THE SIGNIFICATION OF THE USE OF SCREENS AMONG ADOLESCENTS: CAUSES AND CONSEQUENCES

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ABSTRACT

Objective: to understand the signification of the use of screens attributed by adolescents. Methods: the current study was descriptive and exploratory, with a qualitative approach and theoretical-methodological framework of symbolic interactionism. Adolescents from a public school in Minas Gerais participated in it. Data were collected through interviews and focus groups carried out online and analyzed according to thematic analysis in the period from August to December 2020. Results: it had the participation of eight adolescents aged between 14 and 17 years, who attended high school and reported that the most used screen was the cell phone. The significations attributed to the use of screens were related to the possibility of interaction and practicality for allowing the performance of various activities. There was recognition that, in the face of excessive use, it is necessary to have a moment away from the screen. After the analysis, three categories were revealed: 1. Screen is diversity 2. Screen is interaction. 3. It is good to stop for a while. Final considerations: research has shown that distance from screens is difficult and the presence of health professionals, particularly related to adolescent health, can help them to find alternatives to use screens with reduced negative consequences.

Keywords: Adolescent. Screen Time. Motivation. Health Sciences.

INTRODUCTION

Electronic devices and media are intensely present in people’s lives, particularly adolescents. The delimitation of this age group may vary according to the different definitions. The World Health Organization (WHO) sets this period between 10 and 19 years. The Brazilian Child and Adolescent Statute (ECA, as per its Portuguese acronym) defines adolescence as the age range from 12 to 18 years and, in exceptional cases and when provided by law, the statute is applicable until the age of 21(1-2).

The historical series of the TIC Kids Online Brasil survey shows that there has been an increase in internet use by people aged between 9 and 17 years. This proportion of users increased from 79% in 2015 to 94% in 2020. Thus, in 2020, 22 million individuals in this age group used the internet(3).

The intensification of this use occurred in part by the social distancing measures imposed as a result of the COVID-19 pandemic. Among these measures, there is the adoption of remote teaching activities. Data from TIC Domicílios 2020 indicate that 89% of adolescents carried out school activities or research and that 69% studied independently through the internet. In addition to school activities, adolescents still access videos, video classes or tutorials, games and audiovisual contents. The majority, that is 95% of adolescents, use their cell phones to access the internet and its contents(3).

Therefore, the pandemic allowed the advancement of information and communication technologies. This advancement has brought with it the possibility of connecting people around the world and changing lifestyles. School, professional and social activities have migrated, partially or totally, to the online environment, entailing an increase in the number of hours in front of screens(4).
In this context, the increase in time in front of screens may be associated with greater exposure to risks of children and adolescents to the media\(^4\). Studies show that the excessive use of screens is associated with socialization and relationship difficulties, school difficulties and sedentary lifestyles\(^5\); increased anxiety; onset of depression; eating disorders, such as obesity; visual, hearing and postural problems; repetitive strain injuries (RSI); musculoskeletal disorders; back, neck and shoulder pain\(^6\); cyberbullying; and sleep disorders, such as insomnia and excessive daytime sleepiness. In other words, this habit can lead to physical, mental and emotional problems, especially in adolescence\(^2,7\).

According to the Brazilian Society of Pediatrics (SBP, as per its Portuguese acronym), the maximum recommended time for adolescents to be exposed to screens would be two hours a day\(^5\). After that time, losses may occur due to excessive use\(^5\). Nonetheless, the positive and negative impacts on physical and mental health cannot be explained by considering screen time alone. The media have diverse contents, uses and varied interactions to make them attractive to different types of audiences. It is necessary to consider the motivations, the content with which the adolescent interacts and other variables that can cause a small amount of screen time to become harmful or a lot of screen time not to present risks or damages\(^4\).

In this context, education aimed at the best use of the digital world is important and should lead adolescents to reflect on time, motivations for use, content to be viewed, values of existence and health protection, in addition to pointing out the dangers and risks\(^4\).

This reflection needs to start from the understanding and experiences that adolescents have in relation to the digital world. People base their behavior on the signification attributed to things and other people in a given context, which is constructed and reconstructed in social relationships\(^8\). Therefore, understanding the signification of the use of screens can help us to understand the reasons that lead adolescents to use screens excessively in their daily lives.

Accordingly, the question is: What is the signification of the use of screens for adolescents? Therefore, the current study has the objective of understanding the signification of the use of screens attributed by adolescents.

