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Suicide risk in the digital age: exploring the associations of upward comparison and problematic social media use among Spanish youth

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ABSTRACT

Suicide is the third leading cause of death among individuals aged 15 to 29, with multifaceted risk factors including biological, psychological, social, cultural, and environmental elements. Recent research suggests that upward comparison and problematic social media use are linked to increased mental health issues. Conversely, emotion regulation has been identified as a potential protective factor, mitigating the negative effects of social media use and contributing to suicide prevention. This study, involving 256 adolescents and young adults (66% female; M_{age} = 19.25, SD = 3.23), examined the impact of upward comparison and problematic social media use on suicide risk, as well as the protective role of emotion regulation. Using a cross-sectional design, participants completed an online questionnaire with validated scales. The results confirmed that upward comparison was significantly associated with higher levels of suicide risk, whereas emotion regulation was associated with lower suicide risk. These findings underscore the possible role of upward social comparison as a psychological process involved in the development of suicide risk during adolescence and young adulthood. Implementing psychoeducational and digital literacy programs targeted at young people is paramount to mitigate the harmful effects of social media content and usage patterns, and to promote healthy emotional regulation strategies.

Riesgo de suicidio en la era digital: explorando las asociaciones de la comparación ascendente y el uso problemático de las redes sociales en la juventud española

RESUMEN

El suicidio es la tercera causa de muerte entre personas de 15 a 29 años, con factores de riesgo diversos: biológicos, psicológicos, sociales y ambientales. Estudios recientes señalan que la comparación social ascendente y el uso problemático de redes sociales se asocian con un aumento en los problemas de salud mental. A su vez, la regulación emocional podría mitigar estos efectos y desempeñar un papel protector frente al riesgo de suicidio. Este estudio, con 256 adolescentes y jóvenes adultos (66% mujeres; M_{edad} = 19.25, DT = 3.23), analizó el impacto de la comparación ascendente y el uso problemático de redes sociales sobre el riesgo de suicidio, así como el papel protector de la regulación emocional. A través de un diseño transversal, los participantes completaron un cuestionario online con diversas escalas estandarizadas. Los resultados confirmaron que la comparación ascendente se asociaba significativamente con niveles más altos de riesgo de suicidio, mientras que la regulación emocional los reducía. Estos hallazgos subrayan el posible papel de la comparación social ascendente como un proceso psicológico implicado en el desarrollo del riesgo de suicidio durante la adolescencia y la adultez joven. La implementación de programas psicoeducativos y de alfabetización digital dirigidos a jóvenes es fundamental para mitigar los efectos perjudiciales del contenido de las redes sociales y de sus patrones de uso, y para promover estrategias saludables de regulación emocional.

Suicide is a complex phenomenon resulting from the interplay of genetic, biological, psychological, demographic, social, and cultural factors (Hawton et al., 2012). Adolescence and emerging adulthood constitute particularly vulnerable developmental periods for suicide risk (Hawton et al., 2012), as individuals undergo profound emotional, social, and identity-related changes while being increasingly exposed to social and environmental stressors (Steinberg, 2020; Sussman & Arnett, 2014). Suicide claims more than 700,000 lives worldwide each year (World Health Organization, 2024), whereas in Spain, where this study was conducted, a record 4,100 suicide deaths were reported in 2023, marking the highest number ever documented in the nation's history (Ministry of Health, 2024). Although these rates do not show clear age-related differences, it is important to note that suicide has become one of the most common causes of mortality among young people (Cooper et al., 2015; Grimmond et al., 2019). In fact, suicide has emerged as the leading cause of external mortality within adolescents and young people aged 12 to 29 in Spain (Confederación Salud Mental España, 2023). This trend has been especially pronounced in recent years, during which mental health issues appear to have risen significantly (Castellvi Obiols et al., 2023; Ministry of Universities, 2023). However, although suicide mortality provides a critical indicator of public health impact, it does not capture the broader spectrum of suicide risk, including suicidal ideation and suicide-related behaviors, which are particularly prevalent among adolescents and young adults (Lim et al., 2019).

