Report of the study
"HappyB"

- Being, Body, and Brain -

Teens' Social Media and Smartphone Use and Wellbeing

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HappyB: The Study

Introduction

The HappyB project aims to investigate how smartphones and social media are associated with young people's well-being over time. The HappyB project is funded by the Swiss National Science Foundation and carried out in collaboration with USI Università della Svizzera Italiana, Lugano, and the Lee Kum Sheung Center for Health and Happiness, Harvard T.H. Chan School of Public Health, Boston, USA. The data were collected in Switzerland, in the Canton of Ticino. The Principal Investigator is Dr. Laura Marciano.

According to the American Psychological Association (APA), well-being corresponds to "*a state of happiness and contentment, with low levels of distress, overall good physical and mental health and outlook, or good quality of life*" this definition believes that well-being does not result from the simple absence of psychological problems, but is positioned on a continuum between deficit framework (psychopathological symptoms) and well-being (positive functioning, hedonic, eudaimonic, social well-being).

In the scientific literature, the biology of well-being has been studied, especially eudaimonic well-being, which predicts healthier lifestyle habits (more motivation to take care of oneself, less stress, and positive regulation of the neuroendocrine, cardiovascular, inflammatory and microbiome systems). In addition, greater well-being reduces the onset of physical and mental illnesses, predicts a sustained positive response to positive experiences in the brain, and better emotional regulation. Well-being predicts all these benefits even in the presence of socio-economic and educational inequalities.

According to a UNICEF report[1], in Switzerland, in 2021, a third of young people between the ages of 14 and 19 had mental health problems: 45.4% had low emotional well-being, 31% had low self-esteem, 44.9% had suicidal thoughts (8.7% attempted suicide) and 37.3% had symptoms of anxiety and/or depression. It therefore seems increasingly crucial to talk about the well-being of today's young people and how new technologies can have an impact on their health.

Research Question

The aim of the study is to investigate how the use of new technologies, and in particular smartphones and social media, is linked to the well-being and happiness of adolescents over time. The HappyB project aims to answer the following research question: ***How is smartphone and social media use associated over time with positively conceptualized well-being at the level of state and trait?***

Methodology

In order to grasp the underlying dynamics and their evolution over time, this project is based on a longitudinal design. The young participants (about 1600 students from four high schools in the canton of Ticino – Bellinzona, Mendrisio, Locarno, and Lugano 1) were followed for a year and a half. The study also included data collection through the use of the Ethica application installed on the participants' smartphones. At the beginning of the study, in order to collect qualitative data, two focus groups were carried out with students from the Cantonal High School of Mendrisio and Bellinzona. HappyB comprises two studies: a longitudinal study using a Qualtrics questionnaire repeated three

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[1] https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwipgorm9OuCAxV01gIHHSrMATMQFnoECA4QAQ&url=https%3A%2F%2Fwww.unicef.ch%2Fit%2Fmedia%2F2919%2Fdownload&usg=AOvVaw3F-w3N2-ioPjG1LZoqN6Mg&opi=89978449

times, each six months apart, and an intensive longitudinal study using Ethica, used for 14 days with three measurements per day. The design of the study is shown in Figure 1.
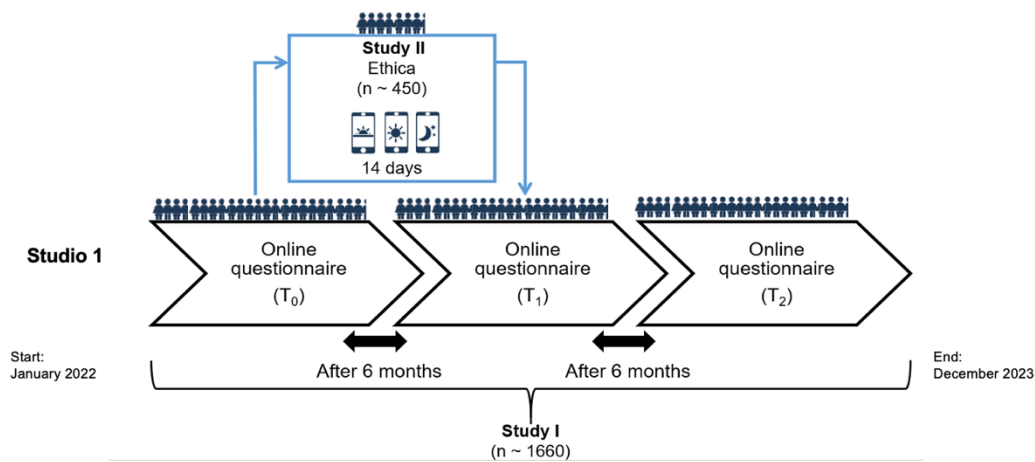

Figure 1: the design of the study

Measurements

HappyB wants to investigate **well-being** and the use of **smartphones and social media.** Before showing the results, it is necessary to make a brief description of these concepts.

In the first place, positive psychology can help us to propose a clear definition of well-being. This branch of psychology explains that there are two types of well-being: hedonic well-being (from ἡδονή "pleasure") and eudaimonic well-being (εὖ "good" and δαίμων "demon; fate'). These two forms of well-being are interconnected in the concept of "Flourishing", defined as a general sense of growth and prosperity, and recently defined as a possible single indicator of well-being. The current hedonic perspective focuses on Subjective Well-Being, defined as the intersection between life satisfaction (cognitive component) and positive and negative mood (affective component), which determine happiness. On the contrary, the eudaimonic view focuses on psychological well-being, defined as a state that goes beyond the mere presence of happiness and instead includes the actualization of one's potential through the realization of one's *daemon*, that is, one's true nature. Eudaimonic well-being includes: Autonomy, Personal Growth, Self-Acceptance, Meaning of Life, Competence, Social Connection, and Authenticity.

Secondly, when it comes to smartphones and social media, it's a good idea to break these concepts down into types of use and processes. **Usage** includes: social media profiles, access and type of activity on smartphones and social media, pervasiveness of the smartphone throughout the day, problematic use of social media, rules of use, and objective time spent. The **processes** combine the following measures: positive and negative experiences, self-disclosure, social comparison, inspiration *vs.* envy*, and* feelings related to social media use.

The population studied

The data collections were performed over a period of two years and were divided into 3 distinct time frames (see Figure 2).

1,432 adolescents participated in Wave1 (measurement in spring 2022) with an average age of 15.84 years (59% females and 41% males) divided into the first (55.1%) and second (44.9%) year of high school. At Wave 2 (measurement in autumn 2022), 1,177 participants were studied, including males (39%), females (59%) and non-binary people (2%) with an average age of 16.58 years. The

students were enrolled in the first, second, and third years of high school. The latest measurement was performed at Wave 3 (spring 2023) on 1,027 high school students with an average age of 16.93 years and male (39%), female (59%) and non-binary (2%). Participants were in their first (1.5%), second (58.1%), and third (40.4%) years of high school.
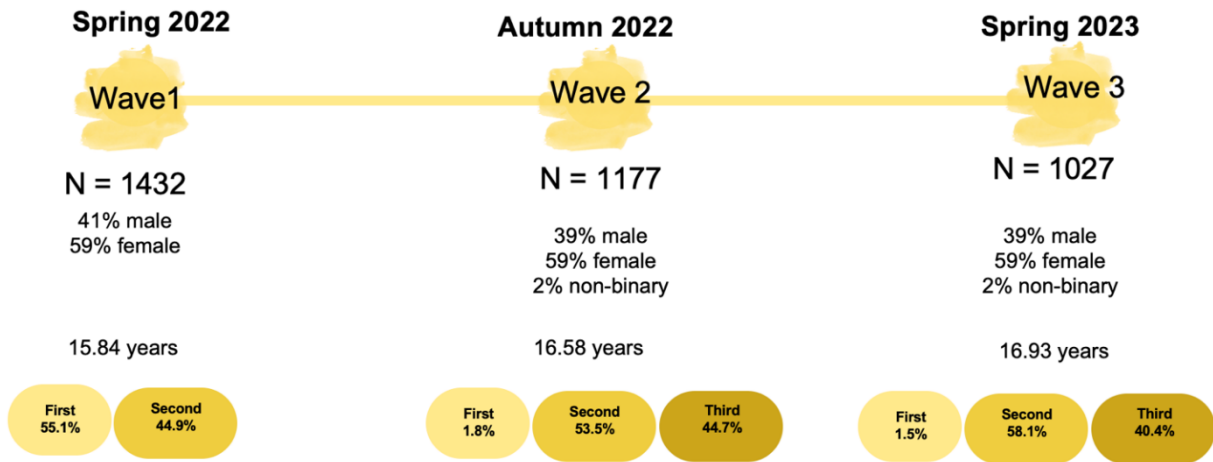

Figure 2: the three times of the measurements and the population studied

The data collection saw the participation of students from the Liceo Cantonale di Bellinzona (24.1% participated in Wave 1, 26.6% in Wave 2 and 28.1% in Wave 3). The second high school taken into consideration is the Liceo Cantonale di Locarno, where 24% of the students participated in Wave 1, 22.9% in Wave 2 and 19% in Wave 3. At the Liceo Cantonale di Lugano 2, 28.2% of measurements were taken at Wave 1, 27.1% at Wave 2 and 27% at Wave 3. Finally, the Liceo Cantonale di Mendrisio included 23.7% of the measurements at Wave 1, 23.4% at Wave 2 and 25.9% at Wave 3. The observations were equally distributed throughout the canton of Ticino. The sample respects the percentage of high school students in Ticino with different backgrounds and from different locations.
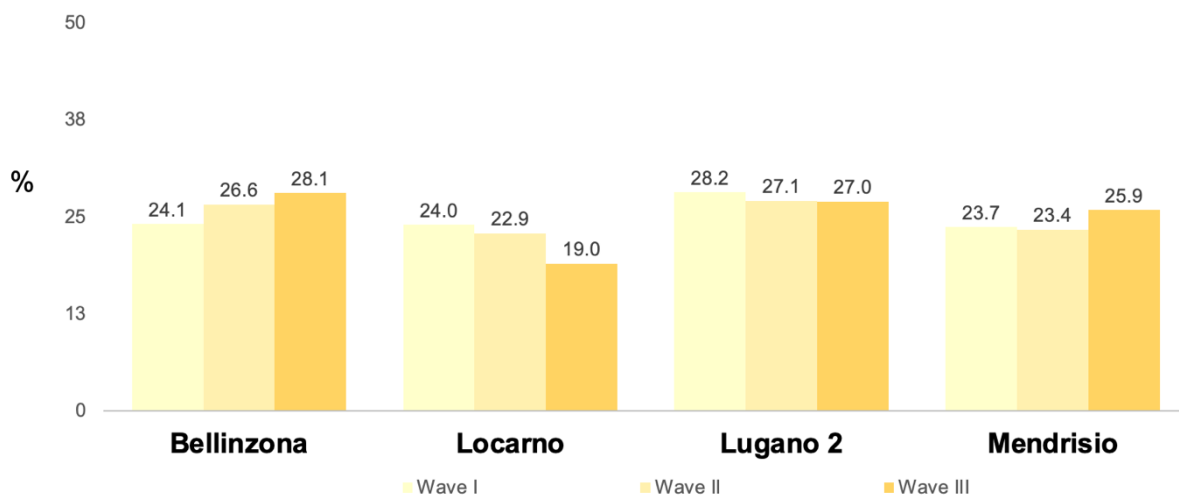

Figure 3: the four high schools studied

Main Results

Well-being

In the following chapter, we will see the results obtained by HappyB's research regarding the hedonic and eudaimonic well-being detected for the students of the four high schools analyzed. The different outcomes are divided into six sections: emotions, happiness, life satisfaction, eudaimonic well-being, social support, and loneliness.

