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Psychometric Properties of the Viral Internet Challenge Scale in a Sample of Argentine Adolescents

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Abstract

Relationship, information, and communication technologies (RICTs) have generated new behaviors. One of these is viral challenges on the Internet, which are very common among adolescents. Therefore, the present study aimed to explore the psychometric properties of the only existing scale to evaluate them in a sample of Argentine adolescents. For this purpose, a sample of 848 adolescents from four secondary schools in Argentina, enrolled in grades 1 through 6, was formed. Forty-eight percent were male, 51% female, and the remainder were gender non-binary (1%). They completed the Ortega-Barón et al.[AQ: 5] Viral Internet Challenges Scale (VICH-S), the Bergen Instagram Addiction Scale, and the Lam et al. Internet Addiction Scale, and demographic questions. Results revealed evidence of a two-factor structure similar to the VICH-S in Spain, adequate internal consistency, and concurrent validity with Instagram and internet addiction. These results suggest that the scale is a valid and reliable tool for measuring viral challenges.

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Keywords
challenges, viral, internet, scale, adolescence

Résumé
Las tecnologías para la relación, información y comunicación (TRICs) han generado nuevas conductas. Una de ellas son los retos virales en internet que son muy frecuente en los adolescentes. De este modo, el presente estudio tuvo como objetivo explorar las propiedades psicométricas de la Escala de Retos Virales en Internet de Ortega-Barón et al. -la única existente para evaluar esta conducta- en una muestra de adolescentes argentinos. Para este fin, se constituyó una muestra de 848 adolescentes de cuatro escuelas secundarias de la Argentina con edades de 11 a 17 años. El 48% masculino, el 51% femenino y el resto de género no binario (1%). Contestaron la escala de Retos Virales en Internet (VICH-S) de Ortega-Barón et al. (2022), la Escala de Adicción a Instagram de Bergen y la Escala de Adicción a Internet de Lam et al., como preguntas demográficas. Los resultados demostraron evidencia una estructura factorial de dos factores similares a la VICH-S en España, adecuada consistencia interna y validez concurrente con la adicción a Instagram e internet. Estos resultados indicarían que la escala es una herramienta válida y confiable para medir los retos virales.[AQ: 6]

Palabras clave
Retos, virales, internet, escala, adolescencia

Introduction

Relational, information, and communication technologies (RICs) have made notable progress in the last decade by incorporating aspects of continuous interaction and bonding (Marta-Lazo & Gabelas-Barroso, 2023). Regarding this interactive aspect, social networks play a central role, as they have become increasingly popular among all individuals in recent times (Verduyn et al., 2020), particularly in adolescents. Among adolescents, Facebook remains very popular, but there has been a shift toward platforms such as TikTok and Instagram, where the latter has grown the most since the pandemic, particularly among younger users (Cauberghe et al., 2021; Turner & Ordonia, 2023). In recent times, Instagram has maintained a higher percentage of active users compared to Facebook, showing that it generates greater addiction than other social networks and has a greater negative impact on mental health (Limniou et al., 2022). Although social networks allow great advances at the levels of bonding and

communication (Spottswood & Wohn, 2020), several studies also indicate that they can cause addiction (Haidt, 2024; Kuss & Griffiths, 2011) and negatively impact various life areas (La Barbera et al., 2009; Vaghefi et al., 2020). Thus, social networks have given rise to negative behaviors, such as trolling, grooming, and cyberbullying, among others (Resett & Gonzalez Caino, 2019), primarily due to excessive Internet connection and the addiction they generate (Ortega-Barón et al., 2024).

It has been shown that risk behaviors (Arnett, 2022 **[AQ: 7]**; Steinberg, 2018 **[AQ: 8]**), such as aggressiveness, eating disorders, and antisocial behavior, among others (Facio et al., 2006 **[AQ: 9]**), increase during adolescence, and that challenges are frequent during this life stage (Ortega-Barón et al., 2022). Viral challenges on the Internet constitute a high-risk behavior, primarily in adolescents. These refer to actions proposing that individuals record themselves performing some challenge to disseminate it, in turn, to other users through different platforms and social networks, like TikTok, YouTube, WhatsApp, and Instagram, among others, so that they too will perform it (Carriedo et al., 2020; Gordo, 2020; Jacquier, 2019). When users post videos of themselves performing these challenges, the videos become massive, and more individuals repeat them due to their viralization (Feijoo et al., 2024). With the rise and popularity of influencers and digital content creators, these challenges have also increased. However, unlike other problematic digital behaviors that affect minors—such as cyberbullying or grooming—there is less research. For example, in Google Scholar, if one seeks the terms "Internet viral challenges in adolescents," only 50,900 entries emerge versus 123,000 for the terms "cyberbullying in adolescents." In the Spanish language, there is even less literature on viral challenges on the Internet, with only 11,900 publications.

