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Cybergossip in Adolescence: Its Relationship with Social Competency, Empathy, Emotions in Online Communication and Socio-emotional E-competencies by Gender and Age

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Abstract

Cybergossip involves making evaluative comments about third parties through digital devices, a behaviour accentuated by the use of social networks and associated with the intensification of cyberbullying, especially among adolescents. Certain studies suggest that there may be a relationship between cybergossip and socio-emotional variables. However, few studies have analysed this, and even fewer have considered a further series of variables that are evaluated in the online environment, taking into account gender and age differences. Thus, the aim of this study is to analyse the predictive capacity of social competency, empathy, emotional online content (e-motions), and socio-emotional e-competencies in relation to cybergossip. In order to achieve this, we conducted a large-scale survey among Spanish adolescents (n = 992) aged 12–16 (54.4% girls, M = 13.80, and SD = 1.27). Results showed that cybergossip increases with age, with a similar frequency in boys and girls. Regression analysis showed that the variables we evaluated in the online environment can improve our knowledge about cybergossip in relation to social competency and empathy. Moreover, e-motions, which tend to come into play in the transmission of online messages, increase the frequency of cybergossip. Socio-emotional e-competencies, however, can reduce its occurrence, thereby helping adolescents adapt to online interaction environments. Certain socio-emotional e-competencies stand out: e-regulation of emotions in girls, e-self-control of impulsivity in boys, and emotional e-independence in both genders and in older adolescents. Finally, we highlight the need for adolescents to develop specific online emotional competencies.

Keywords: cybergossip; emotion; socio-emotional competencies; empathy; adolescents; gender; age

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Introduction

Internet and the Transformation of Gossip Into Cybergossip

The internet provides new forms of interaction in which individuals can collaborate and socialize with their peers (Twenge & Martin, 2020). Some of them reproduce behaviors that also occur in face-to-face interactions. This is the case of gossip, defined as the exchange of information with evaluative content about absent third parties

(Foster, 2004), which reappears in modified form in the online environment, where it is referred to as cybergossip (Romera et al., 2018). A series of studies have shown that gossip can be motivated by the desire to provide the group with a greater degree of cohesion (Grosser et al., 2010), the desire for social enjoyment, social influence, information gathering and validation (Beersma & Van Kleef, 2012) as well as the venting of emotions (Dores-Cruz, Balliet, et al., 2019). Nevertheless, internet offers some specific elements to the context of gossip such as a notable increase in the number of available communication channels, the possibility of interacting through anonymous profiles (Christie & Dill, 2016), or easily editing information to create fake news, (Rijo & Waldzus, 2023), as well as a higher likelihood of misunderstandings due to the limitation of transmitting nonverbal communication elements (Romera et al., 2018).

All of these phenomena bring about major changes in the quantity and quality of communication in our time (Nesi et al., 2018) and exert considerable influence on the formation of friendships during adolescence (Valkenburg & Peter, 2011). Given that peer relationships are particularly important during this part of life (Albert et al., 2013), cybergossip may play a key role in socialization processes. In fact, studies have showed that the frequency of cybergossip is significantly associated with active or passive participation in bullying and/or cyberbullying during adolescence (Falla et al., 2021; Garcia-Fernandez et al., 2022). Similar results have been noted in cohorts of 10-to-13-year-old school children (López-Pradas et al., 2017; Romera et al., 2018). In a further study, cybergossip has been found to be a mediating variable in the relationship between family communication and adolescent cyberaggression (Romera et al., 2021). On the other hand, another research team has studied the predictive capacity of cybergossip for the occurrence of sexting cases in students aged 11 to 18. They have found that cybergossip is one of the most important factors in the prediction of sexting in girls (Casas et al., 2019).

In relation to the influence of gender and age in this phenomenon, it seems that the frequency of cybergossip tends to increase with age (Cebollero-Salinas et al., 2022a; Romera et al., 2021). However, as regards the gender variable, results in the literature are not conclusive. Two different research teams found that adolescent girls engaged in cybergossip to a greater degree than boys (Garcia-Fernandez et al., 2022; Oluwole, 2009), while other studies found no significant gender differences associated with the frequency of cybergossip (Cebollero-Salinas et al., 2022a; Romera et al., 2018, 2021).

In Spain, as in other countries, the few studies on cybergossip focus on its effects on online risks. However, there is a lack of works analysing their predictors. Given that the internet has become an essential channel for young people to gain access to society and participate therein (Anderson & Auxier, 2021), we need to learn more about the phenomenon of cybergossip. It would be beneficial to have access to studies that identify its predictors, among which a number of socio-emotional factors appear to be particularly relevant.

Cybergossip and Socio-Emotional Variables

Cybergossip is strongly associated with a series of socio-emotional aspects. For example, being the target of cybergossip can be a painful experience triggering emotions such as fear of being negatively evaluated (Wolniewicz et al., 2018). Anger and annoyance tend to emerge in such online exchanges when negative pieces of gossip are used to interfere with the reputation of a member of the group (Kisfalusi et al., 2019). The possibility of one's comments reaching a large audience may increase the fear of missing somethings (Throuvala et al., 2019). All this contributes to the relatively high degree of disinhibition observed in online comments (Suler, 2004). In such comments on instant messaging apps and social media, likes are used as a way of social comparison (Rosenthal-von der Pütten et al., 2019) and users exchange jokes, opinions and elements of entertainment that can create feelings of satisfaction or rejection (Svensson 2014). The emotional processes that emerge in these online environments can influence the frequency and type of comments therein. For this reason, identifying the socio-emotional factors that could promote cybergossip among adolescents will help to better understand this phenomenon. However, there are no studies in this area. In the current investigation, we propose to analyse several of those socio-emotional variables, including social competency (Romera et al., 2022), empathy (Jolliffe & Farrington, 2006), emotional online content (Zych et al., 2017), and socio-emotional e-competencies (Cebollero-Salinas et al., 2022a).