Hedonic well-being: emotions

The emotions of the adolescents studied are quite diverse. Firstly, at Wave 1 adolescents identify their emotions in a positive way, defining themselves as happy, cheerful and in a good mood. In this case, <u>a gender difference can be noted: male adolescents are happier and less sad than females in the sample</u>. Respectively, at Wave 2 the male adolescents in the sample were happier, more cheerful and in a good mood, while the females reported lower levels of happiness, cheerfulness, and good mood. Non-binary people have higher levels of unhappiness. A similar difference between genders is also found at Wave 3, with males having higher levels of positive emotions, and females and non-binary people having lower levels.
It is therefore important to remember that, in adolescence, gender has an impact on developmental processes (biological, cognitive or social) that affect adolescents' emotions.
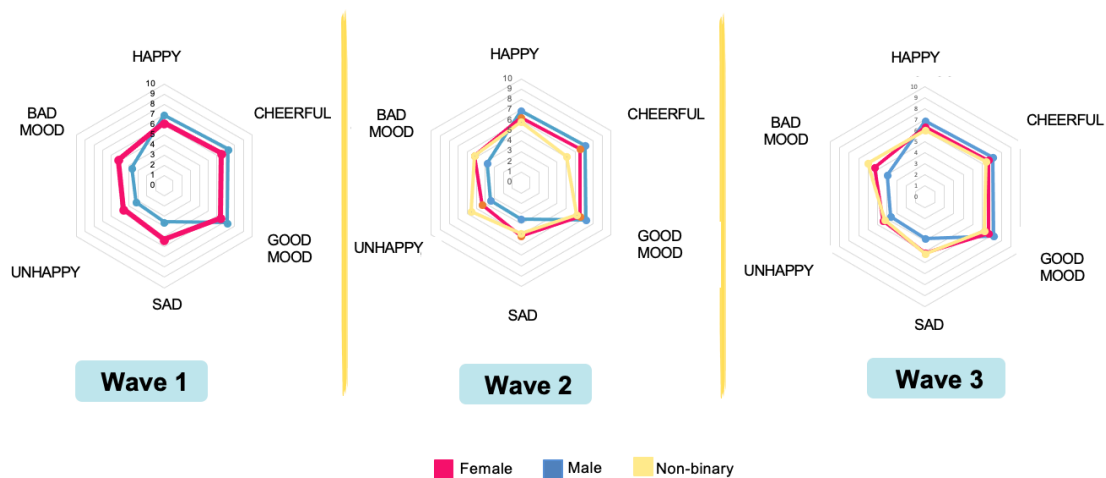

Figure 4: positive and negative emotions over time

Hedonic well-being: happiness

In the following condition, the young people were asked to respond to the "Subjective Happiness Scale" (Iani et al., 2014) and to position themselves on a scale from 1 *"Not at all"* to 7 *"Very much".*
The results (see Figure 5) show that at Wave 1, females and males in the sample were happy overall, with a higher percentage of disagreeing responses regarding happiness from females.
At Wave 2, the situation remains almost unchanged from Wave 1. Non-binary people are more less likely to respond that they are happy.
Finally, at Wave 3, 85.5% of the male boys surveyed agreed with the Subjective Happiness Scale. As for the responses of female girls to Tempo 3, 76.3% consider themselves happy and therefore have good hedonic well-being. Ultimately, <u>non-binary subjects largely have underdeveloped hedonic well-being, as many as about 37.5% answered in total disagreement with the questions.</u>
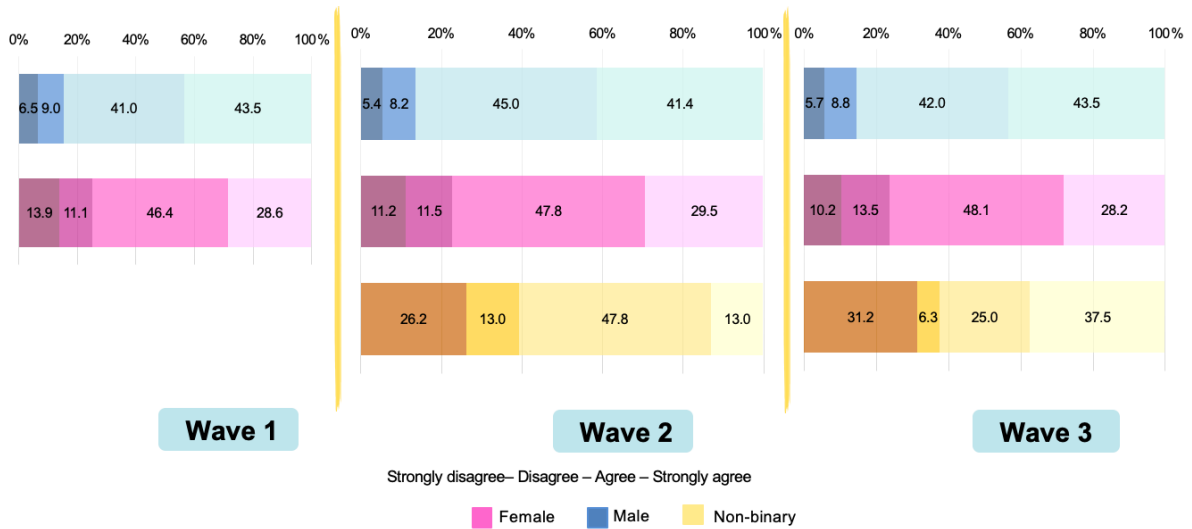
Figure 5: hedonic well-being and happiness

Hedonic well-being: life satisfaction

In this section, the results reflect the answers to questions about Life Satisfaction (see Figure 6). For example, they were asked to respond to the following statement: "*In most ways my life is close to my ideal*" on a scale of 1 *"Completely disagree"* to 7 *"Completely agree."* First of all, it can be observed that males are on average more satisfied with their lives than females and non-binary people. These gender differences are repeated in the three waves.
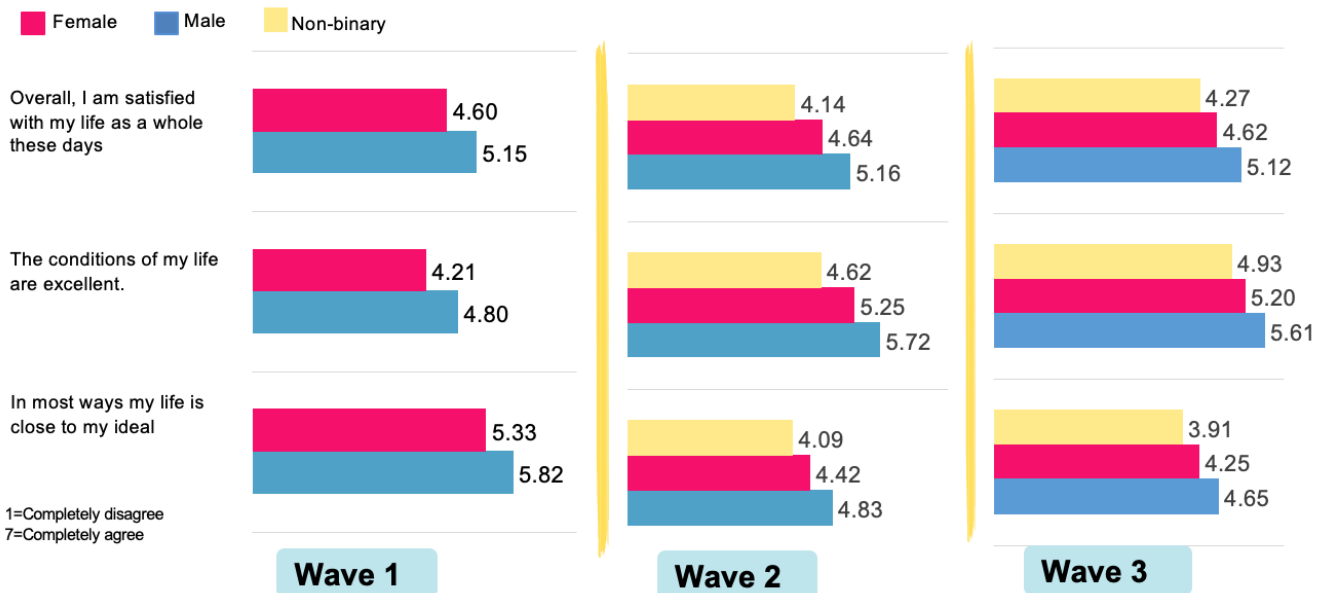

Figura 6: life satisfaction

Eudaimonic well-being

Eudaimonic well-being differs from hedonic well-being, and is understood as the psychological well-being that is achieved through self-realization. To measure eudaimonic well-being, four indices are given here:

- **Environmental mastery**: describes the ability to choose or create an environment suited to one's psychological predispositions as a central element of well-being, which also includes the ability to participate meaningfully and actively with the environment as an extension of the self.
- **Positive relationships**: Described as the presence of empathy and affection and the ability to develop love, deep friendships, and create close relationships with others.
- **Self-acceptance**: understood as the ability to know oneself, and accurately perceive our actions, motivation, and feelings. This dimension includes a long-term awareness of not only our strengths but also our weaknesses.
- **Authenticity**: understood as the ability to feel in touch with the true Self and to be able to align one's actions with emotions and feelings vs feeling alienated and detached from one's Self.