Depending on the interest aroused by the challenge, it sometimes goes viral due to its massive dissemination on the Internet and human beings' great capacity for social contagion and seeking approval, especially in adolescence (Haidt, 2024; Saboia et al., 2020). In this sense, Instagram, along with Facebook, is one of the most frequently used social networks for young people to communicate in nations with a high level of human development, such as the United States (Auxier & Anderson, 2021), in the general population (Hirose, 2025). It is estimated that Instagram has 25% of users (OpenAI, 2025), while TikTok—one of the most prominent online platforms in viral challenges—as more than 32% of users aged between 10 and 19 (Omar & Dequan, 2020). In this regard, the *likes* and the sharing of publications introduced by social networks have been suggested to be detrimental to adolescents, increasing the amount of time they spend on social networks (Haidt, 2024).

Not all challenges are the same, nor do they involve the same actions. There is a wide variety of challenges, which justifies the need to classify them appropriately (Ortega-Barón et al., 2022). Mahadevaiah and Nayak (2018) [AQ: 10] proposed two general categories: harmless and damaging or harmful. In harmless challenges, there is no danger, and participation is simple; they are performed for entertainment. However, harmful challenges are negative and pose a significant risk to users. Along the same lines, Juárez-Escribano (2019) classified viral challenges on the Internet in greater detail, aimed at preventive actions:

1. **Social challenges.** These are interactive challenges that do not represent any danger to the participants and, in general, have a social, recreational, or family component. An example is the *Mannequin*, which consists of recording a group scene in a motionless posture, or peeling an egg without breaking its membrane, or *Fire is Lava*, in which you must climb up on or jump toward an object without touching the floor.
2. **Solidarity challenges.** Their purpose is to raise awareness of a particular social cause, help others, or encourage positive behaviors. An example is showing a dirty river or lake before and after cleaning it, or helping an older person cross the street.
3. **Uncivil or tasteless challenges.** They are not dangerous, but they are considered disrespectful or improper. For example, a person pretends they are putting an egg inside a water bottle to throw the liquid in another person's face when they look, or throwing food in another person's face.
4. **Dangerous or risky challenges.** These can put people's lives or physical or psychological integrity at risk, or expose their privacy. For example, the *Blue Whale* challenge, which consists of a chain of challenges that include acts of self-harm and that culminate in the person's suicide, or challenges that are not so extreme but are dangerous to one's physical and psychological integrity, such as going many days without sleep

Earlier this year, in Godoy Cruz, Argentina, an aberrant event happened in which a group of 13-year-old teenagers performed the viral challenge called *Chifla, Chifla*, which consisted of pulling down another teenager's pants and touching his penis and testicles. The event occurred in the classroom in the presence of the teacher, who claimed not to have seen the event, and it culminated in the sexual abuse of the minor, as reported in the newspaper of that country (Pagina 12, 2025).

It should be noted that, although most of the challenges are harmless, in recent years, it has become popular to perform extremely dangerous challenges (i.e., Jacquier, 2019), such as the *Blue Whale*, which can generate physical damage to the individuals (Gámez Guadix, 2023). Thus, many viral challenges can generate self-harm, psychological damage, or even death, as Mahadevaiah and Nayak (2018) pointed out. In 2021, a family in the United States denounced TikTok for the *Black Out* challenge, in which their 10-year-old daughter died after trying to perform it (Pantallas Amigas, 2022). This challenge consists of the person trying to black out, for example, using a belt or a similar object to suffocate until losing consciousness. Low self-esteem, anxiety problems, antisocial behavior, and fear of being ignored or excluded are some of the negative effects on mental health that are present in adolescents who participate in these challenges (Dempsey et al., 2019; Yen et al., 2012). A study in Spain with adolescents indicated that the most frequent challenges were social (80.3%), followed by solidarity (20.6%), with an 8% incidence of dangerous challenges (Ortega-Barón et al., 2022).

