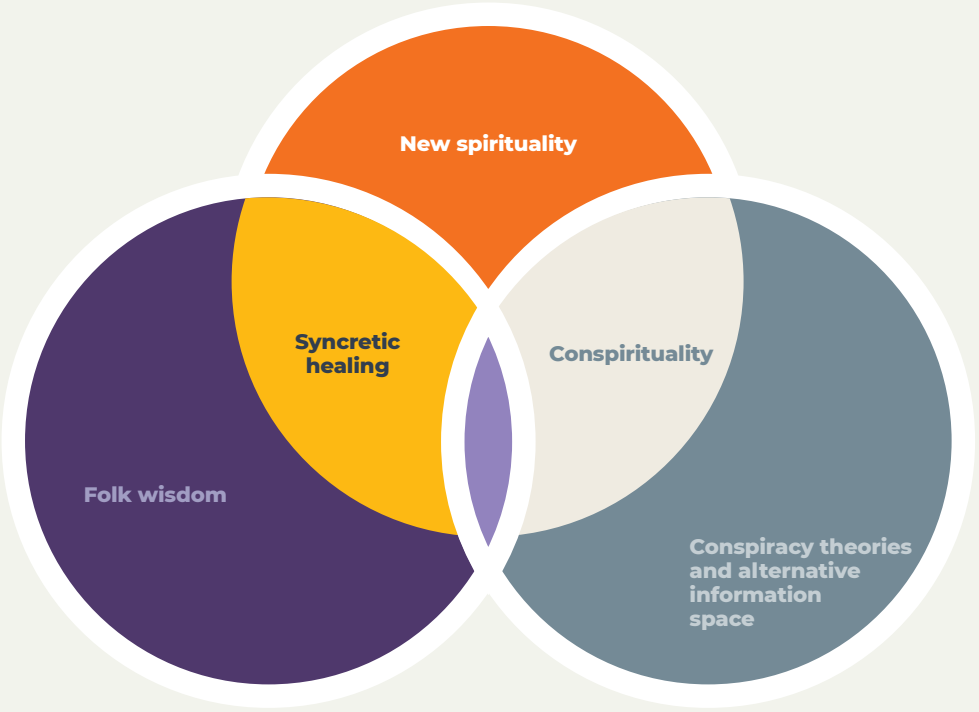
INTRODUCTION

New practices, beliefs, and even technological innovations emerge where the internet meets mental health. This article focuses on informal social media groups that offer alternative interpretations of mental health issues and solutions to them. We use the term 'participatory mental health practices' to describe the interactive, remix-based health and well-being practices enabled and mediated by digital and internet technologies and driven by the logics of participatory culture. These practices are about creating and consuming online content and communicating about mental well-being, including offering support and asking for help. As a result, new relationships, roles and hierarchies emerge between people, as well as new ways of interpreting the world.

Mental-health-related participatory cultures and practices can align with scientific research (e.g. support groups that bring together people with a specific diagnosis or experience) and thereby support the efforts of health organisations, but there are also plenty of groups that contradict institutional views. This article analyses new-spiritual, conspiritual and folk-wisdom social media groups that are more inclined to create interpretations diverging from institutional views. We use 'alt-interpretive groups' as an umbrella term to describe all these collectively (see Figure 4.2.1 for the links between different alternative interpretations).

'Folk wisdom', which refers to the transgenerational collection of the life experiences of ancestors, is a term familiar to many. However, new spirituality and conspirituality are probably less well known. 'New spirituality' is an umbrella term that includes the more esoteric neo-pagan practices such as witchcraft and shamanism; meditation and mindfulness, which are gaining popularity as science-based in the Western world; and

Figure 4.2.1. The field of alt-interpretive mental health and well-being discussed in this article



SOURCE: figure by the authors

reiki and yoga, which blur the boundaries of sports, health behaviour and spirituality. New spirituality is characterised by syncretism, or mixing modern and traditional, spiritual and physical, religious and secular, local and foreign ideas and practices and combining them based on preferences and needs (Uibu 2016). When new spirituality is accompanied by a belief in conspiracy theories and pseudoscience, it is described as 'conspirituality' (from the words 'conspiracy' and 'spirituality'). In the broadest sense, conspiritual groups are united in their opposition to the mainstream.

This article analyses what is happening in alt-interpretive groups from a wider cultural and historical perspective. In doing so, we do not judge the members, activities and beliefs of the groups, as their activity can both support and undermine their mental health. We discuss the implications of participatory mental health practices in alt-interpretive groups and conclude with some suggestions for policymakers, mental health experts and general readers who may be interested in such groups.

Participatory mental health practices in a historical and cultural context

People's choices and the options available to them should always be seen in a cultural, social and historical context Estonia's current vision for mental health considers self-help and community support critically important as a base level of activities and services supporting mental health (see Figure 1.5.1; Randver et al. in Chapter 1).

The Green Paper on Mental Health (Ministry of Social Affairs 2020) defines self-help as activities initiated by the

person themselves, their family or the community (including colleagues) to maintain positive mental health (including learning skills), prevent problems, or promote, improve or restore health (p. 26). In that document, a community is defined as a network of people who are geographically or socially close. Community support could be provided as services by local governments or as informal support by neighbourhood initiatives, village movements and church congregations. Regarding the latter, it is important to note that only 13–16% of the Estonian population report believing in God (Eurobarometer 2005).

Although self-help and community help are mentioned in strategic documents, they are poorly integrated into the institutional system. The Estonian health system is medicine-centred but lacks resources. We lack psychiatrists, clinical psychologists, school psychologists, mental health nurses and general practitioners. The continued stigmatisation of mental health issues is also a barrier to well-being. According to a 2016 survey, 35% of the population agrees with the statement that mental disorders are caused by lacking willpower, and 62% do not want to discuss their mental health problems with anyone (Ministry of Social Affairs 2016).

At the same time, folk medicine continues to be held in high regard in Estonia, and as many as 59% of the population believe in 'a higher power or people with superpowers' (Kantar Emor 2017). The media plays an important role in discussing spiritual, magical and traditional ideas. Healers and witches have been portrayed as heroes since the Soviet era (Kõiva 2015). Even today, media content related to magic and superpowers is extremely popular (Vahter 2018). Considering that Estonians are active internet users, it is not surprising that many such alt-interpretive conversations have largely moved to social media in recent years. The most popular platform in Estonia – Facebook – has hundreds of new-spiritual, conspiritual and folk-wisdom groups, the largest of which have over 30,000 members. We have been investigating groups like these since 2015.

Although self-help and community help are mentioned in strategic documents, they are poorly integrated into the institutional system.

The following statements are based on the analysis of participant observation data, fieldwork notes, about 1,000 posts and 20 in-depth interviews collected over six years. For ethical reasons, we have not mentioned the names of any groups or users and illustrate the research with 'ethnographic mock-ups', which imitate the patterns emerging from the analysis but do not directly reproduce any posts or profiles.

Members of alt-interpretive groups

The membership of alt-interpretive groups is sociodemographically diverse. Although smaller groups may attract people of similar backgrounds (e.g. level of education or gender), differences even out in larger groups, and the broader field of participatory mental health practices on Facebook features a variety of individuals.

Users with greater perceived expertise can become alt-interpretive influencers if they are capable of presenting their ideas in ways suited to the group and the platform and frame them convincingly for the group members (McCosker 2018). Users can achieve expert status by posting actively and continuously, whether they post their opinions or provide assistance. In new-spiritual and folk-wisdom

Figure 4.2.2. A mock-up profile of an influencer of a new-spiritual public-health group

Emmeliine Kunks

Witch, Tarot Queen and Rune Fairy

Emmeline is a beloved adviser in the group Fairy Flights.

She has posted 765 times in five years.

She uses local and global folk beliefs as her source of inspiration, changing, adapting, combining and innovating it as she sees fit.

For her, this is both a job and a mission – while it provides (extra) income, she mainly values it for self-realisation and the chance to help people.

Advisers like Emmeline can self-identify as a sage, psychologist and therapist all in one.

groups, experts often refer to themselves as witches, healers, sages, shamans, spiritual guides and the like. When advising and helping people, they rely on naturopathy, personal experiences, and magical techniques such as using a pendulum or card reading (see Figure 4.2.2). Simultaneously, they offer their products, services and advice in public groups and in private channels (Facebook Messenger, Skype, Zoom, WhatsApp, by phone or in home visits).

