



The role of online emotions and gender in the prediction of problematic internet use: a cross-cultural study

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ABSTRACT

Internet have become a fundamental part of university student's lives, where emotions play an essential role and problematic Internet use (PIU) is a worrying phenomenon in this population and has become widespread worldwide. One aspect that may be essential to know about this phenomenon is the impact of emotions online and whether socio-emotional e-competencies facilitate adaptive behaviors in virtual environments for men and women; however, not enough studies have been conducted in this regard. Hence, this research aims to fill this gap by analyzing whether online emotional content and socioemotional e-competences predict problematic Internet use in the university population from Mexico and Spain, according to gender. Participants were 1524 university students (50.2 % Spain vs. 49.8 % Mexico) with mean age $M = 19.84$ ($SD = 3.90$) in Spain and $M = 19.63$ ($SD = 1.70$) in Mexico. The findings of multiple linear regressions show that online facilitation and emotional expression are the most critical risk factors for both sexes and countries. Emotional e-independence is a protective factor against PIU for both sexes, especially in men in both countries and Mexican women; e-self-control of impulsivity is a specific factor in the prediction of PIU, while in Mexican men, it is emotional e-regulation. Research contributions and educational implications are discussed.

1. Introduction

The use of the internet has brought numerous possibilities and benefits like new forms of learning, communication, relationships and entertainment. However, various risks have also emerged, such as internet addiction among youth, necessitating a more in-depth examination of this phenomenon in young adults. Regarding the term, it is necessary to point out that, although the DSM-5 (American Psychiatric Association, 2013) does not include internet addiction as a disorder, it does have negative consequences. The term "problematic internet use" is **more appropriate and widely adopted than internet addiction** (Ruckwongpatr et al., 2022).

Problematic internet use (PIU) is defined as excessive internet use that causes a variety of psychosocial problems, for example, in academic, work and social relationships (Kircaburun & Griffiths, 2018). It has also been referred to as preoccupation and loss of control over internet use, leading to problems in social life, such as health issues, lack of sleep, subjective well-being, depression and anxiety (Cai et al., 2023)

as well as academic procrastination (Aznar-Díaz et al., 2020). Some authors such as Caplan (2010) include other dimensions, e.g. preference for online social interactions, cognitive, behavioral and emotional regulation, and negative consequences for daily life.

Therefore, a deeper examination of the factors that predict PIU is essential for promoting university students' healthy and successful academic journey. One of the keys to understanding this phenomenon is the variety of applications that the internet offers to meet users' needs. For example, according to the internet's use compensatory model (Kardefelt-Winther, 2014), users are driven to utilize social networks to relieve social anxiety (Elhai et al., 2018), escape negative moods (Li et al., 2019), self-present themselves to others and meet new people (Masur et al., 2014).

On the other hand, different meta-analyses in adolescents and adults show that gender may play an important role in problematic internet use, finding that the results are inconclusive (Mari et al., 2023). Specifically, numerous studies with university students argue that men have higher levels of problematic internet use than women (Kannan et al.,

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2019). However, other studies conclude the opposite (Marino et al., 2018). In turn, although internet use is observed to a greater or lesser extent throughout society, it is especially significant among university students in different cultures (Zhao et al., 2023). In this sense, cultural aspects play a crucial role in the way university students perceive and use the internet (Cabero Almenara et al., 2019). Cultural influence may also determine which online platforms are most popular, and which may affect the nature of problematic use (Kuss et al., 2021). However, much remains to be revealed regarding this phenomenon and its relationship with cultural differences by gender (Baloğlu et al., 2020).

In line with the above, although different meta-analyses (Li et al., 2018; Lozano-Blasco et al., 2022) report valuable work that has analyzed student internet addiction in European and Asian countries, there are still very few studies that include different Hispanic countries (Aznar-Díaz et al., 2020; Cabero Almenara et al., 2019; Rojas-Díaz & Yepes-Londoño, 2022). Greater knowledge of problematic internet use among the university population may help to identify predictors of this social problem in order to promote guidelines that help to deal with it and prevent it as well. Some important risk factors already identified are time spent online, lack or poor quality of sleep and certain emotional variables such as negative affection, emotional regulation problems and impulsiveness (Sanchez-Fernandez et al., 2023). In this sense, socio-emotional e-competencies are a protective factor to be explored. Therefore, this paper aims to provide a more in-depth exploration of the predicting power of emotional online content, socio-emotional e-competencies and gender on PIU in university population from two different countries.

1.1. Socio-emotional e-competencies

Socio-emotional competencies can be defined as the knowledge, skills and abilities needed to understand and manage one's own and others' emotions, to show empathy, to maintain desirable interpersonal relationships and to make responsible decisions (CASEL, 2015). These skills need to be developed for each specific environment (Bisquerra & Rebolledo, 2021) such as the online environment, and applied to the specific characteristics of the internet: the immediacy of communication, the possibility of anonymity and the difficulty of knowing the intention of the message, despite the use of emoticons (González-Cabrera et al., 2016).

Another feature to consider on the internet is that social groups can be very numerous, so relationships may be more distant (Serrano-Puche, 2016) and uninhibited (Suler, 2004). In this sense, Cebollero-Salinas et al. (2022a) have developed a model called socio-emotional e-competencies that assumes such characteristics. This model includes emotional e-awareness, defined as the ability to identify and understand one's emotions in a virtual context; emotional e-regulation, as the ability to generate contextually relevant responses from the identification of emotional states generated in internet communication. It also covers e-self-control of impulsiveness, which consists of the ability to inhibit impulsive responses to social and informational stimuli and requests that appear on the internet; emotional e-independence, defined as the competency to feel emotionally capable and to value oneself in virtual social relationships, without depending on the recognition and negotiation of virtual status; social e-autonomy, understood as the competency to develop good relationships and pro-social behavior in the virtual context, taking into account that digital social life is faster and often more anonymous than real life.

In recent years, there has been a growing interest in investigating the relationship between PIU and some emotions such as the risk posed by feelings of loneliness (Moretta & Buodo, 2020) and of the protective role of emotional skills. In this line, research has largely focused on the adolescent population, highlighting that emotional intelligence favors the adaptive use of the internet (Cebollero Salinas et al., 2022d; Nasaescu et al., 2018). In addition, it has been shown that adolescents with higher levels of interpersonal perception and lower levels of

emotional facilitation and regulation predict a problematic internet user profile (Arrivillaga et al., 2021).

Existing studies extending the age range up to university age also corroborate a moderate and inverse relationship between PIU and emotional intelligence (Marino et al., 2023) or emotional regulation (Wartberg et al., 2021). These relationships have also been found in several meta-analyses (Gioia et al., 2021; Ranjbar & Bakhshi, 2018), suggesting the influence of personal, social and cultural traits. In this context, it is noteworthy that there are not enough studies on the different socio-emotional competencies and problematic use of the internet among university students.

