

Original Article

Oliveira AS, Pedrollo LFS, Vedana KGG, Silva AC.

Social networks and streaming services: a cross-sectional study on factors associated with mental health.

Rev Gaúcha Enferm. 2025;46:e20240115.

<https://doi.org/10.1590/1983-1447.20220240115.en>

Social media and streaming services: a cross-sectional study on factors associated with mental health

Redes sociais e serviços de *streaming*: um estudo transversal sobre fatores associados à saúde mental

Redes sociales y servicios de streaming: un estudio transversal sobre factores asociados a la salud mental

Amanda dos Santos Oliveira ^a <https://orcid.org/0009-0005-4012-8193>
Laysa Fernanda Silva Pedrollo ^b <https://orcid.org/0000-0002-0489-7244>
Kelly Graziani Giaccherio Vedana ^b <https://orcid.org/0000-0001-7363-2429>
Aline Conceição Silva ^c <https://orcid.org/0000-0001-5843-2517>

^a Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto, Ribeirão Preto, São Paulo, Brasil

^b Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto, Departamento de Enfermagem Psiquiátrica e Ciências Humanas, Ribeirão Preto, São Paulo, Brasil

^c Universidade de São Paulo, Escola de Enfermagem, Departamento de Enfermagem Materno-Infantil e Psiquiátrica, São Paulo, São Paulo, Brasil

How to cite this article:

Oliveira AS, Pedrollo LFS, Vedana KGG, Silva AC. Redes sociais e serviços de streaming: um estudo transversal sobre fatores associados à saúde mental. Rev Gaúcha Enferm. 2025;46:e20240115. <https://doi.org/10.1590/1983-1447.20220240115.en>

ABSTRACT

Objective: To evaluate the factors associated with suicidal ideation, common mental disorders, dissatisfaction with life and physical appearance, anxiety, and loneliness related to the use of social media and streaming services among Brazilian users. **Method:** A virtual, cross-sectional study was conducted using a convenience sample (n=319). Data were collected through a characterization questionnaire, the Self-Reporting Questionnaire, and the Brazilian Loneliness Scale, and analyzed using descriptive statistics and regression tests. **Results:** Most participants reported using social media and experiencing dissatisfaction with life and physical appearance while accessing these platforms. Suicidal ideation was associated with watching horror or drama series, using dating apps, and dissatisfaction with life when accessing social networks. Behaviors and attitudes related to social media and streaming services were linked to common mental disorders, loneliness, dissatisfaction with life and physical appearance while using social media, and anxiety when disconnecting from

them. **Conclusion:** The use of social media and streaming services was associated with unfavorable mental health outcomes, dissatisfaction with life and physical appearance when accessing these platforms, and the type of series and apps used. These factors should be considered in care planning, educational interventions, technological innovations, and public policies.

Descriptors: Mental Health; Internet Use; Loneliness; Video-Audio Media; Personal Satisfaction.

RESUMO

Objetivo: Avaliar os fatores associados à ideação suicida, transtornos mentais comuns, insatisfação com a vida e aparência, ansiedade e solidão ligados ao uso de redes sociais e serviços de *streaming* em usuários brasileiros. **Método:** Estudo transversal, virtual, realizado por meio de amostra de conveniência (n=319). Foram coletados dados por um questionário de caracterização, do *Self-Reporting Questionnaire* e da Escala Brasileira de Solidão, posteriormente analisados por estatística descritiva e testes de regressão. **Resultados:** A maioria dos participantes utilizava redes sociais e referiu insatisfação com a vida e com a aparência física ao acessá-las. A ideação suicida esteve associada a assistir séries de terror ou drama, utilizar aplicativos de relacionamentos e insatisfação com a vida ao acessar redes. Atitudes e comportamentos ligados às redes sociais e serviços de *streaming* estiveram associados a transtornos mentais comuns, solidão, insatisfação com a vida e aparência física ao acessar redes e ansiedade ao se desconectar. **Conclusão:** O uso de redes sociais e serviços de *streaming* associou-se a desfechos desfavoráveis em saúde mental, insatisfação com a vida e aparência no acesso às redes e tipo de séries e aplicativos utilizados. Esses fatores merecem serem considerados no planejamento de cuidados, intervenções educativas, inovações tecnológicas e políticas públicas.

Descritores: Saúde Mental; Uso da Internet; Solidão; Mídia Audiovisual; Satisfação Pessoal

RESUMEN

Objetivo: Evaluar los factores asociados con la ideación suicida, los trastornos mentales comunes, la insatisfacción con la vida y la apariencia física, la ansiedad y la soledad en relación con el uso de redes sociales y servicios de streaming entre usuarios brasileños. **Método:** Se realizó un estudio transversal, virtual, utilizando una muestra por conveniencia (n=319). Los datos se recolectaron mediante un cuestionario de caracterización, el *Self-Reporting Questionnaire* y la Escala Brasileña de Soledad, y se analizaron mediante estadística descriptiva y pruebas de regresión. **Resultados:** La mayoría de los participantes informaron utilizar redes sociales y experimentar insatisfacción con su vida y apariencia física al acceder a las redes sociales. La ideación suicida se asoció con el visionado de series de terror o drama, el uso de aplicaciones de citas y la insatisfacción con la vida al acceder en estas plataformas. Las actitudes y comportamientos relacionados con redes sociales y servicios de streaming estuvieron vinculados a trastornos mentales comunes, soledad, insatisfacción con la vida y la apariencia física al acceder a estas plataformas, así como ansiedad al desconectarse. **Conclusión:** El uso de redes sociales y servicios de streaming se asoció con resultados desfavorables en la salud mental, insatisfacción con la vida y la apariencia física al interactuar en estas plataformas, además de con el tipo de series y aplicaciones utilizadas. Estos factores deben ser considerados en la planificación de la atención, las intervenciones educativas, las innovaciones tecnológicas y las políticas públicas. **Descritores:** Salud Mental; Uso de Internet; Soledad; Medios Audiovisuales; Satisfacción personal

INTRODUCTION

Social networks and streaming services, marked by significant technological advances, have gained space in everyday life. Each day, millions of people interact, use, and consume content, data, and information that comes from social networks and streaming services. This relationship can be analyzed from various perspectives, whether in the promotion of well-being, as well as in impacts related to mental health issues during the use of these platforms⁽¹⁾.