The 'experts' in new-spiritual groups mainly stand out by sharing folk wisdom and giving advice. In conspiritual groups, however, members who offer novel explanations for societal developments achieve a higher status. By posting online, they hope to achieve recognition as (paid) counsellors or coaches, organise courses, publish self-help books, and sometimes break into the mainstream media. The latter aids in further expanding the scope of conspiritual ideas (see Figure 4.2.3).

Social media has been associated with both a more democratic participatory culture and the spread of misinformation because unlike in centralised media, participation is not regulated. However, alt-interpretive groups have a new type of influential gatekeeper: group administrators. They shape the discussion with Facebook's content management tools, which allow them to remove content, accept new members, set rules and enforce them at their discretion.

Figure 4.2.3. A mock-up profile of an influencer in a conspiritual group

Kevin D. P. S. Tate
Shepherd.
WAKE UP!
OPEN YOUR EYES!

Kevin is an opinion leader in the group Ghosts in the Cellar.

In two years, he has turned his social media popularity into a business, organising training courses and concerts and publishing books.

Kevin is convinced that behind every social problem is a small group of puppeteers, whom he calls the 'deep state', who manipulate people.

Kevin exposes the evil deep state in the context of various social events and crises, from same-sex marriage to coronavirus vaccinations and rising electricity prices.

Charismatic opinion leaders like Kevin have the capacity to unite lonely people, who are often seen as 'weird' by others, by giving them a sense of belonging and offering simple culprits and solutions to complex problems.

What are people looking for in alt-interpretive groups and why?

People come to new-spiritual, conspiritual and folk-wisdom social-media groups for different reasons. Reasons for joining include interest in alternative or existential topics, shifts toward particular lifestyles or values, significant life events, and the desire for self-development and growth. Dissatisfaction with the prevailing social order, a feeling of loneliness and missing out, and a lack of trust in the mainstream, be it institutional medicine, science, media or government, can also be motivators for joining. People's interest and willingness to participate, and their acceptance of the meanings and values in these groups, can develop gradually.

In more practical cases, people are driven to these groups by specific concerns or questions. Therefore, people seek solutions to a wide range of questions directly or indirectly related to mental well-being: relationship problems, grief, professional failures, workplace bullying or illness. Users of

Dissatisfaction with the prevailing social order, feelings of loneliness and deprivation, and a lack of trust in mainstream institutions can lead to joining alt-interpretive groups.

new-spiritual and folk-wisdom groups also seek to predict the future and interpret signs of the spiritual world. Sometimes their problems are directly related to mental health. They might complain about depression, anxiety, loneliness and feelings of inferiority. In other cases, it is a matter of a long-term lack of well-being and multifaceted problems. For example, a person may approach the group with concerns that they are experiencing hair loss, but only through a dialogue with the helpers is it revealed that the health problem is due to long-term stress caused by family quarrels and a cut in income.

The size of the group and the number of people offering help are important for those seeking help. As a result of the network effect, answers are faster, more varied and more flexible in large groups than when asking friends and relatives one by one. The diversity of suggestions means that a person complaining about anxiety or domestic violence may be advised to go to a support centre or talk to a psychologist,

For many members, alt-interpretive groups are one of the few places in their lives where they can openly talk about topics important to them, experience support and feel valued.

The members of alt-interpretive groups and the solutions they offer are varied.

solve their problems by smiling, forgiving or being grateful, or have a curse or evil eye removed by a group expert.

For many members, the alt-interpretive groups studied here are one of the few places where they can openly talk about topics important to them, experience support and feel valued. However, social media does not offer belonging and support only to those struggling with (mental) health and relationships. People who distrust authorities, including state institutions, science and medicine, also gather in these groups. A sense of belonging fosters a faster and deeper acceptance of alternative ideas. This explains the development of felt truths that are not scientifically supported but are perceived as true.

Alt-interpretive mental health

Alt-interpretive groups have developed their own systems of meaning, communication styles and symbols, which are based on the idea of awakening. Holism, harmony and ascribing meaning to everything are the dominant tropes in new-spiritual groups. As a result of such a value system, mental health problems are seen more as a developmental challenge and a natural aspect of awakening. Folk-wisdom groups, on the other hand, are more likely to describe both problems and solutions via referring to external factors. Thus, a mental health problem could be caused by the moon, aquifers or a curse, and wearing a red ribbon, plants or crystals

SOCIAL MEDIA AND MENTAL HEALTH

Social media allows charismatic individuals familiar with the platform's possibilities to find a much wider audience than before. Moreover, the status achieved in social media creates a false consensus among members, whereby people with marginal ideas that have received some attention begin to feel that a much larger number of people agree with them than actually do. Social media also favours the deepening of extreme views because of people's desire for continued attention.

Although people with lower levels of education, health literacy and trust in medicine are more vulnerable to health disinformation, the sharing and believing in disinformation is largely driven by a sense of belonging. People circulate content because of the status of the original poster and their own desire to be seen as a certain kind of person by association. Therefore, according to the latest studies, emotional intelligence safeguards against disinformation and helps people recognise manipulative content and analyse their own reactions and the reasons for them.

SOURCES: Schulz et al. 2020; Preston et al 2021

can help. Attributing agency to objects and natural phenomena makes it possible, on the one hand, to justify difficulties and, on the other hand, to see those difficulties as valuable lessons on the path of spiritual development and awakening.

Also, helpful angels or spirits can be positioned as the real actors. These angel groups mostly use the 'language of kindness': members are not criticised or attacked but are given support and encouragement to overcome difficulties (see Figure 4.2.4). Although people who do not believe in angels might roll their eyes at this point, the language of kindness is an important part of emotional support and thus mental well-being.

Conspiritual groups also see connections everywhere but tend to explain these with secret agreements and manipulations rather than holistic unity. They build solidarity using the language of exposing and criticising conspiracies, not kindness and love. Conspiritual solidarity on social media often turns into a crusade: calls for resistance and exposing the corrupt elite are frequent. However, these groups also talk about 'awakening' and 'becoming aware', which are hoped to bring positive changes.

Social media – a help and a hindrance for mental health

Participation in social media can simultaneously support and undermine mental health. Some initially supportive and empowering beliefs and

Alt-interpretive groups have developed their own systems of meaning, communication styles and symbols, which are based on the idea of awakening.

Figure 4.2.4. Mock-up post from a thread of kindness titled 'Kallistamine' (Hugging), which had close to a thousand similar posts. The colourful animated emojis used in the forum's posts usually depict hugs, angels and hearts

practices may become a health risk. In other cases, group participation is empowering for the individual but harmful to social well-being. We will highlight both the supporting aspects and the problematic aspects as dialectical pairs that best describe the complex reality.

More support can create ideological bubbles and tension

Finding people who think about and have gone through the same things offers social and spiritual support. In all alt-interpretive groups, problems are discussed mainly through personal experiences. This destigmatises problems and talking about them. Finding people with similar experiences helps relieve tension, gives hope and boosts mental well-being in the short term. Conspiritual groups, where members share a sense of disenfranchisement, perceived inequality, distrust of the elite and general alienation from society, also boost members' self-esteem by ridiculing 'the sheeple' and 'the elite'. In these groups, a deep sense of community often leads to activism and even political participation. Most sociological and political accounts of democracy would call this a positive development.

However, the activism of conspiritual groups is often destructive and based on disinformation. The more important group membership is to an individual's mental health and sense of self, the more likely members are to isolate into ideological bubbles. Depending on the group's beliefs, this may result in the development of parallel structures in various areas of life, hindering the functioning of society as a whole. Examples from the recent state of emergency during the pandemic include 'vaccine-free' kindergartens and lawyers handling complaints based on conspiracy theories.

Social media participation can simultaneously support and undermine mental health.

Increased agency is accompanied by reduced privacy and safety risks

Alt-interpretive groups offer many people an opportunity for self-expression that they do not have elsewhere. This has an empowering effect on people, as it teaches introspection, self-analysis and taking responsibility for one's (health) behaviour by observing the experiences and stories of others.

Facebook is built to encourage people to post more and more and to share their private lives; it does this through the user interface, algorithms, and its content management rules and their implementation (see Tiidenberg 2017). In support groups, people are even more inclined to talk about themselves publicly, as sharing more information about themselves leads to better advice. However, many do not realise the reach of their posts or the amount of shared information when all pieces are put together. Public posts that suggest the poster is struggling with poor mental health can also attract those who seek to take advantage of people in need, for example, by offering loans or miracle cures or lifting a curse (see Renser and Tiidenberg 2020). The information shared in groups is controlled to some extent by group administrators and fellow group members, who can warn others. However, due to more active content management by the platform in the context of COVID-19, more and more disinformation and dubious promises move to private conversations, where those in need are even more vulnerable to manipulators.