Given that adolescence and emerging adulthood are also characterized by intense engagement with digital environments, researchers have increasingly examined the role of social media in young people's mental health (Orben et al., 2022). Numerous studies have highlighted that increasing engagement with social media platforms may contribute to the decline in young people's mental health (Lopes et al., 2022; Marino et al., 2018). Social media is predominantly used by individuals aged 13 to 35 and has become a major channel for communication, entertainment, job hunting, and self-presentation over the last decade (Kemp, 2025). However, its impact on mental health is complex and multifaceted, with research reporting both positive (e.g., increased psychological well-being) and negative effects (e. g., lower self-esteem) (Chu et al., 2023; Twomey & O'Reilly, 2017). Experimental studies have shown that overall social media use tends to have small negative effects on well-being, which may nevertheless have meaningful implications for vulnerable adolescents and young adults (Hall et al., 2021), including potential links to suicidal thoughts and behaviors (Jaycox et al., 2024). Consequently, researchers have increasingly focused on specific online uses and behaviors rather than solely on the amount of social media exposure (Kross et al., 2021).

Within this line of research, considerable attention has been devoted to problematic social media use (PSMU), defined as a pattern of uncontrolled and compulsive behaviors related to social media use that interferes with daily functioning, rather than merely reflecting high levels of time spent online (Andreassen & Pallesen, 2014; Andreassen, 2015). PSMU is especially prevalent during adolescence and young adulthood,

developmental stages characterized by heightened sensitivity to reward, peer feedback, and social evaluation (Montag et al., 2024; Orben et al., 2022), although prevalence estimates vary depending on age, gender, cultural context, and assessment techniques (Anderson et al., 2017). In Spain, the prevalence of PSMU among adolescents ranges from 2.9% to 14.2% (Boer et al., 2020; Machimbarrena et al., 2023), while adult prevalence rates in different countries range from 1.7% to 18.4% (Thomas et al., 2022). Previous studies have consistently linked PSMU to adverse mental health outcomes among young people (Shannon et al., 2022), including suicidal ideation and suicide-related behaviors (Kennard et al., 2025).

In social media contexts, adolescents and young adults frequently engage in self-presentation and share personal content with the aim of obtaining positive feedback and social validation, often in the form of likes, comments, or follower counts (Bazarova & Choi, 2014). To enhance their perceived desirability and social acceptance, users often curate their online self-presentation and may rely on appearance-enhancing features such as beauty filters (Chae, 2017). These feedback mechanisms operate intermittent reinforcement schedules with a variable ratio (Ferster & Skinner, 1957), which has been associated with the development of PSMU (Kircaburun et al., 2020; Sherman et al., 2018). Furthermore, such environments may intensify social comparison processes, particularly during adolescence, a developmental period in which peer approval and social status are central to identity formation (Yang & Bradford Brown, 2016).

According to the Social Comparison Theory (Festinger, 1954), individuals evaluate themselves by comparing their traits and abilities with those of others. Upward comparison refers to the tendency to compare oneself with others perceived as superior in relevant domains, often highlighting discrepancies and eliciting feelings of inadequacy or inferiority (Buunk & Gibbons, 1997). In social media environments, upward comparisons are often facilitated by exposure to idealized and selectively curated content, which may be perceived as realistic, particularly by adolescents and young adults (Boursier et al., 2020; Lewin et al., 2022). Previous research has linked upward comparison on social media to poorer mental health outcomes among young people (Verduyn et al., 2020), with evidence suggesting stronger effects among females (Cheng et al., 2021). Additionally, upward comparison has been associated with higher levels of PSMU, potentially reinforcing maladaptive patterns of social media engagement (Samra et al., 2022).

The emotional impact of upward social comparisons may depend, in part, on individuals' capacity to regulate the emotions elicited by these experiences. Mayer and Salovey (1997) defined emotion regulation as the ability to be open to feelings, regulate both one's own and others' emotions, and foster understanding and personal growth. During adolescence, emotion regulation skills are still developing, which may increase vulnerability to intense negative emotional responses following unfavorable social comparisons (Somerville et al., 2010). Consistent with this view, emotion regulation has been identified as a protective factor against various mental health issues, such as

PSMU (Van Malderen et al., 2024) and upward comparison on social media (Zuo & Zan, 2025). Moreover, difficulties in emotion regulation have been consistently associated with increased suicide risk among adolescents and young adults (Colmenero-Navarrete et al., 2022).

