




Impact of Online Emotions and Netiquette on Phubbing from a Gender Perspective: Educational Challenges

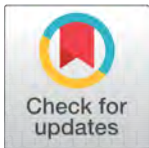
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ABSTRACT

During adolescence, the Internet is mainly used for purposes of socialization. Non-verbal elements limit online communication, thus leading to widespread use of emotional resources. It would be preferable if virtual interaction did not reduce the quality of person-to-person contacts, particularly thanks to the adoption of netiquette (respectful treatment of others online). Phubbing, the tendency to check one's mobile phone during a face-to-face conversation, has become a widespread practice that causes anxiety and can lead to social exclusion. Educating on this behavior could be related with emotional content and with netiquette. This study's objectives are to analyze the extent to which the use of netiquette and online emotional content are associated with and can predict phubbing, taking gender differences into account. 935 adolescents (ages 12-17, 55,1% female) from 13 schools in the region of Aragon (Spain) responded to our questionnaire. Results are revealing: the level of online emotional content increases the level of phubbing; online emotional expression is the most influential risk factor in both genders; netiquette protects girls to a greater degree. We discuss the educational challenges posed by guaranteeing the responsible use of social networks.



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1 INTRODUCTION

Internet use has become widespread in the adolescent and pre-adolescent population (Fernández-Montalvo, Peñalva-Vélez, & Irazabal, 2015). Social networks and instant messaging apps have become the new space for socializing, and secondary school students are those who participate the most (INE, 2020). Adolescents generally coexist simultaneously in the face-to-face and the virtual environment; up to 87% of adolescents prefer communication via online apps to “real-life” communication (Karadağ et al., 2015). Interpersonal relationships that started as a face-to-face encounter frequently tend to be subsequently maintained in cyberspace; others initiate directly in a virtual environment. This tendency has led to new behaviors, such as phubbing (Vanden-Abee, Anthéunis, &

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Schouten, 2016), problematic use of the Internet (Yudes-Gómez, Chauvie, & González-Cabrera, 2018), and cyberbullying (Olweus & Limber, 2018). Previous studies have shown that there is a transfer from face-to-face behavior to virtual behavior, and vice versa (Eden, Heiman, & Olenik-Shemesh, 2016; Herrera-López, Romera, & Ortega-Ruiz, 2017). This situation poses new challenges not only for educators, but also in terms of harmonious coexistence Ortega-Ruiz and Zych (2016); there can be behavioral nuances according to gender, since girls and boys make use of the virtual environment in different ways. Boys mainly use the Internet for leisure or for certain chores, whereas girls tend to use mobile apps to reinforce social connections (Baron & Campbell, 2012; Muscanell & Guadagno, 2012; Oberst, Renau, Chamarro, & Carbonell, 2016), devoting more time to sending messages, to social networks, and to online video calls (Kimbrough, Guadagno, Muscanell, & Dill, 2013). Certain authors find that there are no significant differences among genders in certain behaviors such as cybergossip (Romera, Herrera-López, Casas, Ruiz, & Rey, 2018); nevertheless, most studies on the subject indicate that girls have a greater tendency to be cybervictims (Kowalski, Limber, & Mccord, 2019) and boys have a greater tendency to become cyberaggressors (Bae, 2021).

1.1 Phubbing

Given the increase in online social communication, it would be preferable if such interaction did not reduce the quality of face-to-face interaction. However, phubbing, or the tendency to check one's mobile while engaged in a face-to-face conversation (Chotpitayasunondh & Douglas, 2016), has become a habitual behavior (Blanca & Bendayan, 2018; Vanden-Abeelee, Hendrickson, Pollmann, & Ling, 2019).