Public posts that suggest the poster is struggling with poor mental health can also attract those who seek to take advantage of people in need.

Diverse and widely available information leads to the spread of unscientific 'felt truths'

Informal online communities increase the availability and diversity of (mental) health information, mainly in the form of personal stories, which is why such groups serve as a source of information and learning. At the same time, the overabundance of online information and the possibility for multiple interpretations can place people in a maze of information or direct them to 'felt truths' – that is, emotionally resonant disinformation that helps avoid cognitive overload. On social media, people in need receive advice from amateurs without professional training, who draw on tradition, alternative medicine, or, purportedly, messages from the angels or the universe. Sometimes these amateurs are helpful, but it can also happen that those in need of professional help go without it for too long, or the person in need no longer believes the experts because their advice clashes with the alternative interpretation.

SUMMARY

The popularity of alt-interpretive groups reflects the unmet needs of a large segment of the population for belonging, support, being understood and cared for, self-realisation and spirituality. However, alt-interpretive groups have contradictory implications on the individual and the collective level, and these can change over time.

In the short term, this kind of involvement often supports the individual's mental health. The groups fill the gaps created by the shortage of mental health professionals, evidence-based self-help and community-based services in Estonia. From the individual's perspective, increased agency, a sense of belonging and finding support, and easier access to diverse information reflecting life experiences can be considered positive.

In the long run, however, alt-interpretive groups can harm both individual well-being and social solidarity. The spread of pseudoscience and disinformation in alt-interpretive groups is dangerous, and sometimes amounts to antisocial activism. People with mental health problems can therefore miss out on professional help, and in the worst case, their condition can deteriorate to the point where the person becomes a threat to themselves or others. Participation in groups also carries privacy and safety risks, and people in need may be exploited. Isolating into ideological bubbles and the accompanying polarisation can also be dangerous at the societal level.

In the short term, involvement in alt-interpretive groups often supports the individual's mental health. In the long run, however, alt-interpretive groups can harm both individual well-being and social solidarity. People with mental health problems can therefore miss out on science-based help, and in the worst case, their condition can deteriorate to the point where the person becomes a threat to themselves or others.

However, it is important to keep in mind that what we have discussed here is only a part of participatory mental health practices. Due to insufficient data for Estonia, we could not discuss the more professional and pro-social examples of participatory practices, such as web-based mindfulness apps.

Finally, here are some recommendations for policymakers, mental health professionals and also general readers who may join or be interested in groups such as those discussed above.

- It is important to increase access to science-based support services linked to self-help or community help, both online and in the physical environment (e.g. experience counselling or group discussions in local centres, mobile applications, initiatives such as Peaasi.ee and Vaikuseminutid in Estonia). We know from international experience that professionally initiated and moderated social media groups and online portals can also become centres of self-help and community help. Professional mental health help or crisis counselling should be quickly available for people in difficult situations.
- To avoid the spread of misinformation, mental health influencers and gatekeepers active in social media (e.g. administrators and moderators of folk-wisdom groups) could receive training and be involved in health campaigns.

- One option worth considering would be to incorporate the gatekeepers of the existing alt-interpretive groups into national communication strategies concerning mental health and other such issues. Recognising them as important stakeholders instead of excluding them from mainstream influence might reduce confrontation and encourage dialogue.

- Mental health professionals should be aware that such groups exist and can have a significant and often multifaceted influence on people's healthcare decisions.

- Communication guidelines should be developed for mental health professionals to help them engage in dialogue and counsel patients who believe in alternative interpretations and make healthcare decisions based on them, including those who refuse treatment.

- The curricula of general education schools should place greater emphasis on the development of self-awareness, self-regulation and empathy for the sake of both stronger mental health and more competent online behaviour.

- Avoiding stigmatisation and building bridges should be one of the goals of mental health communication in the public sector.

- As members of participatory and alt-interpretive groups make up a significant part of the Estonian population, it is necessary to invest in specific research to understand the dynamics of these groups and facilitate dialogue between scientific and alternative interpretations.

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4.3
Social media use and mental health

DMITRI ROZGONJUK, KARIN TÄHT, RASMUS SINIVEE AND MARIA MURUMAA-MENGEL

KEY MESSAGE

While the excessive use of social media is associated with many difficulties in daily life (including mental health problems), the topic can be overemphasised in the media, and there is no reason to consider social media use in itself as the root cause of problems in daily life.

INTRODUCTION

Social media is a technology that offers its users a variety of functional opportunities to connect with others, communicate, create, share and consume textual and audiovisual content (created by others). Moreover, social media can be accessed almost anytime and anywhere, requiring only an internet connection and a suitable device (e.g. a computer or smart device). Today the internet is home to a large number of platforms and applications that can perform various general or nuanced functions but are essentially based on the ability to communicate with other people.

The main functions of social media are the free spread of information and connecting people across geographical barriers. By now, problematic aspects are also evident, such as the spread of misinformation, disinformation or malinformation and the polarisation of social groups. Although there are many threats associated with the use of social media, including cybercrime (e.g. identity theft and phishing) and cyberbullying, this article focuses on the risks associated with excessive social media use that are central to the mental health debate. These risks are often, and sometimes baselessly, described as social media addiction.

This article outlines the problematic use of social media and its associations with mental health, how it is handled in the media and among Estonian youth, and practical recommendations that could help balance (social) media use. The article is based on recent research carried out in Estonia and internationally.

Is social media addiction a real addiction?

The study of social media addiction is a relatively recent discipline but borrows from older research. While studying social media – a very recent technological innovation – it shares strong similarities with research on digital addiction, including smartphone and internet addiction. In fact, it can be said that the study of social media addiction stems from these other fields of research. The development of this line of research can be summarised as follows: the criteria for alcohol and drug abuse were adapted to the use of technology. This means that concepts such as withdrawal symptoms (e.g. irritability), tolerance (the idea that the same 'dose' of social media, smartphone or internet use is no longer sufficient) and disruptions of everyday life (problems at work or home because of excessive use of digital technologies) are now applied to technology use.

In recent years, researchers have spent considerable energy discussing whether the excessive use of digital technology can and should be considered an addiction. Many researchers studying addiction and the interactions between digital technology and the psyche have now concluded that, more often than not, excessive social media should not be described as an 'addiction'. However, the phrase 'social media addiction' is still fairly widely used in the academic world. This seems to be the result of mainly two circumstances. First, many researchers want to be consistent with previous works (including the terminology). Second, the term 'addiction' seems to be used in cases where the researcher has yet to explore the discussions in the field. The latter happens when the researcher's professional background is not related to (clinical) psychology or psychiatry.

It is worth noting that perceived and self-labelled 'social media addiction' may stem at least partially from a long-standing narrative that associates technological innovation with changes in a person's sense of self. For example, the information collected from the diaries of students on a five-day break from social media reveals that media technologies are very important in constructing one's personal identity and that of one's generation (Murumaa-Mengel and Siibak 2019). The participants in this qualitative study had adopted the label 'digital youth' and described their generation as technologically capable and adaptable to social media. On the other hand, they also stated that 'we are those addicts; it's scary to even contemplate' and tended to use generalisations about the poor mental well-being of the younger generation. However, the results of the survey conducted among Estonian youth reveals that the degree to which the survey participants thought they were addicted to social media did not correlate well with where they placed themselves on the problematic use scale. In other words, young people may tend to think they are more dependent on social media than they actually are.

One of the biggest problems with the concept of social media addiction is that there is no way to reliably and appropriately measure it. Research in recent years has found that people's perception of their social media use interfering in daily life is not strongly correlated with their actual behaviour (i.e. the objectively measured time and frequency of their social media use). This is one of the biggest problems in research in this field. For example, a 2018 survey among

Young people may tend to think they are more dependent on social media than they actually are.