Social competency is defined as the ability to interact efficiently with others (Rose-Krasnor, 1997). According to Gómez-Ortiz et al., (2017), social competency includes aspects such as prosociality, emotional regulation, social adjustment and adjustment to the rules. On the other hand, Oliva et al., (2011) associate them with assertiveness, establishing and maintaining friendships and other social bonds, and the ability to resolve conflicts. In addition, studies exploring the role of gender in social competency have shown that girls reach higher scores in social

competency than boys (for example, Portnow et al., 2018; Zych et al., 2018). Age also appears to be a discriminative variable for social competency, even though there is no consensus on its direction. For example, studies such as those by Costa & Faria (2015) have found an increase in social competency along adolescence, while works such as the one by Romera et al. (2022) have shown that adolescents aged 10–12 reach higher levels of social competency when compared to teenagers aged 13–14. According to the literature, this competency is related to cybergossip (Casas et al., 2019). These authors found that those adolescents with high levels of social competency are less likely to engage in cybergossip behaviours. In line with these observations, further studies have evidenced that social competency is a protective factor against other online risks, including cyberaggression (Romera et al., 2021; Zych et al., 2019).

Another important socio-emotional factor is empathy. It is defined as “an emotional response that stems from another’s emotional state or condition and that is congruent with the other’s emotional state or situation” (Eisenberg & Fabes, 1990, p. 4). Empathy is a multidimensional construct that involves a series of emotional and cognitive processes (Jolliffe & Farrington, 2006). The term “affective empathy” refers to the vicarious experience of emotions consistent with those of the person being observed. The result is often a feeling of concern for others. On the other hand, the term “cognitive empathy” or “adoption of perspective” can be defined as mental awareness and comprehension of the emotions of another person (Davis, 1983). Studies in this area that have taken the gender variable into account have found that girls have a greater capacity for empathy than boys of the same age (Christov-Moore et al., 2014). Additionally, Van der Graaff et al. (2014) suggest that such gender differences can be explained by the stability of empathy in girls during adolescence, contrasted with a decrease in empathy observed in boys from early youth. According to a recent meta-analysis (Y. Yin & Wang, 2023), empathy is related to prosocial behaviour and both variables are predictors of high quality interpersonal relationships among adolescents (Herrera-López et al., 2022). For this reason, empathy might also play an important role in participating in the positive functions of cybergossip, such as avoiding comments motivated by feelings of envy (L. Yin et al., 2021) or of jealousy (Lim & Yang, 2015), knowing how to de-escalate situations arising from misunderstandings and supporting victims whose reputation has been tarnished by rumours (Kisfalusi et al., 2019). In fact, literature shows that empathy increases netiquette or social rules for respectful online engagement (Cebollero-Salinas et al., 2022b) and reduces the occurrence of situations of exclusion and aggression on the internet (Hu et al., 2023; Li, 2023; Zych et al., 2019). Thus, empathy and social competency can exert a considerable influence on the emotions underlying cybergossip, helping the user to avoid making further negative evaluative comments. It would therefore be reasonable to hypothesize that social competency and empathy could be protective factors against the frequency of cybergossip.

Another important emotional factor can be found in online emotional content, also called e-motions (Zych et al., 2017). These authors use the term “e-motions” to refer to the expression, perception, facilitation, and comprehension of online emotions. This variable also encompasses recent phenomena that encourage online virality and emotional exchange (Bayer et al., 2018), such as the number of views and likes (Rosenthal-von der Pütten et al., 2019), chain messages and retweets (Stieglitz & Dang-Xuan, 2013), emoticons (Oleszkiewicz et al., 2017), emojis, memes, and virtual gifts. Few studies have analysed the relationship between e-motions and online conduct among adolescents. Particularly, the dimensions of e-motions are a risk factor for technology abuse (Nasaescu et al., 2018), problematic use of social networks (Marino et al., 2020) and cyberbullying (Marín-López et al., 2020). In addition, this study found that male gender and e-motional expression online uniquely predicted a higher involvement as cyberbully/victim. E-motions have been also studied for the prediction of netiquette in 12-to-16-year-old adolescents (Cebollero-Salinas et al., 2022b). These authors conclude that boys who facilitate the use of emotions in the virtual environment are less likely to respect social norms in internet interactions (Cebollero-Salinas et al., 2022b). This suggests that e-motions may also be related to cybergossip. In fact, some studies have shown that one of the motivations for engaging in gossip is emotional venting (Brady et al., 2017; Duprez et al., 2015; Feinberg et al., 2012) and even that emotional venting is a stronger predictor of the tendency to gossip than other types of motivation such as warning about people who disobey the group’s cooperation norms (Dores-Cruz, Balliet, et al., 2019). Emotional venting may occur, for example, when adolescents share emotionally evocative experiences (Grosser et al., 2010), express emotions that generate empathy and mutual support (Pauw et al., 2018), and share the story of a bad experience that generates anger or happiness. It is thus reasonable to hypothesize that online emotional content will predict the frequency of cybergossip.

Emotional online content in general, and emotional venting in particular could be managed by socio-emotional e-competencies, as they are inversely related to the two former variables (Cebollero-Salinas et al., 2022c). These competencies comprise a series of skills that allow individuals to manage their emotions in specific online

situations in an effort to establish optimal relationships with others. These competencies are: emotional e-awareness (the ability to identify and understand one's own emotions in a virtual context), e-regulation of emotions (the ability to generate appropriate responses to a context by identifying one's emotional states generated by the specific characteristics of communication on the internet), e-self-control of impulsivity (the competency to inhibit spontaneous responses in the face of stimuli, social demands, and information appearing on the internet), emotional e-independence (the ability to feel emotionally strong in online social relationships without relying on online reputation, likes, followers, etc.) and social e-competency (the ability to maintain good relationships in a virtual environment, while exhibiting prosocial behaviour). Thus, previous results among 12-to-16-year-olds have found that socio-emotional e-competencies predict cybergossip, phubbing, and multitasking (Cebollero-Salinas et al., 2022a), and that protective factors include the emotional e-independence dimensions in girls and in older adolescents (3rd-4th grade), whereas the e-regulation of emotions and e-self-control of impulsivity dimensions are protective in both genders and all age groups (Cebollero-Salinas et al., 2022a).