The present study

Building on this evidence, it is plausible that PSMU is not directly associated with suicide risk, but rather through increased engagement in upward comparison processes. Adolescents and young adults who engage in problematic patterns of social media use may be more frequently exposed to idealized content, increasing the likelihood of unfavorable upward comparisons. In turn, individuals with poorer emotion regulation skills may be less able to cope with the negative emotional impact of these comparisons, thereby increasing their vulnerability to suicide risk. From this perspective, upward comparison may serve as a key mediating mechanism linking PSMU and suicide risk, while emotion regulation may act as a protective factor within this pathway. Therefore, the aim of the present study was to examine a mediation model testing whether the association between PSMU and suicide risk is mediated by upward comparison, while accounting for the role of emotion regulation, in Spanish adolescents and young adults (see Figure 1). Based on the existing literature, the following hypotheses were proposed: H_1: Higher levels of PSMU will be positively associated with greater engagement in upward comparison on social media; H_2: PSMU will be positively associated with higher levels of suicide risk; H_3: Upward comparison will be positively associated with higher levels of suicide risk; H_4: Emotion regulation will be negatively associated with upward comparison; H_5: Emotion regulation will be negatively associated with suicide risk.

Method

Participants

A total of 256 participants residing in the metropolitan area of Barcelona were surveyed in the present study, with ages ranging from 16 to 35 years ($M = 19.25$; $SD = 3.23$). Of these, 29.3% were adolescents (< 18) and 70.7% were young adults (≥ 18). The 34% identified as males ($M = 20.57$; $SD = 3.8$) and 66% as females ($M = 18.56$; $SD = 2.66$). Regarding educational level, 0.4% had completed only primary education, 17.6% completed secondary education, 8.2% completed vocational training, 58.8% completed baccalaureate, 9% held a bachelor's degree, and 5.9% held a master's degree. Regarding preferred social media apps, 0.4% predominantly used Facebook or Twitch, 0.8% used Reddit, 9.4% used X, 19.6% used YouTube, 28.2% used TikTok, and 41.2% used Instagram.

Procedure

Data collection was conducted using an online survey administered through Kobotoolbox from January to March 2024. At the beginning of the survey, participants were informed about the voluntary nature of participation and that their responses would remain confidential. Although participants could voluntarily provide an email address at the end of the survey to receive study-related information or feedback, these identifying data were stored separately and were not linked to survey responses, thereby ensuring confidentiality.

Figure 1

Mediation model with the proposed variables
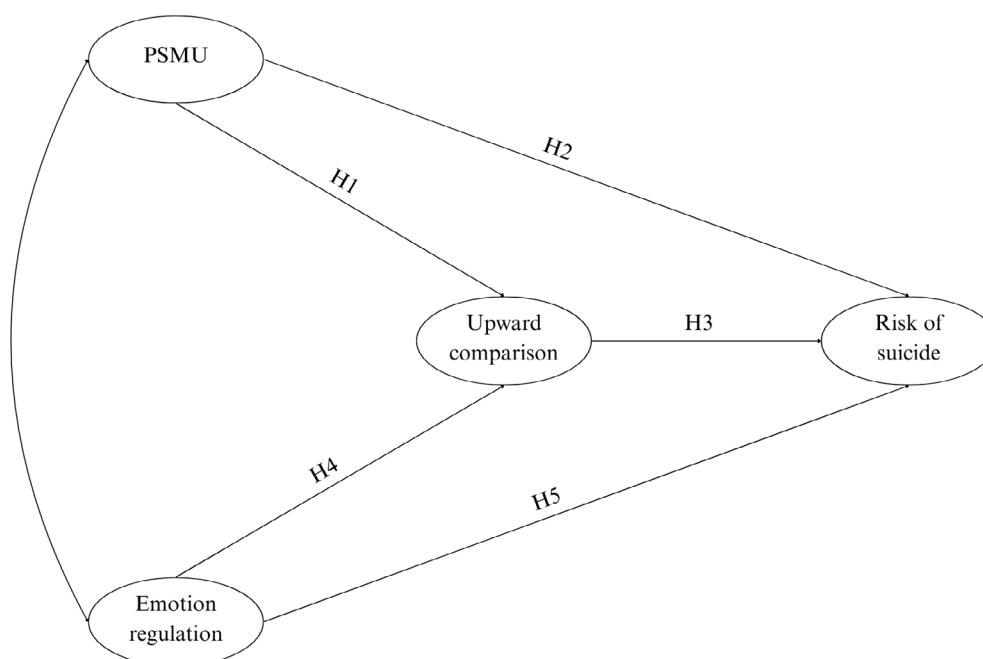
Before providing their responses, participants were required to indicate their consent by selecting a "Yes/No" button. To reach adolescent participants, a researcher gathered data from a high school located in the metropolitan area of Barcelona. No parental consent was required, as all adolescent participants were aged 16 years or older, which is consistent with national regulations and the ethical approval granted for the study. The aims of the study were initially explained to the school principal, and following voluntary agreement, groups of Spanish baccalaureate students completed the survey during tutoring hours using mobile phones, tablets, or computers. To reach young adults, the survey was distributed using a snowball method across various social media platforms. The survey took approximately 5 to 10 minutes to be completed.