Specifically, Cebollero-Salinas et al. (2022a) and Gaeta-González et al. (2025) have shown that some socio-emotional e-competencies have proven to be a protective factor for online behaviors such as phubbing, cybergossip and media multitasking; namely, emotional e-regulation, impulsiveness e-self-control and emotional e-independence. In the same study, some of the dimensions of socio-emotional e-competencies are key in explaining the gender differences found. In particular, emotional e-independence is crucial for women and emotional e-awareness for men. However, the relationship between socio-emotional e-skills and problematic internet use has not yet been analyzed. Given the protective role they exert on some not so problematic online behaviors it seems reasonable to hypothesize that socio-emotional e-competencies also act in the same direction in relation to problematic internet use.

Various studies indicate that there are differences in emotional competencies between women and men, although they are not yet clear. Some of them report that females present a higher average level of emotional competencies (Spada & Marino, 2017). This could be due to socialization patterns in which women are encouraged to express their emotions from an early age, while men learn to restrict them (Sesar et al., 2019). Likewise, in the adolescent population, men achieve higher levels of emotional e-awareness and women do the same, but for social e-competency (Cebollero-Salinas et al., 2022a y 2025). These cultural norms could differentially influence how university students interact with the internet in different countries (Baloğlu et al., 2020).

1.2. Emotional online content or e-motions

Emotional online content refers to the expression, perception, facilitation and management of emotions online (Zych et al., 2017). In the virtual environment, emotions are expressed and shared through new emerging phenomena, such as the dissemination of images, news or videos that go viral and usually have a strong emotional toll (Rubenking, 2019), fake news that are often accompanied by eye-catching headlines arousing surprise or curiosity (Rijo & Waldzus, 2023), widely shared memes that tend to provoke various emotions (Paciello et al., 2021), etc. For their part, social networks, by seeking to create and maintain links with other people, favor emotional exchanges and sometimes even cause anxiety, stress or FOMO (Correa-Rojas et al., 2022).

It is worth mentioning that emotions have an important social function and can influence the behavior of those who experience them. Some research like Cebollero-Salinas et al. (2025) shown that emotional online content increases the level of phubbing, with online emotional expression being the dimension with the highest incidence in both women and men, although women reach higher levels of emotional expression, perception and facilitation online. There are also studies that link emotional online content to the promotion of antisocial behavior online (Marín-lópez et al., 2020), i.e., young people who use a high degree of emotional information online are more likely to become cyberaggressors or cybervictims. Likewise, men who facilitate emotions and women who facilitate and express emotions online have more difficulty using netiquette or respect and coexistence social norms in the virtual environment (Cebollero-Salinas et al., 2022c).

Emotional online content related to problematic internet use has been little studied, as to the authors' knowledge there are only two

studies on this relationship, both of them in adolescent populations. Specifically, [Marino et al. \(2020\)](#), when examining the effects of difficulties in emotion regulation and so-called “e-motions” on Italian adolescents’ problematic social media use conclude that difficulties in emotion regulation are directly and indirectly linked to problematic social media use via frequency of use and facilitating use of e-motions. Similarly, [Nasaescu et al. \(2018\)](#) find that emotional online content is a risk factor for PIU in Spanish adolescents, so it could be hypothesized that socio-emotional competencies developed for the online environment (Socio-emotional e-competencies) play an important adaptive role. The present study would be the first in this line.

University population study, work, and socialize mainly in the online environment; where emotional processes are crucial ([Gioia et al., 2021](#)) and where emotional online content poses a risk of developing PIU ([Marino et al., 2020](#); [Nasaescu et al., 2018](#)), so emotional e-competencies could play an important adaptive role. In addition, culture can have an impact on the emotional adjustment of individuals ([Ranjbar & Bakhshi, 2018](#)). Therefore, this paper seeks to extend knowledge in this direction by analyzing the relationship between these emotional variables and PIU in Mexico and Spain, two countries located on different continents, sharing history and a single language but with cultural differences ([Caba-Machado et al., 2023](#)). Thus, the specific objectives are:

1. To compare the level of problematic internet use, emotional online content and socio-emotional e-competencies by gender and country.
2. To analyze whether emotional online content and socio-emotional e-competencies predict problematic internet use in university population by gender and country.

Hypothesis:

1. There will be differences in the level of problematic internet use, emotional content and socio-emotional e-competencies by gender and country.
2. Emotional online content and socio-emotional e-competencies will predict problematic internet use differentially by gender and country.

2. Method

2.1. Participants

A total of 1524 university students from Mexico and Spain participated in the study. The distribution by country was similar (50.2 % vs. 49.8 %). The mean age of the total sample was 19.74 and SD = 3.07 (in Spain M = 19.84, SD = 3.90) and in Mexico (M = 19.63, SD = 1.70). The percentages of men and women by country were statistically different (Chi-square = 62.241, $gl = 1$, $p = .000$), with a higher number of men in the Mexican sample than in the Spanish sample (Mexican women, 30.4 %, Mexican men, 19.8 %; Spanish women, 39.4 % and Spanish men, 10.4 %). The sampling procedure began with a probability quota based on the number of students at each university and, specifically, considering each age group based on data from official statistical sources; this created representative sampling units for the three significant knowledge macro-areas (Experimental Sciences and Engineering, Biomedical Sciences, and Social Sciences). Faculty secretaries sent the research objectives and the questionnaire to students. Faculty members helped collect data in the classrooms; however, the difficulty of completing the questionnaire in large groups at each university significantly limited data collection. For this reason, convenience sampling was adopted, although efforts were made to maintain the quotas by university and age. The questionnaires were completed at both universities between February and May 2023.

2.2. Instruments

Internet and social networking experiences Questionnaire (IREQ; [Casas et al., 2013](#)). It quantifies internet addiction by considering two factors: the interpersonal dimension (5 items) which refers to aspects of use for social communication (“Do you find it easier to interact with people over the internet than in person?”) and the intrapersonal dimension of its use que se refiere a motivaciones personales de uso (5 items) (“When you are in trouble, does connecting to the internet help you escape from it?”). The items are distributed on a 4-point Likert scale ranging from 1 (never) to 4 (very much). In this case the overall score has been calculated. After the adaptation process, the reliability indices reached acceptable levels, α total = .79 and Ω total = .78. Similarly, the factor structure was maintained in the Spanish and Mexican groups (Chi-Square = 132.598, $df = 24$, $p < .001$, TLI = .940, RMSEA = .054, SRMR = .052). Convergent validity ranges from .76 to .32 and AVE validity ranges from .53 to .35.