Due to the aforementioned reasons, it would be plausible to hypothesize that social competency, empathy, online emotional content, and the socio-emotional e-competencies could be key predictors of cybergossip. Therefore, the aim of this study is to analyse the predictive capacity of social competency, empathy, online emotional content (e-motions), and socio-emotional e-competencies (e-COM) regarding cybergossip in several groups of adolescents divided according to gender and academic year (1st-2nd and 3rd-4th year of Compulsory Secondary Education). Those competencies have not yet been analysed in conjunction with further socio-emotional variables, nor have potential age and gender differences been taken into account. In addition, the joint use of the predictive variables in hierarchical regression models, including the variables at different levels, will allow to test the predictive value of each of these variables on cybergossip.

We therefore propound the following hypotheses:

H1: Social competency, empathy, and socio-emotional e-competencies (e-COM) will be protective factors against cybergossip among adolescents, whereas online emotional content (e-motions) will be a risk factor. We therefore expect these variables to have a negative sign (protective factors) and a positive sign (risk factors) when they are part of both the correlations and the regression equations. We also expect these variables to have a different weight in explaining cybergossip since they will be included together in the hierarchical regression models presented.

H2: We expect to find differences in cybergossip predictions by gender and age group. According to previous studies, these differences should at least include emotional e-independence in girls and in older adolescents (3rd-4th grade) as well as e-motional expression online and facilitating the use of e-motions in boys.

Methods

Participants

992 students aged 12-16 (enrolled in the 1st to 4th year of Compulsory Secondary Education) in 12 centres of secondary education (ESO = *Educación Secundaria Obligatoria*) in Spain filled out the battery of questionnaires. It was a convenience sample but with a similar proportion between gender and age (54.4% girls and 45.6% boys, $M = 13.80$ and $SD = 1.27$). We regrouped the four academic levels into two groups (50.10% in 1st to 2nd grade and 49.90% in 3rd to 4th grade). The proportion of boys and girls did not differ significantly among the academic levels (Chi-square = 2.368, g.l.= 3, $p = .387$), neither were there statistically significant differences among the mean ages of boys and girls ($F_{1,776} = 2.194$, $p = .139$).

Instruments

Cybergossip Questionnaire-Adolescents (CGQ-A; Romera et al., 2018). This is a one-dimensional questionnaire consisting of 9 items on a 5-point Likert scale (0 = *never* to 4 = *always*), based on the four main functions of gossip: informing, influencing, creating friendship, and entertaining. Two item examples are: *I tell my friends through social networks or WhatsApp the things that I find out that happen to others* and *I talk about others on social networks or WhatsApp because it makes me feel closer to my group of friends*. The questionnaire achieved a reliability score of $\alpha = .85$ in our study.

E-motions questionnaire (Zych et al., 2017). This questionnaire contains 21 items divided into four subscales: its internal consistency was high, with a Cronbach's alpha of $\alpha = .94$ for the full scale in our study. The subscales are the following: online emotional expression (4 items, $\alpha = .80$; for example: *I express my emotions through social network websites such as Facebook or Instagram*), online emotional perception (3 items, $\alpha = .87$; for example: *My contacts show me through Facebook or Instagram whether they are happy or sad*), online emotional facilitation (6 items, $\alpha = .85$; for example, *I express my emotions through Facebook or Instagram to overcome my problems*), and understanding and managing e-motions (8 items, $\alpha = .89$; for example, *If I get angry, I control myself to avoid trying to get even with my contacts on Facebook or Instagram*). Items are scored on a 5-point Likert scale (ranging from 1 = *totally disagree* to 5 = *totally agree*). Cronbach's alpha for the whole questionnaire was $\alpha = .84$.

Socio-emotional e-competencies questionnaire (e-COM; Cebollero-Salinas et al., 2022c). This tool 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: emotional e-awareness (5 items; $\alpha = .80$; for example, *I can put a name to what I feel*), e-regulation of emotions (5 items; $\alpha = .80$; for example, *Before I make a joke about someone on social media, I am able to imagine how they will feel*), e-self-control of impulsivity (5 items; $\alpha = .84$; for example, *I cannot resist clicking on attractive links that appear in my feed*), emotional e-independence (5 items; $\alpha = .91$, for example, *If people don't react to me on social media, I feel they don't consider me part of the group*), and social e-competency (5 items; $\alpha = .86$, for example, *On social media I pay attention to the needs of others*). Cronbach's alpha for the whole questionnaire was $\alpha = .85$.

Perceived Social Competency Scale II (Anderson-Butcher et al., 2008) Spanish adaptation (Romera et al., 2016). This scale assesses the perception of social self-competence, for example: *I show concern for others* or *I give support to others*. This tool comprises 5 items on a Likert-type scale with five answer options (ranging from 1 = *completely false* to 5 = *completely true*); it achieved a reliability score of $\alpha = .91$ in our study.

Basic Empathy Scale (Jolliffe & Farrington, 2006), Spanish adaptation (Oliva et al., 2011). This scale contains 9 items on a Likert-type scale with five answer options (ranging from 1 = *totally disagree* to 5 = *totally agree* that evaluate cognitive empathy (4 items), for example, *When someone is depressed, I usually understand how they feel*, and emotional empathy (5 items), for example, *After being with a friend who is sad, for some reason I usually feel sad*, achieving reliability scores of $\alpha = .85$ and $.88$, respectively, in our study. Cronbach's alpha for the whole questionnaire was $\alpha = .85$.

Procedure

We started by collecting the parents' informed consent forms at the respective secondary schools. The students anonymously responded to certain questionnaires during class time in the presence of a researcher, either in person or via a virtual connection. The project was evaluated and approved by the Research Ethics Committee of the Community of Aragon (CEICA), thus ensuring compliance with ethical standards in research with underage subjects. Data were collected between January and March 2021.