Viral challenges can be very attractive to teenagers and can generate many users who will try to perform them. Various studies indicated that one of the main reasons why viral challenges on the Internet are so popular is adolescents' need for social belonging (Burgess et al., 2018; Ferreira-Deslandes et al., 2020; Shrof et al., 2020). Feeling accepted and included by peers is essential for positive development, especially in adolescence (Cava et al., 2011) and it has been shown that peers and friends contribute more to psychosocial development than the school and family (Rubin et al., 1998). In this sense, peers contribute to developing social skills, intimacy, identity, and sexuality, among others (Rubin et al., 2006; Steinberg, 2018). Thus, viral challenges become a means through which adolescents can feel connected to each other (Anderson, 2020; Burgess et al., 2018), considering that social networks imply socialization and a massive audience (Haidt, 2024). Although peer influence can be positive, it can also become negative (Arnett, 2022). In this sense, the mechanisms of social contagion and the lack of digital critical thinking in adolescents are risk factors for negative behaviors on the Internet, such as cyberbullying or virtual sexual assaults (Livingstone & Smith, 2014). The effect of the Internet and social networks on the development of thinking has been examined, finding that they lead to children's and adolescents' lower capacity to manage and critically analyze viral challenges and fake news on social networks (Pérez García et al., 2024). Like others, critical thinking—the acquisition of skills such as identifying the source of information, analyzing its credibility, and drawing conclusions—is crucial to deal with these problems in adolescence (Shin et al., 2015).

Considering the above, Juárez-Escribano (2019) pointed out that adolescents with a greater need for acceptance, esteem, or recognition by their peers are the most predisposed to participate in viral challenges. According to this author, their predominant need to believe they are part of a group, as well as feeling integrated and accepted within it, leads many adolescents to take on any challenge to prevent feeling rejected. Although adolescents in all nations may be exposed to these risks, some research suggests that adolescents and young adults in Argentina—compared to those in other countries in the region—feel strongly attracted to new technologies (Facio & Resett, 2012), with high rates of social media penetration that are only exceeded by Brazil and Mexico (Hirose, 2025). Thus, there are almost 28 million Meta users in Argentina, and an increase of 19% of Instagram users between 2023 and 2024 (Branch Agencia, 2024). Currently, among young Argentines, YouTube is the leading platform, with 95% online presence, followed by TikTok with 67%, and Facebook with 32%. A large percentage also uses Instagram (62%) and Snapchat (59%; Branch Agencia, 2024).

There is evidence to date that problems with new technologies would cause the same psychosocial difficulties as traditional addictions like drugs or alcohol (Sharma et al., 2021), such as anxiety (Azher et al., 2014; Lyvers et al., 2022; Weinstein et al., 2015), depression (Karakose et al., 2023; Xie et al., 2022), stress, and sleep difficulties (Stanković et al., 2021). In turn, digital addictions have their own problems, correlating positively with constructs such as fear of missing out (FOMO), as reported in a meta-analysis (Fioravanti et al., 2021); cyberbullying (Giordano et al., 2021); online grooming (Tamarit et al., 2021); and Phubbing (Blanca & Bendayan, 2018; Fernández-Andújar et al., 2022). Thus, the abusive use of the Internet and social networks can have a negative impact, both offline and in the digital or online environment, causing all kinds of problems and symptoms. It must also be considered that the context of isolation due to the COVID 19 pandemic increased access to social networks and electronic devices (Ellis et al., 2020). The interactions and confluences between the online and offline worlds that adolescents face today have given rise to a complexity that did not exist before. In this sense, the theory of the co-construction of reality emphasizes not only these interactions between the two worlds but also the fact that individuals are not passive consumers in the virtual area; on the contrary, they act and create content actively and dynamically (Subrahmanyam & Šmahel, 2011). In this regard, social networks like Instagram and TikTok are extremely addictive due to the level of interaction and participation, which allows people to upload and create content (Haidt, 2024), such as viral challenges. Many researchers think that the recent increase in adolescent mental health problems, such as increased suicide rates and feelings of

loneliness, is due to compulsive social media use (Haidt, 2024), which increased at the beginning of 2010, coinciding with the appearance of smartphones and a greater presence of social networks (Twenge et al., 2021). This restricts the time that many adolescents used to dedicate to other activities, such as playing sports or walking outdoors. However, Odgers and Jensen (2020) noted that these results should be interpreted with caution, as more rigorous studies are needed to determine causal relationships in the impact of social networks on adolescents' mental health.

Although no studies have directly evaluated social media and internet addiction and viral challenges, research has detected the relationship between this behavior and fear of missing out (FoMO) and nomophobia (Ortega-Barón et al., 2022). In this sense, adolescents who spend a lot of time on social networks or who are addicted to them perform viral challenges more frequently due to social comparison, peer pressure, desensitization generated by new technologies (M. D. Griffiths, 2014; Resett & Gonzalez Caino, 2023 **[AQ: 11]**), and a lower capacity for critical thinking. A recent study detected the relationship between FoMO online, nomophobia, addiction to video games, and other problems on social networks (Ortega-Barón et al., 2025).