Increasing research on this phenomenon has analyzed the effects of phubbing, showing that it reduces the quality of interpersonal relationships (Davey et al., 2018; Vanden-Abeelee et al., 2016) and of person-to-person communication (Mcdaniel & Coyne, 2016). Certain authors regard phubbing as a kind of social exclusion (Chotpitayasunondh & Douglas, 2018; Gonzales & Wu, 2016; Hales, Dvir, Wesselmann, Kruger, & Finkenauer, 2018), since the phubber is socially ignoring someone, reducing their feeling of belonging, and making them feel as if they were quasi-invisible (Chotpitayasunondh & Douglas, 2018). People who suffer from phubbing feel devalued (Vanden-Abeelee & Postma-Nilsenova, 2018) and perceive this behavior in others, describing it as bothersome and disrespectful (Aagaard, 2020), and as an attitude that undermines their self-confidence while reducing engagement and participation in relationships with others (Roberts & David, 2017). These same authors note that victims of phubbing more frequently tend to use social networks as a means of social compensation for their feelings of exclusion. Phubbing can have still more serious consequences for harmonious coexistence if people who feel phubbed start to reproduce the same behavior, or even respond with violence and threats (Chotpitayasunondh & Douglas, 2018). In this sense, Hales et al. (2018) suggest that the feeling of being “pushed aside” in a phubbing situation is experienced more intensely by girls; they are also those who score the highest in terms of exhibiting this behavior (Balta, Emirtekin, Kircaburun, & Griffiths, 2020).

Reviewing the literature, we note the following predictors of phubbing: lack of self-control, FOMO (“Fear of Missing Out” on something) (Chotpitayasunondh & Douglas, 2016; Santana-Vega, Gómez-Muñoz, & Feliciano-García, 2019), social anxiety, neuroticism, the degree of having a sense of belonging to a virtual community (Guazzini, Duradoni, Capelli, & Meringolo, 2019), propensity for boredom (Al-Saggaf, Macculloch, & Wiener, 2019), addiction to smartphones, addiction to SMS messages (Karadağ et al., 2015) and addiction to the Internet and/or Facebook (Blanca & Bendayan, 2018).

1.2 Netiquette

The use of Internet for entertainment and socialization is widespread in adolescence (Sma-hel et al., 2020): thus, adopting netiquette for online communication is key. Netiquette is defined as “a set of rules for behaving properly online” (Shea, 1994). This is a broad concept that includes a sense of ethics and responsibility towards others in a virtual environment, acknowledging specific guidelines that determine what is feasible and how ethical principles can be responsibly applied in action on the web (Freestone & Mitchell, 2004). In our study, netiquette refers to the responsible use of the Internet: that is, addressing others with respect in virtual communication, e.g., asking permission to publish someone’s personal information, considering the consequences before sending an online message, and responding assertively and positively on social networks (Ortega, Rey, & Sánchez, 2012).

Studies that analyze the relationship between netiquette and harmonious online and offline coexistence are scarce. In a sample of 1,200 adolescents ages 12 to 15, Park, Na, and Kim (2014) studied the mediating impact of netiquette on cyberbullying, and concluded that the two types of behavior are negatively correlated. In his review of cyberbullying literature, Ang (2015) postulated that netiquette is a protective factor against cyberbullying as it can potentially reduce disinhibited and antisocial behaviors; the author hopes that adolescents will improve their capacity to reduce exclusionary behavior on- and offline by learning to adopt netiquette in virtual communication. Certain authors indicate that netiquette is inversely associated with internet addiction and the intensity of use of social networks (Ortega et al., 2012). Moreover, in a sample of 4,000 primary and secondary education students, Kumazaki, Suzuki, Katsura, Sakamoto, and Kashibuchi (2011) found that communicating on the Internet while applying netiquette significantly reduces bullying in the face-to-face school environment. This result suggests that respectful, courteous virtual behavior can also contribute to the improvement of harmonious coexistence in presential, face-to-face situations.

In view of these studies, it is reasonable to hypothesize that if netiquette reduces antisocial behaviors such as internet addiction, then adolescents with higher levels of netiquette will have lower levels of phubbing.

1.3 Emotional Content in Online Communication

Emotional content in cyberspace refers to “emotions expressed, perceived, used, and managed online” (Zych, Ortega-Ruiz, & Marín-López, 2017). The lack of non-verbal and paralinguistic cues in communication on the Internet has led to the widespread use of emoti-

cons and other resources (Kalman & Gergle, 2014). With the purpose of reducing ambiguity in communication, they transmit emotional and intentional aspects in the electronic text while “cheering up” the recipient and encouraging the adoption of an emotional tone (Kaye, Malone, & Wall, 2017).