Data Analysis

We used Pearson's correlation to determine the bivariate correlations among the variables according to gender and age group. We completed this first phase with an analysis of variance (ANOVA) by gender and age group with the aim of describing the variables' characteristics according to those two factors.

To test our hypotheses, we applied hierarchical regression in four different steps. The first step incorporated social competency and the second step included empathy, followed by the dimensions of online emotional content (e-motions) in a third step, and adding socio-emotional e-competencies in the fourth one. As a strategy for incorporating the variables, we applied the "Enter" method in each step, paying particular attention to the regression assumptions, particularly multicollinearity. The regressions were applied to four separate groups of participants defined according to gender and age. The younger girls (12–13 years old) were enrolled in the first and second years (1st and 2nd) of Compulsory Secondary Education; the older girls were enrolled in the third and fourth years (14–16 years old). We also had two equivalent blocks of boys with the same characteristics.

Results

We carried out a descriptive first approximation of the values we found in the variables under study by gender and age. A two-factor ANOVA (gender and academic year) with the two latter variables showed no interaction between them. Therefore, in the following paragraphs, we comment on the results according to the main factors.

Table 1. ANOVA by Gender and Academic Year.

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	η^2		<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	η^2
Cybergossip											
Girls	14.89	4.85	1.88	.202	.002	1 st -2 nd year	14.01	4.92	20.26	<.001	.020
Boys	14.51	5.22				3 rd -4 th year	14.72	5.02			
C Social competency											
Girls	21.42	3.13	19.99	<.001	.020	1 st -2 nd year	21.33	2.84	10.06	<.001	.010
Boys	20.45	3.53				3 rd -4 th year	20.62	3.76			
Emotional empathy											
Girls	13.68	3.41	69.02	<.001	.065	1 st -2 nd year	12.86	3.68	0.072	.517	.000
Boys	11.86	3.48				3 rd -4 th year	12.84	3.43			
Cognitive empathy											
Girls	19.12	3.66	37.73	<.001	.037	1 st -2 nd year	18.41	3.99	0.344	.498	.000
Boys	17.64	3.91				3 rd -4 th year	18.48	3.71			
Online emotional expression											
Girls	12.04	3.141	66.80	<.001	.063	1 st -2 nd year	11.03	3.51	6.75	.029	.007
Boys	10.35	3.458				3 rd -4 th year	11.50	3.47			
Online emotional perception											
Girls	9.60	2.59	14.32	<.001	.014	1 st -2 nd year	9.16	2.71	4.54	.049	.005
Boys	8.99	2.69				3 rd -4 th year	9.48	2.44			
Online emotional facilitation											
Girls	13.58	4.69	2.84	.117	.003	1 st -2 nd year	12.93	4.86	7.71	.006	.008
Boys	13.09	5.16				3 rd -4 th year	13.79	4.91			
Understanding and managing emotions											
Girls	28.46	5.64	41.92	<.001	.041	1 st -2 nd year	26.69	6.79	14.09	.001	.014
Boys	26.02	6.56				3 rd -4 th year	28.02	5.47			
Emotional e-awareness											
Girls	32.12	10.15	17.10	<.001	.017	1 st -2 nd year	32.77	10.10	2.60	.064	.003
Boys	34.77	9.60				3 rd -4 th year	33.88	9.85			
E-regulation of emotions											
Girls	37.39	8.92	2.04	.003	.002	1 st -2 nd year	37.40	9.00	1.73	.059	.002
Boys	36.55	8.74				3 rd -4 th year	36.16	8.67			
E-self-control of impulsivity											
Girls	31.95	10.03	0.55	.455	.001	1 st -2 nd year	32.73	10.18	3.18	.090	.003
Boys	32.88	10.07				3 rd -4 th year	31.57	9.90			
Emotional e-independence											
Girls	36.43	11.14	0.041	.137	.000	1 st -2 nd year	37.35	11.17	3.99	.001	.004
Boys	36.63	11.29				3 rd -4 th year	35.80	11.38			
E-social competency											
Girls	32.29	10.01	10.92	<.001	.011	1 st -2 nd year	31.38	9.58	0.20	.705	.000
Boys	30.39	9.51				3 rd -4 th year	30.34	9.19			

Regarding the variable of academic year (Table 1), we found significant differences: cybergossip increases with age, as do the expression, perception, facilitation, and understanding of online emotions, although size effects are small. Conversely, these differences decrease with age for social competency and emotional e-independence.

Regarding the gender variable, there were no significant differences between girls and boys in the frequency of cybergossip. Girls nevertheless scored higher in social competency and empathy, particularly affective empathy. For the online environment variables we evaluated, girls were the ones who better expressed, perceived, and understood online emotions, with a particularly notable size effect in online emotional expression. In the domain of socio-emotional e-competencies, there were significant gender differences in the dimensions of emotional e-awareness and social e-competency, following different patterns: boys scored higher on emotional e-awareness, whereas girls did so on social e-competency, although the size effects were smaller.

Correlation Analysis

For girls (Table 2), cybergossip was related to all dimensions of online emotional variables with medium and high values. All were positive except for e-self-control of impulsivity, emotional e-independence, and e-regulation of emotions. There were no major differences between the higher and the lower age groups. Results were similar for boys (Table 3), with higher values in both age groups, between cybergossip and e-self-control of impulsivity, as well as between cybergossip and online emotional expression and facilitation.

Table 2. Correlations Among Study Variables in Girls.