The Figure 7, it depicts an overall <u>higher level of well-being for males, particularly at Wave 2, where they report a much higher level than females and non-binary people in environmental mastery</u>. This dimension can be detected by responding to the following statements: "*In general, I feel I am in charge of the situation in which I live" and "I am good at managing the responsibilities of daily life*". In addition, we notice that non-binary people have a lower level of authenticity (described here as "alienation" from themselves). The affirmations that correspond to authenticity are as follows: "*I feel as if I don't know myself very well" and "I feel out of touch with the "real me"*". Non-binary people responded in agreement with these statements, while males and females found themselves less described by these statements. In fact, this element shows once again that non-binary people have a much lower level of well-being than boys and to some extent even compared to girls.
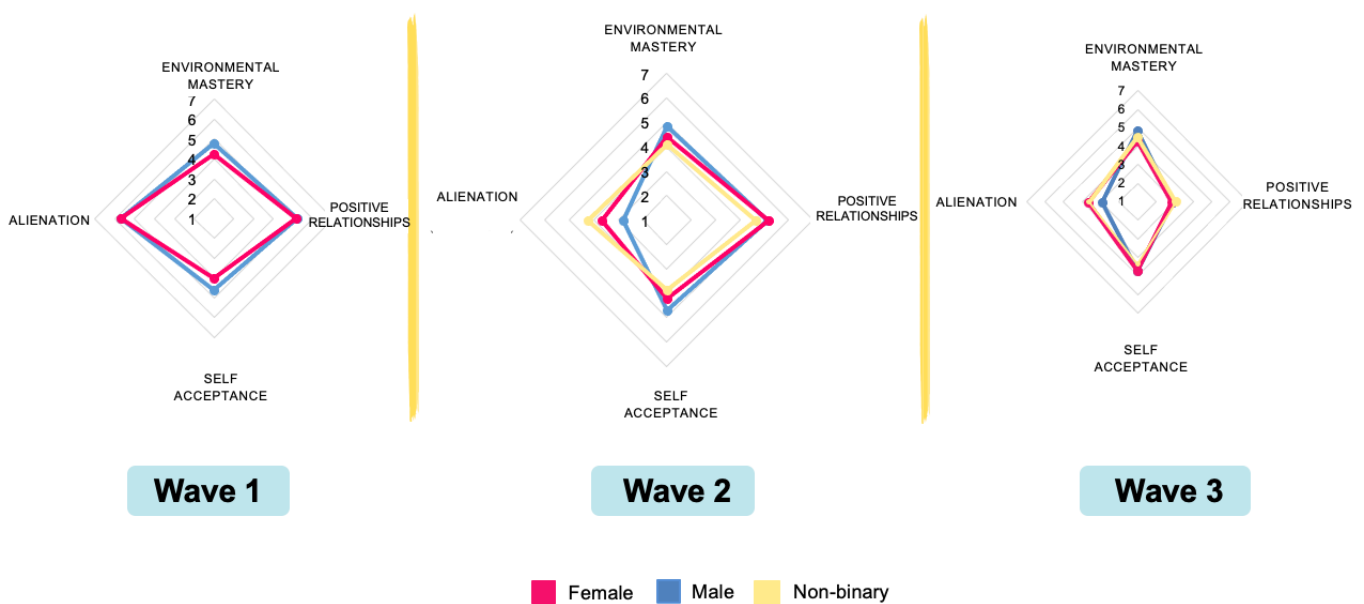

Figure 7: eudaimonic well-being

Social well-being: social support

To measure Social Support, the following statements were used: "*There are people I can depend on to help me", "There are people who give me support and encouragement," and "There are people who appreciate me as a person".* Boys and girls had to indicate from 1 *"Completely disagree"* and 7 *"Completely agree"* how much these statements described to them. The results show that <u>males and females report having good social support at both Wave 2 and Wave 3. However, for non-binary people, the degree of social well-being is lower.</u>
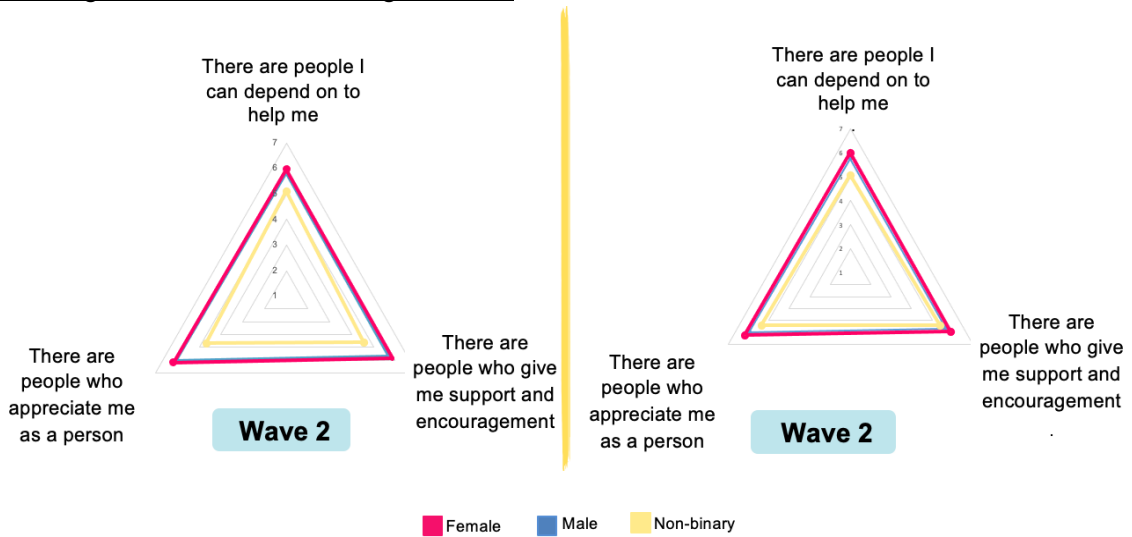

Figure 8: social support

Social well-being: loneliness

Social well-being was then measured through the dimension of loneliness. In particular, students were asked to indicate from 1 *"Completely agree"* and 7 *"Completely disagree"* how much the following statements describe their perception of loneliness: "*I feel lonely*", "*Often I feel left out*" and "*There is no one I feel close to*". In line with previous findings, it can be said that non-binary people have a lower level of well-being, in this case they report feeling very lonely. As for the females' responses, we can see that, especially at Wave 3, they risk feeling left on the sidelines. <u>Girls rank very close to the results of non-binary people. Males, on the other hand, generally have a lower level of loneliness.</u>
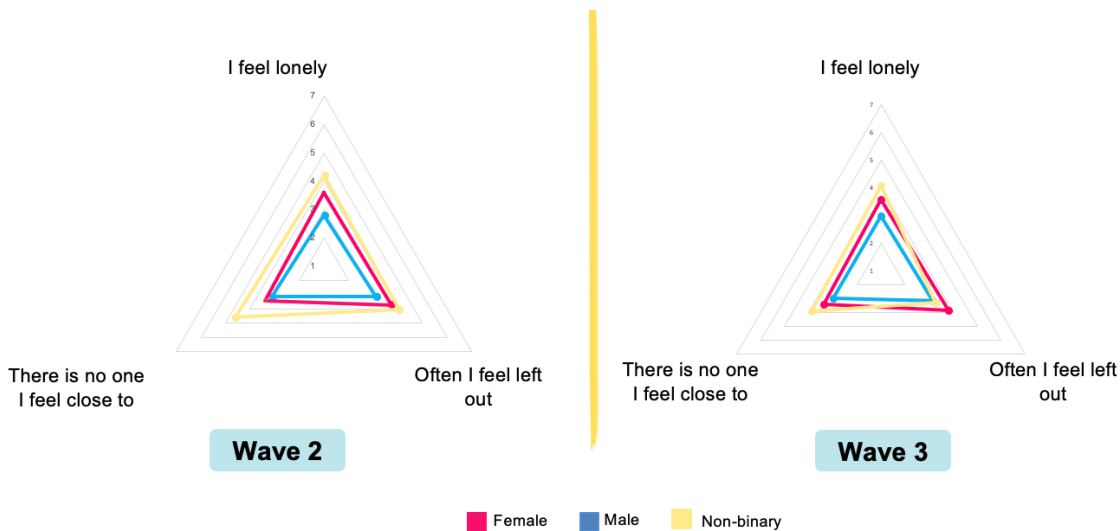

Figure 9: loneliness

Use of smartphones and social media

Social media accounts

To understand which social media platforms are most popular among young people, they were asked to indicate which social media profiles they owned and used. The results show that almost all participants have a **WhatsApp** account, in second place is **Instagram** with 92% of young people who own it. In third place is YouTube, with an average of 88% of the young people in the sample having a profile on this platform. Next is the social media TikTok with 66% of young people, Pinterest, SnapChat, Telegram, Twitch, Discord, Twitter and other social networks. The most striking element is that Facebook ranks last, indicating that kids born after 2006 don't consider and don't use this social media.
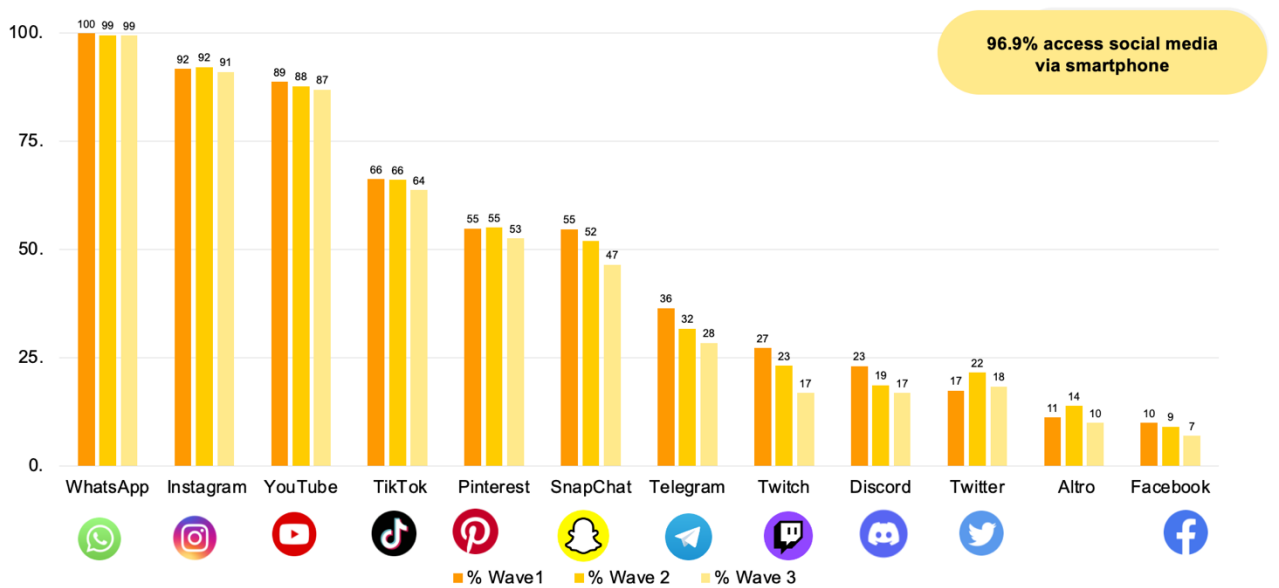

