Revista ELectrónica de Investigación y EValuación Educativa

RELIEVE

ISSN: 1134-4032

e-Journal of Educational Research, Assessment and Evaluation

Cyberbullying in university students in Peru: Prevalence and patterns

El ciberacoso en estudiantes universitarios del Perú: prevalencia y patrones

Cyberbullying entre estudantes universitários no Peru: prevalência e padrões.

秘鲁大学生中的网络霸凌：流行率与模式

التنمر الإلكتروني بين طلاب الجامعات في بيرو: الانتشار والأنماط

Rumiche Chávarry, Rocío del Pilar[(1)] ; **Ríos Ariza, José Manuel**[(2)] ; **Cholán Valdez, Óscar Rufino**[(3)]; **Matas Terrón, Antonio**[(2)]

[(1)] Catholic University of Santo Toribio de Mogrovejo, Perú.

[(2)] University of Málaga, Spain.

[(3)] National University of Cajamarca, Perú.

Abstract

Cyberbullying is a phenomenon that permeates university life and has been understudied in countries like Peru. This study analyzes the prevalence and patterns of cyberbullying among Peruvian university students, using a sample of 1258 participants from three universities. Employing a survey methodology and psychometric analysis of data collected with a version of the European Cyberbullying Intervention Project (ECIP-Q) questionnaire, seven underlying factors were identified, reflecting the complex structure of the phenomenon. Key components include verbal abuse, attacks on identity, and cyber manipulation. The findings reveal a significant prevalence of both victims and perpetrators, with a notable proportion of cyberbullys being victimized, as well as significant differences between genders. This study highlights the need for socio-educational measures that promote digital literacy and adaptive coping strategies to minimize the serious personal, social, health, and academic effects that cyberbullying can have on university students.

Keywords: Cyberbullying, university students, prevalence, Perú, psychometrics

Resumen

El ciberacoso es un fenómeno que salpica la realidad universitaria y que ha sido poco estudiado en países como Perú. El presente estudio analiza la prevalencia y los patrones del ciberacoso en estudiantes universitarios peruanos, utilizando una muestra de 1258 participantes de tres universidades. Con una metodología de encuesta (survey) y análisis psicométrico a partir de los datos recogidos con una versión del cuestionario European Cyberbullying Intervention Project (ECIP-Q), se identificaron siete factores subyacentes que reflejan una estructura compleja del fenómeno, destacando componentes como el abuso verbal, ataques a la identidad y la manipulación cibernética. Los hallazgos revelan una prevalencia significativa de víctimas y agresores, con una notable proporción de ciberagresores victimizados, así como las diferencias significativas entre sexos. Este estudio pone de manifiesto la necesidad de tomar medidas socioeducativas que promuevan la alfabetización digital y estrategias de afrontamiento adaptativas, para minimizar los graves efectos (personales, sociales, de salud y académicos) que puede tener el ciberacoso en el estudiantado universitario.

Palabras clave: Ciberacoso, estudiantes universitarios, prevalencia, Perú, psicometría.

Received/*Recibido*	Feb 05, 2025	**Approved/*Aprobado***	Dec 26, 2025	**Published/*Publicado***	Dec 30, 2025

Corresponding author / Autor de contacto: Antonio Matas Terrón. University of Málaga, Faculty of Education Sciences Campus de Teatinos. 29010, Málaga, Spain. E-mail: amatas@uma.es

Resumo

O cyberbullying é um fenômeno que permeia a vida universitária e tem sido pouco estudado em países como o Peru. Este estudo analisa a prevalência e os padrões de cyberbullying entre estudantes universitários peruanos, utilizando uma amostra de 1258 participantes de três universidades. Empregando uma metodologia de pesquisa por questionário e análise psicométrica de dados coletados com uma versão do questionário do Projeto Europeu de Intervenção em Cyberbullying (ECIP-Q), sete fatores subjacentes foram identificados, refletindo a estrutura complexa do fenômeno. Os principais componentes incluem abuso verbal, ataques à identidade e manipulação cibernética. Os resultados revelam uma prevalência significativa tanto de vítimas quanto de agressores, com uma proporção considerável de agressores sendo vítimas, bem como diferenças significativas entre os gêneros. Este estudo destaca a necessidade de medidas socioeducativas que promovam a alfabetização digital e estratégias de enfrentamento adaptativas para minimizar os graves impactos pessoais, sociais, de saúde e acadêmicos que o cyberbullying pode ter sobre os estudantes universitários.