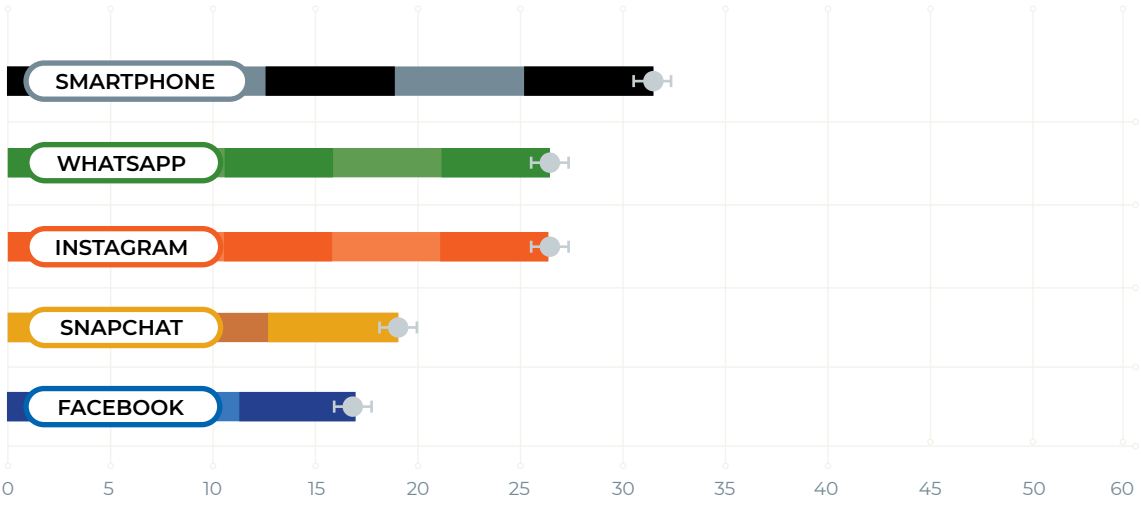
350 social media users in Estonia found that although people's perceived Instagram use frequency was related to poor mental health, the correlation between actual measured time spent on Instagram and depressiveness or anxiety was very weak (Rozgonjuk et al. 2020). In other words, while people reported they used Instagram often (an indicator that predicted depressiveness), the actual measured time they spent on Instagram did not predict depressiveness. Therefore, perceived excessive social media use may be a better predictor of mental health problems than actual measured use.

Here a general question arises: to what extent is it even possible to define the boundaries of addiction in terms of objectively measurable behavioural data (e.g. frequency of social media use and screen time)? As the digitisation of people's everyday life is likely to continue, distinguishing between normal and excessive daily social media use makes answering that question difficult.

In addition to the fact that people's perception of their social media use does not correspond to actual behaviour, the specifics of social media also raise questions. Should the use of different platforms be distinguished? In cooperation with American and German researchers, we found that social media cannot be treated in a generalised way: different social media platforms can have different potential for addiction (Rozgonjuk et al. 2021) (see Figure 4.3.1).

As the digitisation of people's everyday life is likely to continue, distinguishing between normal and excessive daily social media use can be difficult or impossible.

Figure 4.3.1. Differences in the addictive potential of social media platforms and smartphones



SOURCE: Rozgonjuk et al. 2021

NOTE: Sample of 439 German-speaking social media users, who were interviewed in 2019 and 2020 in a cross-sectional study, evaluation on a scale of 0–60.

Socially active social media use (for communication) is associated with higher well-being, while passive social media use is associated with lower well-being.

We also need to consider the way social media is used. In recent years, a distinction has been drawn between socially active and passive use of social media. The former is divided into active public use (e.g. posting content and responding to others' posts) and active private use (e.g. sending messages). Passive use means spending time on social media, such as browsing the news feed and viewing other people's profiles. This distinction is important because socially active social media use (i.e. for communication) has generally been found to be associated with higher levels of well-being, while passive social media use is associated with lower well-being (Verduyn et al. 2020).

To sum up, although studies focusing on social media addiction continue to be published, it is a fairly complex field with many nuances beneath the surface.

Excessive social media use and mental health

While there are problems with the research of social media use (such as the use of terminology referring to addiction), the links to mental health cannot be ignored. One might think that social media use is associated with better mental health, as it effectively satisfies people's fundamental need to communicate. Social media also makes it possible to raise social capital (build relationship networks between people) quickly and effectively, thus strengthening the feeling of social cohesion. According to a cross-sectional study conducted in 2018 among 436 Estonian social media users, this, in turn, can have a positive effect on well-being (Gugushvili et al. 2020). However, several experimental and meta-analysis studies have shown that social media use is weakly but negatively related to users' well-being and mental health (Appel et al. 2020).

Why is excessive social media use associated with poor mental health? Researchers have suggested social comparison as one possible explanation. Social comparison is comparing one's own abilities, characteristics and opinions with those of others to get the most accurate self-image possible. People may compare their appearance, social status and many other characteristics with those of others, but importantly, the comparison requires a comparator – someone to compare oneself against. Choosing a comparator can depend on the direction of comparison: there is a difference between an upward comparison (with people who are better than oneself in terms of the comparable characteristic) and a downward comparison (with people who are worse in that respect). Comparing oneself with those who are more successful can inspire and motivate, but it can also make one feel inferior and envy the comparator. For social comparison related to social media, the feelings of envy can be explained by the fact that people share a more positive image of themselves and their activities on social media than is actually the case in everyday life.

Research confirms that people tend to compare themselves with those who are more successful, and this can cause negative emotions (e.g. envy and resulting frustration), which in turn leads to a deterioration of well-being or mental health (Gugushvili et al. 2020). People who tend to experience sadness and

Scientists have not reached a consensus on the direction of the causal relationship: whether social comparison, sadness, FOMO, etc. increase social media consumption or vice versa.

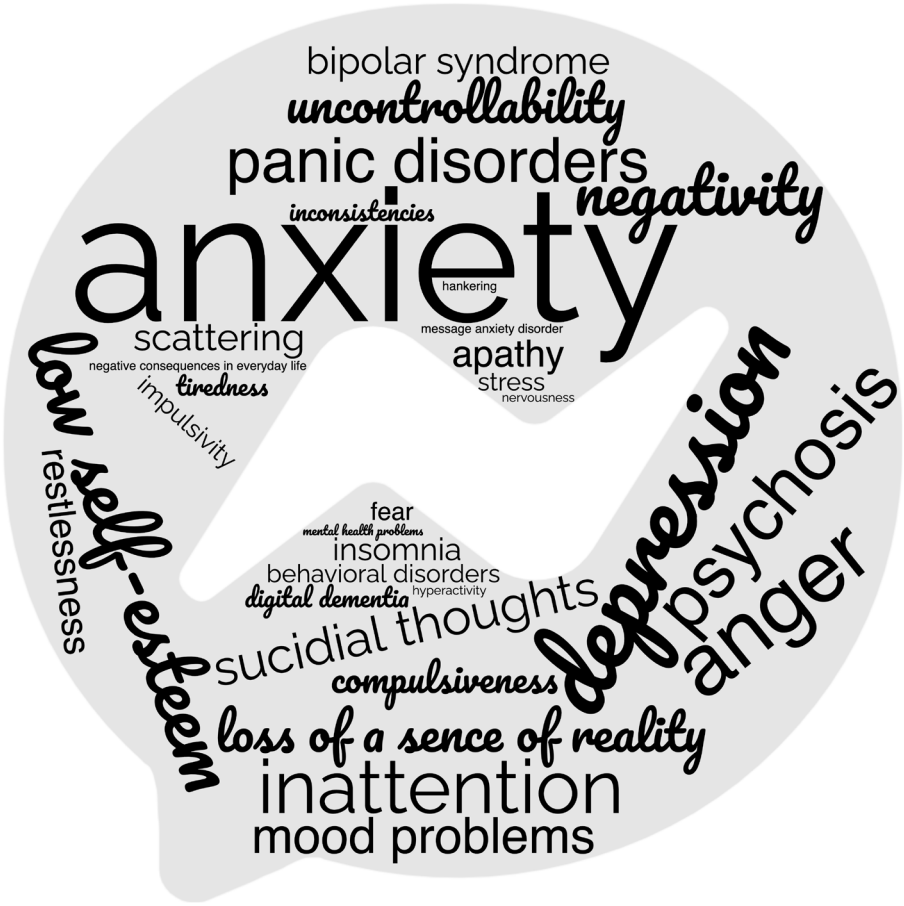
anxiety and who have low self-esteem can be particularly affected when comparing themselves to others. Research also shows that the use of social media platforms can cause information overload, the postponing of important activities and a decrease in face-to-face interactions, all of which can harm people's well-being (Gugushvili et al. 2020). FOMO, or the fear of missing out, has also been identified as an important factor in the negative relationship between the use of social media and well-being. People with high FOMO have a greater fear of missing out on other people's (such as friends') activities and experiences. Thus, researchers have hypothesised that FOMO is also associated with greater social media use. In the Estonian sample, it was confirmed that higher FOMO is related to poor mental health (Gugushvili et al. 2020). Although several studies have shown that FOMO is associated with perceived excessive use of smart devices and social media, recent findings of analyses that measure actual smartphone use and combine survey data suggest that FOMO may not predict actual measured smartphone use well (Rozgonjuk et al. 2021). However, it is important to note that researchers have not reached a consensus on the direction of the causal relationship: whether social comparison, sadness, FOMO, etc. increase social media consumption or vice versa.