Indispensable for some, social networks are platforms used for various purposes and objectives by their users, who experience the possibility of shortening distances, constant connection with other people, as well as interaction with thousands of contents available and shared in real-time in the virtual environment⁽²⁾. They are democratic spaces, used regardless of labels and with simple access for all interested parties, a factor that makes them so popular.

Streaming services are digital platforms for transmitting audiovisual content⁽³⁾, such as series, soap operas, films, documentaries, and podcasts, among others. Access to these services, which provide a variety of content, is available upon payment of a monthly fee. With their widespread expansion, streaming services have stood out in contrast to other forms of entertainment that were previously more widely used, such as radio and broadcast television⁽³⁾.

Despite the potential of users' relationship with social networks, findings from a recent systematic review and meta-analysis indicated significant results, as well as positive correlations between problematic use of networks and negative impacts on the mental health of younger users⁽⁴⁾. This reality was also analyzed with streaming services. A systematic review study on excessive consumption behaviors in these services identified impacts related to mental health, including anxiety and loneliness⁽⁵⁾.

Another point of interest in the approaches to social networks and streaming services is related to the experience of the Covid-19 pandemic. With the mitigation measures, especially social distancing, the population needed to adapt interpersonal relationships, maintaining personal, professional, and leisure ties through the use of technologies⁽⁶⁾. In this regard, the readjustment of social relationships enhanced and changed patterns of use and consumption of platforms⁽⁵⁻⁶⁾.

Excessive use of social networks can trigger dependent behaviors and important changes in the maintenance or creation of relationships. One such example is FoMO (Fear of Missing Out), which is related to guilt and the user's feeling of missing out on important

moments and information when not connected to the networks⁽⁷⁾. In addition, issues related to dissatisfaction with physical appearance and even with life, as well as suicidal behaviors, have been identified in the experiences of network users⁽⁸⁻¹⁰⁾.

Regarding streaming services, despite offering new forms of entertainment⁽³⁾, one of the main effects observed is binge-watching⁽⁵⁾. The meaning of this term refers to a behavior socially known as a “marathon”, in which the individual spends hours watching audiovisual content, such as films and series, uninterruptedly in a short period⁽⁵⁾. The findings of a review study on the subject showed positive associations related to binge-watching and mental health issues, especially anxiety, loneliness, insomnia, and even depression⁽⁵⁾.

In Brazil, the expansion of the use of social networks and streaming services by users reinforces the need to pay closer attention to this audience. This reality is proven in numbers since 161.6 million Brazilians aged 10 or over use the Internet, and 83.6% of them use social networks⁽¹¹⁾. Regarding streaming, in 2022, more than 30 million households had access to these services⁽¹²⁾.

Recognizing that Brazilians use social media and streaming services and that the impacts on mental health can generate significant repercussions, the following research question was proposed to better understand the problem: What are the factors associated with suicidal ideation, common mental disorders (CMD), dissatisfaction with life and appearance, anxiety and loneliness linked to social media and streaming services among Brazilian users of these platforms?

Thus, the present study aimed to evaluate the factors associated with suicidal ideation, CMD, dissatisfaction with life and appearance, anxiety and loneliness linked to the use of social networks and streaming services in Brazilian users.

METHOD

Study design

Cross-sectional, descriptive study developed through virtual data collection on Google Forms, carried out between March and December 2020. The study was designed according to the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE).

Participants and data collection

Convenience sampling was used in the study, in a broad virtual collection, free of charge and anonymously. The inclusion criteria were to be Brazilian, resident in Brazil, over 18 years old, and have access to the Internet, social networks, and streaming services. As the platforms analyzed are used by different audiences, of various age groups, no maximum age limit was set for participation. The exclusion criterion was not using social media or streaming services.

The invitation to participate was publicized in open-access groups and communities on Facebook[®] and WhatsApp[®]. The authors' research group's social networks and email were also used for publicity. The invitation contained a brief explanation of the research and a hyperlink to access the online form, with the Free and Informed Consent Form (FICF) available for reading and subsequent agreement. If the FICF was not accepted, the participant was considered to have given up participating in the study.

Collection instruments

The questionnaire to characterize the participants was prepared and tested by the authors of the research prior to its application, to consider possible spelling errors and limitations in its virtual use. The questionnaire was organized into three sessions. In the first, sociodemographic data were collected, such as age, geographic location, affiliation and time dedicated to student or work activities, having a partner, living with other people, religious beliefs and physical activity. In the second, questions related to the use of social networks were collected, such as which social networks were used, period of use, use of networks in social interaction activities, presence of dissatisfaction with life and physical appearance when accessing them and presence of anxiety when not accessing networks. In the third, questions about the use of streaming services, such as the number of episodes of series watched in a single occasion, type of series, feeling of closeness to characters and sadness when finishing a series.

The Self-Reporting Questionnaire (SRQ20), validated for the Brazilian context, aims to measure non-psychotic disorders known as CMDs in a simple manner⁽¹³⁾. The instrument contains 20 self-completion questions, with yes or no answers. Each affirmative answer is equivalent to one point, with a total score of up to 20 points. In the investigation of suicidal ideation in the study, a specific analysis was performed of question 20 of the SRQ

questionnaire, related to the question “Have you thought about ending your life?” The instrument had good internal consistency, with Cronbach's Alpha of 0.86 in its validation⁽¹³⁾.