Due to the physical, psychological, and social risks of this behavior, developing instruments to measure it has become very relevant. Despite the seriousness of this behavior, the only instrument with proven psychometric properties is the Internet Viral Challenges Scale by Ortega-Barón et al. (2022), which was developed in Spain. This scale showed adequate factor structure (two dimensions called social motivation and satisfaction), internal consistency, and concurrent validity in Spanish samples of adolescents. Having measurement instruments for a behavior that is currently so prevalent is vital to detect it early, mainly due to the risks that some of these challenges pose to mental and physical health. In contrast, self-reports, such as this scale, have the advantage of being easy to implement and they can be applied multiple times to assess the stability of the behavior at minimal economic cost (Resett, 2018). Furthermore, the fact that the Internet Viral Challenges Scale includes two psychosocially relevant dimensions for the adolescent stage: one examining the social reasons for doing it and the influence of the peer group to do it; the other evaluating the aspects related to the satisfaction generated by doing it would allow the identification of the underlying reasons for its performance, as well as identifying different risk profiles in this regard for more specific prevention. There are no studies in Argentina or other countries in the region that have evaluated the properties of the Viral Internet Challenges Scale of Ortega-Barón et al. (2022). Thus, the objectives of this study were:

- to explore the psychometric properties of the Viral Internet Challenges Scale by Ortega-Barón et al. (2022): the factorial structure and internal consistency in a sample of Argentine adolescents.
- to examine its concurrent validity concerning the problematic use of Instagram and the Internet.

Hypothesis

The Viral Internet Challenges Scale by Ortega-Barón et al. (2022) will show a two-factor structure similar to that found in Spain, with adequate internal consistency.

The scale will have concurrent validity concerning the problematic use of Instagram and the Internet.

Methodology

Type of Study

This study is instrumental and cross-sectional.

Participants

An intentional non-probabilistic sample of 882 adolescents from four secondary schools in Paraná (Entre Ríos, Argentina) who were in first to sixth grade, was formed. Of them, 48% were male, 51% female, and the rest were gender non-binary (1%). Their ages ranged from 11 to 17 ($M_{age} = 14.7$, $SD = 1.94$). The inclusion criteria were to be regular students of Paraná secondary school from first to sixth grade; between 11 and 18 years old; without any visual problem not corrected with glasses and that prevented answering the questionnaires; and to have parental or legal guardian consent. Twelve surveys were excluded because the students were over 18 years of age. Seven surveys were excluded due to inconsistent responses. There were no cases with missing information. Based on a box plot, 15 cases were excluded because their scores could be considered outliers in the viral challenge questions. The final sample consisted of 848 participantes.

Instruments

The Viral Internet Challenges Scale (Ortega-Barón et al., 2022). The authors of this scale created the items based on prior studies of the subject. The scale consists of 10 items and two dimensions: Satisfaction with Viral Challenges

and Social motivation. The semantic definition of the construct "Viral Challenges on the Internet" arises from the combination of three terms: *challenges* (tasks to be carried out or fulfilled), *Internet* (in the online context), and *viral* (content that spreads quickly on social networks). Hence, this scale assesses satisfaction and social motivation for performing and/or participating in viral challenges on the Internet. On the one hand, the first of the two dimensions, Satisfaction with Viral Challenges (composed of five items), evaluates the user's satisfaction when performing viral challenges on the Internet (e.g., "Doing a challenge makes me feel good"). On the other hand, the second dimension, Social Motivation (composed of the five remaining items), assesses Social Motivations, especially those related to the peer group and that influence their achievement (e.g., "I do certain challenges because I don't want to feel excluded from my group of friends"). Responses are rated on a Likert-type scale, ranging from 0 (*never*) to 3 (*many times*). The range of scores varies between 0 and 15 for each dimension. The higher the score, the greater the likelihood of performing viral challenges. In Spanish samples of adolescents, the factorial structure of these two dimensions and their concurrent validity with FoMO, nomophobia, the online self, and online emotional attention is adequate (Ortega-Barón et al., 2022). To adapt it into Argentine Spanish, the authors' version was sent to two specialists in psychology research to determine possible terms or words that might not be clear or be ecologically valid. They had to complete a grid on the clarity, coherence, and relevance of the items on a Likert scale. The grid items were rated from 4 (*very clear*) to 1 (*not at all clear*), from 4 (*very coherent*) to 1 (*not at all coherent*), and from 4 (*very relevant*) to 1 (*not at all relevant*), as in other instrument validation studies (Giraldo Cardona el at., 2023; Romero Rodriguez et at., 2022 **[AQ: 12]**). If any term was unclear or impertinent, a synonym was proposed. All items had a clarity, coherence, and relevance score of four points. The judges suggested removing the term "challenge" because it is not ecologically valid, retaining only the word "reto." Finally, the scale was applied to a pilot sample of 50 Argentine adolescents who were instructed to complete the test and indicate any doubts they had about the items. Cronbach's alphas were .84 and .78 in that pilot study.