Figure 10: the most popular social media accounts owned by teens

The most used App

At this point in the analysis, it should be noted that the preferences of young Ticino students change suddenly. In this regard, the most used application (in terms of time spent on it) by users using iPhones at the Wave 1 of the study was Instagram while at the Wave 2 (6 months later) was TikTok.
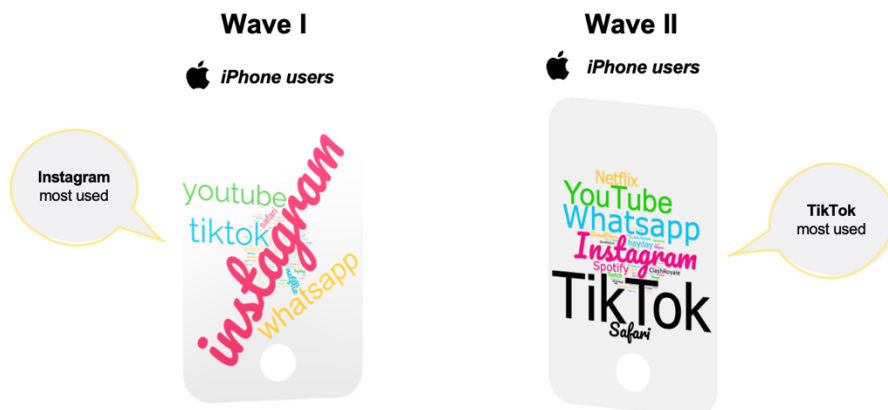
The case of "F-instagram"

During the preliminary focus groups, a singular phenomenon that is common among young Swiss people emerged, which is called Finsta, which refers to a "fake" account on Instagram on which people post what they are too afraid to post on their real profile. "Finstagram is not yet a hotly debated topic among teenagers in Switzerland; It seems that this trend has not yet caught up with us" was noted in an article on February 23, 2021[2]. However, in 2022, <u>data shows that more than half of young people have two or more profiles on the same social network in order to publish content for a restricted audience.</u>

Taking an average between the three waves, of those with an Instagram profile, about 37% of young people have only one profile, 37% have two and 22% have two or more profiles on this social network, respectively (see Figure 11).
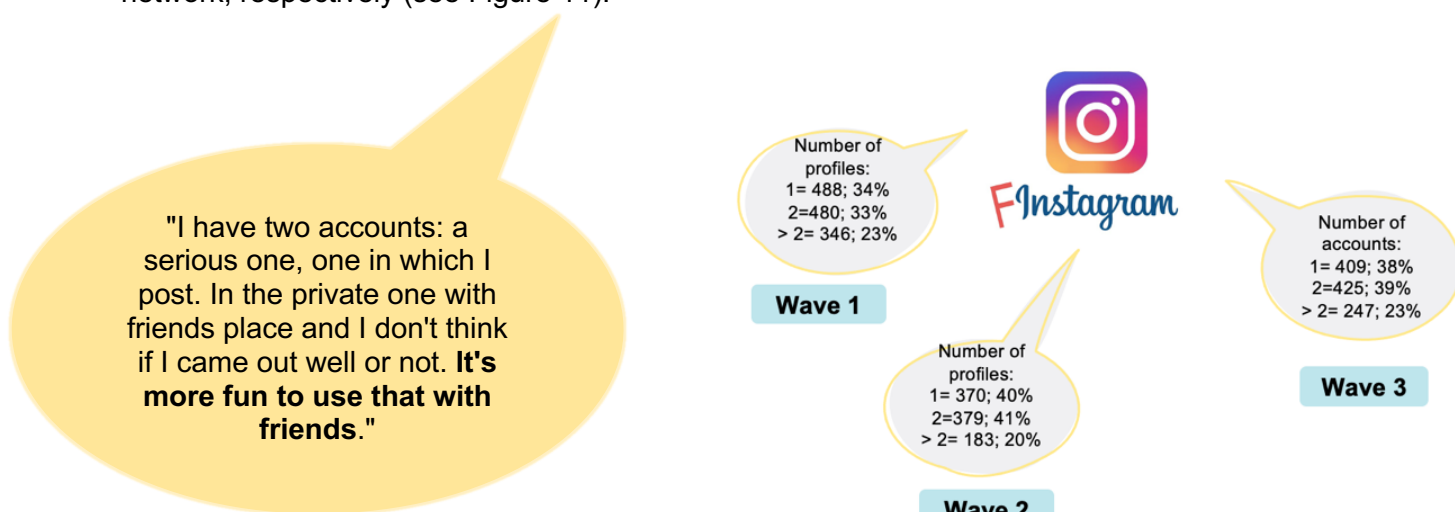

"I have two accounts: a serious one, one in which I post. In the private one with friends place and I don't think if I came out well or not. **It's more fun to use that with friends**."

Number of profiles:
1= 488; 34%
2=480; 33%
> 2= 346; 23%

Wave 1

Number of profiles:
1= 370; 40%
2=379; 41%
> 2= 183; 20%

Wave 2

Number of accounts:
1= 409; 38%
2=425; 39%
> 2= 247; 23%

Wave 3

Figure 11: number of profiles on Instagram

Social Media Activity

With regard to the activities carried out on social media by young people in Ticino, it should be noted that what is done most on social media can change over time (see Figure 12). In this regard, the most frequent activity on social media at carried out activity at Wave <u>1 is to watch videos</u> (e.g. YouTube, Real, TikTok) and send private messages to close friends. On the other hand, at <u>Wave 2, the activity carried out mostly on social media is to send private messages to close friends and post updates/photos/stories of places/interests and hobbies</u>. At Wave 3, on the other hand, these activities stand out: watching short videos and sending private messages to close friends. The overall result of this data is that as a social media activity, high school students in the canton watch videos and send messages to close friends.

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[2] https://www.swisscom.ch/it/magazine/digitalizzazione/finstagram-brufoli-al-posto-dei-filtri/
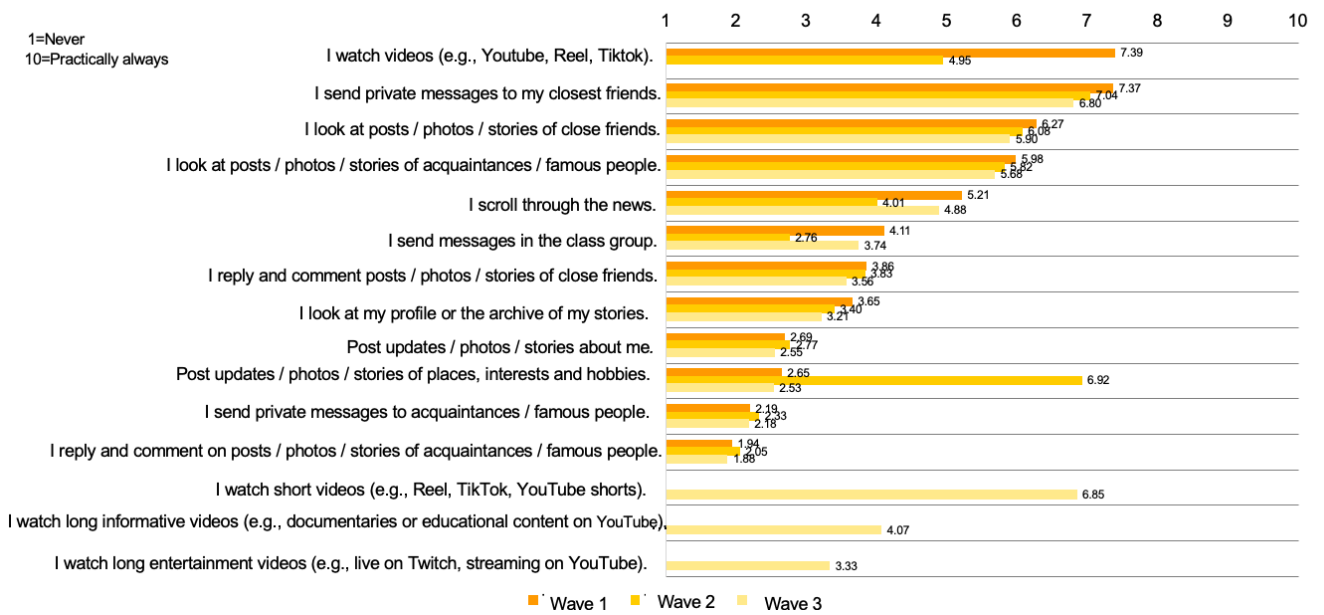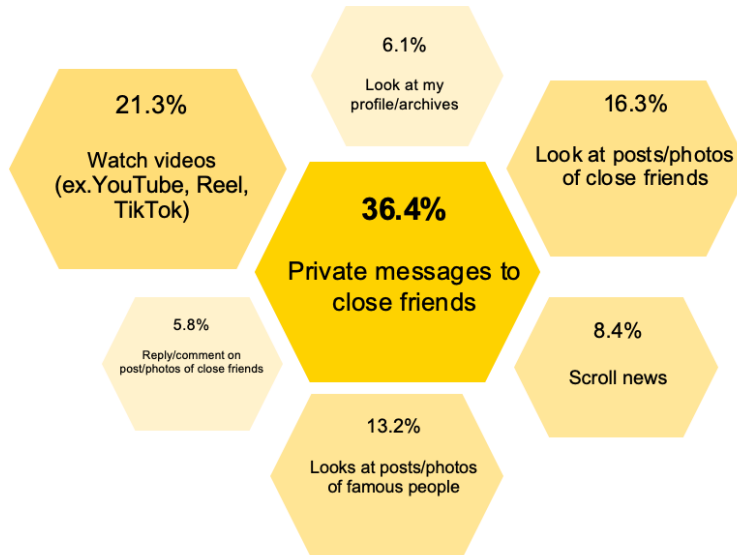
Figura 12: the most popular activities carried out on social media

The figure below represents what percentage of the sample does social media activities from *"multiple times per hour"* to *"pretty much all the time"*. These observations were measured at Wave 1.

Activity on the smartphone

Participants were asked how often specific smartphone activities were carried out on a scale of 1 *"Once a month"* and 10 "*Virtually Always".* Results showed that activities performed by males, females, and non-binary people change over time, but no major gender differences were observed. However, it can be said that girls are inclined to make more video calls and check their phones more for messages/notifications, where as the boys use their smartphones more for gaming purposes. Checking messages and notifications is the most common activity carried out on the smartphone.