**METHODS**

This is an exploratory and descriptive study, with a qualitative approach and theoretical-methodological framework of symbolic interactionism, which studies processes of interpretation that permeate collective life defining people and objects through significations. According to this framework, signification is the key element in understanding the direction of human behavior, processes and interactions. By understanding such significations, it becomes possible to apprehend the social process that underpins it\(^8\).

The research was carried out in one of the two schools served by the Multiprofessional Residency in Adolescent Health at the Federal University of São João del Rei. The school in question was chosen because it is attended by second-year residents.

Adolescents aged between 14 and 17 years, who attended high school, made use of screens in their daily lives and who participated in health education activities promoted by the Multiprofessional Residency in Adolescent Health participated in the study. In turn, those who were not located on the contact telephone numbers after at least three attempts, those with difficulties in accessing the internet and those who had any communication and/or health problems that could interfere with data collection were excluded. After considering the inclusion and exclusion criteria, the adolescents were invited to participate in the focus group.

Data collection took place between August and December 2020, using two techniques: focus group and individualized semi-structured interview. Field diary records were also used. Although participants make use of screens, there is little incentive to think about it. The focus group aimed to bring the group view about the use of screens, and it was hoped that the group interaction would provoke a reflection, which would help the participants during the interview. The focus of the individual interview was to capture the individual view after two moments of reflection. Thus, the focus group questions are...
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After the project was approved, the researchers held a meeting with the school’s management and with the multiprofessional residency’s tutoring, requesting the service spreadsheets and student’s spreadsheets, with name, phone number, guardian’s name and students’ grades. The spreadsheets were assessed with the objective of checking the inclusion criteria and locating only students who participated in some health education activity.

Next, the researchers contacted all parents/guardians and adolescents who met the inclusion criteria by telephone. Of the 56 adolescents served by the residency, 50 met the inclusion criteria, all were contacted, but only 08 attended the focus groups and agreed to participate in the study. Losses were due to refusal due to incompatibility of time to participate in focus groups and interviews (09 adolescents), difficulties in accessing the internet (12 adolescents) and not being located after three telephone contact attempts made at different times (03 adolescents). None of the adolescents failed to participate due to health problems, but 18 guardians of the adolescents did not sign the consent form and the adolescent could not participate. Despite explanations about the research and the method to the likely participants and their guardians/parents, participation in virtual interviews through platforms that are still unknown and the initial climate of the pandemic may have inhibited greater participation in the research.

After the first contact, two copies of the consent and assent forms signed by the researchers were sent by e-mail and returned in the same way after their respective signatures, leaving the participants with a copy. The focus groups and, later, the individual interviews were scheduled.

Before carrying out the groups, the participants were instructed on the use of the platform, recording the interviews and the confidentiality of the research. There were two focus group sessions that lasted an average of 60 minutes, which were carried out through the Google Meet online platform. The two sessions were held one week apart, with the participants attending only one of them. Audio recorders were used and the participants were present at the time of the focus group, being a researcher moderator and an observer researcher, who were guided and trained to participate in this step.

The moderator had the function of stimulating the discussion of the central theme and the interaction among the participants. The observer was responsible for taking notes in the field diary, receiving participants on the digital platform and handling the recorders. The observer noted the start of each participant’s speech to serve as a transcription guide. He also took notes of intercurrences during the focus group, checked if everyone participated, as well as observed non-verbal behaviors in the face of the guiding questions.

The group session consisted of three moments. Firstly, general explanations were given, followed by an informal conversation with the participants so that they could get to know the researchers and get emotionally close to them. Sucha moment was not recorded. Then, the focus group was conducted with the questions and recording. Finally, the recording was finished and the researchers thanked them for their participation, reminded them of the need to keep the consent/assent forms and opened the possibility for the participants to add more information that they thought was relevant to be recorded in the field diary.

The individual interviews were conducted by telephone calls with an average duration between 30 and 40 minutes. The interviews took place 15 days after the last focus group. The audio of the groups and the individual interviews were recorded and later transcribed in full. The same script of questions guided the interview and the focus groups, based on the objectives and the theoretical framework of the study. It consisted of two parts: guiding questions and general data for each adolescent. Could you tell me how important is the use of screens (Television, cell phone and computer) for you? Could you speak about the consequences of using screens on your relationships and on your health? How do you cope with the negative consequences of using screens? In the field diary, all complications and behaviors manifested by the adolescents during data collection were recorded.