The Internet Addiction Scale (Lam-Figueroa et al., 2011). This scale presents 11 items that measure Internet addiction through two dimensions: Behavioral Symptomatology, with eight items (being connected a long time, spending more time connected than they should, feeling bad when not connected, etc.) and Dysfunction, with three items (problems associated with addiction: missing work or school because they are connected for a long time, neglecting the home or household chores, etc.). Each item is rated on a four-point Likert-type scale, ranging from 1 (*very rarely*) to 4 (*always*). This

instrument showed adequate factor structure and internal consistency in Peru (Lam-Figueroa et al., 2011) and Argentina (Resett & Gonzalez Caino, 2019). Cronbach's alphas in the present study were .86 and .67, respectively.

The Bergen Instagram Addiction Scale (Chavez Santamaria & Vallejos-Flores, 2021). This scale is derived from the Facebook Addiction Scale (BFAS; Andreassen et al., 2012 [AQ: 13]), comprising six items and validated by Vallejos-Flores et al. (2018) [AQ: 14] in the Peruvian context. The final composition of the items involved replacing the word "Facebook" in the BFAS with the term "Instagram," taking into account that both social networks serve as spaces for virtual socialization (Andreassen, 2015; Balcerowska et al., 2020 [AQ: 15]; Kircaburun & Griffiths, 2018 [AQ: 16]). The scale consists of six items and has a one-dimensional structure. Items are rated on a 5-point Likert scale ranging from 1 (*very rarely*) to 5 (*very often*) and provide a total score for the construct of addiction to this social network. The Peruvian Spanish version has good psychometric properties (Chavez Santamaria & Vallejos-Flores, 2021) and has also been validated in Argentina (Abal et al., 2024 [AQ: 17]). Cronbach's alpha in this study was .85.

Demographic Questions. Gender, age, grade, and the school they attended.

Data Collection Procedure

First, the purposes of the study were explained to the school administrators. Then, the parents' or guardians' written consent was requested through a note from the school, explaining the objectives of the investigation, the anonymity, confidentiality, and voluntariness of the children's participation. Then we requested the students' voluntary participation. All the data were collected by the authors of the manuscript during the school hours granted for this purpose. Data collection lasted 20 to 30 min. The study was approved by the ethics committee of the Province of Entre Ríos, Argentina.

Data Analysis

All data analyses were performed with the Statistical Package for the Social Sciences (SPSS) software, version 26. All descriptive analyses (means, standard deviations, maximums, and minimums) and inferential analyses (exploratory factor analysis [EFA] and correlations) were performed using this software. The maximum likelihood method was used for the EFA, as the principal component method and Oblimin rotation were deemed inappropriate due to the postulation of correlated factors. In turn, the confirmatory factor analysis (CFA) was performed with the MPLUS 8.6 software. The sample

was randomly divided into two equal groups of participants (424 and 424) to perform the two factor analyses (EFA and CFA) equalizing the groups by gender and age. This was done because we first required a calibration study and a replication, as there are no studies on the factor structure of this scale in Argentina. As the use of principal component analysis is currently considered not recommended the maximum likelihood method was used (Lloret-Segura et al., 2014). Regarding the distribution of the data, the values of skewness ranged from 2.09 to 3.69, and those of kurtosis ranged from 4.66 to 11.00. Skewness values greater than 3, and kurtosis values from 8 to 20 or more were considered extreme (Kline, 2015). As the values deviated slightly from the normal distribution (Boomsma & Hoogland, 2001; Byrne, 2010, 2012), CFA was performed with the Weighted Least Squares MV (WLSMV) method, because the responses to the items were ordinal, with fewer than five response options (Brown, 2006 **[AQ: 18]**; Kline, 2015; Lloret-Segura et al., 2014; Tabachnick & Fidell, 2013). Therefore, the Sattorra-Bentler x^2 was used. To evaluate the fit of the confirmatory model, the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) indices were taken into account. CFI and TLI values above 0.90 and RMSEA and SRMR values below 0.10 are considered appropriate (Bentler, 1992; Byrne, 2010), although there are more demanding criteria for CFI and TLI greater than .95, and RMSEA and SRMR less than .05 (Hu & Bentler, 1999). Currently, CFI values greater than .97 and RSMEA and SRMR values less than .07 are postulated (Hair et al., 2010). The nonsignificance of the χ^2 is a very demanding criterion, which depends on the size of the sample (Byrne, 2010), so it is suggested to divide χ^2 by the model's degrees of freedom. Although there are no widely accepted criteria for the most adequate value, values less than 3 are considered satisfactory (Cupani, 2012).