Socio-emotional e-Competencies Questionnaire (e-COM; [Cebollero-Salinas et al., 2022b](#)). This is a questionnaire that assesses socio-emotional e-competencies in an online environment. It comprises 25 elements, to which participants respond on an 11-point Likert scale ranging from 0 (totally disagree) to 10 (totally agree). The questionnaire has five subscales with 5 items: emotional e-awareness (eCO) (“When I am on social media, reading comments, watching videos, exploring people’s profiles, etc., I can put a name on what I feel”); emotional e-regulation (eRE) (“Before making a joke about someone on social media, I am capable of imagining how they are going to feel”); e-self-control of impulsiveness (eIMP) (“I can’t avoid posting comments about what has happened ”); emotional e-independence (eAU) (“If people don’t react to me on social media, I feel as if they did not regard me as part of the group”); social e-competency (eSO) (“On social media, Instagram, WhatsApp, etc., I pay attention to the needs of others”). The adaptation of the scale has reproduced the factor structure proposed in both countries (Chi-Square = 2052.404, $df = 1056$, $p < .001$, TLI = .922, RMSEA = .050, SRMR = .063). Convergent validity ranges between .887 and .699 and AVE between .566 and .292. The reliability indices reached optimal levels: eCO ($\alpha = .80$; $\Omega = .80$); eRE ($\alpha = .83$; $\Omega = .83$); eIMP ($\alpha = .75$; $\Omega = .74$); eAU ($\alpha = .79$; $\Omega = .78$); eSO ($\alpha = .89$; $\Omega = .89$).

Emotional online content is assessed through the E-motions Questionnaire ([Zych et al., 2017](#)). It quantifies the emotional content perceived, expressed, used, and managed by adolescents in virtual communication. Of the four subscales of the questionnaire, the authors use the three most directly related to online expression: E-emotional expression (4 items, $\alpha = .77$; $\Omega = .77$) “I express my emotions through social networks”; e-emotional perception (3 items, $\alpha = .79$; $\Omega = .78$) “My contacts let me know through Facebook or Instagram if they are happy or sad”; facilitating use of e-motions (6 items, $\alpha = .89$; $\Omega = .88$) “I express my emotions through Facebook or Instagram to overcome my difficulties”. In total, the authors use 13 items answered on a 5-point Likert scale ranging from 1 (highly disagree) to 5 (highly agree). After the adaptation process, the factor structure has been maintained in both countries (Chi-Square = 693.723, $df = 58$, $p < .001$, TLI = .918, RMSEA = .085, SRMR = .066). Convergent validity ranges from .85 to .51 and AVE validity ranges from .77 to .45.

2.3. Procedure

First, the agreement of the academic authorities of both countries is obtained, for which they receive a brief report on the objectives and scope of the research. Subsequently, the objective of the study, the anonymity of their responses and the voluntary nature of their participation are explained to the students. Also, an informed consent was obtained from participants.

2.4. Statistical analysis

First, the reliability of the instruments is analyzed, as well as the normality and linearity of the data. Descriptive analyses of the variables used are then performed, differentiating by gender and country, using the nonparametric Kruskal Wallis test. The relationships between variables are then analyzed by means of nonparametric bivariate correlations with Spearman's Rho. Correlational analyses between the variables are performed using Fisher's Z-transformation, differentiated by gender and country. The ability of the variables to predict problematic internet use, differentiating between women and men, is then examined using Multiple Linear Regression, taking into account the fulfillment of the regression assumptions (Pardo & Ruiz, 2007). *In the regressions, the variables are included in blocks, in order to avoid possible collinearity, and the Step-wise method is used within each block to assess the contribution of new variables.* The SPSS v.26 statistical program calculates the results.

3. Results

3.1. Differences by gender and country

The descriptive results of the study variables by gender and country are shown in Table 1. Differences between variables according to gender and country (using the nonparametric Kruskal Wallis test) are shown in Table 2. Only Spanish women achieve different levels of problematic internet use when compared to Mexican women and men. Differences in emotional online content are found between Spanish and Mexican women and men, but only in some dimensions of socio-emotional e-competency. Post-hoc analyses show that there are always differences between the groups in favor of Spanish women, and in some cases also in favor of Spanish men, except for emotional e-regulation where Mexican women obtain higher scores compared to all other groups.

3.2. Correlations by gender and country

Tables 3 and 4 show the nonparametric correlations (Spearman's Rho) between the variables according to gender and country. In all cases, problematic internet use is found to correlate significantly with all variables, except in the case of emotional e-awareness for Spanish women and men and e-self-control of impulsiveness for Spanish women. In general, the significant correlations with problematic internet use reach average values and are positive, with the exception of emotional e-regulation, which is negative. The relationships between the dimensions of emotional online content and socio-emotional e-competencies mostly reach low to medium values and have a positive sign.

When analyzing the correlations between problematic use and the other emotional dimensions in women from both countries, it is observed that the values of Mexican women are significantly higher than those of Spanish women, both in the dimensions of emotional content online and in socio-emotional e-competencies. These differences are

significant in the case of facilitating use of e-motions ($Z = 4.07$; .001) and emotional e-independence ($Z = 3.67$; .000) as well as in e-self-control of impulsiveness (.427** Mexican women vs.028 Spanish women).

For men from both countries, the values of these associations have the same tendency, being slightly higher for Mexican men than for Spanish men, with the exception of emotional e-independence (.340** Mexico vs.387** Spain) and e-social competency (.151** Mexico vs.175** Spain), but these differences are not significant in any case.

There were also differences when comparing men and women from the same country. Among Mexican women and men, the latter reach higher values, being significantly different in emotional perception ($Z = 1.99$, $p.0233$) and emotional e-regulation ($Z = 2.02$, $p.0217$), while women reach higher values in e-self-control of impulsiveness (.340** Mexican men vs .427** Mexican women). However, they do not differ significantly.

In the case of men and women in Spain, men also reach higher values in the three dimensions of emotional online content, with a significant value in facilitating use of e-emotion ($Z = 2.35$, $p = .0094$), and in one of the socio-emotional e-competencies where they differ significantly, namely in emotional e-independence ($Z = 2.26$, $p = .0119$).

3.3. Regressions by gender and country

The results of the regression equations for each gender and country (Table 5) show that the emotional variables analyzed explain between 25.3 % and 38.2 % of the variability of problematic internet use; which indicates a large effect size (f^2), with the exception of the group of Spanish women, for which the percentage is lower (12.5 %), indicating a medium effect size (f^2) (Cohen, 1988).

In all four groups, the coefficients of the predictor variables (dimensions of emotional online content and socio-emotional e-competencies) are positive, except in the case of emotional e-regulation, which are negative. Furthermore, in all regression equations the coefficient with the highest value is a dimension of emotional online content, either emotional facilitation, in the case of Mexican women ($\beta = .360$; $t = 8.39$; $p < .001$; IC95 % [.30,.48]) and Spanish men ($\beta = .290$; $t = 4.41$; $p < .001$; IC95 % [.16,.42]), or online emotional expression in Spanish women ($\beta = .355$; $t = 5.89$; $p < .001$; IC95 % [.24,.47]) and Mexican men ($\beta = .327$; $t = 3.17$; $p < .01$; IC95 % [.12,.53]). Fig. 1 show the gender and country differences (average range) in predictors of PIU.