The UCLA Brazilian Loneliness Scale (UCLA-BR), used in its validated version for the Brazilian context, aims to measure participants' levels of loneliness⁽¹⁴⁾. The UCLA-BR contains 20 questions with self-reported answers on the topic of loneliness, measured using a Likert-type scale, with responses ranging from 0 to 3, where 0 – never, 1 – rarely, 2 – sometimes, and 3 – frequently. In the validation study, the scale showed good internal consistency (Cronbach's Alpha = 0.94)⁽¹⁴⁾.

Data processing and analysis

The collected data were processed in a Microsoft Excel spreadsheet, version 2019, with the exclusion of 20 forms (19 forms from respondents under the age of 18 and one respondent who lived outside Brazil). After the processing, the dependent and independent variables of the study were described using a matrix. The outcome variables were suicidal ideation, CMD, dissatisfaction with life and appearance, anxiety, and loneliness. The data were subjected to descriptive and inferential analysis, with regression model design. The significance level adopted in the analyses was 95.0% ($\alpha = 0.005$).

Since dissatisfaction with life, dissatisfaction with physical appearance, anxiety about being disconnected, CMD, and suicidal ideation were binary variables, we chose to design the Generalized Additive Models for Location, Scale, and Shape (GAMLSS) regression model. For each outcome, the independent variables to be inserted into the models were selected. This process was performed using the generalized Akaike's Information Criterion (AIC). With the models designed, the normality of the residuals was assessed using the Shapiro-Wilk test.

The results obtained indicated that the models were adjusted and adequate, so as to allow the interpretation of the parameters through Odds Ratio (OR). The entire analysis was performed based on the reference category, which does not appear in the model (Intercept). Due to the defined criterion, some variables were selected and integrated into the models even without presenting significant results, a justified aspect, since the integrating variables could interfere with the significance of the others.

The loneliness score was treated numerically. For this purpose, as with the previous variables, the GAMLSS model was designed with the selection of independent variables based on the generalized AIC. However, since it is a numerical variable, the outcome distribution was performed prior to the model, and the negative binomial type was proposed.

In this analysis, the interpretation and presentation of the results obtained were proposed based on the mean score of the variable, through the definition of the relative increase (AR) or relative reduction (RR).

Ethical aspects

The research was approved by the Research Ethics Committee (CEP) under Protocol no. 3,826,305 and CAAE Protocol no. 18807519.1.0000.5393. All stages were developed according to the ethical precepts of CNS Resolution 466/12.

RESULTS

The survey was answered by 319 participants, most of whom were female (70.8%), with a mean age of 26.4 years (Standard deviation = 7.61; Minimum = 17.6; Median = 24.0; Maximum = 62.7), residents of the state of São Paulo (58.5%) and with religious beliefs (70.2%). Most were students (72.7%), without employment contracts (54.2%), without a partner (55.3%), living with other people (88.7%) and practicing physical activities (51.7%). Of the total, 158 participants (49.5%) tested positive for CMD and 88.7% did not mention suicidal ideation. The UCLA mean was 20.99 (Standard deviation = 14.04), with most responses concentrated between never and rarely.

The most used social networks were WhatsApp[®] (99.1%), followed by Instagram[®] (90.3%) and Facebook[®] (75.9%). Most participants (75.9%) reported using the platforms even when accompanied by other people, not feeling dissatisfied with their life when accessing them (62.4%), but feeling dissatisfied with their physical appearance (50.5%). Most participants did not experience symptoms of anxiety when disconnected from social networks (53.9%). Regarding streaming services, most reported watching comedy series (67.9%), followed by mystery or suspense (60.6%) and science fiction or fantasy (55.5%). Most reported feeling close to the characters (57.4%) and feeling sad after finishing a series (82.4%).

In the inferential analyses, participants with employment contracts were 63.42% less likely to have suicidal ideation. Participants who used dating apps were 7.11 times more likely to have suicidal ideation than those who did not. Participants who were dissatisfied with their lives when accessing social media were 3.46 times more likely to have suicidal ideation than those who did not feel dissatisfied. Those who watched horror series were 2.97 times more likely to have suicidal ideation than those who did not watch them. Participants

who watched drama series were 2.60 times more likely to have suicidal ideation than those who did not watch them (Table 1).

Table 1 - Factors associated with suicidal ideation, related to the use of social networks and streaming services, Ribeirão Preto, São Paulo, Brazil, 2023

	Beta (LI LS)	SE Beta	t value	Pr (> t)	OR (LI LS)
(Intercept)	-3.5222 (-4.5361 -2.5083)	0.5173	-6.8089	0.0000	-
Works	-1.0056 (-1.9288 -0.0824)	0.4710	-2.1350	0.0336	0.3658 (0.1453 0.9209)
Use of dating apps	1.9619 (0.9858 2.9380)	0.4980	3.9394	0.0001	7.1125 (2.6799 18.8771)
Dissatisfaction with life	1.2424 (0.406 2.0788)	0.4267	2.9116	0.0039	3.4641 (1.5009 7.9948)
Watches horror series	1.0915 (0.1923 1.9908)	0.4588	2.3791	0.0180	2.9789 (1.2121 7.3211)
Watches drama series	0.9538 (0.0518 1.8559)	0.4602	2.0725	0.0391	2.5957 (1.0531 6.3975)

Note: *Shapiro-Wilk: W = 0.9952, p-value = 0.5193

Source: Elaborated by the authors (2023)

Twitter® users were 2.16 times more likely to have a positive CMD rating than those who did not use it. Participants who reported dissatisfaction with life when they accessed social networks were 2.89 times more likely to have a positive CMD rating. Participants who reported anxiety when disconnected from social networks were 1.95 times more likely to have a positive CMD rating than those who did not report this anxiety (Table 2).