Studies suggest that emotional content is present and relevant in online communication (Kramer, Guillory, & Hancock, 2014; Volkova & Bachrach, 2015). Certain authors have found that when people present themselves on social networks they tend to express fewer negative emotions than in private messages (Bazarova, Taft, Choi, & Cosley, 2013); on the other hand, negative emotions are expressed to a greater degree in online communication than in face-to-face interaction (Derks, Fischer, & Bos, 2008). A growing body of research suggests that emotional stimuli promote the exchange of information online (Bayer, Ellison, Schoenebeck, Brady, & Falk, 2018). For instance, Stieglitz and Dang-Xuan (2013) found that emotionally charged tweets were more often retweeted than neutral ones. Emotions are thus a key source of content virality. In this sense, (Kramer et al., 2014) evidenced that emotions are indeed spread through social networks, and that emotional content expressed by friends online can exert an influence on people’s emotional expression. Certain authors have shown that the amount of online emotional content is related to certain cybernetic risks, such as internet abuse (Marino, Gini, Angelini, Vieno, & Spada, 2020; Nasaescu, Marín-López, Llorent, Ortega-Ruiz, & Zych, 2018) and cyberbullying (Marín-López, Zych, Ortega-Ruiz, Hunter, & Llorent, 2019).

This incipient body of research shows that online emotional content is apparently relevant to cybernetic behavior and, consequently, could likewise be relevant to phubbing. Thus, it would seem plausible to hypothesize that emotionally charged content in online communication encourages a preference for virtual social relations over face-to-face ones. This would encourage phubbing, thereby undermining face-to-face interrelations and coexistence.

2 GOALS

In view of the relevance of netiquette and online emotional content in social interactions and their possible relationship with phubbing, our study proposes to analyze the extent to which the use of netiquette and online emotional content is associated with phubbing and predicts it, differentiated by gender. This will help us progress in attempting to ascertain the impact of online behavior on face-to-face social relationships. This is the first study to relate these variables to one another.

To provide a theoretical framework, we postulate the following hypotheses:

- The level of online emotional content is positively associated with the level of phubbing (Hypothesis 1)
- The use of netiquette is related to a lesser degree of phubbing (Hypothesis 2).
- In the prediction of phubbing, significant differences appear according to gender (Hypothesis 3).

3 METHODS

3.1 Sample

Our sample of participating subjects consisted of 953 students aged 12 to 17, enrolled in thirteen secondary education schools in the Autonomous Region of Aragon (Spain). At the onset, the sampling procedure was conceived to be probabilistic by quota by gender, according to the number of students in each province of Aragon. In addition, each age group was considered according to data provided by official statistical sources, thereby creating representative sampling units proportionate to distribution among urban and rural centers, as well as among private and public schools. Each sampling unit corresponded to a specific school. However, the pandemic situation meant that IT classrooms could not be used by large groups to complete the survey, thus creating a major hindrance for data collection. We thus opted to change the sampling modality to non-probabilistic for convenience. Nevertheless, to ensure the representativeness of the sample, we attempted to maintain quotas by gender, age, type of center (public/private), and location (urban/rural). Distribution by gender was equitable (55.1% girls), with a mean age of 13.80 (SD=1.27). The survey was conducted in September 2020 and January 2021.

3.2 Tools

To evaluate phubbing, we used the Phubbing Scale (Karadağ et al., 2015) in its Spanish-language version (Blanca & Bendayan, 2018). It is made up of 10 items divided into two subscales on a Likert-type scale with scores ranging from 1=never to 5=always. One of the two evaluated dimensions is “disruption of communication,” with a subscale of 5 items: it quantifies the frequency of interruption of face-to-face conversations because the interlocutor is checking their mobile. The Cronbach’s alpha reliability score for this subscale was $\alpha=.76$. The second dimension evaluated by this questionnaire is “obsession with the phone,” consisting of 5 items: it evaluates the subject’s need to use the smartphone. Cronbach’s alpha reliability score for this subscale was $\alpha=.75$. The reliability score for the entire phubbing scale was $\alpha=.83$.