In line with ethical standards, the study adhered to the principles of the Declaration of Helsinki (World Medical Association, 2013) and received approval from the Ethical Committee of the UAB under code CEEAH5525. To uphold ethical considerations, a voluntary contact option was provided at the end of the survey. Participants could report any health-related concerns or express a desire to be informed, providing their email address if they chose. Those whose scores indicated suicide risk were contacted via email, informed of the results, and encouraged to discuss their situation with parents, a family doctor, or to seek a local mental health referral.

Instruments

An *ad hoc* questionnaire comprising several validated scales was developed in Spanish for this study. The survey included a sociodemographic and social media use questionnaire to gather information on age (in years) gender (male or female), educational level, daily hours spent on social media, and preferred social media app from a list based on the most used apps in Spain (Kemp, 2025), as well as the following scales:

The *Bergen Social Media Addiction Scale* (BSMAS) (Andreassen et al., 2016), translated into Spanish, is a six-item self-reported measure designed to assess the six core dimensions of addiction: prominence, mood modification, tolerance, withdrawal, conflict, and relapse. Each item corresponds to one of these dimensions and is rated on a Likert scale ranging from 1 = *Very rarely* to 5 = *Very often*. An example of item: "You spend a lot of time thinking about social media or planning how to use them." The total score ranges from 6 to 30, with scores of 24 or above indicating greater risk of PSMU. In this Spanish translation, a unidimensional factor structure was supported ($\chi^2(9) = 11.22$, $p = .261$; CFI = .996, TLI = .994, SRMR = .029, RMSEA = .031). The BSMAS demonstrated acceptable internal consistency in the present sample ($\alpha = .77$).

The *Negative Social Media Comparison Scale* (NSMCS) (Samra et al., 2022) comprises seven items designed to measure the extent to which individuals engage in upward comparisons on social media. Items are rated on a Likert scale ranging from 1 = *Strongly disagree* to 6 = *Strongly agree*, yielding total scores between 7 and 42. Higher scores reflect a greater tendency toward unfavorable self-comparisons on social

media. An example of item: "When I use social media, I feel like other people's lives are better than mine." In this Spanish translation, a unifactorial model was confirmed (χ^2 (9) = 27.27, $p = .001$; CFI = .99, TLI = .99, SRMR = .06, RMSEA = .06). The NSMCS demonstrated excellent internal consistency in the present sample ($\alpha = .92$).

The *Trait Meta-Mood Repair Scale* (TMMS-24; Salovey et al., 1995; Spanish version by Extremera & Fernández-Berrocal, 2005) is an eight-item questionnaire assessing individuals' perceived ability to regulate their emotions effectively. Items are rated on a Likert scale from 1 = *Not at all agree* to 5 = *Strongly agree*, yielding total scores from 8 to 40. Scores below 23 suggest a need for improvement in emotional regulation; scores between 24 and 35 indicate adequate regulation; and scores above 36 indicate excellent regulation. An example of item: "I try to have positive thoughts, even if I feel bad." The TMMS-24 showed acceptable internal consistency in the present sample ($\alpha = .86$).