Table 2 - Factors associated with common mental disorders related to the use of social networks and streaming services, Ribeirão Preto, São Paulo, Brazil, 2023

	Beta (LI LS)	SE Beta	t value	Pr (> t)	OR (LI LS)
(Intercept)	-1.7015 (-2.7475 -0.6555)	0.5337	-3.1883	0.0016	-
Partner	-0.9937 (-1.6507 -0.3367)	0.3352	-2.9644	0.0033	0.3702 (0.1919 0.7141)

Religious belief	-0.9950 (-1.6872 -0.3029)	0.3531	-2.8176	0.0052	0.3697 (0.1850 0.7387)
Practice of physical activity	-0.7926 (-1.4172 -0.1681)	0.3186	-2.4875	0.0135	0.4527 (0.2424 0.8453)
Use of <i>f</i> @	0.7731 (0.0486 0.4677)	0.1069	2.4144	0.0165	1.2945 (1.0498 1.5962)
Dissatisfaction with life	1.0618 (0.3876 1.7361)	0.3440	3.0866	0.0022	2,8916 (1.4734 5.6749)
Anxiety when being disconnected	0.6657 (0.0369 1.2946)	0.3208	2.0750	0.0389	1.9459 (1.0376 3.6494)
Watches fiction series	0.8486 (0.2084 1.4889)	0.3266	2.5981	0.0099	2.3365 (1.2317 4.4320)
Loneliness score	0.0882 (0.0611 0.1154)	0.0139	6.3670	0.0000	1,0922 (1.0630 1.1223)

Note: *Shapiro-Wilk: $W = 0.99493$, $p\text{-value} = 0.4679$

Source: Elaborated by the authors (2023)

Users of streaming services who watched fiction or fantasy series were 2.34 times more likely to have a positive CMD classification than those who did not watch series on this theme. For each additional point obtained in the total loneliness score, the chance of a positive CMD classification increased by 1.09 times (Table 2).

Participants with life dissatisfaction were approximately 5.79 times more likely to report dissatisfaction with their physical appearance when accessing social networks compared to those who did not exhibit this behavior (OR = 5.7888; LI = 3.2889; LS = 10.189; t value = 0.0000). Participants who reported anxiety when not connecting to networks were approximately 1.87 times more likely to report life dissatisfaction during access than people who reported not feeling anxiety (OR = 1.8671; LI = 1.0545; LS = 3.3061; t value = 0.0331) (Data not shown). The Shapiro-Wilk test showed a result of 0.99621, with a p -value of 0.7258.

Female participants were 2.12 times more likely to report dissatisfaction with their physical appearance than male participants. Those who used social media in the presence of other people were 2.00 times more likely to report dissatisfaction with their physical appearance than those who did not engage in this behavior. For each additional year of age, the chance of reporting dissatisfaction with appearance was 5.77% lower. Participants who

reported practicing physical activity were 40.14% less likely to report dissatisfaction with their appearance than participants who did not (Table 3).

Table 3 - Factors associated with dissatisfaction with physical appearance during the use of social networks. Ribeirão Preto, São Paulo, Brazil, 2023

	Beta (LI LS)	SE Beta	t value	Pr(> t)	OR (LI LS)
(Intercept)	1.0791 -(0.3350 2.4932)	0.7215	1.4957	0.1359	
Female gender	0.7538 (0.2047 1.3028)	0.2802	2.6905	0.0076	2.1250 (1.2271 3.6797)
Age	-0.0594 (-0.0968 -0.0220)	0.0191	-3.1150	0.0020	0.9423 (0.9078 0.9782)
1 to 2 hours of social media use/day	-0.5131 (-1.0153 -0.0110)	0.2562	-2.0030	0.0462	0.5986 (0.3623 0.9890)
2 to 4 hours of social media use/day	0.0398 (-0.7111 0.7907)	0.3831	0.1040	0.9172	1.0406 (0.4911 2.2050)
More than 4 hours of social media use/day	0.1801 (-0.5344 0.8945)	0.3645	0.4940	0.6217	1,1973 (0.5860 2.4461)
Access the social network in the presence of other people	-0.4587 (-1.2227 0.3053)	0.3898	-1.1768	0.2403	0.6321 (0.2944 1.3570)
Maximum of 1 to 2 hours without using social networks	0.6963 (0.0985 1.2942)	0.3050	2,2829	0.0232	2,0064 (1.1035 3.6480)
Maximum of 2 to 4 hours without using social networks	-0.4450 (-1.2964 0.4065)	0.4344	-1.0243	0.3066	0.6408 (0.2735 1.5015)
Maximum of 4 to 8 hours without using social networks	-0.0862 (-0.9459 0.7735)	0.4386	-0.1966	0.8443	0.9174 (0.3883 2.1673)
Maximum of over 8 hours without using social media	-0.6689 (-1.5251 0.1874)	0.4369	-1.5311	0.1269	0.5123 (0.2176 1.2061)
	-0.0084 (-0.8986 0.8819)	0.4542	-0.0184	0.9853	0.9917 (0.4071 2.4154)

Note: *Shapiro-Wilk: $W = 0.99695$, $p\text{-value} = 0.8662$

Source: Elaborated by the authors (2023)

Participants who used social media in the presence of other people were 2.75 times more likely to experience anxiety when disconnected than those who did not use it regularly. Those who used social media between 2 and 4 hours a day were 2.39 times more likely to experience anxiety when disconnected than those who used it for up to 1 hour a day. Participants who were connected for more than 4 hours were 6.18 times more likely to experience anxiety when disconnected than those who were connected for up to 1 hour (Table 4).