For the evaluation of netiquette we used the “Responsible Use” subscale taken from the “Questionnaire for the Evaluation of the Quality of Cyberbehavior”, also called “EsCaCiber” (Ortega et al., 2012). The items in this subscale refer to the subject’s appreciation of respectful treatment of others (for example: “I treat others with respect on social media” and “I ask for permission”), of acting responsibly online with regard for the consequences (for example: “Before I comment on someone or criticize them on social media, I think of the harm I might be doing to them”), and of acting assertively online while exhibiting self-control (for example: “If I feel someone is being aggressive towards me on social media, I try to respond calmly and non-violently”). This subscale consists of 4 items; its reliability according to Cronbach’s alpha was $\alpha=.74$. It consists of a 5-point Likert scale ranging from 0=never to 4=always.

To evaluate online emotional content, we used the E-motions questionnaire (Zych et al., 2017), which quantifies emotional content that is expressed, perceived, used, and man-

aged in online interaction on social networks. The questionnaire contains 21 items divided into four subscales: its internal consistency was high, with a Cronbach's alpha of $\alpha=.94$ for the total scale. The subscales are the following: e-motional expression (4 items, $\alpha = .84$; for example: "I express my emotions through social network websites such as Facebook or Instagram"); e-motional perception (3 items, $\alpha = .75$; for example: "My contacts show me through Facebook or Instagram whether they are happy or sad"), facilitating the use of e-motions (6 items, $\alpha = .91$; for example, "I express my emotions through Facebook or Instagram to overcome my problems"), understanding and managing e-motions (8 items, $\alpha = .87$; for example, "If I get angry, I control myself to avoid trying to get even with my contacts on Facebook or Instagram"). The items are scored on a 5-point Likert scale ranging from 1 (thoroughly disagree) to 5 (thoroughly agree).

3.3 Procedure

We started by sending the schools our request for participation, with a brief description of the study's scope and objectives. After having received the agreement from school administrations and the signed informed consent forms from the students' families, we informed the students of the study's objectives and the voluntary nature of their participation. The schedule agreed upon for completing the questionnaires was 30 minutes within class time in the presence of a member of our research team. We then proceeded to collect and analyze the information from the questionnaires.

This study was conducted according to ethical standards and was approved by the Coordinating Committee of Biomedical Research Ethics of Aragon.

3.4 Data Analysis

We obtained descriptive statistics to establish the participants' sociodemographic and psychological characteristics. Relationships among variables were analyzed through bivariate correlations. Tool reliability and validity were calculated with Cronbach's alpha. We conducted correlational analyses among the variables through Fisher's Z transformation, differentiating by gender if differences between boys and girls were statistically significant. We explored the study variables' predictive capacity for phubbing by applying Multiple Linear Regression, taking into account the fulfilment of the regression assumptions (Pardo & Ruiz, 2013). This procedure was carried out differentiating by gender, using the following method for the incorporation of variables: first, we incorporated each of the dimensions of online emotional content as independent, subsequent steps (to avoid possible collinearity among dimensions which are more strongly correlated with one another), after which we finally proceeded to introduce the netiquette variable. To analyze the degree of improvement in the different categories and to evaluate the contribution provided by new variables, we applied the stepwise method in each category. In all these phases we used the SPSS 26.0 statistical package.

4 RESULTS

4.1 Descriptive Results

Regarding differences among variables by gender, our results (Table 1) indicate that boys and girls differ in terms of their level of phubbing ($F= 25.810$, $p=.000$). Girls also score higher values on netiquette ($F= 9.009$, $p=.003$), e-emotional expression ($F= 61.800$, $p=.000$), e-emotional perception ($F= 14.56$, $p=.000$), and understanding and managing e-emotions ($F= 34.54$, $p=.000$). No differences were detected in the variable of facilitation of e-emotions. Effect size is moderate in the case of e-emotional expression ($\eta^2 =.016$), and low in the other variables.