Coverage of social media use in the Estonian media

The problems associated with the excessive use of social media in everyday life should not be underestimated, especially since there is reason to believe that some people are more severely affected by the excessive use of social media than others. However, it is also worth noting that the negative effects of excessive use and the prevalence of social media addiction are consistently framed as a much bigger problem than it actually is. In other words, public discussion and the media tend to label the (excessive) use of social media as dangerous for (mental) health and for social interests and values. This is an example of 'moral panic'. The increasing use of social media is one of the reasons why overtones of moral panic accompany the media narrative. Another reason may be the fact that addiction as a potential social problem attracts the media: discourse on addictions of various kinds has always been amplified in the media, and the Estonian news media portrays social media use as a problem that urgently requires a cure. For example, various problems related to mental health are discussed alongside social media addiction in almost two-thirds of the articles published in the Estonian media (Sinivee 2022). Figure 4.3.2 shows the frequency of

Public discussion and the media tend to label the (excessive) use of social media as dangerous for (mental) health and for social interests and values. This is an example of 'moral panic'.

Figure 4.3.2. A word cloud of mental health-related words used in Estonian media to discuss the excessive use of social media



SOURCE: Sinivee 2022

NOTE: Based on 190 articles on social media addiction published in Estonian media between 1 January 2013 and 1 January 2021.

words related to mental health in articles discussing excessive social media use published in the Estonian media between 1 January 2013 and 1 January 2021.

Although a negative tone prevails in media coverage of social media, research has shown that young people use social media primarily to communicate with each other, and as previously stated, socially active social media use is more likely to be associated with better mental health. Naturally, it is vital to notice and help young people who are trying to cope with their (excessive) use of social media and create and maintain in-person social relationships. But we need to keep in mind that, according to the results of a cross-sectional study conducted in 2018 (987 young people aged 11–19 years participated), most young people are not addicted to the use of social media (Sinivee et al. 2022), even if they describe themselves as such.

Young people use social media primarily to communicate with each other, and socially active social media use is more likely to be associated with better mental health.

Social media breaks reveal fears and expectations

Every spring since 2016, students participating in one of the internet research courses at the University of Tartu have been asked to take a five-day break from social media. The participants record their experiences and feelings free-form in a diary, and at the end of the course, they may give the diary up for research. By the time this article was written, 120 students had shared their diaries, which provide a comprehensive insight into today's youths' relationships with smart devices and social media. With a few exceptions, these are 19-to-23-year-old undergraduates in social sciences and humanities. Most are Estonians, but it is estimated that a quarter of the submitted diaries belong to foreign students. There are certain cultural and contextual differences, but in general, the topics covered by Estonian and foreign students are similar. Globally, young adults have many things in common.

The diaries of the social media break (Lepik and Murumaa-Mengel 2019) revealed two broad frameworks in the associations between young people's mental health and the use of social media.

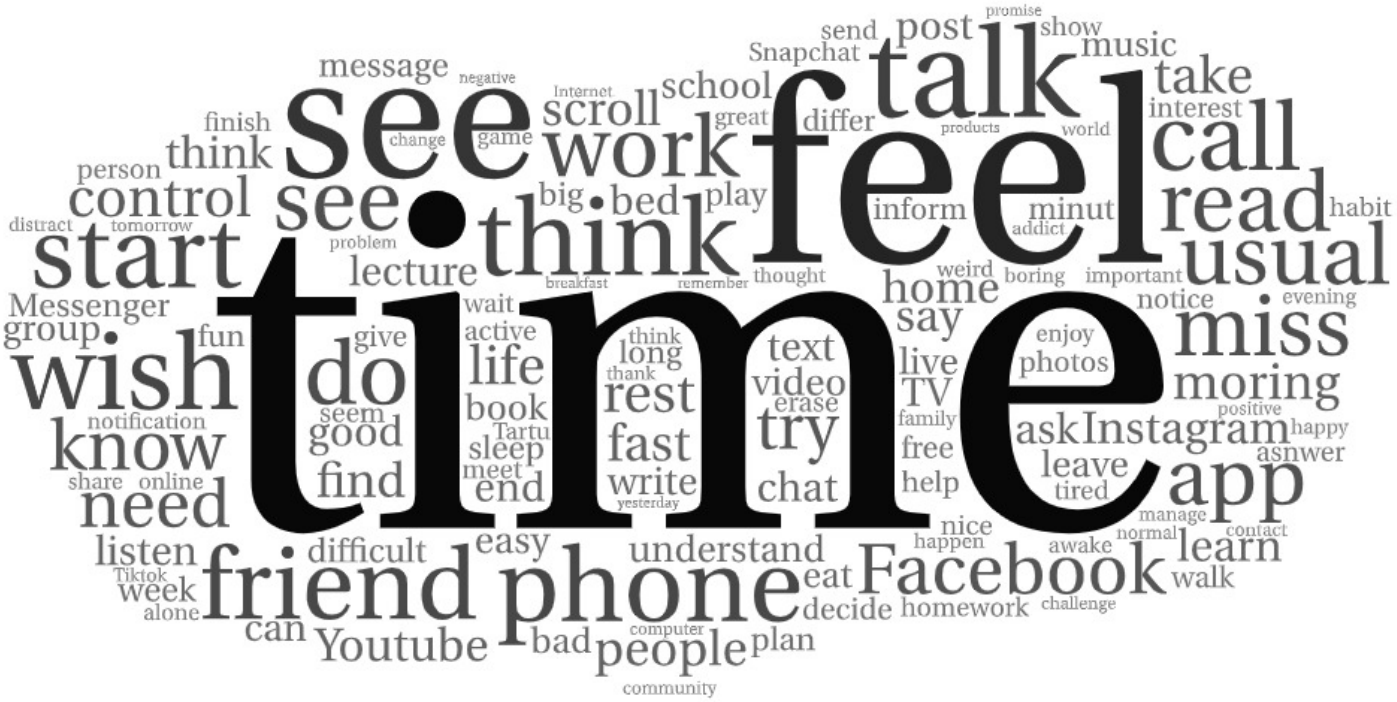
First, the break acts as a wall, isolating the subject: too little communication results in lower well-being. Young people are used to the fact that everything – friends and family, love and work, entertainment and information – is always at their fingertips. Therefore, they often describe a social media break as a lonely time when there is no way to check whether their existing social relationships still stand and whether anyone notices that 'I am actually not dead'. This finding is consistent with the results of studies described above – active social media use is beneficial for psychological well-being.

Young people often describe a social media break as a lonely time when there is no way to check whether their existing social relationships still stand and whether anyone notices that 'I am actually not dead'.

Second, the break acts as a vacation: it is an excuse for reduced communication and thus increases subjective well-being. The social media break is seen as an opportunity, as a way to regain control of communication and time and to return to good old 'technostalgia'. It is usually preceded by a perceived decrease in the ability to focus and the expectation and hope that even a short break from the constant stream of information will provide mental clarity and the ability to focus again. Moreover, many students describe experiencing an avalanche of notifications, beeps, parallel conversations, videos and images, and reactions and rituals, resulting in feeling buried alive under expectations from numerous sources to communicate.

Taking an overview of the diaries (Figure 4.3.3), we see that the most frequently used word is 'time': the fast or slow passage of time was mentioned in almost all diaries (a total of 1,743 times). Variations of the word 'feel' (1,381), which is typical vocabulary for diaries, take second place, and references to the main device – the phone – are in third place (mentioned a total of 1,295 times). One notable finding is that the phone becomes almost useless if it is not a gateway to social media. The fourth most frequently mentioned word in the diaries was 'friend(s)' (a total of 915 times). References to specific social media platforms, such as Facebook, Instagram and YouTube, are also found in the diaries.

Figure 4.3.3. A word cloud of the words used in students' diaries written during the social media break



SOURCE: figure by the authors

NOTE: The figure shows words that appeared in the diaries more than 100 times. Words related to the task, pronouns, numbers and the like are excluded.

In addition, productivity was a dominant value in the diaries. During the social media break, many felt incomplete as the normal information-filled and fast-paced, parallel activities of everyday life were taken away. On the positive side, the young people wrote that the days passed 'surprisingly quickly' and were 'relatively productive', as slowness and idleness are something to avoid, according to many diaries.

If psychologist Abraham Maslow, who proposed the concept of the hierarchy of needs, were to read these diaries, he would definitely point out the symptoms of deprivation in the students' descriptions. For example, they need social media to fall asleep (falling asleep to videos with soothing content), to feel safe in the urban environment (sharing their location with friends on the way home from a party), to maintain friendships (such as streaks on Snapchat maintaining a chain of daily interactions) or to share the latest piece of digital art with their followers.