Regarding internal consistency, Cronbach's alphas and McDonald's omegas were calculated due to the ordinal nature of the responses, using the Jamovi 2.5.5 program. Composite reliability, which is a more prevalent index that is not affected by the number of items, and the average variance extracted (AVE) were also calculated (Hair et al., 2010). Spearman's correlations were calculated due to the ordinal nature of the responses to determine concurrent validity with Instagram and internet addiction, and to examine the association with age. The level of significance was that typically used in the social sciences, $p < .05$.

Results

Table 1 presents descriptive statistics for the questions on the Viral Internet Challenges Scale in adolescents.

Table 1. Descriptive Statistics of Viral Internet Challenges Scale items in Argentine Adolescents.

Statistics	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
M	0.30	0.37	0.35	0.29	0.31	0.18	0.14	0.22	0.22	0.20
SD	0.66	0.71	0.68	0.66	0.64	0.54	0.47	0.62	0.60	0.54
Skewness	2.54	2.09	2.14	2.55	2.39	3.69	4.14	3.03	3.10	3.18
Kurtosis	6.55	4.66	4.44	6.30	5.88	7.49	11.00	8.89	9.55	10.00
Min	0	0	0	0	0	0	0	0	0	0
Max										
N = 848	3	3	3	3	3	3	3	3	3	3

Table 2. Factor Loadings of the Exploratory Factor Analysis of the Viral Internet Challenges Scale in Argentine Adolescents.

Items	Factor 1	Factor 2
Item 1	0.827	
Item 2	0.654	
Item 3	0.821	
Item 4	0.743	
Item 5	0.676	
Item 6		0.605
Item 7		0.548
Item 8		0.627
Item 9		0.766
Item 10		0.910

Regarding EFA, first, the 10 items of the Viral Internet Challenges Scale were introduced. The Kaiser-Meyer-Olkin coefficient was KMO = 0.91 $x^2(45) = 3189.98$, $p < .001$, indicating that EFA was appropriate, as shown in Table 1. The results yielded a two-factor model that explained 47% and 11%, respectively, of the variance $x^2(26) = 117.48$ $p < .001$. The factors could be called Satisfaction when performing viral challenges (Items 1–5) and Social motivation (Items 6 and 10), and were similar to those of the scale in Spanish samples. All the items loaded above 0.54 on their respective factor, and there were no cross-loads greater than .30. A correlation of $r = .53$ was found between the factors (Table 2)**[AQ: 19]**.

Table 3 presents the result of the CFA, after testing the two-factor model that emerged from the EFA. The fit was satisfactory, as indicated by the CFI, the TLI, and the residuals. Modification indices were explored, such

Table 3. Fit of the Two-Factor Model of the Viral Internet Challenges Scale in Argentine Adolescents.

Model	x^2	*df*	CFI	TLI	SRMR	SRMEA	x^2/df
Related two-factor model	191.24	38	0.95	0.94	0.01	0.07	3.31

Note. df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; x^2/df = ratio of x^2 and the degrees of freedom.