Table 4 - Factors associated with anxiety when disconnected from social media use. Ribeirão Preto, São Paulo, Brazil, 2023

	Beta (LI LS)	SE Beta	t value	Pr(> t)	OR (LI LS)
(<i>Intercept</i>)	-1.6582 (-2.7341 -0.5822)	0.5490	-3.0206	0.0028	
1 to 2 hours of social media use/day	0.0685 (-0.7288 0.8658)	0.4068	0.1684	0.8664	1.0709 (0.4825 2.3770)
2 to 4 hours of social media use/day	0.8695 (0.1156 1.6235)	0.3847	2.2605	0.0246	2.3858 (1.1226 5.0706)
More than 4 hours of social media use/day	1.8215 (0.9919 2.6511)	0.4233	4.3034	0.0000	6.1813 (2.6964 14.1701)
Access the social network in the presence of other people	1.0104 (0.3435 1.6772)	0.3403	2.9694	0.0032	2.7466 (1.4098 5.3508)
Dissatisfaction with appearance	0.1833 (-0.3682 0.7348)	0.2814	0.6514	0.5153	1.2012 (0.6920 2.0851)
Maximum of 1 to 2 hours without using social networks	-0.3907 (-1.3112 0.5299)	0.4697	-0.8317	0.4063	0.6766 (0.2695 1.6988)
Maximum of 2 to 4 hours without using social networks	-1.2056 (-2.1348 -0.2765)	0.4741	-2.5431	0.0115	0.2995 (0.1183 0.7585)
Maximum of 4 to 8 hours without using social networks	-0.8317 (-1.7634 0.1000)	0.4754	-1.7495	0.0813	0.4353 (0.1715 1.1052)
Maximum of over 8 hours without using social media	-1.4514 (-2.4400 -0.4629)	0.5044	-2.8777	0.0043	0.2342 (0.0872 0.6295)
Feeling of closeness to	1,3715	0.2930	4.6803	0.0000	3,9413

series characters (0.7972 | 1.9458) (2.2192 | 6.9996)

Note: *Shapiro-Wilk: W = 0.99416, p-value = 0.3397

Source: Elaborated by the authors (2023)

Participants who were disconnected from social media for 2 to 4 hours were 70.00% less likely to experience anxiety due to this disconnection than those who were disconnected for less than 1 hour. Furthermore, those who were disconnected from social media for periods longer than 8 hours were 76.58% less likely to experience anxiety than participants who were disconnected for less than 1 hour. Regarding the findings from streaming services, participants who felt close to characters in streaming series were 3.94 times more likely to experience anxiety than those who did not mention proximity (Table 4).

Those who practiced physical activity had a 16.92% reduction in the average total loneliness score compared to those who did not. Instagram® users had a 35.64% reduction in the average total loneliness score compared to those who did not use it. In contrast, people who were dissatisfied with life when accessing social networks had a 27.81% increase in the average total loneliness score compared to people who were satisfied with life (Table 5).

Table 5 – Factors associated with loneliness and linked to the use of social networks and streaming services. Ribeirão Preto, São Paulo, Brazil, 2023

	Beta (LI LS)	SE Beta	t value	Pr(> t)	AR (LI LS)
(Intercept)	2.8561 (2.5426 3.1695)	0.1599	17.8586	0.0000	
Practice of physical activity	-0.1854 (-0.3438 -0.0271)	0.0808	-2.2954	0.0225	0.8308 (0.7091 0.9733)
Using Instagram®	-0.4406 (-0.7111 -0.1701)	0.1380	-3.1924	0.0016	0.6436 (0.4911 0.8436)
Dissatisfaction with life	0.2454 (0.0643 0.4265)	0.0924	2.6566	0.0084	1.2781 (1.0665 1.5318)
Dissatisfaction with appearance	0.2493 (0.0749 0.4237)	0.0890	2.8016	0.0054	1.2831 (1.0778 1.5275)
Anxiety when being disconnected	0.2164 (0.0483 0.3845)	0.0858	2.5234	0.0122	1.2416 (1.0495- 1.4689)

Sequence of episodes watched	0.0439 (0.0024 0.0854)	0.0212	2.0714	0.0392	1.0448 (1.0024 1.0891)
Watches action series	-0.1950 (-0.3587 -0.0312)	0.0835	-2.3338	0.0203	0.8228 (0.6986 0.9692)
Sadness at the end of a series	0.3089 (0.0777 0.5402)	0.1180	2.6185	0.0093	1.3620 (1.0808 1.7163)

Note: *Shapiro-Wilk: W = 0.99129, p-value = 0.8886

Source: Elaborated by the authors (2023)

People who were dissatisfied with their physical appearance while accessing social networks had a 28.31% increase in the average total loneliness score compared to those who were satisfied with their appearance. Participants who experienced anxiety when disconnected from social networks had a 24.16% increase in the average total loneliness score (Table 5).

Regarding streaming services, people who watched action or police series showed a 17.72% reduction in the average score of the total loneliness score. However, for each consecutive episode that people watched, there was a 4.48% increase in the average score of the total loneliness score. Those who felt sad after finishing a series had a 36.20% increase in the average score of the total loneliness score compared to people who did not feel sad (Table 5).

DISCUSSION

Several factors may be associated with users' use of social media and streaming services, with an emphasis on those related to well-being and mental health. In addition, the experience of stressful situations, such as the Covid-19 pandemic, has also resulted in more extensive impacts on the population's social experiences⁽⁶⁾, with changes in user patterns and engagement.

Recent systematic reviews on the problems and harms of using social media and streaming platforms describe results from several countries, especially in North America, Asia, and Europe^(1,4-5,15). However, there is a lack of mentions related to the reality of Latin American populations, such as Brazilians. Thus, the results obtained in this study present new perspectives on the topic in a previously little-researched audience.