Another variable common to all four groups is emotional e-independence. It is the dimension of socio-emotional e-competencies that explains most of the variability in the problematic use of the internet for women and men in both countries, reaching values between $\Delta R^2 = 025-.95$.

Finally, the specific e-competencies of some of the groups are: emotional e-regulation in the case of Mexican men ($\beta = -.054$; $-t = 2.02$; $p < .05$; IC95 % [-.11,-.001]), Spanish men ($\beta = -.099$; $-t = 2.30$; $p < .05$; IC95 % [-.18,-.014]) and Spanish women ($\beta = -.119$; $-t = 4.45$; $p < .001$; IC95 % [-.17,-.07]) and social competency in the case of

Table 1
Descriptive statistics for study variables.

	Mexican women		Mexican men		Spanish women		Spanish men	
	M	SD	M	SD	M	SD	M	SD
E-emotional expression ^a	9.9	3.4	9.0	3.3	12.4	3.0	11.0	3.5
E-emotional perception ^a	7.6	2.8	7.4	2.8	9.3	2.3	8.6	2.7
Facilitating use of e-motions ^a	11.3	5.3	11.5	5.2	14.8	4.9	14.4	5.3
Emotional e-awareness ^b	34.2	10.4	32.7	10.5	34.7	9.6	33.8	9.5
Emotional e-regulation ^b	41.3	8.8	37.9	9.7	39.8	6.6	37.9	7.6
E-self-control of impulsiveness ^b	14.4	10.6	15.8	11.0	22.2	10.0	21.1	11.5
Emotional e-independence ^b	13.4	11.3	13.1	10.7	22.4	13.3	18.4	12.2
E-social competency ^b	27.9	11.2	27.6	11.4	31.8	9.7	30.1	9.3

^a Dimensions of emotional online content.

^b Dimensions of socio-emotional e-competencies.

Table 2

Analysis of differences in problematic internet use, emotional online content and socio-emotional e-competencies, by country and gender.

	Group	N	Average range	Kruskal Wallis	Post-Hoc
Problematic internet use	1	463	709.29	$X^2 = 23.764$; $P = .000$	$1 < 3$
	2	302	708.04		
	3	601	822.94		
	4	159	797.22		
	1	463	639.30	$X^2 = 250.524$; $P = .000$	$2 < 1$ $1 < 3$ $2 < 3$ $4 < 3$ $1 < 4$ $2 < 4$
	2	302	535.43		
	3	601	969.04		
	4	159	776.64		
E-motional perception ¹	1	463	628.93	$X^2 = 163.974$; $P = .000$	$1 < 3$ $2 < 3$ $4 < 3$ $1 < 4$ $2 < 4$
	2	302	616.52		
	3	601	927.66		
	4	159	809.22		
Facilitating use of e-emotions ¹	1	463	604.58	$X^2 = 182.701$ $P = .000$	$1 < 3$ $2 < 3$ $1 < 4$ $2 < 4$
	2	302	623.52		
	3	601	923.98		
	4	159	880.76		
Emotional e-awareness ²	1	463	774.10	$X^2 = 8.647$ $P = .034$	$2 < 3$
	2	302	700.38		
	3	601	789.13		
	4	159	750.87		
Emotional e-regulation ²	1	463	892.57	$X^2 = 65.297$ $P = .000$	$2 < 1$ $3 < 1$ $4 < 1$
	2	302	687.27		
	3	601	735.54		
	4	159	633.32		
E-self-control of impulsiveness ²	1	463	595.09	$X^2 = 173.004$ $P = .000$	$1 < 3$ $2 < 3$ $1 < 4$ $2 < 4$
	2	302	651.17		
	3	601	920.47		
	4	159	869.13		
Emotional e-independence ²	1	463	626.47	$X^2 = 162.432$ $P = .000$	$1 < 3$ $2 < 3$ $4 < 3$ $1 < 4$ $2 < 4$
	2	302	620.77		
	3	601	928.35		
	4	159	805.70		
E-social competency ²	1	463	686.12	$X^2 = 51.779$ $P = .000$	$1 < 3$ $2 < 3$
	2	302	684.06		
	3	601	857.54		
	4	159	779.49		

* Homogeneity of variances is not assumed; Bonferroni post-hoc test.

Note: 1 = Women in Mexico; 2 = Men in Mexico; 3 = Women in Spain; 4 = Men in Spain. ¹ Dimensions of emotional online content; ² Dimensions of socio-emotional e-competencies.

Spanish women ($\beta = .042$; $t = 2.21$; $p < .05$; IC95 % [.005,.079]).

4. Discussion

The objectives of the present study are, on the one hand, to compare the levels of problematic internet use, emotional online content and socio-emotional e-competencies by gender and country in university

population from Mexico and Spain, and, on the other hand, to analyze whether emotional online content and socio-emotional e-competencies predict problematic internet use in each subgroup. The main results are discussed below.

4.1. Comparison of variable's level according to sex and country

Regarding the first objective, the results indicate that Spanish women obtain higher levels of problematic internet use than Mexican men and women, but no significant differences are found with respect to Spanish men. On the other hand, there are differences in emotional online content between Spanish and Mexican women and men, but only in some dimensions of socio-emotional e-competency. This partly confirms the first hypothesis (H1). Specifically, Spanish women achieve higher levels of problematic internet use than Mexican students of both genders. In line with other previous studies, Spain is one of the European countries with the highest prevalence of problematic internet use (Díaz-Aguado et al., 2018), which may be a stronger predictor for Spanish women. At the same time, these results differ from others where it is men who are more vulnerable to such risk (Baloğlu et al., 2020; Kannan et al., 2019).

Spanish women and men score higher than Mexicans in expressing, perceiving and managing emotions online, as well as in self-control of impulsiveness and emotional e-independence. These results point to a certain social and cultural influence on young people's use of technologies (Cabero Almenara et al., 2019). In part, this may be due to the more uninhibited nature of Spanish internet relationships (Suler, 2004), where emotional expression and facilitation may be more common, resulting in a greater demand for online communication. At the same time, the results suggest that Spanish students with greater emotional e-independence may spend more time online without focusing on social comparison or reputation enhancement among their peers, which could reduce their anxiety and impulsiveness and generate higher quality interactions.

On the other hand, Mexican women achieve higher values in emotional e-regulation. This is consistent with previous studies suggesting that women tend to regulate emotions to a greater extent (Spada & Marino, 2017). In addition, the fact that Mexican women have a lower level of emotional e-independence than Spanish women, and therefore depend more on the status they have on the internet to act, could lead them to regulate their emotions more because they feel more insecure in front of others. In fact, several studies suggest that the influence of social and cultural traits may be present in the differences in the relationship between PIU and emotional intelligence (Gioia et al., 2021; Ranjbar & Bakhshi, 2018).