During a social media break, many young people felt incomplete as the normal information-filled and fast-paced, parallel activities of everyday life were taken away.

RECOMMENDATIONS FOR LIMITING EXCESSIVE USE OF SOCIAL MEDIA

If a person is concerned about their (excessive) use of social media, they should consider cutting back. Research has shown that limiting the use of social media can also reduce the use of smart devices (and vice versa). One possible approach is to dial down the functionality of the device. For example, experiments with setting the screen to grayscale have reduced smartphone usage.

You may find the following tips helpful if you want to limit your use of smart devices and social media.

1. Turn off unnecessary reminders and notifications (sounds, banners and vibration).
2. When your phone is in silent mode, keep it face down and out of reach.
3. Set a screen lock and make unlocking the screen as inconvenient as possible.
4. When you go to bed, leave your phone in another room or keep it on silent mode and face down.
5. Reduce screen brightness, set the screen to grayscale and activate the blue light filter (known as night mode).
6. Create a separate folder for social media apps, add all relevant apps there, and move the folder away from the home screen.
7. Let your loved ones and colleagues know that you will not check your messages often.
8. If you do not need your phone, leave it at home.

SOURCE: Olson et al. 2022

SUMMARY

Without a doubt, social media platforms like Facebook, Instagram, TikTok and Twitter have shaped the norms and practices of daily life. On the one hand, this effect can be negative (echo chambers and information bubbles, polarisation, comparing oneself with others, etc.). On the other hand, social media fulfils many valuable functions, and well-being could suffer without it. Although social media use is often associated with mental health problems, the mass media can overemphasise this topic and it is often unwise to consider social media as the root cause of mental health problems. Generally, active communication supports well-being. Research on social media has also shown

that active communication with others is linked to increased well-being. A study of social media break diaries revealed that not using social media limits communication, which, in turn, can lead to loneliness. Social relationships were one of the main themes in the diaries. Young people often wrote about how they missed their friends, loved ones and family members while on break. At the same time, however, social media encourages comparing oneself with others. And as people tend to share the better aspects of their lives on social media, self-perception can be distorted by comparing one's life against the positive image that other people choose to project. However, a social media break can also support well-being: activities are not interrupted in order to react to social media notifications, and social comparisons that distort self-perception are reduced. Based on these assumptions, recent research has proposed (relatively uncomplicated) measures to control social media use, such as turning off pop-up notifications, reducing app appeal and functionality, and cutting down the role of social media in everyday life.

Although social media use is often associated with mental health problems, the mass media can overemphasise this topic and it is often unwise to consider social media as the root cause of mental health problems.

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4.4

The use of digital technologies shaping mental well-being in the everyday life of families

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KEY MESSAGE

Digital technologies play a central role in the everyday life of Estonian families. Digital tools are seen as supporting children's development and allowing parents to take breaks, but both children and parents worry about the potential harmful effects. Applications that enable real-time geolocation offer a sense of security and peace of mind for both children and parents, with little thought given to privacy issues. Agreeing on rules for the use of digital tools can cause conflicts within the family, but the relationship between the child and the parent and the active mediation of digital technologies is more important than setting strict boundaries. Digital technologies played an important part in maintaining relationships among family and friends, and ensuring mental well-being, in the face of self-isolation measures during the COVID-19 pandemic.

INTRODUCTION

In today's society, people live in a world shaped by the media, or a mediatised lifeworld,[1] because both digital technologies and digital media have a significant role in the everyday life and functioning of families. Recently, several quantitative and qualitative studies have been conducted in Estonia examining the role of digital technologies in the daily life of families. In this article, we take a closer look at the findings of several studies.

The results of a survey conducted among parents of children aged 0 to 3 (N = 400) and a six-month ethnographic research of one family, both conducted as part of Elyna Nevski's doctoral thesis (2019), provide information about the use of digital technologies in families with toddlers and preschoolers and the role of parents in guiding toddlers' use of technology. The results of a survey conducted by the EU Kids Online research network among 9-to-17-year-old Estonian children (N = 1,020) and their parents (N = 1,011) in 2010 and 2018 demonstrate parental mediation strategies for guiding children's use of digital technologies (Kalmus et al. 2022). Marit Napp and Andra Siibak's (2021) interviews with 8-to-13-year-old children and their

1 'Lifeworld' is people's complete and meaningful relationship with the surrounding reality, i.e. the perceived world in which they live (Vihalemm et al. 2017).

mothers (total N = 40) who use applications to track their child's location provide additional insight into the practices of families using what is known as technological mediation. The experiences of the participants in two qualitative studies reveal the changes in digital media consumption practices during the coronavirus crisis. Ten Estonian families participated in the DigiGen study (on the impact of technological transformations on the Digital Generation) conducted in 2020/2021, where individual interviews were conducted with ten children aged 5–6 or 8–10 and two other family members, one of them a parent (total N = 30) (Kapella and Sisask 2021). In order to investigate changes in toddlers' use of digital devices during the COVID-19 pandemic, mothers of 2-to-4-year-old children (N = 15) were interviewed for Pihel Sahk's master's thesis (2020).

Based on the results of the empirical studies, this article provides an overview of the practices, understandings and agreements on the use of digital technologies in Estonian families, as well as the changes brought about by the COVID-19 pandemic. We also discuss the perceived associations between the use of digital technologies and the mental well-being of children, parents and families.

The use of digital technologies in the daily life of families

The studies revealed that family members recognise both beneficial and harmful effects of the use of digital technologies in the families' everyday life and communication with loved ones. From the perspective of mental health, the importance of digital technologies was particularly clearly felt when maintaining relationships among family and friends in social isolation during the COVID-19 pandemic. For example, interviews with mothers of 2-to-4-year-old children revealed that video calls were almost the only way for toddlers to stay in touch with their grandparents or their father working abroad during the state of emergency in the spring of 2020.

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Today, various portable devices (e.g. smart watches) and phone applications (e.g. Find My Kids, Google Family Link and Family Tracker) enable parents to keep track of their children's whereabouts even when they cannot accompany the child. A 2021 survey that used Q methodology[2] and interviewed families who use applications for tracking revealed that parents adopt such technological aids mainly for the safety of their children. Parents stated that such apps are a quick and convenient way to assert parental control (e.g. by providing a quick look at where the children are and what they are doing) but also have a disciplinary effect on the child, since the child knows that their location can be tracked. However, from a mental health perspective, it is important to note that tracking apps are perceived as providing peace of mind and reassurance. Therefore, many

2 Q methodology (also known as 'Q sort') is the systematic study of participant viewpoints in the context of public perceptions. Participants are asked to sort a series of statements related to specific topics that reflect perceptions in public discourse (e.g. media and scientific literature) and rank the statements according to the extent to which they agree with them.

WHY DO FAMILIES USE GEOLOCATION APPS?

A MOTHER: *Certainly [one of the reasons is] peace of mind and the fact that I don't have to annoy the child all the time, like 'Hey, are you coming already? Where are you already?' right, 'Did you get on the bus yet?' or well, whatever. [...] Rather, mostly yeah, for a sense of security for myself and maybe also a sense of security for the children.*

A SON (10 YEARS OLD): *Well, definitely [one of the reasons is] my safety. If something were to happen, if I don't answer calls for, I don't know, a long time, it would be good to know where I am and know that I'm in a safe place. So this is mainly for my safety. [...] And that itself makes me feel safer if my mum gets the opportunity to find out where I am. Or if by chance something happens, someone kidnaps me and I am not available, then they know where I am. I think it will be easier to find me then or something.*

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parents who participated in the study felt that the use of digital tools with real-time geolocation made it possible to ensure the child's safety. They added that with the support of digital tools, parents can fulfil their parental duties more efficiently and, simultaneously, be a more devoted parent.

Interviews and Q sorting with preadolescents revealed that they also get confidence and peace of mind from tracking apps. Several children who participated in the study revealed that in the event of problems or unexpected situations (e.g. if the child got lost), their parents could still help them, thanks to geolocation apps. Therefore, many parents and children trusted such technological applications and did not have much to criticise, as the apps helped create a sense of control and security.

Even though, as a rule, the 8-to-13-year-olds who participated in the study favoured and accepted the use of tracking applications, the analysis showed that the use of such digital technological aids can also cause conflicts and misunderstandings between children and parents and undermine trust between them. Furthermore, the use of tracking apps can lead to various breaches of privacy, in terms of both interpersonal privacy (i.e. the communication between children and parents and shared information) and commercial privacy (i.e. the commercial interests of the companies providing the services) (Stoilova et al. 2019). Therefore, it is important to understand the use of tracking apps, as well as many other digital applications and platforms that enable parental monitoring (e.g. online school environments or parental control applications), in the context of children's rights, including the right to

privacy and autonomy (Conventions on the Rights of the Child, General Comment No. 25, 2021).