In the profile of the participants, characteristics related to age and gender were similar to the findings of previous studies. A scoping review with 114 studies on the use of social

networks and mental health found that more than 70.0% of the participants included were adults up to 35 years old, while in a meta-analysis with 18 studies, 88.89% of the participants were female^(4,15). Regarding streaming services, the age range analyzed in a systematic review with 8077 participants was broader, between 18 and 68 years old, and approximately 63.0% of the participants were female⁽⁵⁾.

As for the networks, WhatsApp[®] is the most used in Brazil⁽¹⁶⁾, which was also cited by the study participants. Instagram[®], focused on sharing audiovisual content, was also referred to by most participants. This characteristic is remarkable since a Spanish study with young adults pointed to negative impacts related to physical appearance and self-image in individuals who used Instagram[®] for longer periods⁽¹⁷⁾.

In the present study, most participants reported dissatisfaction with their physical appearance when accessing social networks. Also, female participants were more likely to report dissatisfaction with their physical appearance. The understanding and relationship that each person has with their image change over the years; however, some factors can be harmful, especially concerning body dissatisfaction when using social networks^(9,17).

A review study conducted by Australian researchers emphasized that social networks are related to comparison processes by users, mainly in body aspects, in addition to being a space for constant search for validation, with emphasis on negative repercussions on users⁽⁹⁾. These include decrease in satisfaction with one's appearance and self-esteem, development of disorders, especially eating disorders, mood swings, and self-assessment⁽¹⁸⁻¹⁹⁾. According to a study with 220 young female university students who use social networks, the effects can be even more intense concerning body dissatisfaction among women⁽¹⁸⁾.

The chances of showing dissatisfaction with appearance decreased in older people, which is in line with a cohort study designed by North American researchers, in which greater dissatisfaction with physical appearance and even higher rates of loneliness were identified in younger participants, when compared to older individuals⁽¹⁹⁾. These aspects may be influenced by imposed social standards and the relationship of appreciation of health issues experienced in the aging process⁽¹⁹⁾.

Most participants denied feeling dissatisfied with life when using social media, but positive associations were identified regarding dissatisfaction with physical appearance and suicidal ideation. The understanding of life satisfaction is multifactorial^(8,20), and in the virtual environment, it can be linked to aspects related to appearance and image, established relationships, communication and content accessed and consumed⁽²⁰⁾. Despite the description

in the scientific literature of interventions to improve life satisfaction in social media users, whether through therapy, abstinence and limiting the use of social media, the effects observed in these proposals are still little studied and often focused on specific audiences⁽²¹⁾.

Dissatisfaction with life was also associated with anxiety about being disconnected. One of the main aspects studied in recent years regarding the link between disconnection from social networks and the feelings experienced by users is related to the fear of missing out. FoMO is considered an indicator of users' dependence on social networks, with positive associations to anxiety and also loneliness described⁽⁷⁾. The results of the study by Deniz⁽²²⁾ with university students from Turkey, aged 18-32 years, confirmed the hypothesis that higher levels of FoMO resulted in increased life dissatisfaction.

Addictive behaviors on streaming platforms should also be analyzed, especially practices in which users spend a significant amount of time in front of screens, such as binge-watching. This practice has been associated with negative effects, such as anxiety and loneliness⁽⁵⁾.

Regarding the findings on suicidal ideation, the use of dating apps was associated with an increased chance of the participant exhibiting this behavior. Although the scientific literature on the use of dating apps does not present robust results regarding suicidal behavior, results from a cross-sectional study with 437 Australians showed positive associations between the use of apps and the experience of various impacts, with emphasis on anxiety and low self-esteem⁽²³⁾.

Streaming services should also be closely monitored. Findings from a Spanish study on the influence of the media on suicide highlight the need to control the dissemination of harmful content on these services, especially in series and films, which can increase the risk of contagion among users, also known as the Werther Effect⁽²⁴⁾.

Among other issues related to suicidal ideation, in a study with young Portuguese adults who used social networks, female participants who did not practice physical activities had higher levels of suicidal ideation when compared to participants who did⁽²⁵⁾. In the present study, ideation was not associated with the practice of physical activities, however, those who practiced felt more satisfied with their physical appearance compared to those who did not.

Using social media when other people were present increased the chances of participants feeling dissatisfied with their physical appearance. Although users commonly use social media in a non-shared way, this finding reinforces that satisfaction can also be associated with socialization processes and the way users perceive themselves in these

situations. Furthermore, a study with 437 participants from an educational institution in Australia reinforced that using social media in the presence of other people resulted in negative associations with well-being and personal interaction⁽²⁶⁾.

Regarding loneliness, even with a balance between the associated factors, it is noteworthy that the scores on the loneliness scale had increases in associations related to anxiety when disconnected, dissatisfaction with life and physical appearance, and feelings and sensations related to a series or film. Loneliness is understood as a condition that can lead to social withdrawal of an individual, even in situations where other people are close and/or nearby, with effects that can impact mental health⁽²⁷⁾.

A survey of 1,649 adults from countries in North America, Europe, and Oceania analyzed positive associations between higher levels of social media use and increased loneliness⁽²⁸⁾ Regarding streaming services, the results of a study by Italian researchers highlight other points of attention, such as loneliness related to binge-watching practices, the desire to escape from real-world experiences, and even identifying behaviors, especially with fictional characters⁽²⁹⁾.

The use of Twitter[®], watching fiction or fantasy series, dissatisfaction with life when accessing social networks, anxiety when disconnected, and loneliness were positively associated with greater chances of the participant presenting CMD. This finding also corroborates the understanding that social networks and streaming services can play a negative role and influence on the lives of users, especially in outcomes related to mental health and well-being^(1-2,5).

Therefore, the use of social networks and streaming services permeates a thin line when it comes to the effects and repercussions on mental health. The identification of factors associated with this use highlights challenging realities, regarding the training of health professionals with support for mental health care, especially in the case of specialist nurses. Thus, the results analyzed reinforce that the construction of skills related to the digital age by health professionals is not only a necessity, but a reality that must be part of processes developed in the field of care, teaching and research⁽³⁰⁾.