Later, it turns out that listening to music is just as frequent. Another activity frequently carried out is making or receiving calls and watching TV series and/or movies (e.g. Netflix). On the other hand, the least frequently performed activity on the smartphone is making or receiving video calls (see Figure 13).
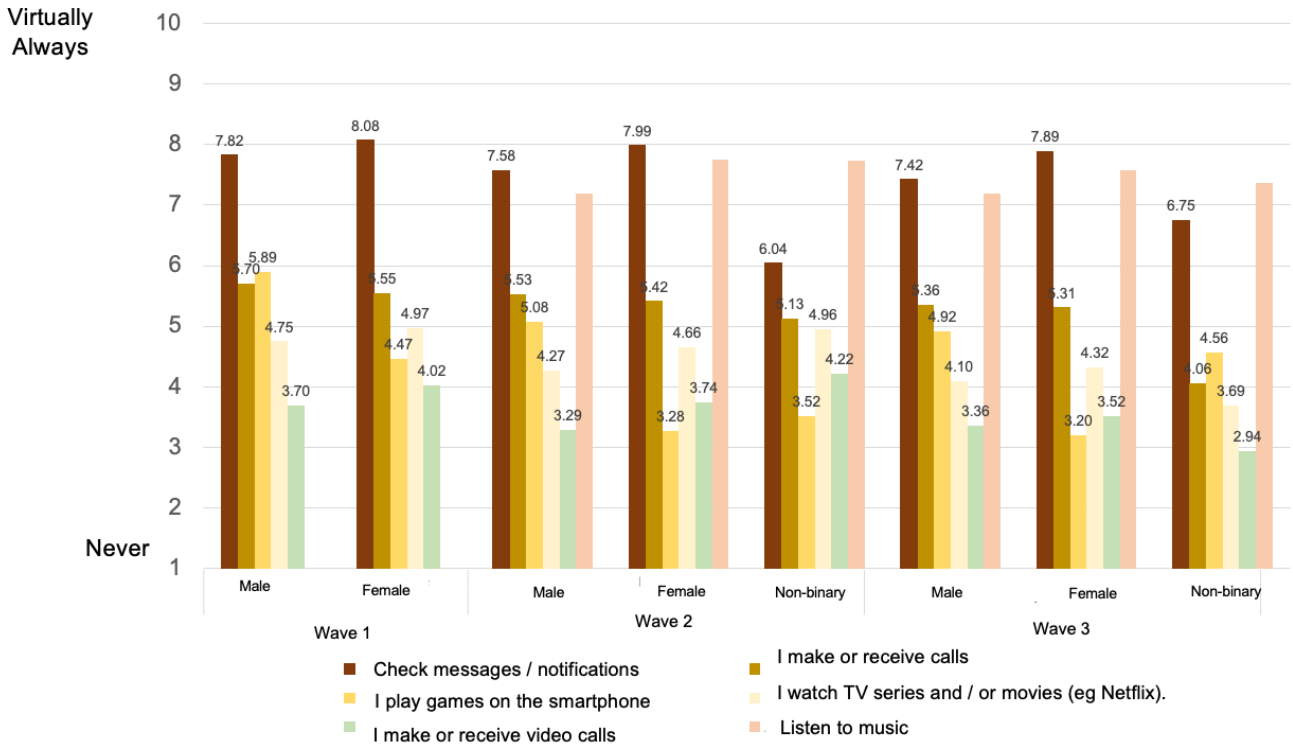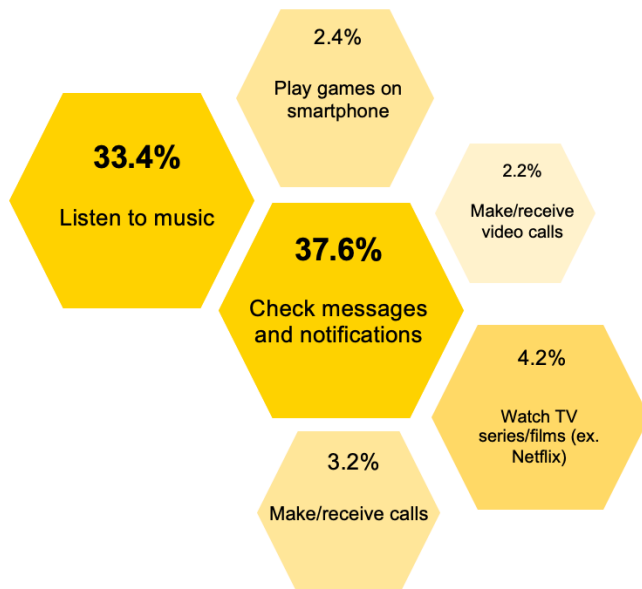

Figure 13: Smartphone activities

The figure below represents what percentage of the sample performs tasks on their smartphone from several times per hour to practically all the time. These observations were measured at Wave 2.

Smartphone pervasiveness

Pervasiveness is a measure of problematic smartphone use and focuses on the frequency of use at specific times of the day, during which smartphone use is inappropriate and can take away time to other ongoing activities (e.g., during study, at night, at meals) (Gerosa et al., 2021[3]). To measure this phenomenon, boys and girls were asked to indicate their smartphones' use in everyday situations on a scale of 1 *"Never"* and 5 *"Always".* Students often used their smartphones in the morning, as soon as they wake up, and while studying. To a lesser extent, they use their smartphones while spending time with friends, at night if they wake up, and during meals. <u>Smartphone activities did not change over time, as the answers remained stable over the three waves </u>(see Figure 14).
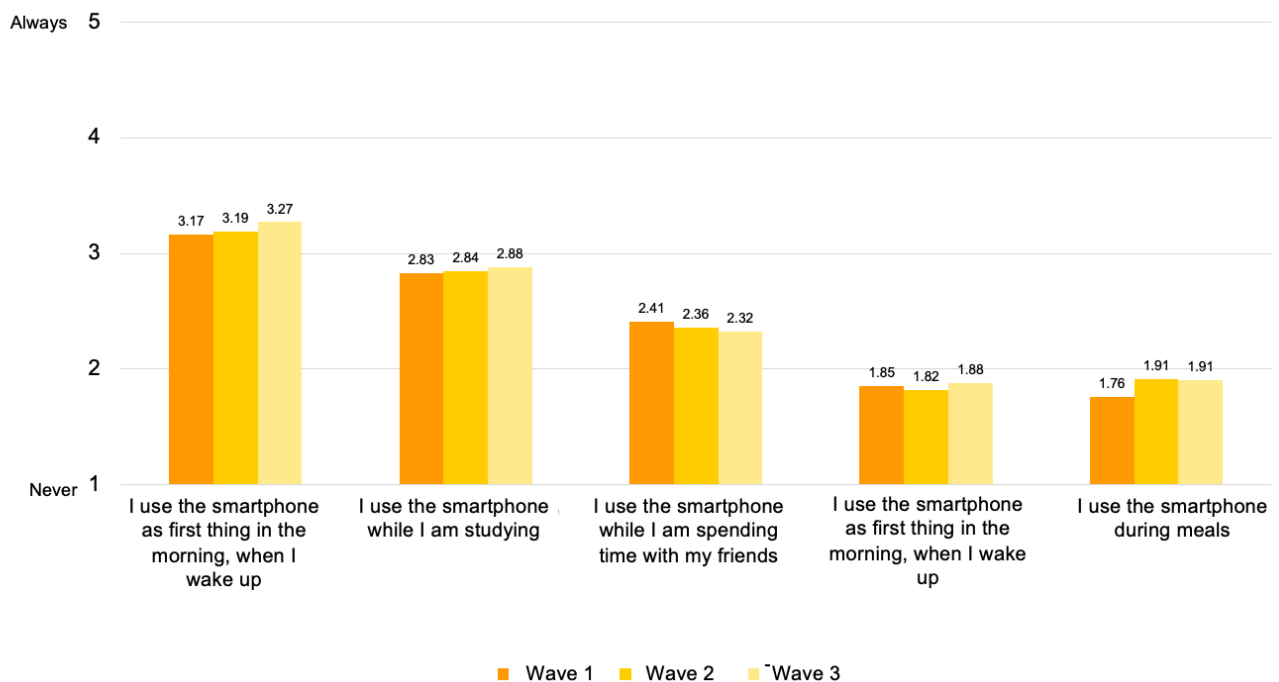

Figure 14: The pervasiveness of the smartphone

Well-being & Social Media

Interpretation of results

To answer the question: "**What kind of activity on smartphones and social media is linked to greater *versus* less well-being?".** A correlation was calculated in all three waves between well-being measured as Thriving and various online activities. The correlation, a statistical measure of the relationship between two variables, will describe the strength of this relationship. Correlations range from 0 to ± 1. In particular, a <u>positive</u> correlation indicates that, as one variable increases (e.g., social media use), the other also increases (e.g., well-being). A <u>negative </u>correlation means that as one variable increases, the other decreases. The magnitude of the effect varies and will be interpreted as follows: 0.1 = small effect, 0.3 = medium effect, 0.5 = large effect. The magnitude of

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[3] Gerosa, T., Gui, M., & Büchi, M. (2022). Smartphone use and academic performance: a pervasiveness approach beyond addiction. Social Science Computer Review, 40(6), 1542-1561. https://doi.org/10.1177/08944393211018969

the correlation is calculated here independently of gender, socio-economic status, and year of high school attended (to avoid confounding effects).

In the present study, the two forms of well-being, hedonic and eudaimonic, have been represented by the concept of **"Thriving[4]"** defined as a general sense of growth and prosperity, and recently defined as a possible single indicator of well-being. Below are the dimensions and representative statements of the same that have been used to measure this concept.

Support

"There are people who appreciate me as a person"

Engagement

"In most activities I do, I feel energised"

Belonging

"I feel a sense of belonging in my community"

Optimism

"I'm optimistic about my future"

Accomplishment

"I'm achieving most of my goals"

Meaning

"My life has a clear sense of purpose"

Self-worth

"What I do in life is valuable and worthwhile"

Life satisfaction

"My life is going well"

Self-efficacy

"I can succeed if I put my mind to it"

Positive feelings

"I feel good most of the time"

Problematic use of social media

"When can the use of the Internet, smartphones and social media be defined as problematic?" To answer this question, it is important to describe the concept of problematic use, as also described by the booklet *"Smartphone: ally or enemy?"* written by Dr. Laura Marciano in the "Let's Science!" project of IBSA Foundation for scientific research[5]. "Digital addictions", or better "problematic uses" are conceptually related to behavioral addictions, such as gambling, playing video games, using the Internet and many others. However, since there is no real diagnosis, we tend to talk about "problematic use" of social media, rather than addiction in the strict sense.