4.2. Predicting internet Abuse: differences by country

Regarding the second hypothesis, it was partially fulfilled (H2), since only some dimensions of emotional online content and socio-emotional e-competencies predict problematic internet use, and even in a differentiated manner by country. Specifically, in terms of country differences, the emotional variables analyzed explain problematic internet use to a greater extent among Mexican men and women than among Spaniards. This could be related to cultural values given that, in Mexico, social groups are closer to collectivism than in Spain (Caba-Machado et al., 2023), so they would be more dependent on each other and in that case, the emotional dimension would be more critical in predicting problematic internet use.

4.3. Predicting internet Abuse: differences between women in both countries

Looking at the differences between countries, specifically for women, the socio-emotional e-competency that has the greatest influence as a protective factor in predicting PIU for women in Spain is emotional e-

Table 3
Correlations among variables by girl and country.

	1	2	3	4	5	6	7	8	9
Women Mexico n = 463									
1. Problematic internet use	1	.371**	.209**	.464**	.122**	-.109*	.427**	.478**	.193**
2. E-motional expression ¹	.299**	1	.478**	.630**	.330**	-.052	.414**	.325**	.278**
3. E-motional perception ¹	.208**	.517**	1	.518**	.303**	.133**	.226**	.217**	.323**
4. Facilitating use of e-emotions ¹	.224**	.564**	.439**	1	.256**	-.043	.476**	.409**	.386**
5. Emotional e-awareness ²	.044	.239**	.183**	.186**	1	.344**	.193**	.155**	.276**
6. Emotional e-regulation ¹	-.154**	.026	.047	-.058	.217	1	-.150**	.196**	.287**
7. E-self-control of impulsiveness ²	.028	.142**	.083	.084	.148**	-.034	1	.511**	.243**
8. Emotional e-independence ²	.201**	.219**	.173**	.172**	.237**	-.019	.255**	1	.194**
9. E-social competency ²	.092*	.243**	.255**	.180**	.261**	.145**	.070	.156**	1
Women Spain n = 601									

Note: *p < .05; **p < .01 ¹ Dimensions of emotional online content of internet use, ² Dimensions of socio-emotional e-competencies.

Table 4
Correlations among variables by men and country.

	1	2	3	4	5	6	7	8	9
Men Mexico n = 302									
1. Problematic internet use		.431**	.345**	.466**	.116**	-.254**	.340**	.454**	.151**
2. E-emotional expression 1 rowhead	.395**	1	.517**	.565**	.239**	.026	.142**	.219**	.243**
3. E-emotional perception ¹	.287**	.615**	1	.433**	.183**	.047	.083	.173**	.255**
4. Facilitating use of e-emotions ¹	.416**	.731**	.535**	1	.186**	-.058	.084*	.172**	.180**
5. Emotional e-awareness ²	-.078	.217**	.266**	.183**	1	.217**	.148**	.237**	.261**
6. Emotional e-regulation ²	-.247**	-.103	.024	-.108	.298**	1	-.034	-.019	.145
7. E-self-control of impulsiveness ²	.165*	-.207**	.159*	.203**	.098	-.180*	1	.235**	.070
8. Emotional e-independence ²	.387**	.410**	.265**	.353**	.092	-.285*	.165*	1	.156**
9. Social e-competency ²	.175**	.502**	.370**	.409**	.314**	.073	.207**	.302**	1
Men Spain n = 156									

Note: *p < .05; **p < .01 ¹Dimensions of emotional online content of internet use, ²Dimensions of socio-emotional e-competencies.

Table 5
Regression analysis of problematic internet use for each gender and country.

	1β	2β	3β	4 β	R ²	Δ R ²	Change F
Mexican women							
1. Facilitating use of e-motions ¹	.532	.403	.360		.280	.281	181.705**
2. Emotional e-independence ²		.333	.287		.375	.095	139.488**
3. E-self-control of impulsiveness ²			.121		.382	.009	96.312**
Mexican men							
1. Facilitating use of e-motions ¹	.546	.339	.268	.250	.274	.277	114.605**
2. Emotional e-independence ²		.158	.147	.139	.343	.071	79.488**
3. E-emotional expression ¹			.292	.327	.359	.017	57.712**
4. Emotional e-regulation ²				-.054	.365	.009	44.635**
Spanish women							
1. E-emotional expression ¹	.419	.432	.385	.355	.076	.076	50.605**
2. Emotional e-regulation ²		-.108	-.107	-.119	.100	.025	34.488**
3. Emotional e-independence ²			.050	.047	.129	.021	28.712**
4. Social e-competency ²				.019	.125	.007	22.635**
Spanish men							
1. Facilitating use of e-motions ¹	.382	.301	.290		.180	.185	35.705**
2. Emotional e-independence ²		.098	.083		.232	.057	34.488**
3. Emotional e-regulation ²			-.099		.253	.025	18.312**

Note: *p < .05. **p < .01. ¹ Dimensions of emotional content ² Dimensions of socio-emotional e-competencies.

regulation. For Mexican women, however, it is emotional autonomy that has the greatest impact, acting as a risk factor. These results are consistent with the ones from previous studies with university students (Wartberg et al., 2021), regarding the inverse relationship between emotional regulation and problematic internet use. However, they differ from those from other studies with adolescents such as Cebollero-Salinas et al. (2022a y 2025) which highlight the protective role of emotional e-independence for the use of online behaviors such as phubbing, cybergossip, and media multitasking. All of this suggests the influence of certain cultural, social and personal traits on non-adaptive online behaviors. These differences may be due to the fact that Mexico, unlike Spain, is a country with a higher level of insecurity and violence against

women, including university students (Rodríguez Hernández & Rodríguez Barraza, 2021). Women may therefore gain greater self-esteem and self-confidence through the internet, which could more easily lead to problematic internet use among this population.

4.4. Predicting internet Abuse: differences in men from both countries

Regarding the differences between Mexican and Spanish men, the results suggest that, for Mexican students, the facilitation and expression of emotions online are more relevant in predicting problematic use than for Spanish students. These differences could be explained by the emotional stereotype that is more common in Mexican culture where

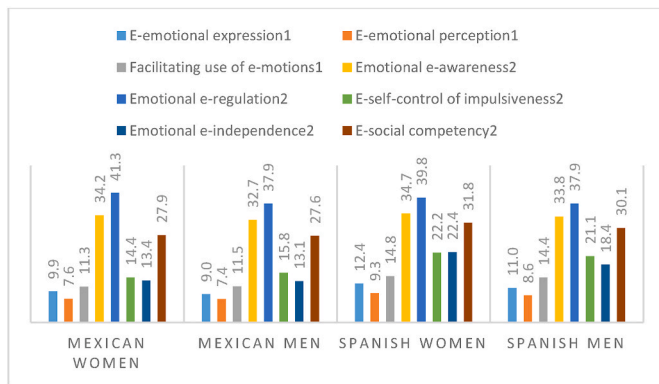


Fig. 1. Gender and country differences in predictors of problematic internet use. Note: 1 Dimensions of emotional online content; 2 Dimensions of socio-emotional e-competencies.

men learn from an early age to restrict their emotions (Sesar et al., 2019), so that this dimension would be more crucial in predicting problematic internet use in students from this country.