	CG	SocC	em EMP	Cog EMP	EMO exp	EMO per	EMO fac	Man EMO	e- AW	e- REG	e- IMP	e- IND	e- SOC
CG		-.20**	.02	-.03	.34**	.18**	.33**	.17**	.14*	-.25**	-.50**	-.34**	.20**
SocC	-.08		.26**	.35**	-.02	.05	-.05	.15**	.18**	.31**	.13*	.16**	.23**
emEMP	-.09	.35**		.67**	.11	.02	.11	.07	.07	.02	-.01	-.06	.22**
CogEMP	-.24**	.46**	.48**		.05	.14*	.04	.19**	.22**	.16**	-.01	.02	.25**
EMOexp	.32**	.21**	.15*	.04		.47**	.62**	.44**	.22**	-.11	-.35**	-.21**	.38**
EMOper	.09	.24**	.16**	.24**	.47**		.48**	.61**	.23**	.09	-.13*	-.13*	.33**
EMOfac	.38**	.19**	.09	.06	.62**	.41**		.46**	.19**	-.11	-.28**	-.28**	.38**
ManEMO	-.02	.38**	.32**	.44**	.44**	.53**	.35**		.28**	.23**	-.09	-.11	.50**
e-AW	.04	.10	.07	.16**	.06	.22**	.15*	.34**		.22**	-.12*	-.12*	.37**
e-REG	-.35**	.20**	.08	.26**	-.21**	.09	-.10	.21**	.34**		.20**	.18**	.26**
e-IMP	-.33**	-.01	-.01	-.04	-.36**	-.19**	-.39**	-.15*	-.09	.22**		.36**	-.17**
e-IND	-.37**	.09	-.07	-.07	-.21**	-.11	-.24**	-.04	-.09	.21**	.36**		-.16**
e-SOC	.08	.40**	.33**	.28**	.32**	.36**	.31**	.44**	.29**	.20**	-.24**	-.044	

Note. * $p < .05$ and ** $p < .01$. Data for 1st-2nd year of ESO are in superior-right half; 3rd-4th year of ESO students are in inferior-left half. SocC: Social competency; emEMP: Emotional empathy; CogEMP: Cognitive empathy; EMOexp: Online emotional expression; EMOper: Online emotional perception; EMOfac: Online emotional facilitation; ManEMO: Understanding and managing emotions; e-AW: Emotional e-awareness; e-REG: E-regulation of emotions; e-IMP: E-self-control of impulsivity; e-IND: Emotional e-independence; e-SOC: Social e-competency.

Regarding general results, socio-emotional e-competencies (e-COM) were positively related to social competency and empathy, and negatively related to the dimensions of e-motions. More specifically, social competency attained higher scores in girls (Table 2), particularly among the younger ones. Empathy was strongly correlated with social e-competency and e-regulation of emotions; for boys (Table 3), it was also correlated with e-self-control of impulsivity. However, the dimensions of online emotional content were more closely related to most of the socio-emotional e-competencies (e-COM). Regarding the correlation signs, online emotional expression, online emotional facilitation, and online emotional perception were negatively correlated with e-regulation of emotions, e-self-control of impulsivity, and emotional e-independence, whereas they were positively correlated with emotional e-awareness and social e-competency. Particularly strong relationships were observed between e-self-control of impulsivity and online emotional facilitation with emotional expression and emotional facilitation for boys and girls. There were no pronounced differences in these associations among variables in the higher age group.

The regression equations of cybergossip for girls (Table 4) explained 33.1 % of the variability of the criterion variable in the lower age group (1st-2nd grade) and 32.3 % of the variable in the higher age group (3rd-4th grade).

For boys, the equations explained 36% of the variability in the lower age group and 21.9% in the higher age group (Table 5).

We found that social competency improved the explanation of cybergossip in both genders by a proportion of 0.7–3.8%; empathy did so by a ratio of 3–5%, online emotional content (e-motions) by 13.5–22.2%, and emotional e-competencies explained 11.1–18.4% of the variability. In some cases, these middle-level contributions no longer appear in the final model once the four blocks of variables have been incorporated.

Table 3. Correlations Among Study Variables in Boys.

	CG	SocC	em EMP	Cog EMP	EMO Exp	EMO Perc	EMO Fac	Man EMO	e- AW	e- REG	e- IMP	e- IND	e- SOC
CG		-.03	-.07	-.21**	.40**	.37**	.42**	.22**	.14*	-.25**	-.51**	-.24**	.21**
SocC	-.02		.37**	.27**	.33**	.22**	.06	.21**	.11	.26**	.06	.19**	.16*
emEMP	.13*	.33**		.60**	.02	.01	-.01	.11	.14*	.03	-.09	-.13*	.21**
CogEMP	-.04	.45**	.53**		.04	.09	-.04	.24**	.13	.28**	.18**	.16**	.24**
EMOexp	.36**	.14*	.29**	.13*		.55**	.67**	.44**	.29**	-.07	-.28**	-.28**	.37**
EMOper	.10	.14*	.05	.18**	.37**		.53**	.69**	.31**	.02**	-.24**	.31**	.38**
EMOfac	.42**	.06	.16*	.04	.66**	.43**		.50**	.20**	.12	-.40**	.20**	.28**
ManEMO	.10	.26**	.15*	.33**	.34**	.56**	.40**		.42**	.25**	-.20**	.42**	.50**
e-AW	.06	.12	.02	.17*	.17**	.27**	.13**	.31**		.35**	-.18**	-.02	.45**
e-REG	-.26**	.18**	-.03	.17**	-.05	-.09	-.10	.16**	.39**		.26**	.29**	.30**
e-IMP	-.45**	.02	-.09	.13**	-.36**	-.09	-.41**	-.09	-.03	.29**		.55**	-.27**
e-IND	-.38**	.01	-.11	.13	-.22**	-.07	-.33**	.05	.11	.44**	.43**		-.19**
e-SOC	.19**	.17**	.13*	.21**	.32**	.37**	.33**	.43**	.33**	.13	-.19**	-.12	

Note. * $p < .05$ and ** $p < .01$. Data for 1st–2nd year of ESO students are in superior-right half; 3rd–4th year of ESO students are in inferior-left half. SocC: Social competency; emEMP: Emotional empathy; CogEMP: Cognitive empathy; EMOexp: Online emotional expression; EMOper: Online emotional perception; EMOfac: Online emotional facilitation; ManEMO: Understanding and managing emotions; e-AW: Emotional e-awareness; e-REG: E-regulation of emotions; e-IMP: E-self-control of impulsivity; e-IND: Emotional e-independence; e-SOC: Social e-competency.