Internet problematic use is a symptom that can be traced back to another underlying psychological problem. Next, it is important to distinguish two types of Internet addiction: **specific pathological use** and **generalized pathological use**. For the first, people are considered to be addicted to specific network functions (e.g., online shopping) and to be the result of a pre-existing psychological problem. In contrast, generalized pathological use refers to a set of behaviors that resemble addiction by including excessive and multidimensional network use-including problematic social media use. In HappyB, social media problematic use was measured through ten questions, and subjects had to indicate how well the proposed statements described their use of social media from 0 "*Completely* disagree" to 10 "*Completely agree*" referring to the past six months. The results show overall consistent values across the three measurement times and a negative correlation with well-being (see Figure 15). The statement that has the most negative correlation and has a medium to

[4] Su, R., Tay, L., & Diener, E. (2014). The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). Applied psychology. Health and well-being, 6(3), 251–279. https://doi.org/10.1111/aphw.12027

[5] Marciano L., Camerini A.L. (2022). Lo smartphone: alleato o padrone? Consigli per una vita digitale sana e bilanciata. "Let's Science": IBSA Foundation for scientific research. Carocci editore. https://www.ibsafoundation.org/it/pubblicazioni/collane#lets-science

large effect size is "*I use social media to avoid/escape from negative emotions*". Next, the statements that are significant and have a medium effect size are "*I have been spending more and more time on social media to get the same pleasure as before*" and "*I have been/are less interested in participating in other activities such as hobbies due to social media*".
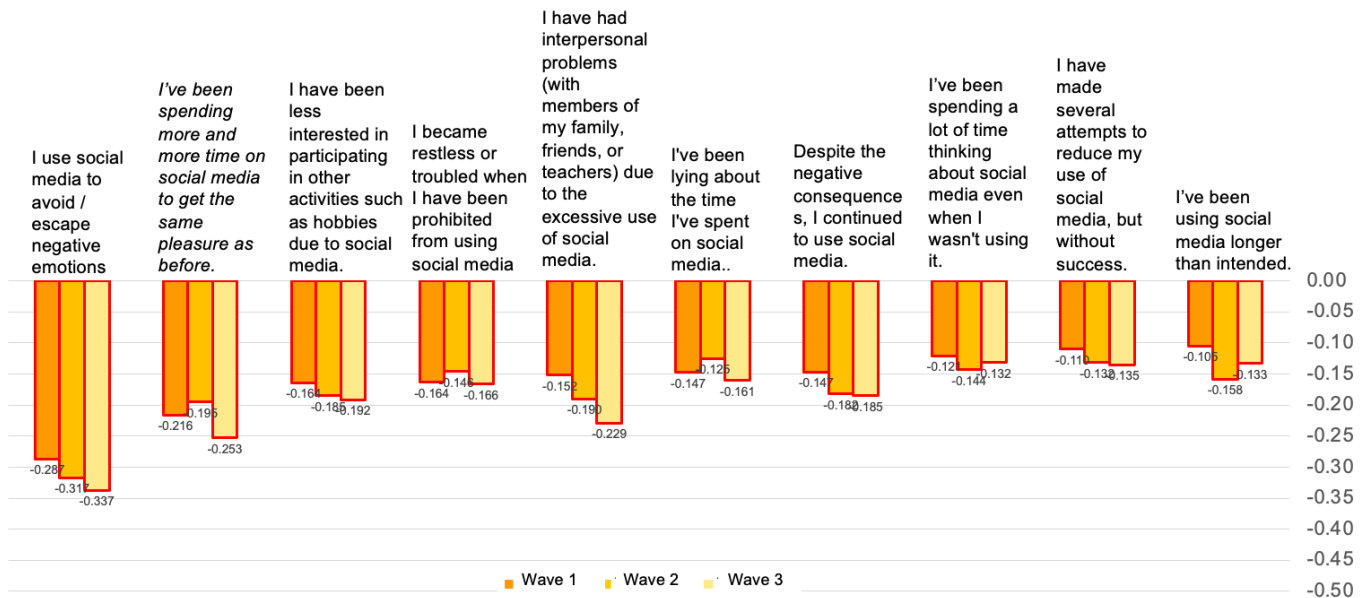

Figura 15: Correlations between problematic social media use and well-being (Thriving)

The following are the well-being-related activities that are statistically significant and stable over the three time points of the measurements:

☺ **Small correlation**: Social media activities that correlate <u>positively</u> – but with little effect – with well-being are: Texting in the class group; Scroll through the news; Send private messages to close friends; Reply to and comment on close friends' posts/photos/stories; Look at close friends' posts/photos/stories

☺ **Small-medium correlation**: Making or receiving calls and Making or receiving video calls are positively correlated **(**small-medium effect) with the <u>well-being</u> of young people. On the other hand, watching TV series and/or movies (e.g. Netflix) is <u>negatively</u> correlated with well-being.

☺ The following affirmations of positive envy and self-righteousness are positively correlated with well-being with small to medium effects: "*On social media, if I notice that a person is better off than me... I feel inspired and I try to improve myself*"; "*On social media, if I notice that I'm better at something than others... I feel like an inspiration to others and I try to help others improve themselves.*"

☺ **Average correlation**: The following ways of communicating information about oneself are positively correlated (average effect) with well-being: Being honest with close friends when expressing something about oneself; Express your mood and feelings with your closest friends.

☺ **Medium-large correlation:** The pervasiveness of smartphone use correlates <u>negatively</u> with the well-being of young people in Ticino. In this case, medium to large effects are found. In particular, Using smartphones while studying, at night, during meals, and as soon as they wake up are more associated with lower well-being.

😊 The following statements indicating problematic social media use are <u>negatively</u> correlated with well-being with medium to large effects: "*I use social media to avoid/escape from negative emotions*"; "*I spent more and more time on social media to get the same pleasure as before*"; "*I have been less interested in participating in other activities such as hobbies because of social media*"

😊 In addition, the following statements that reflect social comparison are <u>negatively</u> correlated with well-being with medium to large effects: *When I look at others' posts/photos/stories on social media, do you think that...* "*Others have better living conditions than mine"* and "*Others are better off than me."*

Online Social Experiences

Previous results show that psychological processes and what happens online are more important and have greater relationships with well-being than simply information about the type of activity. In particular, further results (see Figure 16) show that online social experiences are positively or negatively correlated with well-being with medium to large effects.

Activities that are <u>positively</u> related to the well-being of teen are: "Belonging to groups of people with similar interests"; "Have people who believe in the individual and their abilities"; "Being encouraged by someone when they felt they wanted to quit"; "Have people compliment your accomplishments"; "When the person feels lonely, have people to talk to".

In contrast, social experiences that are <u>negatively</u> correlated with well-being are the following: "People value the individual's emotions poorly"; "Feeling unwanted"; "Not feeling important or being ignored by others"; "Feeling excluded from others". To note: correlations remain stable at all three times.
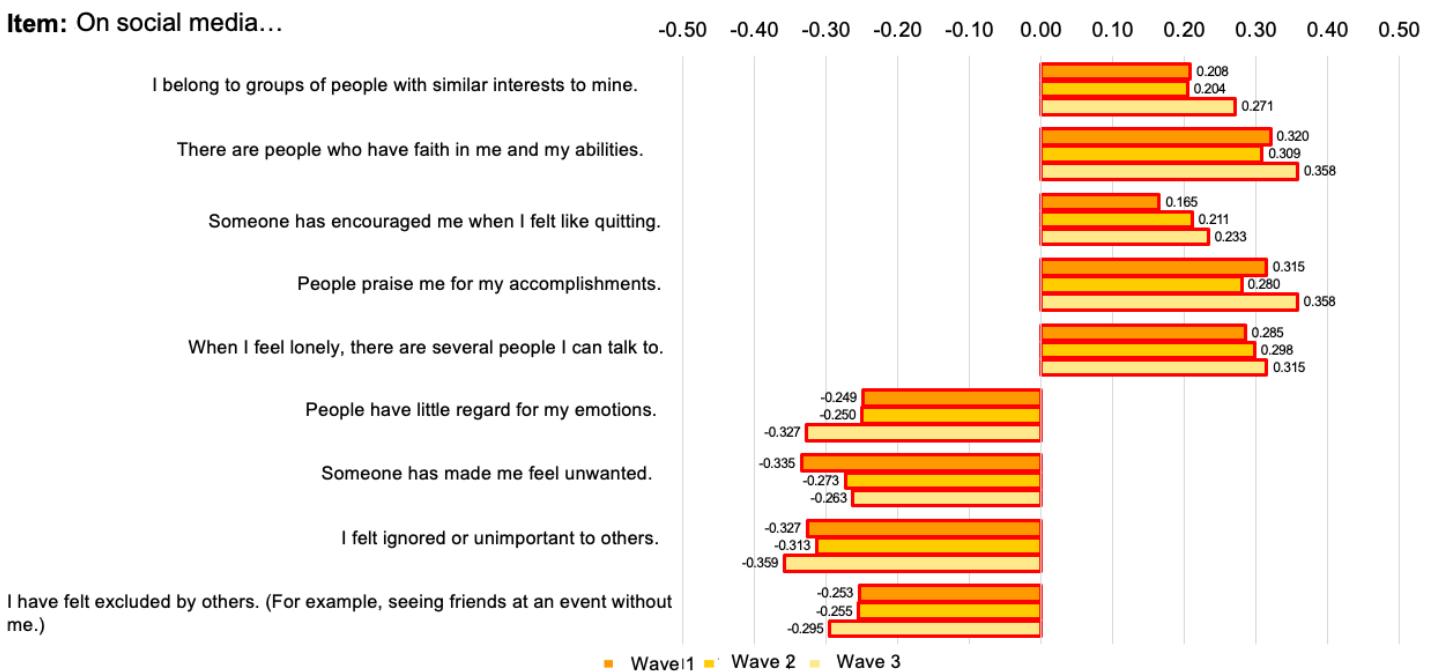

Figure 16: Online social experiences

Insight from focus group

Online vs. Offline Friendship

Listed below are the positive and negative reflections of online relationships that emerged during the focus groups carried out at the beginning of the study in two high schools:

- The young people surveyed seem to be aware that online social relationships do not reflect the reality of offline relationships: the number of followers does not correspond to the number of real friends

- Teens notice inconsistencies between what they "pretend to be online" and "what they are in the real world"

- Young people reported that they prefer face-to-face discussions rather than online, especially when clearing up misunderstandings.

«The real relationship is the physical one. Social media can be useful. We finish school… With social media, we continue to write to each other and maintain relationships.»

«On Insta he has 2000 followers, you imagine that he is full of friends and then in the end he is alone. It can be a bit of a deception.»

«I have 1000 followers on Instagram. I have a 4 or 5 real friends. I didn't ask to follow. Insta doesn't really reflect who we are. I have 300 followers in my private account.»

# Data collected through Ethica

The use of **Ethica** (now Avicenna) application to collect data was introduced through a YouTube video in the classroom. Then, students were invited to install the application on their devices.