In order to preserve the confidentiality and identity of the participants, they were identified...
with the letter A (adolescent) followed by a sequential Arabic number, according to the order in which the individual interviews were carried out. The focus groups were identified with the letters G (group) 1 or 2 and A followed by the Arabic number that the participant received on the day of the focus group.

The research respected ethical precepts, guidelines and norms established in Resolution nº 510/16 of the National Health Council, which regulates research involving human beings. The study was approved by the Ethics Committee of the Federal University of São João del-Rei, under Opinion nº 4.208.087 and CAAE: 31844620.6.0000.5545.

The organization of data and construction of the categories followed the categorical thematic analytical framework. It consists of three steps, namely: pre-analysis, exploration of the material and treatment of the results, which is composed of the following steps: Floating Reading, determination and thematic analysis of the recording units, categorical analysis of the text, treatment and presentation of the results\(^9\).

In the floating reading, an exhaustive reading of the transcribed text was carried out in order to construct provisional hypotheses about the content. Then, the registration units to be analyzed were determined. They were marked in the transcribed text and grouped into a theme (thematic analysis of recording units). The grouping of themes gave rise to categories (category analysis of the text). Finally, the results are displayed in the form of categories (treatment and presentation of the results)\(^9\).

It is worth highlighting that the adolescents’ testimonies and speeches transcribed without any changes. Therefore, spelling errors and slangs commonly used by adolescents were considered, with the objective of preserving the fidelity of the collected information.

**RESULTS AND DISCUSSION**

The results and discussion will be displayed in two parts. Initially, we will characterize the adolescents participating in the study in relation to personal data and in relation to the use of screen time. In the second part, we will describe the categories unveiled after analyzing the reports.

The eight participants were in their second grade of high school, seven of them were female, spent more than seven hours in front of screens and all accessed the internet through cell phones.

Screen time can be defined as the amount of time spent with technologies that require visual displays such as televisions, computers and smartphones\(^{10,11}\). The pandemic has brought about a profound change in the routine and lifestyle of people, particularly adolescents. Among these changes, there is the increase in the amount of time in front of screens imposed by isolation measures and the transfer of part of school, work, leisure and other activities to the remote mode, i.e., mediated by electronic devices\(^3\). In the reports below, adolescents indicate how they perceive this increase:

> Now, with the pandemic, it has increased much more, because we are practically idle at home; most teenagers don't work, classes are on cell phone and also on television. You end up wanting to watch a movie, use the social network, so you end up being connected for many hours. (A7)

> Now, mainly a little more, because as I was saying that now we're studying through cell phones, looking for things on cell phones or on television, which is where the classes are taking place, right? It’s screened all the time. (A4)

The generation of adolescents does not know the world without the internet and electronic devices. There are many benefits, but risks exist and need to be considered. At first, there was concern about screen time, but studies have shown that, for adolescents, the content accessed in the media and other variables, in addition to screen time, are important in understanding damages and risks\(^3\). Although there are other variables, it is necessary to consider that social media influence the adolescents’ lifestyle and habits and that, due to immaturity, they have difficulties in assessing risks and benefits in the use of technologies and social networks\(^12\).

The type of screen most used by the adolescents in the study was the smartphone, followed by the notebook, which coincides with the literature\(^13\). The *TIC KIDS Online Brasil* survey reveals that, in 2020, 98% of adolescents used the cell phone to access the
internet. However, this proportion is constant compared to 2019. Therefore, despite the pandemic having led to an increased time in front of screens, the telephone remains the most frequent way of accessing the internet(3).

The categories below describe the significations attributed by adolescents. After the data analysis process, three categories were revealed: 1. Screen is diversity; 2. Screen is interaction; 3. It is good to stop for a while.

**Screen is diversity**

Given the fact that these adolescents use games, movies and conversation applications, the importance of using screens lies in the multiple possibilities such as fun and leisure, use in school and research activities, in addition to the opportunity to gain new relationships.

I think it facilitates contact between people, it is also a source of information, because technology, whether you like it or not, helps people a lot, for example, there are things that we look for on the internet that we don't find in books, and such things. (A4G2)

For me, it's also the practicality, sending a message, ordering food, calling there to order a taxi, those things, and ordering food was also easier, doing research, it's much easier to research things, resorting to books, literary books, became much more practical. (A8G1)

Gosh! Guy! It’s a lot, what I do on the notebook. I do school activities, social networks, play games and occasionally watch a Netflix movie and a YouTube video. The hairstyle I did now, yesterday I watched and managed to do it on my hair. (A3)

Through the reports, it is possible to perceive those adolescents use screens for a wide variety of activities and functions. Personal activities were related to social functions, such as social communication with friends, browsing areas of interest, such as researching strategies for games and shopping, watching programs and videos, playing games, listening to music, entertainment, form of leisure or relaxation, in order to reduce boredom and anxiety, in addition to school-related matters(13).