4.5. Predicting internet Abuse: differences and similarities between women and men in both countries

On the other hand, the results show some differences between women and men regardless of their country of origin. Specifically, emotional e-independence as a predictor for both genders is stronger for men, both Spanish and Mexican. This indicates that men use the internet maladaptively regardless of their online status to a greater extent than women do, which could be due to the type of gratifications they seek when using it (Baloğlu et al., 2020). Moreover, in previous studies with adolescents, emotional e-independence reduced online non-adaptive behaviors (Cebollero-Salinas et al., 2022a) whereas in this case it enhances it. A possible reason for this result could be that at university age people acquire greater personal security and regulation capacity (Santos et al., 2021) which may bring them to use the internet more frequently without realizing that this may lead to problematic internet use.

In this regard, it should be noted that online facilitation or emotional expression are the most important risk factors in both genders and countries. That is, those students who express their emotions more intensely seek more ways to communicate with others through the internet, thus increasing the risk of falling into its problematic use, as also suggested by Nasaescu et al. (2018). This result is valuable since it proves that such a risk factor is neither country nor gender dependent and would need to be taken into account when university students habitually use the internet to avoid boredom and social anxiety (Elhai et al., 2018), ameliorate loneliness (Moretta & Buodo, 2020), and when they use it to escape their moods (Li et al., 2019). Thus, the study conducted by Assunção and Matos (2017) shows that adolescents with more problematic internet use report lower levels of emotional stability and openness to experience.

4.6. Predicting internet Abuse: sex differences in mexican students

Focusing on gender differences in Mexican students, in the case of Mexican women the e-self-control of impulsiveness is a specific factor in predicting PIU, while in men it is emotional e-regulation. That is, women who control their impulses on the internet tend to make more problematic use of it. This may be because students perceive themselves as self-controlled, but such use could become maladaptive. This finding is consistent with the results found by Gioia et al. (2021) where emotional regulation predicts PIU to a greater extent for university men than for women. It seems that men with emotional regulation problems connect to the internet to escape from negative emotions, which increases the

likelihood of problematic internet use (Wartberg et al., 2021).

4.7. Predicting internet Abuse: sex differences in Spanish students

Regarding the differences between Spanish women and men, online emotional expression and social e-competency specifically predict women' PIU while online emotional facilitation predicts it for men. This finding could be related to previous studies in adolescents where higher levels of interpersonal perception, i.e., greater social sensitivity, would help to seek ways to communicate with others through the internet (i.e., greater social e-competency, expression and emotional facilitation online) increasing the risk of its problematic use (Arrivillaga et al., 2021).

4.8. Limitations and prospective

The results of the present study shall be considered in the light of its limitations. On the one hand, it is a cross-sectional design, which does not allow the authors to state that the predictor variables are temporal antecedents of problematic internet use among university students. Hence, longitudinal studies are needed to clarify the evolution of PIU. In addition, the data collection method used is self-report questionnaires, which are susceptible to social desirability bias, so future research is recommended to include other assessment instruments (e.g., peer assessment, ability measures). Finally, problematic internet use is a complex phenomenon influenced by various factors, so it would be useful to replicate this study including other personal or social variables. Similarly, the results show that socio-emotional e-skills are not sufficient to balance the risk factor of emotional expression or facilitation, and studies should continue with different variables to identify what other factors may be relevant.

4.9. Relevance of the study and implications

Despite the aforementioned limitations, the present study has allowed the authors to confirm the relationship between emotional variables (e-motions and socio-emotional e-competencies) and PIU, which had not been previously analyzed in the university population, and to identify the factors of emotional vulnerability online in two different countries, according to gender. In terms of university teaching and in line with these results, the present findings are particularly relevant as they allow a better understanding of this phenomenon, with a view to its possible prevention or intervention, adapted to the cultural specificities of each country. In this logic, it may be beneficial to educate and train students to acquire digital competencies and emotional skills (Orejudo et al., 2022), especially teaching them to express and facilitate emotions online in a more balanced way, to reason about the use of the internet according to their emotional state and to approach this use with a wider repertoire of emotional regulation strategies.

CRedit authorship contribution statement

Ana Cebollero-Salinas: Writing – review & editing, Writing – original draft, Visualization, Validation, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Martha Leticia Gaeta-González:** Writing – review & editing, Writing – original draft, Visualization, Methodology, Formal analysis, Data curation, Conceptualization. **Jacobo Cano-Escoriaza:** Writing – review & editing, Writing – original draft, Validation, Formal analysis, Conceptualization. **Magalí Yael Denoni-Buján:** Writing – review & editing, Writing – original draft, Validation, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Ana Cebollero-Salinas reports administrative support and travel were provided by Government of Aragon, Educaviva research group. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chbr.2025.100716>.