Ethica automatically tracks the battery level and whether the smartphone screen is on or off. In addition, Ethica collects data through short surveys: a daily well-being questionnaire, an evening well-being questionnaire, and a questionnaire on social media use. In order to encourage young people to fill in the form, a reward system with medals has been implemented within the application. For the first three medals, a voucher was provided for each participant.

Of the 476 people invited to participate, 372 downloaded the app and 319 people continued the next day. 44.6% of people who downloaded the Ethica continued to provide the information for the next two weeks. Of the 372 people who downloaded Ethica on their smartphones, 37% (n=136) were boys, while 63% (n=233) were girls with an average age of 15.71 years and who attended high schools in Bellinzona (58%) and Mendrisio (40%).
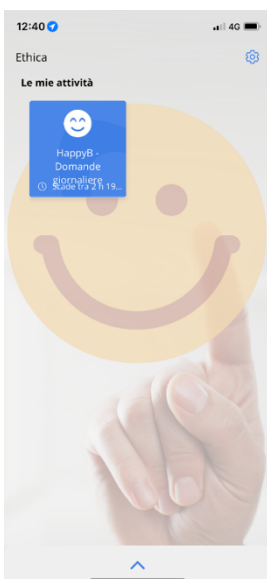
Participants filled out the first questionnaire on day 0, while from day 1 until day 14 they answered surveys on social media use (see Figure 17). In particular, they were asked to provide information **three times a day**: at 12.00 p.m. they had to answer a questionnaire about daily well-being and social media use. In addition, they are also asked to send screenshots of the objective use of the smartphone of the previous day by going to the Daily Use Settings (in particular, they were asked to report duration, frequency of use, and notifications received in general and of the three most used apps). At 6:00 p.m. they were asked to answer a questionnaire on daily well-being and social media use, and at 9:00 p.m. they were asked to answer a questionnaire on well-being on social media use and evening well-being. At the end of data collection, at day 15, participants were asked to complete a final questionnaire.
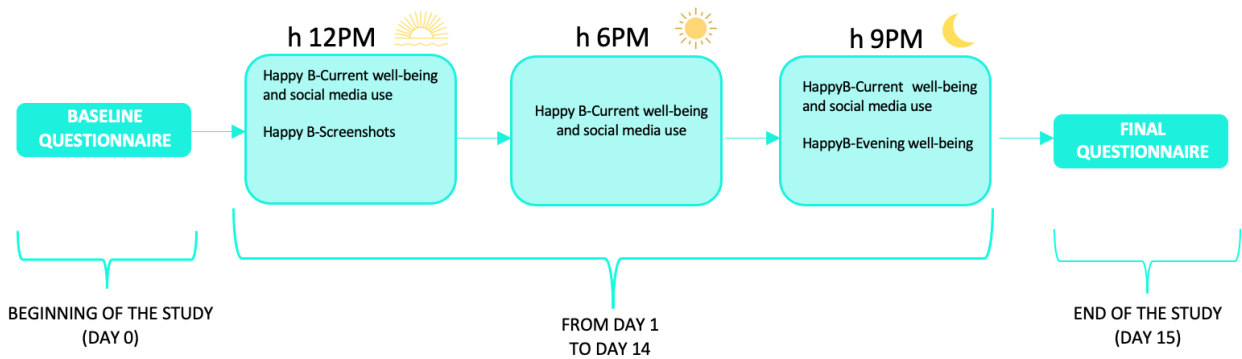

Figure 17: Ethica data collection

Ethica Results

Data on the correlation between happiness and time spent texting were collected for a total of 9,270 observations. The young people were asked: "*In the previous two hours, How much were you happy?*". Participants had to respond on a scale of 0 "*Never*" to 100 "*Always*". The other measurement made through Ethica was the minutes spent texting. The analyses performed show that, between these two variables, the correlation index amounts to 0.108 (rho=.108). This data allows us to conclude that the correlation between the minutes spent texting and the feeling of happiness is small. <u>In fact, the time you spend texting and the feeling of happiness don't have much of an effect on teens' well-being</u>.
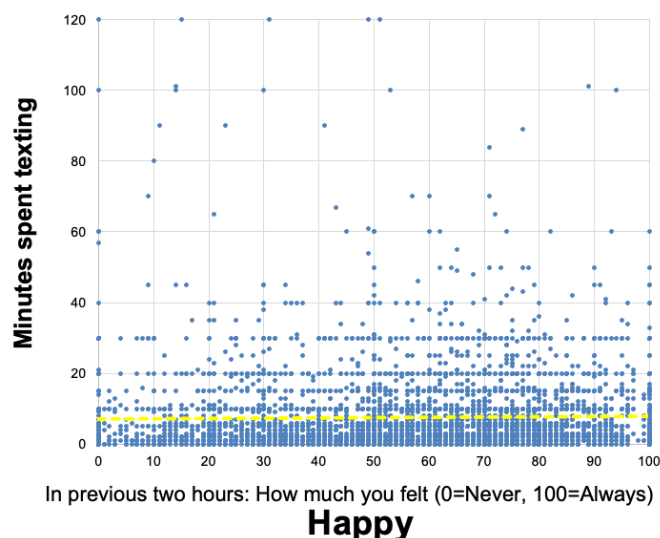

Figure 18: The correlation between time spent texting and happiness

In order to further di investigate the relationship between happiness and time spent texting, boys and girls were asked to report about their online activities in a detailed manner. For example, they were asked, "*During the last two hours, on social media... Has anyone complimented you?"* and "*During the last two hours, on social media... Did you feel like you were part of a group?"* The answer options could be "Yes" or "No", these answers were analyzed considering the minutes spent texting. The results show that the relationship between time spent texting and happiness becomes greater and more positive if someone has complimented the individual or if the individual has felt part of a group. From these results, it can be concluded that observing social media activity is not enough to have a clear representation of online well-being. **The factors occurring at the social level appear to be most important in relation to adolescents' well-being.**
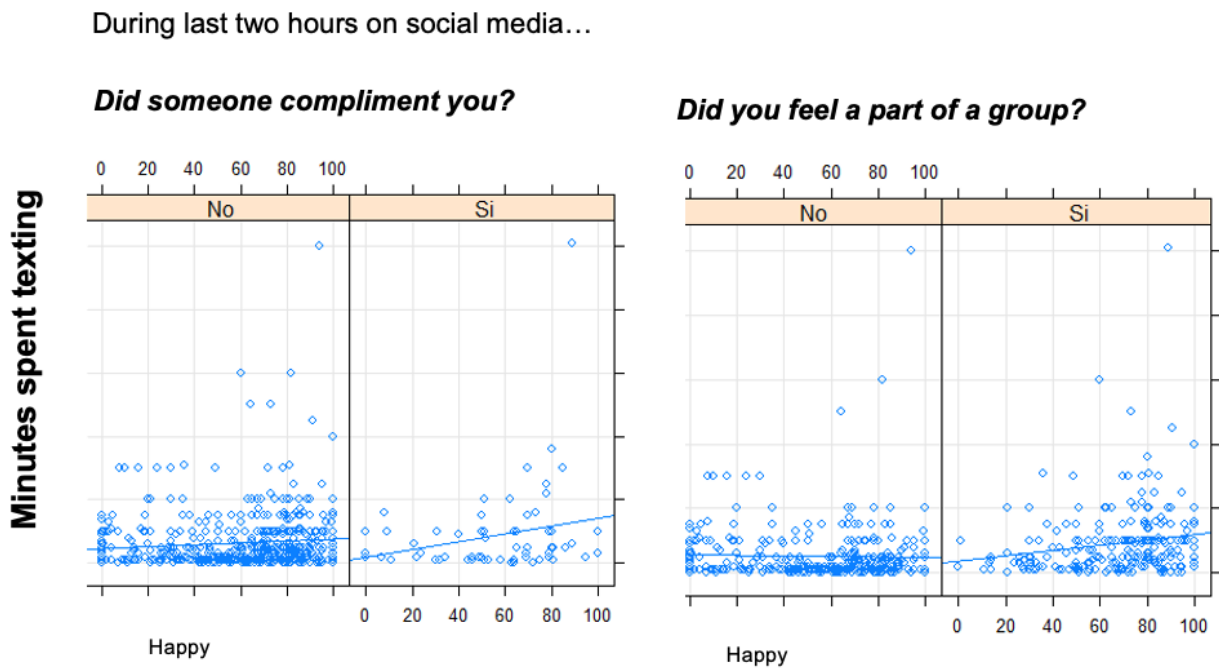

Figura 19: Time spent texting and happines

Conclusions

In conclusion, teens' well-being is a crucial aspect to consider in today's society. The results obtained in this study provide valuable information that should be interpreted carefully.

First of all, we should acknowledge the relevance of **gender differences in adolescent well-being**: boys have a higher level of well-being than girls, while non-binary people experience significantly lower levels of well-being.

Secondly, the consistency of these patterns over time suggests that the data obtained are valid and reliable and do not change much over time, underlining the importance of considering these aspects in promoting the well-being of young people.

In line with the scientific literature, gender differences are influenced by development, including genetic and biological factors and hormone levels. Therefore, in order to fully understand them, it is essential to contextualize these data while also considering the stage of development the young people are in their context. Another factor that plays a vital role in non-binary peoples' well-being are the contributions of day-to-day socio-cultural factors that may also facilitate the reduction in their well-being status.

In investigating the relationship between social media use and well-being, it is important to go beyond simply describing the type of activity and look at the underlying processes. In particular, everything that happens in the social world – both positive and negative – is largely associated with the well-being of young people. It can be said that the online world may be an extension of the young peoples' offline world and their real relationships. But it is challenging to label social media as "all good" or "all bad" as it depends mainly on the young individual and **how they use it**. There are aspects – such as social comparison, problematic use of social media, and the pervasiveness of smartphones – that are negatively correlated with well-being in a consistent way. Therefore, these aspects must be taken into account when developing interventions aimed at improving the well-being of young people.

In summary, this study adds some significant contributions to understanding teens' happiness in the digital world. It also highlights the importance of a multidimensional research-based approach to developing interventions to improve their quality of life and overall well-being.