Table 1 ANOVA of variables by gender

		N	X	SD	F	p	η^2
Phubbing	girl	525	23,40	7,389	25,810	.000	.026
	boy	428	21,12	6,459			
Emotional expression*	girl	525	12,07	3,169	61,800	.000	.06
	boy	428	10,36	3,448			
Emotional perception*	girl	525	12,07	3,169	14,56	.000	.015
	boy	428	8,96	2,698			
Facilitation of emotions*	girl	525	13,58	4,706	2,314	.129	.002
	boy	428	13,09	5,131			
Understanding and regulation of emotions*	girl	525	28,41	5,674	34,54	.000	.036
	boy	428	26,03	6,644			
Netiquette	girl	525	11,96	3,488	9,009	.003	.010
	boy	428	11,23	3,933			

Note: * $p<.05$; ** $p<.01$

* Dimensions of online emotional content

4.2 Relationships Between Variables by Gender

Table 2 shows the correlations among variables differentiated by gender. The relationship between the dimensions of online emotional content and phubbing is positive and significant in both boys and girls. In other words, the better they express, facilitate, perceive, and understand e-emotions, the more they tend to focus on their mobile, ignoring their interlocutor in a face-to-face conversation. Among those relationships, the expression of e-emotions and the facilitation of e-emotions are the strongest, attaining values over .300 in both genders.

The relationship between phubbing and netiquette is significant and negative in both girls and boys. In girls it attains higher values than in boys ($r=-.301^{**}$ in girls vs. $r=-.158^{**}$ in boys). These results are significant $z=-2.32$ (0.0214); in other words, the correlation in girls is significantly stronger than in boys. We posit a bidirectional value since we do not know the concrete direction of the correlation *a priori*.

Regarding relationships between netiquette and online emotional content, netiquette is significantly and negatively related in both boys and girls with facilitation of e-emotions

Table 2 Correlations among variables by gender

GIRLS						
	Phubbing	Emotional expression	Emotional perception	Facilitation of emotions	Understanding and regulation of emotions	Netiquette
Phubbing	1	.409**	.186**	.356**	.125**	-.301**
Emotional expression*	.371**		.437**	.583**	.358**	-.145**
Emotional perception*	.193**	.488**		.453**	.580**	0.059
Facilitation of emotions*	.312**	.659**	.499**		.410**	-.122**
Understanding and regulation of emotions	.188**	.402**	.647**	.462**		.209**
Netiquette	-.158**	-0.068	.066	-.114*	.253**	1
BOYS						

Note: * $p < .05$; ** $p < .01$; $N = 953$

* Dimensions of online emotional content

($r = -.122^{**}$ for girls vs. $r = -.114^{**}$ for boys), as well as positively with understanding and managing e-motions ($r = .209^{**}$ in girls vs. $r = .253^{**}$ in boys).

Relationships between the dimensions of online emotional content are significant and positive in both genders. The highest correlations are: e-motional perception with understanding of e-motions ($r = .580^{**}$ in girls vs $r = .647^{**}$ in boys), and e-motional expression with facilitation of e-motions ($r = .583^{**}$ in girls vs $r = .659^{**}$ in boys).

4.3 Predictor Variables of Phubbing by Gender

The results of the regression equations by gender are presented in Table 3 and Table 4.

Table 3 Linear regression of phubbing in girls

Model	β	β	β	β	β	R ²	ΔR^2	Change in F
Emotional expression*	.954	.944	.734	.743	.643	0.166	0.167	105.059**
Emotional perception*		.027	-.110	-.010	.004	0.164	0.000	0.043
Facilitation of emotions*			.297	.314	.252	0.185	0.022	14.016**
Understanding and regulation of emotions*				-.090	.014	0.186	0.003	1.947
Netiquette					-.516	0.245	0.053	36.127**

a. Gender = female

* Dimensions of online emotional content

Note: * $p < .05$. ** $p < .01$

In terms of gender, the model explains 24.5% of the variability in phubbing for girls and 16.3% for boys. The variables of e-motional expression, facilitation of e-motions, and netiquette are incorporated in both regressions. However, their percentage of participation is not the same. The contributions provided by understanding and managing e-motions, as well as of e-motional perception, are not significant.