Data availability

Data will be made available on request.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. American Psychiatric Publication.
- Arrivillaga, C., Rey, L., & Extremera, N. (2021). Perfil emocional de adolescentes en riesgo de un uso problemático de internet. *Revista de Psicología Clínica Con Niños y Adolescentes*, 8(1), 47–53. <https://doi.org/10.21134/rpcna.2021.08.1.6>.
- Assunção, R. S., & Matos, P. M. (2017). The generalized problematic internet use scale 2: Validation and test of the model to Facebook use. *Journal of Adolescence*, 54, 51–59. <https://doi.org/10.1016/j.adolescence.2016.11.007>
- Aznar-Díaz, I., Romero-Rodríguez, J. M., García-González, A., & Ramírez-Montoya, M. S. (2020). Mexican and Spanish university students' Internet addiction and academic procrastination: Correlation and potential factors. *PLoS One*, 15(5), 1–18. <https://doi.org/10.1371/journal.pone.0233655>
- Baloglu, M., Şahin, R., & Arpacı, I. (2020). A review of recent research in problematic internet use: gender and cultural differences. *Current Opinion in Psychology*, 36, 124–129. <https://doi.org/10.1016/j.copsyc.2020.05.008>.
- Bisquerra, R., & Rebollo, C. (2021). Educación emocional y bienestar: por una práctica científicamente fundamentada. *Revista Internacional de Educación Emocional y Bienestar*, 1(1), 9–29.
- Caba-Machado, V., Díaz-López, A., Baridon-Chauvie, D., Machimbarrena, J. M., Ortega-Barón, J., & González-Cabrera, J. (2023). Nomophobia in Mexico: Validation of the nomophobia questionnaire (NMP-Q) and cross-cultural comparison with Spain. *Current Psychology*, 1–13. <https://doi.org/10.1007/s12144-023-04451-1>
- Cabero Almenara, J., Martínez Pérez, S., Valencia Ortiz, R., Leiva Nuñez, J. P., Orellana Hernández, M. L., & Harvey López, I. (2019). La adicción de los estudiantes a las redes sociales on-line: un estudio en el contexto latinoamericano. *Revista Complutense de Educación*, 31(1), 1–12. <https://doi.org/10.5209/revcd.61722>
- Cai, Z., Mao, P., Wang, Z., Wang, D., He, J., & Fan, X. (2023). Associations between problematic internet use and mental health outcomes of students: A meta-analytic review. *Adolescent Research Review*, 8(1), 45–62. <https://doi.org/10.1007/s40894-022-00201-9>
- Caplan, S. E. (2010). Theory and measurement of generalized problematic internet use: A two-step approach. *Computers in Human Behavior*, 26(5), 1089–1097. <https://doi.org/10.1016/j.chb.2010.03.012>
- Casas, J. A., Ruiz-Olivares, R., & Ortega-Ruiz, R. (2013). Validation of the internet and social networking experiences questionnaire in Spanish adolescents. *International Journal of Clinical and Health Psychology*, 13(1), 40–48. [https://doi.org/10.1016/S1697-2600\(13\)70006-1](https://doi.org/10.1016/S1697-2600(13)70006-1)
- CASEL. (2015). *Collaborative for academic, social, and emotional learning. 2015 CASEL guide: Effective social and emotional learning programs -middle and high school edition (Autor (ed.))*.
- Cebollero Salinas, A., Bautista Alcaine, P., Íñiguez-Berrozpe, T., & Elboj Saso, C. (2022d). Would you mind paying attention to me? Phubbing in adolescence as an educational challenge in digital and face to face coexistence. *Revista Complutense de Educación*, 33(4), 601–610. <https://doi.org/10.5209/revcd.76360>
- Cebollero-Salinas, A., Cano-Escoriaza, J., & Orejudo, S. (2022a). Are emotional e-competencies a protective factor against habitual digital behaviors (media multitasking, cybergossip, phubbing) in Spanish students of secondary education? *Computers and Education*, 181, Article 104464. <https://doi.org/10.1016/j.compedu.2022.104464>
- Cebollero-Salinas, A., Cano-Escoriaza, J., & Orejudo, S. (2022b). Social networks, emotions, and education: Design and validation of e-COM, a scale of socio-emotional interaction competencies among adolescents. *Sustainability (Switzerland)*, 14(5), 2566. <https://doi.org/10.3390/su14052566>
- Cebollero-Salinas, A., Cano-Escoriaza, J., Orejudo, S., & Íñiguez-Berrozpe, T. (2022c). Netiquette, implication of online emotional content and empathy in adolescents according to gender. *Revista Latinoamericana de Psicología*, 54, 104–111. <https://doi.org/10.14349/RLP.2022.V54.12>
- Cebollero-Salinas, A., Orejudo, S., & Cano-Escoriaza, A. (2025). Socio-emotional e-competencies, cyberaggression, and cybervictimisation in adolescents: Differences according to sex and academic year. *Journal of New Approaches in Educational Research*, 14, 5. <https://doi.org/10.1007/s44322-024-00025-6>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum Associates.
- Correa-Rojas, J., Grimaldo-Muchotrigo, M., & Espinoza, E. M. (2022). FoMO, Adicción a Facebook y Soledad como Determinantes del Phubbing en Universitarios Limeños. *Psykhé*, 31(2), 1–11. <https://doi.org/10.7764/psykhé.2020.22579>
- Díaz-Aguado, M. J., Martín-Babarro, J., & Falcón, L. (2018). Problematic internet use, maladaptive future time perspective and school context. *Psicothema*, 30(2), 195–200. <https://doi.org/10.7334/psicothema2017.282>
- Elhai, J. D., Vasquez, J. K., Lustgarten, S. D., Levine, J. C., & Hall, B. J. (2018). Proneness to boredom mediates relationships between problematic smartphone use with depression and anxiety severity. *Social Science Computer Review*, 36(6), 707–720. <https://doi.org/10.1177/0894439317741087>
- Gaeta-González, M. L., Orejudo, S., & Cebollero-Salinas, A. (2025). FoMO and Socio - Emotional e - Competencies as Predictors of Media Multitasking , Phubbing and Cybergossip in (53). University Students, Article e23183. <https://doi.org/10.1002/jcop.23183>.
- Gioia, F., Rega, V., & Boursier, V. (2021). Problematic internet use and emotional dysregulation among young people: A literature review. *Clinical Neuropsychiatry*, 18(1), 41–54. <https://doi.org/10.36131/cnfliorteditore20210104>
- González-Cabrera, J., Pérez-Sancho, C., & Calvete, E. (2016). Design and validation of the internet emotional intelligence scale (IEIS) for adolescents. *Behavioral Psychology*, 24(1), 93–105.
- Kannan, B., Karthik, S., Pal, G. K., & Menon, V. (2019). Gender variation in the prevalence of internet addiction and impact of internet addiction on reaction time and heart rate variability in medical college students. *Journal of Clinical and Diagnostic Research*, 2016–2019. <https://doi.org/10.7860/jcdr/2019/40839.12753>. January 2016.
- Karddefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior*, 31, 351–354. <https://doi.org/10.1016/j.chb.2013.10.059>
- Kircaburun, K., & Griffiths, M. D. (2018). The dark side of internet: Preliminary evidence for the associations of dark personality traits with specific online activities and problematic internet use. *Journal of Behavioral Addictions*, 7(4), 993–1003. <https://doi.org/10.1556/2006.7.2018.109>
- Kuss, D. J., Kristensen, A. M., & Lopez-Fernandez, O. (2021). Internet addictions outside of Europe: A systematic literature review. *Computers in Human Behavior*, 115(March 2020), Article 106621. <https://doi.org/10.1016/j.chb.2020.106621>
- Li, G., Hou, G., Yang, D., Jian, H., & Wang, W. (2019). Relationship between anxiety, depression, sex, obesity, and internet addiction in Chinese adolescents: A short-term longitudinal study. *Addictive Behaviors*, 90, 421–427. <https://doi.org/10.1016/j.addbeh.2018.12.009>
- Li, L., Xu, D. D., Chai, J. X., Wang, D., Li, L., Zhang, L., Lu, L., Ng, C. H., Ungvari, G. S., Mei, S. L., & Xiang, Y. T. (2018). Prevalence of internet addiction disorder in Chinese university students: A comprehensive meta-analysis of observational studies. *Journal of Behavioral Addictions*, 7(3), 610–623. <https://doi.org/10.1556/2006.7.2018.53>
- Lozano-Blasco, R., Robres, A. Q., & Sánchez, A. S. (2022). Internet addiction in young adults: A meta-analysis and systematic review. *Computers in Human Behavior*, 130. <https://doi.org/10.1016/j.chb.2022.107201>
- Mari, E., Biondi, S., Varchetta, M., Cricenti, C., Frascchetti, A., Pizzo, A., Barchielli, B., Roma, P., Vilar, M. M., Sala, F. G., Giannini, A. M., & Quagliari, A. (2023). Gender differences in internet addiction: A study on variables related to its possible development. *Computers in Human Behavior Reports*, 9(November 2022). <https://doi.org/10.1016/j.chbr.2022.100247>
- Marín-lópez, I., Zych, I., Ortega-ruiz, R., Hunter, S. C., & Llorent, V. J. (2020). Children and Youth Services Review Relations among online emotional content use , social and emotional competencies and cyberbullying. *Children and Youth Services Review*, 108, Article 104647. <https://doi.org/10.1016/j.childyouth.2019.104647>. November 2019.
- Marino, C., Gini, G., Angelini, F., Vieno, A., & Spada, M. M. (2020). Social norms and e-motions in problematic social media use among adolescents. *Addictive Behaviors Reports*, 11, Article 100250. <https://doi.org/10.1016/j.abrep.2020.100250>
- Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). A comprehensive meta-analysis on problematic Facebook use. *Computers in Human Behavior*, 83, 262–277. <https://doi.org/10.1016/j.chb.2018.02.009>
- Marino, C., Manari, T., Viena, A., Imperato, C., Spada, M., & Mussetic, A. (2023). Problematic social networking sites use and online social anxiety: The role of attachment, emotion dysregulation and motives. *Addictive Behaviors*, 138, Article 107572. <https://doi.org/10.1016/j.addbeh.2022.107572>
- Masur, P. K., Reinecke, L., Ziegele, M., & Quiring, O. (2014). The interplay of intrinsic need satisfaction and Facebook specific motives in explaining addictive behavior on Facebook. *Computers in Human Behavior*, 39, 376–386. <https://doi.org/10.1016/j.chb.2014.05.047>
- Moretta, T., & Buodo, G. (2020). Problematic Internet Use and Loneliness: How Complex Is the Relationship? A Short Literature Review. *Current Addiction Reports*, 7, 125–136. <https://doi.org/10.1007/s40429-020-00305>.