More specifically, in Table 4 we noted that social competency makes a significant contribution (with a negative coefficient) to regression in younger girls (1st–2nd grade). That contribution gradually decreased as the blocks of variables were incorporated but managed to maintain itself up to Model 4. On the other hand, the incorporation of empathy (affective and cognitive) did not improve the models' explanatory capacity. When the dimensions of e-motions and emotional online content were incorporated in step 3, they increased the explained variability of cybergossip by 13.5%, specifically thanks to the contribution of online emotional expression and online emotional facilitation, with positive coefficients. Lastly, when socio-emotional e-competencies were incorporated (in step 4), they improved the model's explanatory capacity by 18.4%: specifically, thanks to e-regulation of emotions and e-self-control of impulsivity, both with negative coefficients. Conversely, e-motions ceased to provide a significant contribution at this final step.

In the older group of girls (3rd–4th grade), as opposed to their younger counterparts (1st–2nd), social competency did not play a significant role in predicting cybergossip in any of the models. However, cognitive empathy was incorporated with a negative coefficient in Model 2 and remained significant up to Model 4. The incorporation of e-motions considerably improved the explanation of cybergossip. Although online emotional expression and online emotional facilitation initially played an important role, only the latter variable remained significant once emotional e-competencies had been incorporated, thereby improving the explained variability by 11.2%. In this case, as in the case of younger girls, e-regulation of emotions was incorporated; and, in contrast to the younger girls, emotional e-independence was also included, both with negative coefficients.

In the linear regression for the group of boys (Table 5), we observed that social competency did not play a significant role in any of the two blocks of age groups. In the second step, empathy was incorporated with a negative coefficient, although its contribution ceased to be significant when the other blocks of variables were added. Again, e-motions (step 3) improved the explanation of cybergossip by percentages similar to girls, ranging from 4.9% to 27.1%. The significant contribution provided by online emotional facilitation was common to both age groups. Moreover, while online emotional perception was also incorporated into the group of younger boys (1st–2nd grade), online emotional expression was instead included in the group of older ones (3rd–4th grade). The

final incorporation of emotional e-competencies (step 4) again considerably improved the explained variability of cybergossip (an additional 12.5%), with e-regulation of emotions and e-self-control of impulsivity being the significant dimensions in 1st-2nd-grade boys. However, in the group of older boys (3rd-4th grade), e-self-control of impulsivity lost significance in favour of emotional e-independence.

Table 4. Multiple Linear Regression of Cybergossip in Girls.

GIRLS 1 st -2 nd year of Compulsory Secondary Education									
BI		Step 1	Step 2	Step 3	Step 4	R ²	ΔR ²	F	p
1	SocC	-.22*	-.19*	-.19*	-.12*	.038	.038	11.02	.001
2	emEMP		.09	.03	.05	.041	.003	4.24	.006
2	CogEMP		-.02	-.01	.03				
3	EMOexp			.22*	.06	.179	.135	8.32	<.001
3	EMOper			.03	-.01				
3	EMOfac			.18*	.06				
3	ManEMO			.07	.07				
4	e-AW				.07	.331	.184	12.54	<.001
4	e-REG				-.16*				
4	e-IMP				-.35*				
4	e-IND				-.09				
4	e-SOC				.09				
GIRLS 3 rd - 4 th year of Compulsory Secondary Education									
BI		Step 1	Step 2	Step 3	Step 4	R ²	ΔR ²	F	p
1	SocC	-.08	.03	-.07	-.01	.007	.007	1.84	.177
2	emEMP		.03	-.01	-.06	.058	.051	5.25	.002
2	CogEMP		-.26*	-.20*	-.14*				
3	EMOexp			.20*	.09	.243	.185	11.55	<.001
3	EMOper			-.04	-.03				
3	EMOfac			.33*	.25*				
3	ManEMO			-.04	.05				
4	e-AW				.09	.323	.112	11.30	<.001
4	e-REG				-.24*				
4	e-IMP				-.05				
4	e-IND				-.21*				
4	e-SOC				.08				

Note. * $p < .05$. SocC: Social competency; emEMP: Emotional empathy; CogEMP: Cognitive empathy; EMOexp: Online emotional expression; EMOper: Online emotional perception; EMOfac: Online emotional facilitation; ManEMO: Understanding and managing emotions; e-AW: Emotional e-awareness; e-REG: E-regulation of emotions; e-IMP: E-self-control of impulsivity; e-IND: Emotional e-independence; e-SOC: Social e-competency.

Table 5. Multiple Linear Regression of Cybergossip in Boys.

BOYS 1 st – 2 nd year of Compulsory Secondary Education									
BI		Step 1	Step 2	Step 3	Step 4	R ²	ΔR ²	F	p
1	SocC	-.03	.05	.03	.04	.001	.001	0.21	.646
2	emEMP		.89	.09	-.05	.049	.048	3.63	.014
2	CogEMP		-.27*	-.26*	-.10				
3	EMOexpr			.14	.12	.271	.222	11.05	<.001
3	EMOper			.26*	.20*				
3	EMOfac			.22*	.09				
3	ManEMO			-.08	-.07				
4	e-AW				.03	.360	.125	11.08	<.001
4	e-REG				-.15*				
4	e-IMP				-.36*				
4	e-IND				-.05				
4	e-SOC				.07				
BOYS 3 rd – 4 th year of Compulsory Secondary Education									
BI		Step 1	Step 2	Step 3	Step 4	R ²	ΔR ²	F	p
1	SocC	-.02	-.02	-.03	-.02	.000	.000	0.09	.002
2	emEMP		.22*	.10	.06	.037	.037	3.03	.030
2	CogEMP		-.16*	-.10	-.03				
3	EMOexpr			.16*	.11	.215	.178	8.96	<.001
3	EMOper			-.08	-.08				
3	EMOfac			.35*	.21*				
3	ManEMO			-.02	-.01				
4	e-AW				.08	.219	.111	8.98	<.001
4	e-REG				-.13				
4	e-IMP				-.21*				
4	e-IND				-.14*				
4	e-SOC				.05				

Note. * $p < .05$. SocC: Social competency; emEMP: Emotional empathy; CogEMP: Cognitive empathy; EMOexp: Online emotional expression; EMOper: Online emotional perception; EMOfac: Online emotional facilitation; ManEMO: Understanding and managing emotions; e-AW: Emotional e-awareness; e-REG: E-regulation of emotions; e-IMP: E-self-control of impulsivity; e-IND: Emotional e-independence; e-SOC: Social e-competency.