The research shows that the possible effects of using digital technologies depend on the specific context. The effects may sometimes be positive, sometimes neutral and occasionally negative for the same areas of life. For example, the results of a survey conducted among parents of children aged 0–3 years revealed that adults have a number of positive expectations for digital technologies. Almost half of the parents who participated in the study allowed their 0-to-3-year-old children to use digital devices. Their stated rationale was that, with the help of a smart device, their children would learn new skills (68%) and acquire new knowledge (54%) (e.g. learn new words and numbers in both their mother tongue and a foreign language). They also said they did so because it would entertain the child (55%). Here, it is important to note that 67% of the parents who participated in the survey admitted that they leave their toddler alone with digital technology while they do household chores (cook, clean, handle the other child, etc.) or – in the context of mental health – take time for themselves to rest a bit or use digital tools for other purposes at the same time. This confirms that digital technologies have become a kind of 'babysitter' for families.

Distinctive use of digital technologies during the COVID-19 state of emergency

The need for a digital 'babysitter' increased during the COVID-19 pandemic and social isolation as families' usual life arrangements were turned upside down. Interviews with mothers of 2-to-4-year-old children showed that toddlers' habits of using digital devices changed significantly during this period. It is also important to note that toddlers' use of screen media during the pandemic was directly influenced by the child's family background. This included the parents' employment status and character of work (e.g. the possibility of working from home and distributing work tasks or going on parental leave) and the presence of siblings (older siblings' distance learning and screen media usage habits, the sleep schedule of younger siblings). It also included the family's economic circumstances, such as their living arrangements (in a house, part of a house, or apartment), and the presence of various digital technology devices, as well as general restrictions in society (e.g. kindergartens partially closed, playgrounds and playrooms closed).

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Interviews with mothers revealed that screen time increased for many toddlers during the pandemic as parents allowed them to use previously prohibited devices (e.g. smartphones and tablets). By acquiring new digital skills, children expanded their range of digital activities (e.g. they started making video calls, watching videos of gymnastics lessons made by kindergarten teachers or listening to bedtime stories read on Zoom). In addition, digital technologies provided shared entertainment for families during the state of emergency. For example, families organised movie nights, watched live concerts, and played video or computer games together. Therefore, digital technologies played a central role in ensuring the mental well-being of family members big and small during the state of emergency.

However, since children were allowed screen time mainly on weekdays, when parents were busy with work, helping older siblings with distance learning or putting younger siblings to sleep, digital technologies also became the primary means of maintaining discipline. It is important to note that the time spent in front of screens increased the most among 2-to-4-year-olds who live in apartments. Since public playgrounds were also closed during the state of emergency in spring 2020, it was not so easy for parents to send their children to play outside.

Potential adverse effects of digital technologies on mental and physical health

nterviews with Estonian families in the DigiGen study revealed that both adults and children are concerned about the harmful effects of digital technologies on mental and physical health. From the perspective of mental health, for example, the addiction narrative rose above the rest. The respondents believed that both children and adults are at risk of becoming addicted to digital technologies very quickly, but they also believed that such an addiction can be quickly shed if a time limit rule is applied or if the use of digital devices is stopped altogether. At this point, it is important to remind ourselves to be sceptical about the addiction narrative prevalent in our social discourse, as it fits the description of moral panic ((see also Rozgonjuk et al. in this chapter). Although participants in the DigiGen study also mentioned the potential of digital technologies for reducing stress and promoting well-being, these possibilities were clearly underutilised in the families studied.

As a rule, research participants associated the excessive use of digital tools with increased feelings of anxiety and nervousness. For example, several mothers of toddlers aged 2 to 4 noticed that during the pandemic-related state of emergency, the children were often more nervous, aggressive, sleepy or lethargic, shouted more or became upset more easily than before. The respondents also felt that children were more disobedient, while their ability to play alone and use their imagination decreased. The parents related all this directly to the excessive use of digital tools.

While the family members who participated in the DigiGen study often spoke of digital devices disrupting sleep and causing fatigue, the parents of toddlers who participated in the survey and the ethnographic study revealed that digital technologies and screen media are often used to support the child's sleeping and eating routines. When discussing the dangers of digital technology, parents primarily perceived the risks related to physical health, mainly a decrease in children's general physical ability or a deterioration of eye health. Less recognised was the threat to the child's cognitive, social and emotional skills. At the same time, it is important to note that parents of toddlers were more concerned about the relationship between the child's academic abilities and allowing or not allowing smart devices than about potential health risks. In other words, parents often expressed their lack of knowledge and concern

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MOTHERS' DESCRIPTIONS OF THE EFFECT OF DIGITAL TECHNOLOGIES ON THE BEHAVIOUR OF TODDLERS DURING THE PANDEMIC-RELATED STATE OF EMERGENCY

MOTHER 2: *[...] actually, it was noticeable that when using the phone for a long time, [the child] became more nervous; it changed them. Changed their emotions and maybe made them more aggressive. That's when I realised: okay, now it's too much.*

MOTHER 3: *For some reason, the younger one recently often complains about being bored. [...] I can imagine how the digital world and these cartoons stimulate the brain, so to speak, and the ordinary world seems boring and slow and monotonous.*

about whether allowing a smart device too early might impair the child's abilities or, conversely, whether introducing children to digital technologies later than their peers (e.g. from the age of seven, when the child starts school) could interfere with their development compared with peers.

Strategies for parental mediation of digital technology use

Many parents use various parental mediation strategies to mitigate the mental and physical health risks associated with the use of digital technologies and to increase the benefits.

Parental mediation strategies can be divided into active and restrictive (Livingstone et al. 2017). Active mediation means that parents (or other people around children, such as teachers) provide social support to help children navigate the online world. Restrictive mediation, on the other hand, is related to various social and technical rules and restrictions that parents, teachers or other important people place on children's technology use. Which mediation strategy is implemented in any given family depends largely on family values, the parents' attitudes towards internet use and how parents assess the role of digital technologies in the development of their children's values (Kirwil et al. 2009). For example, studies conducted in Estonia and elsewhere confirm that the more active users of digital technologies the parents, the more their children also want to spend time in the digital world. On the other hand, parents who could not enjoy the benefits of the modern world in their childhood are especially keen to introduce new technological opportunities to their children. The parent's age, gender, socioeconomic status, experiences in childhood, education, media literacy and awareness of online risks, as well as the frequency and purpose of the parent's use of digital technologies and their beliefs and convictions about the usefulness/harm of technology, play an important role in the choice of mediation strategies for children's internet use (Kirwil et al. 2009). Parental mediation should therefore be seen as a set of

Studies show that five main strategies of parental mediation stand out:

active mediation of use (e.g. discussing content and sharing online experiences)

active mediation of safety (activities and recommendations related to safer and more responsible internet use)

restrictive mediation (establishing rules that limit time spent online and location of use, as well as content and activities)

technical restrictions (use of certain software or technical applications to filter, limit and monitor children's online activity)

monitoring (checking the children's online activities afterwards)

Table 4.4.1. Distribution of countries based on parental mediation

2010	2018
PASSIVE MEDIATION CLUSTER Below average level of active and restrictive mediation: **ESTONIA** and Lithuania	**ACTIVE MEDIATION CLUSTER** Approximately average level of active mediation and below average level of restrictive mediation: **ESTONIA**, Finland, Poland, Czech Republic, Lithuania, Norway
MODERATE VERSATILE MEDIATION CLUSTER Average level of active and restrictive mediation: Romania, Poland, Czech Republic, Norway, Finland, Spain, Portugal and Italy	**MODERATE VERSATILE MEDIATION CLUSTER** Average level of active and restrictive mediation: Portugal, Spain, Romania, Italy and Germany
RESTRICTIVE MEDIATION CLUSTER Significantly above average level of restrictive mediation and approximately average level of active mediation: France and Germany	**INTENSIVE VERSATILE MEDIATION CLUSTER** Significantly above average level of active and restrictive mediation: France

SOURCE: table by the authors, based on data from EU Kids Online 2010 and 2018

practices intertwined with each other, which, in addition to other factors, are influenced by the parent's cognitive abilities, communication skills, sociodemographic indicators and general ways of raising children (Kalmus 2013).