Screens allow access to social media where there is communication and information sharing. Accordingly, there is social interaction that is capable of producing a variety of significations and resignifications with an impact on several areas, such as self-esteem and identity construction(14). The signification of objects and people are constructed during everyday social interactions and helps to understand the direction of actions(8).

Therefore, the development of the behavior, habits and practices of adolescents, when they are resignified by online interactions, bring vulnerability to this population, exposing them to worrying risks(14).

Despite the practicality of using screens, adolescents know that excessive use can entail negative health consequences.

Direct use can mess with attention. Who uses it a lot at night, it gets in the way? Some people even wake up with black vision, because of cell phone use, like me, {laughs} my eyes are always blurry. (A6)

Now, negative effect, it increases the level of insomnia, anxiety, depression, even vision. I can’t say if it’s just because of the use of screens, because it’s a disease I already had, but my vision is getting worse. The issue of tiredness, dark vision, pain in the eyes, it seems that the pressure in my eye deregulates, there are times when I can’t see properly. (A7)

The increased screen time in the children’s and adolescents’ lives associated with a reduction in outdoor activities can determine problems in the mental health of young people(11). A study carried out in Canada found that screen time longer than four hours was associated with a three to four times greater frequency of episodes of major depressive disorder, social phobia and generalized anxiety disorder compared to adolescents who remained in front of screens for a period of less than two hours(14).

Nonetheless, the TIC KIDS Online Brasil survey found that the permanence of adolescents in front of screens for a short time, but without education directed to their use, can be very harmful due to the accessed contents and other factors(3). Educational contents can promote reflections and debates in line with experience, acting as preventive and health-promoting actions(3).
Despite knowing about the negative health consequences, adolescents continue to use screens excessively. Among the multiple functions that encourage them to continue using screens excessively, we can mention the signification that the use of screens is associated with social interaction.

**Screen is social interaction**

During this time in front of cell phones, adolescents use social media for individual or group interaction, as we can observe in the reports below:

I met too many new people. It improved my day one hundred percent because I talk to them every day. We even have a group. [...] I met them playing because you can talk during the game. Then I got their WhatsApp number, created a group and we talk every day. (A3G1)

Yeah, but sometimes it’s not even that, what happens is that most games are like that, we play not only to play the game that way, but to keep talking, because when you’re playing, you have interaction within the game. (A8)

The use of screens means the possibility of interacting with other people and connecting to the world, in a phenomenon where the screen is the disembodied eye that carries the implication of the presence of the incarnate other. The need for interaction encourages adolescents to constantly check for messages and updates to stay informed about everyday events, in addition to satisfying the desire to be with each other.

These interactions are full of socially constructed symbols, depending on the situation experienced by them and the behaviors expected for it. In this context, socialization takes place, which is a prerequisite for the individual to be part of society. This process is important in the internalization of symbols and, therefore, the social relationship constructs the personality.

The experience of socialization processes takes on a special contour in adolescence. Adolescents need to belong to a group because this experience helps them to choose and construct identities, such as sexual and professional orientations. Acceptance in the group awakens feelings of belonging, inclusion and pleasure, while the opposite can generate anxiety, stress, isolation and depression.

Thus, the varied activities provided by social media favor connection with the group through virtual communication, especially during the pandemic; and, by stimulating the feeling of belonging, it brings the need for constant verification of information on the cell phone.

However, besides promoting interaction, social media can generate conflicts. It is possible to perceive these issues in the reports below:

I think that when people use their cell phones a lot in the family environment, they end up moving away from those who are close. Even though they get closer to people who are farther away, they end up moving away from people who are next to them. (A8)

I think it makes it difficult sometimes, as it makes the physical contact relationship between family members difficult, right? Because each one is on a screen and there is no interaction among them. (A9G1)

In contemporary times, the excessive use of technology, especially the smartphone, has provided positive points, such as the development of skills, but has caused losses to social and family relationships. The spaces of family coexistence have been replaced by technology, while the distancing and the absence in the others’ lives remain.