The *Revised Suicidal Behaviors Questionnaire* (SBQ-R; Osman et al., 2001; Spanish version by Gómez-Romero et al., 2021) consists of four items assessing adolescents and young adults' lifetime suicidal ideation and attempts in the past 12 months, communication of suicidal intent, and the likelihood of future suicide attempts. Each item uses a different response format: the first item is scored on a scale ranging from 1 = *Never* to 4a = *I tried to kill myself, but I did not want to die* and 4b = *I tried to kill myself, and I really expected to die*, item 2 is rated from 1 = *Never* to 5 = *Very often*, item 3 ranges from 1 = *No* to 3a = *Yes, more than once, but I really did not want to die* and 3b = *Yes, more than once, and I really wanted to do it*, and the fourth item uses a seven-point Likert scale ranging from 0 = *Never* to 6 = *Very likely*. Total scores range from 3 to 18, with higher values indicating a greater risk of suicidal behavior. A cutoff score greater than 7 is considered a marker of high suicide risk in the general population. An example of item: "How often have you thought about killing yourself in the past year?" The SBQ-R showed adequate internal consistency in this sample ($\alpha = .82$).

Data analysis

The study employed a cross-sectional design. Before conducting statistical analyses, anomalous data –such as random or blank responses– were screened out. A general descriptive analysis was performed, categorized by gender, assessing various factors including age, daily hours spent on social media, problematic social media use (BSMAS), upward comparison on social media (NSMCS), emotion regulation (TMMS-24), and suicide risk (SBQ-R). Gender differences were examined using independent-samples t-tests for continuous variables and chi-square tests for categorical variables, with effect sizes estimated using Cohen's *d* and Cramer's *V*, respectively. A correlational analysis was subsequently carried out between the variables mentioned above.

Prior to inferential analyses, the assumptions for parametric statistical procedures were examined. Given the sample size and deviations from normality in some study variables, a path analysis using unweighted least squares estimation (ULS)

(Li, 2016) was conducted to examine the associations between PSMU, upward comparison, emotional regulation, and the risk of suicide behavior. Age and gender were included in the analyses to account for potential confounding effects. Established criteria were applied to evaluate the fit of the hypothesized model to the observed data. Model fit was considered acceptable when TLI and CFI exceeded .95, RMSEA was below .06, and SRMR was less than .08. All data analyses were conducted using JASP 0.19.0 statistical software (JASP Team, 2024).

Results

Descriptive and gender comparison results

Among the 256 participants, 41.8% were classified as at risk for suicidal behavior based on the SBQ-R cutoff score (total score ≥ 7). Additionally, 3.6% were identified as at risk for developing PSMU according to the BSMAS criterion (total score ≥ 24). By gender, all participants at risk for PSMU were female, and 69.2% of those at risk for suicidal behavior were also female. Instagram (49.7%) and TikTok (33.1%) were the most preferred social media platforms among females, while male participants favored YouTube (34.5%) and Instagram (24.1%) (see Table 1).

Descriptive analyses for the quantitative variables are presented in Table 2. On average, participants reported spending 3.36 hours per day on social media ($SD = 1.91$), with mean scores of 19.99 ($SD = 4.51$) on PSMU and 24.47 ($SD = 9.38$) on upward comparison. Conversely, participants averaged 23.04 ($SD = 6.82$) on emotion regulation and 6.93 ($SD = 3.57$) on risk of suicidal behavior. By gender, female participants reported significantly higher levels of PSMU ($M = 16.05$, $SD = 4.42$)

and upward comparison ($M = 27.01$, $SD = 8.41$) were among than those of male participants (PSMU: $M = 12.92$, $SD = 3.94$; upward comparison: 19.53, $SD = 9.23$), despite reporting similar levels of social media use (female: $M = 3.29$, $SD = 1.66$; male: 3.48, $SD = 2.34$; see Table 1).