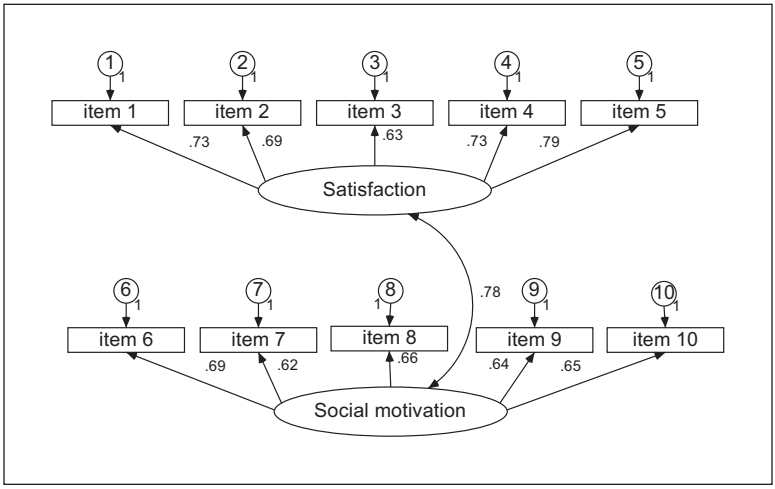

Figure 1. Viral Internet Challenges Scale model of two related factors satisfaction and social motivation.

as cross-loadings on items or covariances on residuals, but there were no significant values in this regard, so it was decided to keep this model for the sake of parsimony, as recommended by Byrne (2010, 2012). The covariance between the factors was 0.78, $p < .001$. The AVE was 0.54 and 0.44, respectively. All factor loadings were above 0.63 and were significant at $p < .001$. Figure 1 presents the model.

Regarding internal consistency, Cronbach's alphas of .84 (IC 95% = 0.81–0.87) and .78 (IC 95% = 0.73–0.84) for Satisfaction and Social motivation, respectively, and McDonald's omegas of 0.84 (IC 95% = 0.81–0.88) and .79 (IC 95% = 0.75–0.84), respectively, were obtained. The composite reliability was 0.94 and 0.93, respectively.

Table 4. Correlations Between the Two Dimensions of the Viral Internet Challenges Scale and Instagram and Internet Addiction in Argentine Adolescents.

Variables	1	2	3	4	5
1. Satisfaction	1	-	-	-	-
2. Social motivation	.637***	1	-	-	-
3. Instagram addiction	.365***	.322** [AQ: 20]	1	-	-
4. Symptomatology	.305***	.327***	.509***	1	-
5. Dysfunctionality	.303***	.376***	.487***	.504***	1

***$p < .001$.

Regarding concurrent validity, as shown in Table 4, the greater the satisfaction with viral challenges and social motivation, the higher the levels of Instagram addiction and the greater the Internet addiction.

Discussion

The purpose of this research was to evaluate, for the first time, the psychometric properties of the Viral Internet Challenges Scale by Ortega-Barón et al. (2022) in a sample of Argentine adolescents. This is the only existing scale to measure this behavior, which can be very dangerous, both psychosocially and physically.

Factorial Structure of the Viral Internet Challenges Scale in Argentine Adolescents

Concerning its factor structure, evidence of a two-factor structure was found, as indicated by the results of the EFA and CFA. Regarding the exploratory analysis, a two-factor structure was found that explained 58% of the variance, with all the items loading above 0.54 on their respective factors, and no cross-loads greater than 0.30 (Gaskin & Happell, 2014; Izquierdo et al., 2014; Kline, 2015). The factors were similar to the two postulated by the authors of the scale in Spain, called Satisfaction with challenges and Social motivation, which explained 61% of the variance in Spanish adolescents. The CFA was also adequate, as the CFI and TLI values were greater than 0.95 and 0.94, respectively, and the RMSEA and SRMR values were less than 0.01 and 0.07, respectively (Hu & Bentler, 1999). This structure was also similar to the one detected through EFA in Spain (Ortega-Barón et al., 2022), but the power of the present study is that it replicates this structure also through EFA and CFA in two independent samples.

Internal Consistency of the Scale. The internal consistencies were satisfactory, both according to the Cronbach alphas and the McDonald omega indices and the composite reliability, which is a more modern statistic that does not depend on the number of items (Hair et al., 2010). Values between 0.70 and 0.80 are considered adequate (DeVellis, 2012; Kaplan & Saccuzzo, 2006; Taber, 2018), even more so for questionnaires with few items such as the one evaluated herein. In Spain, Cronbach's alphas of .82 for Satisfaction and .84 for Social motivation were found (Ortega-Barón et al., 2022) so the results found herein were similarly satisfactory.