Along side benefits, there are losses, and then the balance between both becomes a challenge. The creation of protocols and actions that consider the needs of adolescents can help in the realization of the right to health in the virtual environment, promoting comprehensive health protection and preventive actions.

**It is good to stop for a while**

The participants report below the ways of coping with the negative consequences of using screens.

I think about taking time to get away from this world of screens. I end up spending many hours on this. For example, one thing I would like to do to reduce this is reading, which I really like. (A2)
I think there could be a meeting or a game like not taking the cell phones, or having a box and collecting all the phones [laughs], and having a professional because if it’s just adolescents, they won’t turn off the cell phone, because we can’t get off the phone. (A7)

[...] but, for the teenager, for example, you have to be aware of this use, if they are using too much: Oh! Stop a little! I couldn’t care less! Go read a paper book, not an electronic one, because this business of reading electronic books burns the eyes. (A9)

The adolescents in the study seemed to have difficulties in resisting, stopping or controlling the use of cell phones, where there was a tendency to lose track of time, leaving other activities delayed or unfulfilled.

Adolescents, children and their families need interventions that prioritize education programs about the use of social communication media, since the screens that provide access to the media play a central role in the adolescents’ and children’s lives (18). Schools and Primary Health Care Units are spaces that bring together most of this population that can be reached by health education actions on the theme (19).

Educational practices should promote reflection with adolescents on the advantages, risks and disadvantages of using mobile technology (8). In addition to the interaction with other individuals, behavior also results from the interaction that each person has with himself/herself (19). Thus, by promoting moments of reflection, educational practices allow the resignification of perspectives in relation to online behavior and decision-making in relation to the content to be accessed and/or disseminated.

The processes of signification and resignification help to define the environment where the person works and, therefore (20), have the potential for reducing vulnerabilities, minimizing negative effects and enhancing the benefits of the online environment.

**FINAL CONSIDERATIONS**

Screens bring multiple possibilities in a variety of activities that appeal to the audience of adolescents. Among these opportunities, we can mention the interaction with different people. However, in the face of so many benefits, social media also have the signification of risk subject to coping strategies. Thus, the main significations for the adolescents in the study were related to interaction, multiplicity of activities and possibility of risk.

Health education planning on the theme should include the significations and experience of adolescents and family members in activities that promote reflections on the advantages and risks existing in social media. Based on this, it is suggested that further research be directed toward investigating the perceptions and significations of the use of screens by parents/guardians, since adults should guide adolescents about balance and awareness when using the internet.

The current investigation has limitations resulting from the imposition of social isolation and the prohibition of the use of face-to-face data collection strategies. Despite this, it was possible to perceive some significations attributed by adolescents to the use of screens in everyday life.
da saúde, particularmente relacionados à saúde do adolescente, pode ajudá-los a encontrar alternativas para usar as telas com redução das consequências negativas.


**EL SIGNIFICADO DEL USO DE PANTALLAS ENTRE ADOLESCENTES: CAUSAS Y CONSECUENCIAS**

**RESUMEN**

**Objetivo:** comprender el significado del uso de pantallas asignado por los adolescentes. **Métodos:** el presente estudio fue descriptivo exploratorio, con abordaje cualitativo y referencial teórico-metodológico del interaccionismo simbólico. Participaron adolescentes de una escuela pública de Minas Gerais-Brasil. Los datos fueron recolectados a través de entrevistas y grupos focales realizados en forma online y analizados conforme el análisis temático en el período de agosto a diciembre de 2020. **Resultados:** participaron ocho adolescentes con edades entre 14 y 17 años, que cursaban la enseñanza secundaria y relataron que la pantalla más usada fue el celular. Los significados atribuidos al uso de pantallas estuvieron relacionados a la posibilidad de interacción y práctica por posibilitar la realización de varias actividades. Hubo el reconocimiento de que, ante el uso excesivo, es necesario tener momento alejado de la pantalla. Después del análisis surgieron tres categorías: 1. La pantalla es diversidad; 2. La pantalla es interacción; 3. Es bueno detenerse un poco. **Consideraciones finales:** la investigación ha demostrado que distanciarse de las pantallas es difícil y que la presencia de profesionales de la salud, particularmente involucrados con la salud del adolescente, puede ayudarles a encontrar alternativas para usar las pantallas con reducción de las consecuencias negativas.

**Palabras clave:** Adolescente. Tiempo de Pantalla. Motivación. Ciencias de la Salud.

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