This study has substantial limitations. Since it is a cross-sectional approach, questions about the temporality of events are limited. There are also limitations regarding the sample size, type of sampling, and the data collection period, which coincided with the Covid-19 pandemic period. Further research on the subject should be carried out to investigate these factors based on representative samples, comparing experiences between the pandemic and

post-pandemic periods, involving the work of health professionals in caring for users, through study designs that go beyond inferences.

CONCLUSION

The present study evaluated factors associated with suicidal ideation, CMD, dissatisfaction with life and appearance, anxiety, and loneliness linked to the use of social networks and streaming services in Brazilian users. Most participants used social networks and reported dissatisfaction with their lives and physical appearance when accessing social networks.

Suicidal ideation was associated with watching horror or drama series, using dating apps, and dissatisfaction with life when accessing social networks. Employment was a protective factor against suicidal ideation.

Screening for common mental disorders was higher among Twitter[®] users, people with higher scores on the loneliness scale, who reported anxiety when disconnecting from social networks, dissatisfaction with life when accessing social networks, and people who watched fiction series or fantasy.

Loneliness was associated with anxiety when disconnecting from social networks, dissatisfaction with life and physical appearance when accessing social networks, watching consecutive episodes of streaming series, and feeling sad when finishing a series. On the other hand, loneliness scores were lower among those who practiced physical activity, Instagram[®] users, and people who watched action or police series.

Life dissatisfaction was associated with dissatisfaction with physical appearance and anxiety when disconnecting from social networks. Dissatisfaction with physical appearance was associated with being female, using social networks when in the presence of other people, younger age, and a sedentary lifestyle. Anxiety when disconnecting from social networks was greater among participants who used social networks in the presence of other people, spent more hours daily using social networks, spent less time offline, and felt close to characters in streaming series.

The approach of this study portrays a period in which social issues were significantly impacted by the Covid-19 pandemic, especially with regard to the relationships established by users on digital platforms.

Finally, the study highlights outcomes experienced daily by users of social networks and streaming services, which should be explored, especially considering the context in which millions of Brazilians use these platforms. Thus, the results also contribute to

reflection on the need for more targeted mental health care for those who became vulnerable due to experiences on social networks and streaming services.

REFERENCES

1. Khalaf AM, Alubied AA, Khalaf AM, Rifaey AA. The impact of social media on the mental health of adolescents and young adults: a systematic review. *Cureus*, 2023;15(8): e42990. <https://doi.org/10.7759/cureus.42990>
2. Bekalu MA, Sato T, Viswanath K. Conceptualizing and measuring social media use in health and well-being studies: systematic review. *J Med Internet Res*. 2023;25:e43191. <https://doi.org/10.2196/43191>
3. Broeck WV, Pierson J, Lievens B. Video-On-Demand: towards new viewing practices?. *Observatorio (OBS*)* [Internet]. 2007[cited 2024 Mar 10];1(3). Available from: <https://obs.obercom.pt/index.php/obs/article/view/142>
4. Shannon H, Bush K, Villeneuve PJ, Hellems KGC, Guimond S. Problematic social media use in adolescents and young adults: systematic review and meta-analysis. *JMIR Ment Health*. 2022;9(4):e33450. <https://doi.org/10.2196/33450>
5. Alimoradi Z, Jafari E, Potenza MN, Lin CY, Wu CY, Pakpour AH. Binge-watching and mental health problems: a systematic review and meta-analysis. *Int J Environ Res Public Health*, 2022;19(15):9707. <https://doi.org/10.3390/ijerph19159707>
6. Lee Y, Jeon YJ, Kang S, Shin JI, Jung YC, Jung SJ. Social media use and mental health during the COVID-19 pandemic in young adults: a meta-analysis of 14 cross-sectional studies. *BMC Public Health*, 2022;22(1):995. <https://doi.org/10.1186/s12889-022-13409-0>
7. Liu X, Liu T, Zhou Z, Wan F. The effect of fear of missing out on mental health: differences in different solitude behaviors. *BMC Psychol*. 2023;11(1):141. <https://doi.org/10.1186/s40359-023-01184-5>
8. Çiftci N, Yıldız M. The relationship between social media addiction, happiness, and life satisfaction in adults: analysis with machine learning approach. *Int J Ment Health Addict*. 2023;21:3500–16. <https://doi.org/10.1007/s11469-023-01118-7>
9. Rounsefell K, Gibson S, McLean S, et al. Social media, body image and food choices in healthy young adults: A mixed methods systematic review. *Nutr Diet*, 2020;77(1):19-40. <https://doi.org/10.1111/1747-0080.12581>
10. Nesi J, Burke TA, Bettis AH, et al. Social media use and self-injurious thoughts and behaviors: A systematic review and meta-analysis. *Clin Psychol Rev*, 2021;87:102038. <https://doi.org/10.1016/j.cpr.2021.102038>
11. Instituto Brasileiro de Geografia e Estatística. PNAD Contínua 161,6 milhões de pessoas com 10 anos ou mais de idade utilizaram a Internet no país, em 2022 (Internet). IBGE Estatísticas Sociais, 2023 [cited 2024 jul 03]. Available from: <https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/38307-161-6-milhoes-de-pessoas-com-10-anos-ou-mais-de-idade-utilizaram-a-internet-no-pais-em-2022#:~:text=A%20propor%C3%A7%C3%A3o%20de%20pessoas%20com,62%2C1%25%20em%202022>