- Nasaescu, E., Marín-López, I., Llorent, V. J., Ortega-Ruiz, R., & Zych, I. (2018). Abuse of technology in adolescence and its relation to social and emotional competencies, emotions in online communication, and bullying. *Computers in Human Behavior*, 88, 114–120. <https://doi.org/10.1016/j.chb.2018.06.036>
- Orejudo, S., Cano-Escoriaza, J., Cebollero-Salinas, A., Bautista, P., Clemente-Gallardo, J., Rivero, A., Rivero, P., & Tarancón, A. (2022). Evolutionary emergence of collective intelligence in large groups of students. *Frontiers in Psychology*, 13, Article 848048. <https://doi.org/10.3389/fpsyg.2022.848048>
- Paciello, M., Derrico, F., & Saleri, G. L. E. (2021). Online sexist meme and its effects on moral and emotional processes in social media. *Computers in Human Behavior*, 116, Article 106655. <https://doi.org/10.1016/j.chb.2020.106655>
- Pardo, A., & Ruiz, M. A. (2007). *Análisis de datos con SPSS 13 Base*. McGraw-Hill.
- Ranjbar, H., & Bakhshi, M. (2018). The association between internet addiction and emotional intelligence: A meta-analysis study. *Acta Facultatis Medicae Naissensis*, 35 (1), 17–29. <https://doi.org/10.2478/afmna-2018-0002>
- Rijo, A., & Waldzus, S. (2023). That's interesting! The role of epistemic emotions and perceived credibility in the relation between prior beliefs and susceptibility to fake-news. *Computers in Human Behavior*, 141, Article 107619. <https://doi.org/10.1016/j.chb.2022.107619>
- Rodríguez Hernández, K. J., & Rodríguez Barraza, A. (2021). Violencia de género en instituciones de educación superior. *Dilemas Contemporáneos: Educación, Política y Valores*. <https://doi.org/10.46377/dilemas.v8i.2567>
- Rojas-Díaz, J. S., & Yepes-Londoño, J. J. (2022). Panorama de riesgos por el uso de la tecnología en América Latina. *Trilogía Ciencia Tecnología Sociedad*, 14(26), Article e2020. <https://doi.org/10.22430/21457778.2020>
- Rubenking, B. (2019). Emotion, attitudes, norms and sources: Exploring sharing intent of disgusting online videos. *Computers in Human Behavior*, 96, 63–71. <https://doi.org/10.1016/j.chb.2019.02.011>
- Ruckwongpatr, K., Chirawat, P., Ghavifekr, S., Gan, W. Y., Tung, S. E., Nurmala, I., Nadhiroh, S. R., Pramukti, I., & Lin, C.-Y. (2022). Problematic internet use (PIU) in youth: A brief literature review of selected topics. *Current Opinion in Behavioral Sciences*, 46, Article 101150. <https://doi.org/10.1016/j.cobeha.2022.101150>
- Sanchez-Fernandez, M., Borda-Mas, M., & Mora-Merchan, J. (2023). Problematic internet use by university students and associated predictive factors : A systematic review ☆. *Computers in Human Behavior*, 139(107532). <https://doi.org/10.1016/j.chb.2022.107532>
- Santos, A. C., Simões, C., Cefai, C., Freitas, E., & Arriaga, P. (2021). Emotion regulation and student engagement: Age and gender differences during adolescence. *International Journal of Educational Research*, 109, Article 101830. <https://doi.org/10.1016/j.ijer.2021.101830>
- Serrano-Puche, J. (2016). Internet and emotions: New trends in an emerging field of research. *Comunicar*, 46, 19–26. <https://doi.org/10.3916/C46-2016-02>
- Sesar, K., Dodaj, A., & Kordić, A. (2019). Emotional competence and sexting among university students. *International Journal of Cyber Criminology*, 13(1), 21. <https://doi.org/10.5281/zenodo.3383446>
- Spada, M. M., & Marino, C. (2017). Metacognitions and emotion regulation as predictors of problematic internet use in adolescents. *Clinical Neuropsychiatry*, 14(1), 59–63.
- Suler, J. (2004). The Online Disinhibition Effect. *CyberPsychology & Behavior*, 7(3), 321–326. <https://doi.org/10.1089/1094931041291295>
- Wartberg, L., Thomasius, R., & Paschke, K. (2021). The relevance of emotion regulation, procrastination, and perceived stress for problematic social media use in a representative sample of children and adolescents. *Computers in Human Behavior*, 121 (September 2020), Article 106788. <https://doi.org/10.1016/j.chb.2021.106788>
- Zhao, Y., Qu, D., Chen, S., & Chi, X. (2023). Network analysis of internet addiction and depression among Chinese college students during the COVID-19 pandemic: A longitudinal study. *Computers in Human Behavior*, 138, Article 107424. <https://doi.org/10.1016/j.chb.2022.107424>
- Zych, I., Ortega-Ruiz, R., & Marín-López, I. (2017). Emotional content in cyberspace: Development and validation of E-motions Questionnaire in adolescents and young people. *Psicothema*, 29(4), 563–569. <https://doi.org/10.7334/psicothema2016.340>