As can be seen in Table 3 and Table 4, e-motional expression is a factor with a positive coefficient ($\beta=.643$ in girls vs $\beta=.539$ in boys), and it is the one which provides the largest contribution in both cases, explaining a similar percentage of variability in both genders (16.7% in girls vs 13.7% in boys). The next most relevant factor is netiquette, which has a negative coefficient ($\beta=-.516$ in girls vs $\beta=-.250$ in boys), with a pronounced difference between the two genders in terms of its contribution. In girls it represents 5.3% of variability in phubbing, against 2% in boys. Lastly, as with e-motional expression, the facilitation of online e-motions has positive coefficients ($\beta=.252$ girls vs $\beta=.101$ boys), and its contribution is greater in girls (2.2 % girls vs 0.8% boys).

Table 4 Linear regression of phubbing in boys

Model	β	β	β	β	β	R2	$\Delta R2$	Change in F
Emotional expression*	.694	.680	.553	.551	.539	.137	0.137	67.859**
Emotional perception*		.038	-	-	-	.138	0.000	0.094
			.032	.079	.102			
Facilitation of emotions*			.157	.149	.101	.146	0.008	4.039**
Understanding and regulation of emotions*				.035	.098	.146	0.002	0.359
Netiquette					-	.163	0.020	10.152**
					.250			

a. Gender = male

* Dimensions of online emotional content

Note: * $p < .05$. ** $p < .01$

5 DISCUSSION AND CONCLUSIONS

The objectives of this study were to analyze the extent to which online emotional content and the use of netiquette predict phubbing, considering the possibility of differences among genders. Our results confirm the three postulated hypotheses, thereby representing an advancement in terms of knowledge regarding the influence of adolescent cyberbehavior on face-to-face socialization.

Our descriptive results reveal that girls reach higher levels of phubbing than boys; in other words, girls have a greater tendency to focus on their mobile while involved in face-to-face conversation. This is in line with previous studies (Balta et al., 2020; Błachnio & Przepiorka, 2019). In online emotional content, both genders attain similar levels in the dimension of facilitation of e-motions. In other words, with the same frequency, girls and boys use online emotions to overcome difficulties in virtual communication and to improve relations with contacts. However, in all other dimensions of the “online emotional content” variable, girls attain higher levels. In other words: girls more frequently express how they feel, they have higher levels of perception of how others feel, and they are more prone to regulate and understand online emotions if they get angry (for example, to avoid venting their anger on their online contacts). These results show that gender is also a relevant theme

in online environments, and should be taken into account when educating adolescents on how they should navigate their encounters on social networks (Bae, 2021; Karadağ et al., 2015).

The associations found in this study between online behavior and phubbing illustrate how virtual behavior influences face-to-face behavior. On the one hand, they show that online emotional content is negatively correlated with netiquette as well as positively with phubbing in both genders. Emotions thus play an important role in online environments, as shown in previous studies (Bayer et al., 2018; Kramer et al., 2014; Volkova & Bachrach, 2015; Zych et al., 2017); on the other hand, online emotions influence the way we behave both online and offline. At the same time, our results suggest that online emotional stimuli draw users' attention to virtual information, to the point that they end up giving priority to online information over what they are experiencing face-to-face. This is in line with previous studies, which have shown that people who make use of a high degree of emotional content in the virtual environment have a greater tendency to suffer from addiction or from problematic internet use (Nasaescu et al., 2018). According to some authors, people who experience difficulties in identifying and describing their feelings tend to focus on the online environment to the detriment of the face-to-face environment; they tend to favor online emotional expression in order to facilitate their own understanding of emotions (Zych et al., 2017). In our results, phubbing is negatively correlated with netiquette in both boys and girls, thereby revealing the existence of a transference of online behavior to face-to-face situations. In other words, those adolescents who maintain respectful attitudes and behaviors toward others online are also capable of fostering quality relations in face-to-face coexistence. This transference of behaviors between both types of environment is in line with similar transfereces encountered between other phenomena such as bullying and cyberbullying (Eden et al., 2016; Herrera-López et al., 2017).