Discussion

This study investigated the capacity of social competency, empathy, emotional online content (e-motions), and socio-emotional e-competencies (e-COM) as predictors of cybergossip in adolescents by gender and age. Given the increased use of social media/networks among adolescents (Throuvala et al., 2019), the impact of risk behaviours such as cybergossip (Falla et al., 2021; Romera et al., 2021), the socio-emotional motivation of adolescents (Casas et al., 2019; Dores-Cruz, Balliet, et al., 2019), and the general intensity of emotions typically experienced at this stage of life (Bailen et al., 2019), it may be relevant to analyse emotional factors to gain a better understanding of the mechanisms explaining cybergossip in adolescents.

We postulated two hypotheses. The first one was confirmed: on the one hand, we found that when social competency and empathy were included in the regressions, they had a negative sign. In other words, higher levels of social competency and empathy reduce the probability of cybergossip. Since social competency and empathy lead adolescents to engage in high quality relationships (Y. Yin & Wang, 2023) and results showed that both of them reduced cybergossip, these results could indicate that cybergossip is used by adolescents in its more negative functional aspects. This means that using cybergossip to spread jokes that ridicule others, to evaluate them unfavourably, or to make comments that damage their reputation (Beersma & Van Kleef, 2012; Dores-Cruz, Beersma, et al., 2019) could be more habitual than the eventual positive use of cybergossip. This suggestion would

also be confirmed by studies that have found that cybergossip predicts cyberbullying and sexting in adolescents (Casas et al., 2019; Falla et al., 2021; López-Pradas et al., 2017; Romera et al., 2018).

Moreover, the first hypothesis has likewise proven that the emotional online content (e-motions) dimensions that contribute to the regressions (i.e., online emotional expression, facilitation, and perception) are risk factors for cybergossip, whereas the e-COM dimensions (e-self-control of impulsivity, emotional e-independence, and e-regulation of emotions) are protective factors. In other words: expressing, facilitating, and perceiving emotions online may act as factors leading to a greater disinhibition in adolescent cybergossiping. This seems plausible given the mechanisms that underlie the general characteristics of the internet, where the communication via a screen implies greater distance and there are also more opportunities to communicate from an anonymous standpoint (Christie & Dill, 2016). All this works in favour of the disinhibition in the comments (Suler, 2004). Moreover, other previous studies confirm this same trend: the use of emotions online encourages the abuse of technology while the adequate management of emotions reduces destructive online behaviour (Nasaescu et al., 2018; Rollero et al., 2019). Adolescents who express and facilitate emotions online when communicating on social media and on instant messaging have more possibilities to use these media in a problematic way (Marino et al., 2020) and to engage in cyberbullying (Marín-López et al., 2020). On the other hand, our results suggested that e-self-control of impulsivity, emotional e-independence, and e-regulation of emotions can reduce cybergossip, thereby playing a role that helps adolescents adapt to online environments, particularly in cases where cybergossip is used as a means of indirect aggression. This becomes even more relevant if we consider that many social networks are designed with subjacent elements of emotional reinforcement, such as: number of visits to a page, number of followers, likes (van Velthoven et al., 2018). These increase the users' tendency to compare themselves with each other and seek social validation, thereby encouraging them to and participate in cybergossip (Beersma & Van Kleef, 2012).

Another result from the models obtained is that emotional online content (e-motions) improves the explanation of the occurrence of adolescent cybergossip in terms of the contribution provided by social competency and empathy. The same can be said of socio-emotional e-competencies (e-COM). This suggests that socio-emotional abilities specifically evaluated online may be variables that play an role in understanding the processes underlying cybergossip. Reacting emotionally to memes, photos, and videos shared on social media, impulsively forwarding Instagram posts and replying to messages may all form part of the emotional content that helps adolescents feel that they are part of a group while reaffirming their own identity online (Allen et al., 2014; Martín Martínez & Castiblanco Carrasco, 2024). This seems plausible, given that adolescence is a period of great emotional intensity (Bailen et al., 2019), and social networks have become one of the main environments in which young people initiate and maintain their social relationships (Anderson & Auxier, 2021).

Results also show that the contribution provided by certain dimensions of emotional online content (e-motions) which explain cybergossip in the intermediate models (in particular online emotional expression and facilitation) did not continue to contribute significantly to the model once the block of socio-emotional e-competencies had been incorporated. Given that the dimensions of these two variables—i.e., online emotional expression and facilitation—are related, we can suppose that they would be connected through a moderate mediating relationship of the kind described by Baron and Kenny (1986) and Murgui and Jiménez (2013). This would imply that developing specific competencies for online situations facilitates the management of emotions, particularly if we consider that emotional venting is one of the motivations that most strongly predicts making evaluative comments about others who are not present (Brady et al., 2017; Dores-Cruz, Balliet, et al., 2019; Duprez et al., 2015; Feinberg et al., 2012).