Concurrent Validity of the Viral Internet Challenges Scale

Regarding concurrent validity, the Viral Internet Challenges scale showed evidence of concurrent validity, concerning both Instagram and Internet addiction, as indicated by the positive associations between these variables. This has also been observed with other problems related to new technologies, such as FOMO or nomophobia (Ortega-Barón et al., 2022). There are probably individual risk factors that lead adolescents to be more prone to the compulsive use of social networks and new technologies, such as impulsivity, less critical thinking, or sensation-seeking, as well as social factors, such as peer pressure or low parental supervision, or even sociocultural factors (e.g., Andreassen, 2015). This would allow covarying the different problems related to social networks, as reported in a recent study that detected correlations between FoMO, nomophobia, problematic use of social networks, and addiction to online gaming (Ortega-Barón et al., 2025). In this sense, addiction to social networks, for example, Instagram, with its continuous comparisons and the executive functioning problems it generates—as detected in experimental studies (Reed, 2023)—can cause one problem to generate other problems, such as viral challenges or FoMO. It would be relevant to carry out longitudinal studies in this regard to determine the directionality of the variables. Although cross-sectional, recent studies in a sample of Argentine adolescents found that addiction to Instagram, the Internet, online gambling, and cyberbullying were significantly correlated (Resett et al., 2023). Some research (e.g., González-Cabrera & Machimbarrena, 2023) suggests that virtual issues may be associated with each other through their relational and dysfunctional aspects.

Considering all the above, and despite the cultural, social, and economic differences between Argentina and Spain, these results indicate that the scale presents validity and internal consistency in Argentina, and the phenomenon of viral challenges can be conceptualized and evaluated similarly in both nations. However, future studies should use randomly selected samples to generalize the results. Although there is no research available in other nations

with this scale, studies on network addiction and problematic digital behaviors in adolescents from different cultural traditions have found that the factor structures of these constructs tend to be replicated (Andreassen et al., 2017; Kuss et al., 2013), reinforcing the cross-cultural applicability of certain constructs linked to the Internet and social networks. Thus, the Argentine version of the VICH-S has presented adequate indicators of reliability and validity. Evidence has been found of a two-factor structure (Satisfaction and Social motivation) similar to the original structure. In addition, the indicators of concurrent validity have been found to correlate positively with Instagram and internet addiction. These findings suggest that the scale is a valid and reliable tool to measure viral Internet challenges in this population, indicating that the phenomenon can be conceptualized and evaluated similarly in Argentina and Spain.

Limitations and Recommendations

This work has some limitations that should be pointed out. First, self-reports were used, which present well-known limitations, such as socially desirable responses—mostly regarding negative behaviors, like those evaluated here—reading comprehension problems, or extreme responses (del Valle & Zamora, 2021 **[AQ: 21]**), which means that many teenagers may have hidden information about how often they participate in viral Internet challenges. Second, the sample was selected intentionally; therefore, the results are not generalizable to the entire population of Argentine adolescents. This type of cross-sectional study precludes determining causality between variables or examining the stability of the constructs over time. Also, having measured all the variables with the same data collection method artificially increases the relationships between them due to the shared data method (Richardson et al., 2009). However, this does not invalidate the results found here regarding the factor structure found in a sample of Argentine adolescents, since a large sample size was used, it was randomly divided for the factor analyses, for concurrent validity constructs theoretically associated with viral challenges on the Internet were evaluated and, despite the limitations of the research, the results were similar to those found in Spain.

Future studies should work with larger samples and with a random selection from Argentina. This instrument should also be examined in samples of adolescents to determine its invariance across samples of emerging adults. Future studies should examine whether there are significant gender differences in satisfaction or social motivation toward viral Internet challenges, given that previous research on online behaviors has detected different patterns between men and women (Machimbarrena et al., 2019). Future studies should also employ

other data collection techniques to mitigate the limitations of self-reporting, especially in areas such as viral Internet challenges, as many challenges are hazardous and can lead to adolescents concealing the information. In contrast, research should be longitudinal to examine the scale's test/retest reliability, as well as to examine the directionality of the variables. The relationship of this construct with other problems related to the Internet and social networks, such as pathological gambling and Instagram addiction, should also be examined to identify different clusters in this respect and their association with mental health problems in adolescents, such as anxiety or depression. Furthermore, its psychometric properties should be examined in other Spanish-speaking countries, such as Uruguay, Chile, among others. Finally, the prevention of the problem should be addressed by teaching adolescents to use social networks responsably and through workshops for parents that not only emphasize the monitoring of social networks or the Internet, but also help parents to teach their children how to deal with social contagion and peer pressure, primarily emphasizing critical thinking (Ortega-Barón et al., 2024).

Conclusions

The results of this research indicate that this scale has adequate validity, reliability, and a factor structure similar to that found in Spain, suggesting that viral internet challenges could perhaps be assessed similarly across Spanish-speaking countries. Finally, it could be a very useful tool for identifying adolescents with risk profiles for this behavior.

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Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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Author Biographies

[AQ: 42]