The results we found regarding the prediction of phubbing yield important new findings. Online emotional expression is the risk factor that exerts the strongest influence on the tendency to ignore others in order to focus on one's mobile in a face-to-face conversation. As is well-known, communication through screens limits non-verbal communicative elements, which leads users to express emotions through emojis, emoticons, GIFs, etc. with the purpose of fomenting empathy and ensuring that information is appropriately contextualized (Kalman & Gergle, 2014; Kaye et al., 2017). Constantly expressing changes of emotional state online, such as changing a social media status from happy to sad in order to inform one's contacts, can lead to a loss of quality in face-to-face relationships. The use of emoticons and other virtual tools that facilitate emotional communication is therefore convenient, provided they are used in moderation; conversely, too-frequent a use of such tools can promote behavioral aspects that are less positive, such as phubbing. Complementarily to the use of, say, emojis with the purpose of contextualizing virtual information, another aspect potentially correlated with a greater amount of online emotional content (and therefore leading to the preference for virtual over face-to-face interaction) is behavioral disinhibition (Suler, 2004). This implies that self-regulation can be a key factor for conducting oneself in virtual environments.

Regarding gender, the effect of e-motional expression on the rate of phubbing is similar in girls and boys, thus suggesting that we should avoid gender stereotypes in supposing a greater influence of emotions on girls. On the other hand, a significant difference found in this study between girls and boys is the role played by netiquette in predicting phubbing. Although respectful conduct on the Internet predicts the face-to-face behavior of both genders regarding phubbing, netiquette does have a greater predictive effect in girls than in boys. In other words, the fact of asking for permission before publishing someone else's photo or of responding calmly when one feels attacked on social networks has an influence that leads to greater quality of face-to-face conversations in the case of both genders, and to a greater extent in girls. How can this be explained? Adolescents who are more respectful in their virtual exchanges would be less focused on the Internet and would find it easier to attend to face-to-face social demands (Ortega et al., 2012); on the other hand, girls in online interactions are more oriented toward relational aspects, such as devoting time to social networks (Baron & Campbell, 2012; Oberst et al., 2016), and would thus find more occasions to be respectful online. This might explain why girls attain higher levels of netiquette, as indicated in our results.

This study has certain important implications and raises a series of educational challenges. Its findings provide some evidence to help design and implement a series of strategies for the promotion of harmonious coexistence in face-to-face as well as in virtual contexts, such as offering preventive education on the subject of netiquette. We are well aware of the educational challenge this implies, since it suggests that we might also need to analyze anti-values that can easily become involved in virtual communication, such as the search for popularity by paying attention to audience size and number of followers on social networks (Félix, Echebe, Fernández, & Ruiz, 2016). If we want to holistically educate youngsters in terms of digital competency, cyber-ethics are ultimately just as relevant as technical know-how. This study also points to the need to enable adolescents to deal constructively with their emotions when they interact on the Internet, in order to avoid damaging harmonious coexistence. Our results suggest that online emotional content is highly relevant, particularly when emotions are expressed in a balanced way: thus, socio-emotional competencies acquire a particular importance in the virtual environment, and should therefore be integrated into the curriculum and into socio-emotional learning modules imparted in high schools (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). This should be carried out in an inclusive, interdisciplinary manner, involving the entire educational community in a systemic, communitarian approach. To face these challenges, it would be essential to involve other actors as well: the families, a series of socio-educational, psycho-sanitary and legal agents, as well as adults involved in organizing leisure activities.

This study has certain limitations. The data were obtained through self-reported questionnaires in which participants could reflect certain desired or imagined situations. In future studies along these lines, it would be advisable to include the perception of other groups (peers and teachers) to complement the information obtained through self-reports. Future studies should also enlarge the sample to include participants from other cultural backgrounds, which would lead to more general conclusions. In view of our results, these

variables have greater explanatory potential for the phubbing phenomenon in girls, and this allows us to take certain educational decisions; future studies should nevertheless explore other variables capable of explaining phubbing to a greater extent in boys, such as the motivational factors (e.g., videogaming) that lead boys to spend time on the Internet (Smahel et al., 2020).

Despite these limitations, the obtained results are relevant as this is the first study to provide evidence of the influence on phubbing exerted by the way we communicate on the Internet in terms of online emotional content and netiquette, thereby showing the influence of online behavior on the quality of face-to-face relationships. To summarize, this study's conclusions provide novel evidence with the potential to improve harmonious face-to-face and virtual coexistence, highlight the value of adopting a preventive, positive, interdisciplinary approach, and point toward holistic interventions designed to empower the adolescent population.

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