Correlational analysis of the overall sample revealed that age was weak and negatively associated with PSMU ($r = -.19$; $p < .01$) and upward comparison ($r = -.13$; $p < .05$), while positively correlated with emotion regulation ($r = .16$; $p < .01$). Daily social media use showed a weak positive association with PSMU ($r = .29$; $p < .001$). PSMU was moderately and positively associated with upward comparison ($r = .46$; $p < .001$). Upward comparison, in turn, was moderately and positively associated with suicidal behavior risk ($r = .32$; $p < .001$). Lastly, emotion regulation showed a weak and negative association with the risk of suicidal behaviors ($r = -.18$; $p < .05$) (see Table 2). Among males, daily social media use was weakly and positively associated with PSMU ($r = .3$; $p < .01$), PSMU was strongly associated with upward comparison ($r = .61$; $p < .001$) and weakly associated with suicide risk ($r = .26$; $p < .05$), and upward comparison was moderately associated with suicide risk ($r = .39$; $p < .001$). Among women, age showed a weak and positive link with emotion regulation ($r = .17$; $p < .05$), PSMU showed a moderate association with daily social media use ($r = .36$; $p < .001$) and weak with upward comparison ($r = .28$; $p < .001$), and suicide risk was weakly associated with upward comparison ($r = .26$; $p < .001$) and emotion regulation ($r = -.2$; $p < .01$).

Mediation model

The results of the mediation model are presented in Figure 2. Regarding direct effects, PSMU was positively associated

Table 1

Gender differences across study variables

Variables	Gender		*p*-value	Effect size
	Male	Female		
Preferred social media app				
X	17 (68%)	8 (32%)	< .001	V = .43
Instagram	21 (20%)	84 (80%)		
TikTok	16 (22.2%)	56 (77.8%)		
Facebook	1 (100%)	0 (0%)		
Reddit	2 (100%)	0 (0%)		
Twitch	0 (0%)	1 (100%)		
YouTube	30 (60%)	20 (40%)		
Age (years), mean (SD)	20.56 (3.8)	18.56 (2.66)	< .001	d = 0.65
Daily exposure to social media (hours), mean (SD)	3.48 (2.34)	3.29 (1.66)	.459	d = 0.1
Problematic social media use, mean (SD)	12.92 (3.94)	16.05 (4.42)	< .001	d = -0.74
Upward comparison, mean (SD)	19.53 (9.23)	27.01 (8.41)	< .001	d = -0.86
Emotion regulation, mean (SD)	23.1 (7.38)	23.01 (6.53)	.914	d = 0.01
Suicide risk, mean (SD)	6.4 (3.3)	7.2 (3.68)	.092	d = -0.22
Total	87	169		

Table 2

Means and correlations among quantitative variables

Variables	*Mean* (SD)	1	2	3	4	5	6
Age	19.25 (3.23)	-	-.07	-.19**	-.13*	.16**	.06
Daily exposure to social media	3.36 (1.91)		-	.29***	-.05	-.01	.07
Problematic social media use	14.99 (4.51)			-	.46***	.04	.08
Upward comparison	24.47 (9.38)				-	-.06	.32***
Emotion regulation	23.04 (6.82)					-	-.16*
Suicide risk	6.93 (3.57)						-

*p < .05; **p < .01; ***p < .001.