12. Instituto Brasileiro de Geografia e Estatística. PNAD Contínua Em 2022, streaming estava presente em 43,4% dos domicílios com TV (Internet). IBGE Estatísticas Sociais, 2023 [cited 2024 jul 03]. Available from: <https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/38306-em-2022-streaming-estava-presente-em-43-4-dos-domicilios-com-tv>
13. Gonçalves DM, Stein AT, Kapczinski. Avaliação de desempenho do Self-Reporting Questionnaire como instrumento de rastreamento psiquiátrico: um estudo comparativo com o Structured Clinical Interview for DSM-IV-TR. *Cad. Saúde Pública*, 2008; 24(2):380-390. <https://doi.org/10.1590/S0102-311X2008000200017>
14. Barroso, SM, Andrade, VS, Midgett, AH, Carvalho, RGN. Evidências de validade da Escala Brasileira de Solidão UCLA. *J. bras. Psiquiatr.*, 2016; 65(1):68-85. <https://doi.org/10.1590/0047-2085000000105>
15. Koh GK, Ow Yong JQY, Lee ARYB, Ong YBS, Yau CE, Ho CSH et al. Social media use and its impact on adult's mental health and well-being: a scoping review. *Worldviews Evid Based Nurs*, 2024. <https://doi.org/10.1111/wvn.12727>
16. Statista.WhatsApp in Brazil - Statistics & Facts (Internet). Statista Internet Communications, 2023 [cited 2024 jul 03]. Available from: <https://www.statista.com/topics/7731/whatsapp-in-brazil/#topicOverview>
17. Alfonso-Fuertes I, Alvarez-Mon MA, Sanchez Del Hoyo R, Ortega MA, Alvarez-Mon M, Molina-Ruiz RM. Time spent on instagram and body image, self-esteem, and physical comparison among young adults in Spain: observational study. *JMIR Form Res*, 2023;7:e42207. <https://doi.org/10.2196/42207>
18. Tiggemann M, Hayden S, Brown Z, Veldhuis J. The effect of Instagram "likes" on women's social comparison and body dissatisfaction. *Body image*, 2018;26:90–97. <https://doi.org/10.1016/j.bodyim.2018.07.002>
19. Barnett MD, Moore JM, Edzards SM. Body image satisfaction and loneliness among young adult and older adult age cohorts. *Archives of gerontology and geriatrics*. 2020;89:104088. <https://doi.org/10.1016/j.archger.2020.104088>
20. Chnaider J, Santos-Vitti L, Nakano, TC. Effects of social media use on life satisfaction, optimism, and affect. *Revista Psicología*, 2022;31(2). <https://doi.org/10.5354/0719-0581.2022.57702>
21. Plackett R, Blyth A, Schartau P. The impact of social media use interventions on mental well-being: systematic review. *J Med Internet Res*, 2023;25:e44922. <https://doi.org/10.2196/44922>
22. Deniz M. Fear of missing out (FoMO) mediate relations between social self-efficacy and life satisfaction. *Psicol Reflex Crit*, 2021;34(1):28. <https://doi.org/10.1186/s41155-021-00193-w>
23. Holtzhausen N, Fitzgerald K, Thakur I, Ashley J, Rolfe M, Pit SW. Swipe-based dating applications use and its association with mental health outcomes: a cross-sectional study. *BMC Psychol*, 2020;8(1):22. <https://doi.org/10.1186/s40359-020-0373-1>
24. Guinovart M, Cobo J, González-Rodríguez A, Parra-Urbe I, Palao D. Towards the influence of media on suicidality: a systematic review of Netflix's 'Thirteen Reasons Why'. *Int J Environ Res Public Health*, 2023;20(7):5270. <https://doi.org/10.3390/ijerph20075270>

25. Mendes L, Leonido L, Morgado E. Correlation between suicidal ideation and addiction to various social media platforms in a sample of young adults: the benefits of physical activity. *Societies*, 2023;13:82. <https://doi.org/10.3390/soc13040082>
26. Lee M, Murphy K, Andrews G. Using media while interacting face-to-face is associated with psychosocial well-being and personality traits. *Psychol Rep*, 2019;122(3):944-967. <https://doi.org/10.1177/0033294118770357>
27. Pop LM, Iorga M, Iurcov R. Body-Esteem, self-esteem and loneliness among social media young users. *International journal of environmental research and public health*. 2022;19(9), 5064. <https://doi.org/10.3390/ijerph19095064>
28. Bonsaksen T, Ruffolo M, Price D, et al. Associations between social media use and loneliness in a cross-national population: do motives for social media use matter?. *Health Psychol Behav Med*, 2023;11(1):2158089. <https://doi.org/10.1080/21642850.2022.2158089>
29. Gabbiadini A, Baldissarri C, Valtorta RR, Durante F, Mari S. Loneliness, escapism, and identification with media characters: an exploration of the psychological factors underlying binge-watching tendency. *Front Psychol*, 2021;12:785970. <https://doi.org/10.3389/fpsyg.2021.785970>
30. Longhini J, Rossetini G, Palese A. Digital Health competencies among health care professionals: systematic review. *J Med Internet Res*, 2022;24(11):e43721. <https://doi.org/10.2196/43721>

Data Availability: <https://doi.org/10.48331/scielodata.F7C0LM>

Conceptualization: Amanda dos Santos Oliveira, Kelly Graziani Giacchero Vedana

Data curation: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Formal analysis: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Research: Amanda dos Santos Oliveira, Kelly Graziani Giacchero Vedana

Methodology: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Project management: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Supervision: Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Visualization: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Writing - original draft: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

Writing - proofreading and editing: Amanda dos Santos Oliveira, Laysa Fernanda Silva Pedrollo, Kelly Graziani Giacchero Vedana, Aline Conceição Silva

The authors declare that there is no conflict of interest.

Corresponding author:

Amanda Santos Oliveira

Email: as_oliveira@live.com

Received: 04.14.2024

Approved: 11.01.2024

Associate Editor:

Heloisa Garcia Claro Fernandes

Editor-in-Chief:

João Lucas Campos de Oliveira