Our second hypothesis postulated the existence of differences among the participants by gender and academic year, which have been partially confirmed. Thus, there are certain differences by gender and age in the regressions. Regarding the potential to reduce cybergossip, social competency stands out, particularly for younger girls, and cognitive empathy stands out for older girls. As adolescents grow older, social situations and interactions become more complex: cognitive factors such as cognitive empathy may therefore be key when adolescents feel prone to make comments about third parties. This is particularly important in the case of girls, who are more likely to use social networks to maintain friendships (Twenge & Martin, 2020). In contrast to previous studies (Marín-López et al., 2020) facilitating the use of online emotions encourages cybergossip not only for boys, but also for girls. This seems reasonable if we consider that when boys and girls engage in cybergossip, they tend to incorporate emotional tools such as GIFs, memes, and emoticons in order to facilitate the emotional understanding of the message (Oleszkiewicz et al., 2017). These, in turn, tend to provoke further evaluative comments aiming to improve one's connection with the group (Grosser et al., 2010), to generate empathy and

approval (Pauw et al., 2018) or to provoke envy and jealousy (Lim & Yang, 2015; L. Yin et al., 2021). Results also showed that this is the case for older participants of both genders (3rd–4th ESO). Facilitating the emotions of one's peers online may therefore play a critical role in such behaviour at these ages (3rd and 4th ESO), as descriptive data show cybergossip is more frequent during these years.

Just like in previous studies (Cebollero-Salinas et al., 2022a), the resulting regressions showed that e-regulation of emotions and/or e-self-control of impulsivity are competencies that play an essential role in managing one's emotions in cybergossip for both genders and ages. In particular, e-regulation increases with age for girls and e-self-control of impulsivity decreases with age for boys. A possible explanation for these differences between genders is that boys tend to be more impulsive and relate their impulsivity to the gratification they can obtain from using the internet (Estévez et al., 2018); girls, on the other hand, tend to share a greater amount of personal information on social networks, whereas boys devote more time to videogames (Twenge & Martin, 2020). Moreover, social networks and other applications have given rise to novel online phenomena that promote emotional exchange and emotional "contagion" online (Bayer et al., 2018), such as viral content, chain messages and retweets (Stieglitz & Dang-Xuan, 2013), all of which require emotional regulation. On the other hand, the differences found between the age groups could be due to the fact that the processes of inhibition control that underpin adult emotional regulation are not fully developed until late adolescence (Santos et al., 2021).

These results also revealed that emotional e-independence is key in the cybergossip of both older boys and girls (3rd–4th grade) This is plausible, as adolescents in these age groups find it particularly important to feel valued within the group (Parker & Asher, 1993). Thus, on social networks that serve as channels for cybergossip, one's perceived social value, and therefore acceptance and popularity is measured in number of visits and likes. This usually leads to feelings of satisfaction or rejection (Rosenthal-von der Pütten et al., 2019), which affect adolescents' identity (Martín Martínez & Castiblanco Carrasco, 2024) and psychological well-being (Allen et al., 2014). Thus, being able to feel emotionally independent, regardless of the status provided by such indicators, may be essential in keeping cybergossiping. This may be even more the case when online communication affects anonymity to a greater degree, thereby impacting an adolescent's self-esteem and self-unity (Valkenburg & Peter, 2011).

These results should be viewed in light of our study's limitations, which, at the same time, indicate potential lines of research for the future. In this study, we used self-informed measurement tools that may be mediated by a factor of social desirability and which need to be complemented by qualitative studies such as that of Throuvala et al. (2019), who analysed the frequency of cybergossip in conjunction with other variables, such as motivational processes that arise in view of evaluative comments (either positive or negative). Our sample was limited to a Spanish context and requires confirmation in other geographic areas. To further confirm our results, it would be recommendable to use a further set of scales that measure emotional abilities. Still, despite these limitations, this study sheds light on the emotional aspects of cybergossip in adolescents.

The results of this work have implications both for education policies and for the use of digital tools. One of the future challenges is to train the next generations in order to become good digital citizens.

International organizations such as the OECD or the EU as well as the various educational policies of the countries include guidelines and educational legislation to unify all the dimensions and behaviours involved in being a digital citizen, integrating it as part of the digital competence (Choi et al., 2017; Council of Europe, 2019). In this sense, it is important to learn how to interact and coexist online, for example, by making good use of cybergossip, thus the need to develop socioemotional competencies online in view of the results achieved. Therefore, one of the educational implications from this study would be the need to include these specific competencies into existing emotional education programs (Puertas-Molero et al., 2020). The fact that socioemotional e-competencies are an adaptive resource for online behaviour may have relevant implications in the communication and safety areas of digital competence, given that cybergossip is related to cyber risks such as cyberbullying (Marín-López et al., 2020) and sexting (Casas et al., 2019) as well as in the creation of healthy digital environments. It must also be considered that adolescence is the period in which individuals are most vulnerable to the consequences of online behaviour (Nesi et al., 2018). When adolescents attempt to forge their own identity by interacting on social networks, they expose themselves to their peers in ways they cannot control; this, in turn, gives rise to a greater fear of being negatively evaluated by others (Wolniewicz et al., 2018). Adolescents thus need to develop competencies that help them cope with the online environment in which they act. Previous studies have evidenced adolescents' great susceptibility in terms of their own perceived self-image and the way they compare themselves with their peers; this, in turn, can lead to a low degree of self-esteem associated with well-being (Valkenburg et al., 2022), eating

disorders, addiction to social networks (Nasaescu et al., 2018), and the tendency to reaffirm one's image at the expense of others (Falla et al., 2021).

In a nutshell, this study analyses the capacity of social competency, empathy, emotional online content, and socio-emotional e-competencies to predict the phenomenon of cybergossip. One finding is that online emotional expression and facilitation produce a disinhibition effect that adolescents can regulate by developing socio-emotional e-competencies, suggesting the need for adolescents to develop specific online emotional competencies.

Conflict of Interest

The authors have no conflicts of interest to declare.

Authors' Contribution

Ana Cebollero-Salinas: conceptualization, investigation, methodology, writing—original draft, writing—review & editing. **Santos Orejudo:** methodology, formal analysis, visualization, supervision. **Jacobo Cano-Escoriaza:** resources, writing—review & editing, supervision.

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