Figure 2

Mediation model featuring the examined variables
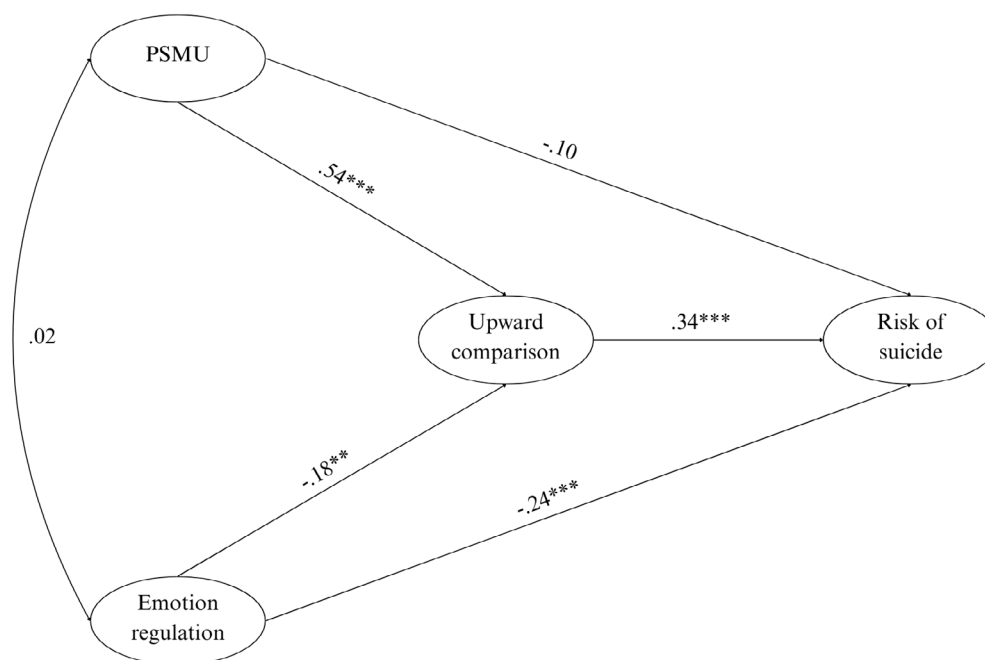
Note. PSMU: Problematic social media use.

with upward comparison (β = .54; *p* < .001), which in turn was positively associated with suicidal behavior risk (β = .34; *p* < .001). Emotion regulation showed a direct negative association with both upward comparison (β = -.18; *p* < .01) and suicidal behavior risk (β = -.24; *p* < .001).

Concerning indirect effects, PSMU showed an indirect positive association with suicide risk through upward comparison (β = .18; *p* < .001). On the other hand, emotion regulation showed an indirect negative association with suicide risk through upward comparison (β = -.06; *p* < .05). Overall, the model demonstrated acceptable fit (TLI = .97; CFI = .98; RMSEA = .04; SRMR = .07) and accounted for 17.2% of the variance in suicidal behavior risk. Exploratory analyses examining age and gender differences did not reveal significant associations with the study variables or meaningful differences in model fit or path coefficients.

Discussion

The objective of the present study was to explore the relationships between PSMU, upward comparison, and emotion regulation about suicide risk among Spanish adolescents and young adults. It was hypothesized that PSMU would be positively associated with greater engagement in upward comparison on social media (H$_1$), PSMU would be positively associated with higher levels of suicide risk (H$_2$), uupward comparison would be positively associated with higher levels of suicide risk (H$_3$), emotion regulation would be negatively associated with upward comparison (H$_4$), and emotion regulation would be negatively associated with suicide risk (H$_5$).

The first hypothesis was confirmed. The results revealed a positive association between PSMU and upward comparison. This finding is consistent with previous research involving college students (Samra et al., 2022), where upward comparisons

mediated the effects of PSMU on depression. This association could be explained by the fact that common feedback systems on social media (Bazarova & Choi, 2014) and uncontrolled exposure to enhanced and unrealistic images (Rosenthal-Von Der Pütten et al., 2019; Vogel et al., 2015) are associated with an increase in upward comparison processes (Mancin et al., 2023). This association appears to be particularly strong among women, who are more likely to engage with social media for appearance and self-presentation purposes (Krasnova et al., 2017), and subsequently exhibit upward comparison processes (McComb et al., 2023).

The results partially support the second and third hypotheses. Previous research has suggested that adolescents with PSMU report a higher number of suicidal thoughts than non-problematic users of social media (Kennard et al., 2025). However, this finding contrasts with the present study, which found no significant direct effect of PSMU on the risk of suicide when considered independently. This suggests that PSMU may not constitute a direct risk factor for suicidal behavior per se but rather exerts its influence through intermediate psychological processes. A plausible explanation for this discrepancy may lie in the complex and multifaceted nature of social media's effects on mental health (Anderson et al., 2017). While evidence points to an association between social media use and suicide risk, studies have also shown that these platforms can serve as protective and inclusive spaces for young people, particularly those lacking real-life support (Jaycox et al., 2024). Furthermore, prior research found that problematic internet use did not predict suicide risk among adolescents, suggesting that even problematic use may not necessarily constitute a risk factor for suicidal behavior (Chamarro et al., 2024).