Communication

A very useful tool for the purpose of our research is the booklet created by the IBSA Foundation for Scientific Research written by Laura Marciano "*The smartphone: ally or enemy? Tips for a healthy and balanced digital life".* This booklet investigates in detail the use of the smartphones and provides valuable theoretical foundations on digital addictions and problematic smartphone use.
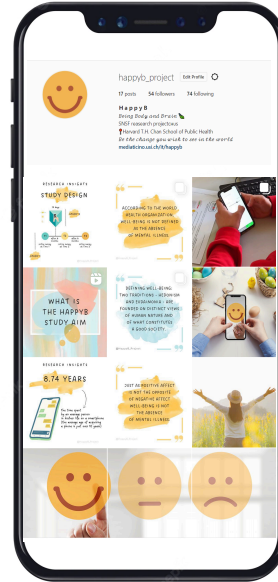
For further information:

Marciano, L., & Viswanath, K. (2023). Social media use and adolescents' well-being: A note on flourishing. *Frontiers in psychology*, *14*, 1092109. https://doi.org/10.3389/fpsyg.2023.1092109
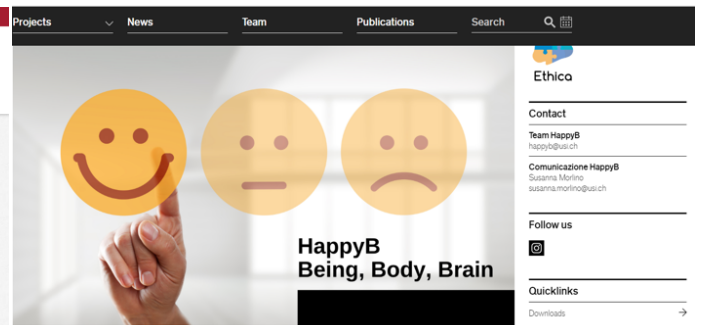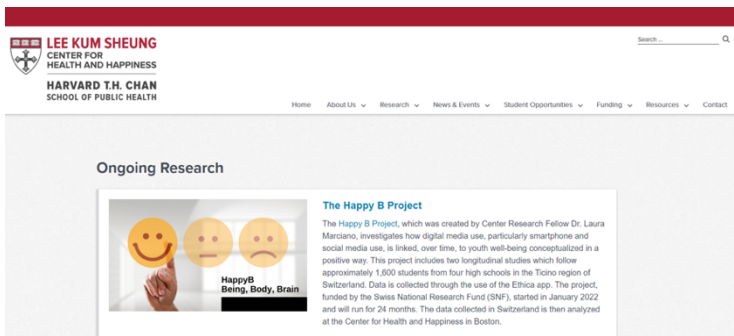
Communication

Laura Marciano
Anne-Linda Camerini

LO SMARTPHONE: ALLEATO O NEMICO?

Consigli per una vita digitale sana e bilanciata

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Laura Marciano holds a Bachelor's degree in Psychology and a Master's degree in Cognitive Neuroscience from the Vita-Salute San Raffaele University (Milan, Italy), finishing her studies with Honors and Honorable Mention.

He did his PhD in Health Communication at USI Università della Svizzera italiana (Lugano, Switzerland), focusing on digital addictions in young people. Her doctoral work received the Best Dissertation Award in Social Sciences from the Society of Italian Academics in Switzerland (Italian Embassy in Bern).

She is currently a postdoctoral researcher at the Harvard T.H. Chan School of Public Health (Boston, US) at the Viswanath Lab and the Lee Kum Sheung Center for Health and Happiness. He is also leading a new research project funded by the National Institutes of Health in the United States on social media use, social relationships and happiness.

Her research focuses on smartphone and social media use, well-being, youth, digital addictions, research methodology, and interconnection of psychology with artificial intelligence to create new interventions. Finally, Dr. Marciano is a promoter of science outreach activities as a member of the Advisory board of the IBSA Foundation for Scientific research in Lugano.

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Alessia Robbiani born and raised in Ticino, received a Bachelor's degree in Psychology from the University of Lausanne in 2023.

She is currently a second-year Master's student in Clinical Psychology at the University of Lausanne. Her passion for psychology and the well-being of young people led her to do a research internship with the HappyB project.

In the future, she would like to pursue a professional career that allows her to coincide clinical practice and scientific research.

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Acknowledgements
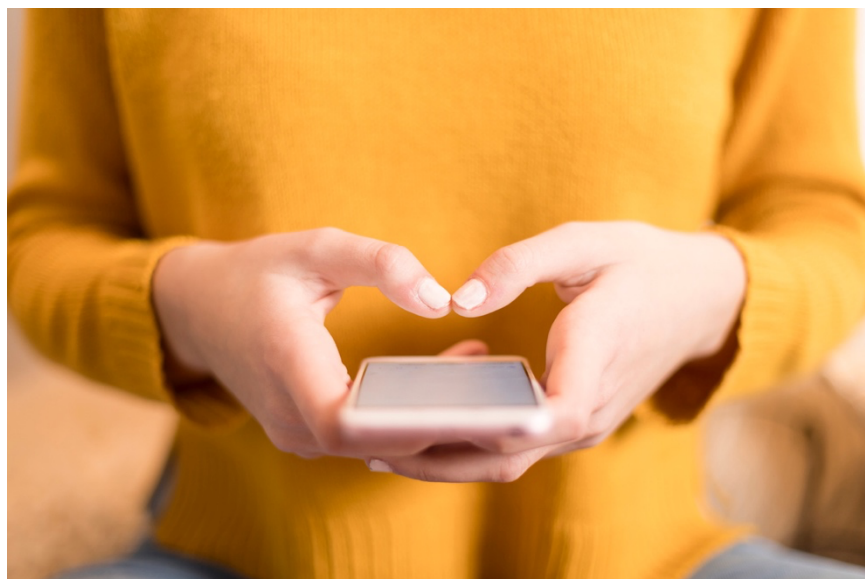
Appendix

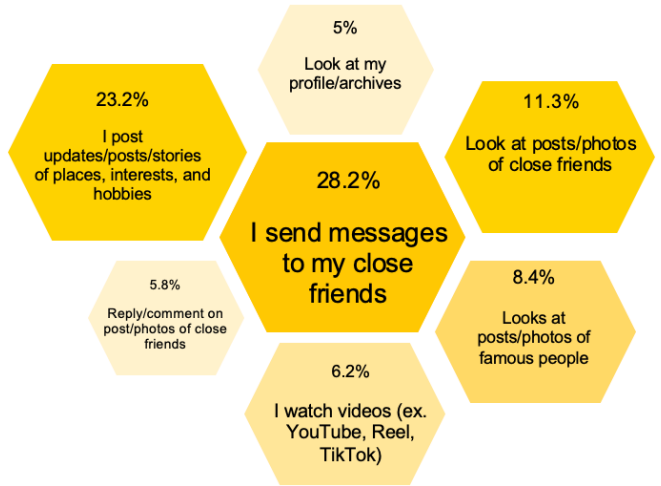What percentage of the sample performs the following activities on the smartphone from several times per hour to practically all the time at Wave 1? (N=1'432)
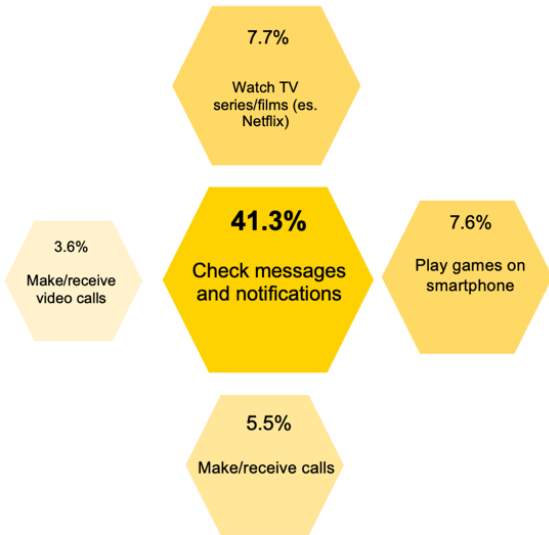
7.7%
Watch TV series/films (es. Netflix)

3.6%
Make/receive video calls

41.3%
Check messages and notifications

7.6%
Play games on smartphone

5.5%
Make/receive calls

What percentage of the sample engages in the following social media activities from several times per hour to practically all the time at Wave 2? (N=1'177)

5%
Look at my profile/archives

23.2%
I post updates/posts/stories of places, interests, and hobbies

11.3%
Look at posts/photos of close friends

28.2%
I send messages to my close friends

5.8%
Reply/comment on post/photos of close friends

8.4%
Looks at posts/photos of famous people

6.2%
I watch videos (ex. YouTube, Reel, TikTok)

What percentage of the sample engages in the following social media activities from several times per hour to practically all the time at Wave 3? (N=1'027)

2.4%
Look at my profile/archives

19.8%
I watch videos (ex. YouTube, Reel, TikTok)

9.3%
Look at posts/photos of close friends

21.3%
I send messages to my close friends

2.2%
Reply/comment on post/photos of close friends

4.9%
Scroll news

6.1%
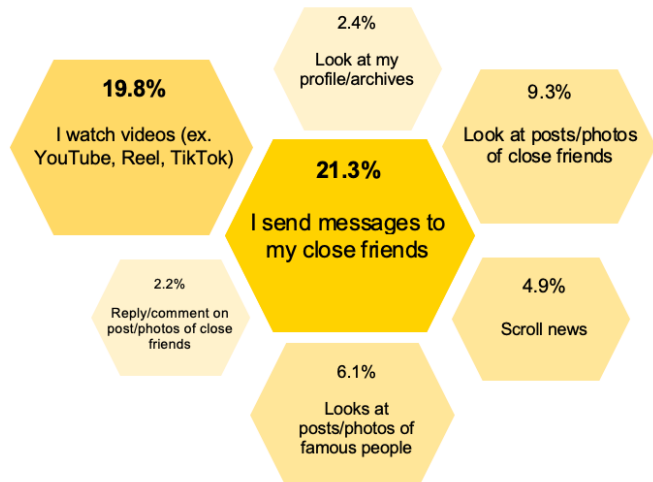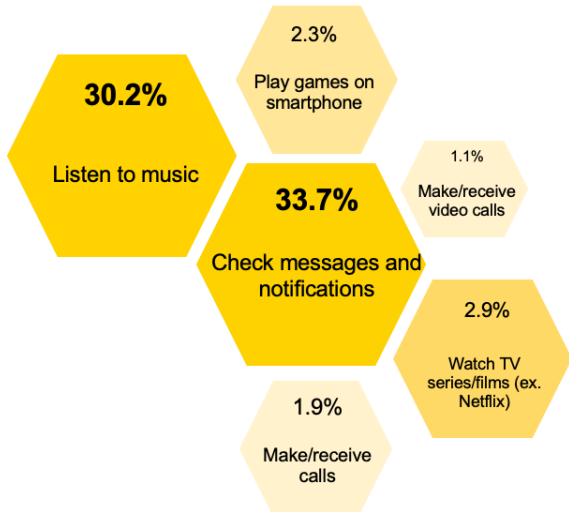Looks at posts/photos of famous people

What percentage of the sample performs the following activities on the smartphone from several times per hour to practically all the time at Wave 3? (N=1'027)

2.3%
Play games on smartphone

30.2%
Listen to music

1.1%
Make/receive video calls

33.7%
Check messages and notifications

2.9%
Watch TV series/films (ex. Netflix)

1.9%
Make/receive calls

"All who would win joy,

must share it:

happiness was born a

twin."

Lord Byron