As a result of the analysis of the EU Kids Online survey, countries were divided into different categories by parental mediation strategies and by year as seen in Table 4.4.1. The analysis showed that the active mediation of both children's internet use and safety has grown significantly in several European countries in recent years. For example, the results of the 2018 survey revealed that Estonian parents consider themselves to be active mediators of children's internet use and safety. Most of the Estonian parents who participated in the survey stated that they talk with their children about what they do on the internet (92%) or give them advice on internet safety (59%) (Sukk and Soo 2018). However, the children themselves are much less aware

The more active users of digital technologies the parents, the more their children also want to spend time in the digital world.

of their parents' activity in mediating their internet use. For example, only 54% of the Estonian children who participated in the study reported that their parents 'sometimes' or 'often' talk to them about what they do on the internet (Sukk and Soo 2018). Thus, the results reveal that children's and parents' perceived experiences of the frequency and activity of parental mediation do not match. According to children's perceptions, parents have room to develop their parental skills.

According to the parents, the use of active mediation strategies took a back seat during the COVID-19 state of emergency, when many parents were busy

FAMILY MEMBERS' STATEMENTS ABOUT RESTRICTIONS ON THE USE OF DIGITAL TOOLS

It is no longer possible to get him off this phone, only the time limit rule helps. (ET_F1_mother)

Yes, we have a rule that Mummy put a timer on my phone so that I could not play much. It's about five minutes; well, about ten minutes or an hour. (ET_F1_child)

There is no such thing as sitting there for an hour straight. More like 15–30 minutes and then let's move on to the next activity. (ET_F2_father)

I have limits on everything, even on what I don't use … (ET_F10_child)

They say you shouldn't use [digital tools] after 20:00, because then it's evening and the brain and eyes are tired. So after 20:00 we do not use computers or anything like that. If necessary, cartoons, television on a large screen, but otherwise no phones, tablets, nothing. (ET_F9_grandmother)

SOURCE: DigiGen

In 2010, 71% of Estonian parents who participated in the EU Kids Online survey applied an active mediation strategy. In 2018, 87% of the parents who participated in the survey did so. Across both indicators, Estonian parents were still below the European average, which was 78% (2010) and 89% (2018), respectively.

with working from home as well as supporting distance learning and therefore could not actively monitor what their younger children were doing on digital devices or discuss what they saw with them. Interviews with mothers of 2-to-4-year-old children revealed, for example, that some parents began to implement technical mediation for the first time, using various technical aids (e.g. applications) to regulate children's screen time and content.

Interviews with parents who participated in the DigiGen study also revealed that parents used restrictive mediation primarily to regulate the amount of time their children spent on digital media. Furthermore, automatically applied restrictions helped prevent conflicts between children and parents. At the same time, parents who often applied restrictive and technical mediation tended to over-regulate children's use of digital devices and set limits where it was not necessary. The reported reason for the restrictions was to prevent potential health risks, such as damaging the eyes or the brain.

However, the analysis of EU Kids Online survey data shows that the use of restrictive mediation strategies has clearly decreased among parents in Estonia and other EU countries that participated in the survey. On the one hand, we can assume that the change is related to parents becoming more aware: restrictive mediation is often used by parents with lower digital literacy (Paus-Hasebrink et al. 2013). On the other hand, the decrease in restrictive mediation can be attributed to the impact of various Europe-wide interventions such as awareness-raising programmes, including the project Targalt internetis (Be Smart Online), which often emphasise the importance of active mediation and have developed training and guidance materials to help parents improve their skills. Although cultural differences between countries are still significant, the analysis shows that parents are using restrictive mediation less and instead actively guide and support children's internet use.

The main agreements concerning digital technologies in Estonian families

Several studies analysed for our article showed that if there are any rules related to digital technologies in the family, they are mainly established by parents. Children's opinions and suggestions are usually not

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asked for or considered. At the same time, children are highly interested in adding their own ideas and opinions to family agreements and want to be included in this process as equal participants. It is often the children who teach and correct their parents when they misuse digital technologies or break agreements.

'Mummy, you can't use the phone in the car' or whatever, right. This really keeps me on my toes. (ET_F7_ mother)

The children claimed that even if the rules within the family were not overly popular, they were still good and necessary.

Data from several studies reveals that parents combine different mediation strategies and adopt different parental roles depending on the specific context. Among the families that participated in the DigiGen study, making rules is an ongoing process spurred by specific situations – parents develop rules through trial and error. By contrast, the parents in the family that participated in the ethnographic study had agreed that the father mainly guided the children's use of digital technologies, while the mother did household chores (like cleaning and cooking). However, as with the participants in the DigiGen study, the father chose mediation strategies according to the specific situation. For example, whenever the father had the energy and interest to support the children's use of digital tools, he either explained things to the children and discussed media content with them or introduced the children to new environments and activities on the screen, seeking to broaden the children's media knowledge. As an active mediator, the father would willingly take on the role of a guide, but when he wanted to watch a TV show or surf on his smartphone, digital tools played the role of a babysitter for the children. In addition to establishing family agreements, both parents must adhere to these agreements. Problems arise when one parent has set rules (e.g. limiting the child's time spent using digital devices or the content they are allowed to view) and the other parent does not adhere to them. The interviews with the mothers of toddlers revealed that parents' principles and understandings on these issues tend to diverge, especially when the parents live apart. Differences in such agreements can cause confusion for toddlers, especially if, for example, one parent places limits on their use of digital technology and the other does not.

Children need the support and help of parents and other family members in the digital as well as the physical world. Such support is equally important for the mental well-being of children and parents alike.

However, the parents who participated in the research agreed almost unanimously that children need the support and help of parents and other family members in the digital as well as the physical world. They also sensed that such support was equally important for the mental well-being of children and parents alike. At the same time, parents blame digital technologies to some extent for creating new challenges in parenting. Though parents can rely on intergenerational experience when guiding their children in the 'real world', in the digital world, such a collective experience across generations is not yet available. This is why parents often feel helpless and in

need of more advice on how to better support their child's use of digital technologies and reduce the associated potential risks. Such uncertainty stems in part from the fact that many parents still feel inferior to their children in digital skills. Thus, children are often trusted to use digital tools on their own, or older siblings are tasked with mediating younger children's use of digital technologies.

TEN RECOMMENDATIONS FOR PARENTS ON ENSURING THE APPROPRIATE USE OF THE INTERNET AND SMART DEVICES BY THEIR CHILDREN

1. Remember that what you've taught your child about being a good person also applies in the digital world.
2. Lead by example rather than words.
3. The ability to cope in the digital world is vital and is something that has to be learned.
4. Decide which websites you want your child to be visiting.
5. Set some ground rules with your child about using the internet and smart devices and make sure all of you follow them.
6. Do things together in the digital world.
7. Make sure you know how social media works.
8. Use the same social media as your child but respect their privacy.
9. Always try to understand before judging.
10. And remember – computers and smart devices are no substitute for parents!

SOURCE: Targalt internetis (https://www.targaltinternetis.ee/en/for-parents/)

SUMMARY

Digital technologies play a central role in the everyday life of Estonian families, and people believe their use shapes mental health and well-being. Digital technologies became irreplaceable during the social isolation caused by the COVID-19 pandemic, when work, education and social life – and thus the general well-being of families – directly depended on the availability of digital tools and the family members' knowledge of various technological possibilities. During the COVID-19 pandemic, the time spent in front of screens increased significantly in many families. While parents working from home and children on distance learning had to spend countless hours in front of the computer because of work- and school-related obligations, digital technologies became a necessary babysitter for many toddlers. Even though, as a rule, Estonian parents consider themselves to be quite competent mediators of their children's internet use and safety, the state of emergency caused declared during the pandemic seriously tested parents' ability to actively mediate children's use of digital technologies in stressful situations and undermined previous family agreements regarding the use of digital technologies – for example, rules on limiting the time spent using digital technologies. However, such rules, ideally agreed on between parents and children, are like a benchmark of common family values and views, and their absence can cause unnecessary tensions and conflicts between family members.

The studies confirm that Estonian families implement family agreements and various parental mediation strategies to minimise the risks related to the use of digital technologies, for example, to prevent the excessive use of digital tools. Research shows that parents are mainly aware of the risks to their child's physical health but their awareness of the emotional, social and cognitive risks associated with the use of digital technology is still rather limited. Thus, awareness-raising programmes (e.g. Targalt internetis), which over the years have significantly contributed to changing parental mediation behaviour and attitudes, should now pay more attention to the known mental health risks posed by technology use.

Digital technologies play a central role in the everyday life of Estonian families, and people believe their use shapes mental health and well-being.

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