Conversely, the present study found a significant indirect effect of PSMU on suicide risk through upward comparison, indicating that upward comparison fully mediated the relationship between PSMU and suicide risk. These findings are consistent with those reported by Wetherall et al. (2019) in a sample of college students, where the relationship between negative comparison and suicide risk was mediated by perceptions of failed struggles and loss of social standing. Current literature on the role played by upward comparison in suicide risk remains scarce. However, upward comparison has been identified as a potential mechanism underlying the association between social media use and mental health issues (Cheng et al., 2021; Fox & Vendemia, 2016). As Sedgwick et al. (2019) pointed out in their systematic review, certain uses of social media and exposure to specific content can be harmful to the mental health of young people. More specifically, constant exposure to virtual environments featuring images of people enhanced with beauty filters increases upward comparison processes (Dijkslag et al., 2024) and distorts the perception and self-concept of young social media users (Strimbu & O'Connell, 2019). This, in turn, may lead to decreased mental health, self-esteem, and subjective well-being (McComb et al., 2023). Nevertheless, further research is needed to clarify the relationship between upward comparison on social media and suicide risk.

Lastly, the fourth and fifth hypotheses were confirmed. Emotion regulation was found to be negatively associated with both upward comparison and suicide risk. These results are consistent with those reported in previous literature. On the one hand, emotion regulation is effective in mitigating the negative emotions triggered by upward comparisons (Park et al., 2021). Specifically, social media users who experience negative emotions (e.g., envy, depression) after making upward comparisons may attempt to regulate these emotions by reducing engagement in comparison processes (Zuo & Zan, 2025). On the other hand, adequate emotion regulation may lower the risk of suicidal behavior (Colmenero-Navarrete et al., 2022). Neacsiu et al. (2018) found that difficulties in emotion regulation predicted suicidal thoughts in adults, while Asarnow et al. (2021) reported that emotion regulation interventions were effective in reducing suicidal behavior among adolescents. Therefore, emotion regulation may serve as a protective factor against the negative consequences of social media use and help prevent suicidal behavior.

Limitations and future directions

While providing valuable evidence on the associations between upward comparisons, PSMU, emotion regulation, and suicidal behavior among young individuals, this study has several noteworthy limitations. First, the cross-sectional nature of the study and the limited sample size may affect the generalizability of the findings. Moreover, the cross-sectional design prevents the establishment of causal relationships between these variables. Finally, the use of self-report measures introduces potential biases that may affect the validity of the responses. Future research should prioritize longitudinal designs and more representative samples, while also considering individual differences such as personality traits (e. g., introversion), which have been linked to suicide risk and may shape social media use and comparison processes (Guidotti et al., 2024; Kircaburun et al., 2020).

Despite the limitations, the present findings have practical implications for educational and mental health contexts. Interventions promoting healthy social media use and digital literacy can help reduce problematic engagement and upward comparisons. On the other hand, incorporating emotion regulation training may strengthen coping strategies and mitigate risk. Additionally, early identification and support systems for adolescents showing signs of suicidal ideation, PSMU, or emotional dysregulation can ensure timely intervention and referral.

Conclusions

This study provides novel evidence on the potential effects of upward comparison on social media on suicide risk among young people, particularly young females. Given the prevalence of suicide and social media use reported in previous research, the findings suggest a need to promote emotion regulation strategies and implement digital literacy interventions for young individuals. Equipping youngsters with these protective resources

could help prevent the harmful impact of social media content and upward comparison processes on their mental health.

Author contributions

Conceptualization: A.D.M., I.B., A.C.
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Investigation: A.D.M.
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Writing – Review & Editing: A.D.M., I.B., A.C.

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Declaration of interests

The authors declare that there is no conflict of interest.

Data availability statement

The authors elect to not share data.

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