Palavras-chave: Cyberbullying, estudantes universitários, prevalência, Peru, psicometria

摘要

网络欺凌现象在大学生活中普遍存在，但在秘鲁等国家却鲜有研究。本研究以秘鲁三所大学的 1258 名大学生为样本，分析了网络欺凌在秘鲁大学生中的普遍程度和模式。研究采用问卷调查法，并运用心理测量学方法分析了使用欧洲网络欺凌干预项目（ECIP-Q）问卷收集的数据，识别出七个潜在因素，反映了该现象的复杂结构。关键组成部分包括言语辱骂、身份攻击和网络操纵。研究结果显示，网络欺凌的受害者和施暴者都相当普遍，其中相当一部分网络欺凌者本身也是受害者，并且存在显著的性别差异。本研究强调，需要采取社会教育措施，提升大学生的数字素养和适应性应对策略，以最大限度地减少网络欺凌对大学生造成的严重的个人、社会、健康和学业影响。

关键词： 网络欺凌、大学生、流行率、秘鲁、心理测量学

لملخص

التنمر الإلكتروني ظاهرة متفشية في الحياة الجامعية، ولم تحظَ بالدراسة الكافية في دول مثل بيرو. تُحلل هذه الدراسة مدى انتشار أنماط التنمر الإلكتروني بين طلاب الجامعات البيروفية، باستخدام عينة من **1258** مشاركًا من ثلاث جامعات. وباستخدام منهجية المسح والتحليل النفسي للبيانات التي جُمعت باستخدام نسخة من استبيان مشروع التدخل الأوروبي لمكافحة التنمر الإلكتروني **(ECIP-Q)**، تم تحديد سبعة عوامل كامنة، تعكس البنية المعقدة لهذه الظاهرة. تشمل المكونات الرئيسية الإساءة اللفظية، والاعتداء على الهوية، والتلاعب الإلكتروني. تكشف النتائج عن انتشار ملحوظ لكل من الضحايا والجناة، مع نسبة كبيرة من المتنمرين الإلكترونيين الذين يقعون ضحايا، بالإضافة إلى وجود اختلافات كبيرة بين الجنسين. تُسلط هذه الدراسة الضوء على الحاجة إلى تدابير اجتماعية وتعليمية تُعزز الثقافة الرقمية واستراتيجيات التكيف الفعّالة للحد من الآثار الشخصية والاجتماعية والصحية والأكاديمية الخطيرة التي يُمكن أن يُسببها التنمر الإلكتروني لطلاب الجامعات.

الكلمات المفتاحية: التنمر الإلكتروني، طلاب الجامعات، الانتشار، بيرو، القياس النفسي

Introduction

Cyberbullying is a phenomenon involving the harassment of individuals through platforms operating via technological media. Closely linked to traditional bullying, it is currently an active field of research, as evidenced by the scientific output in this area: the Scopus database recorded 437 articles with 'cyberbullying' as a keyword in 2019, whereas in 2024, the recorded production in Scopus reached 808. Despite this volume of studies, the conceptualisation of cyberbullying remains a subject of debate. In this regard, Tokunaga (2010) had already highlighted the lack of consensus regarding the definition of cyberbullying, noting that it encompasses both harassment and intimidation in digital

environments. As Hawkins (2024) points out, the absence of a uniform definition represents a significant obstacle to understanding and comparing studies on this issue, thereby hindering research efforts and theoretical development in the field.

In a meta-analysis focused on definitions of cyberbullying, Peter and Peterman (2018) defined it as the repeated and intentional use of Information and Communication Technologies (ICT) to harass, harm, embarrass, or hurt an individual. According to these authors, the essential elements of cyberbullying include repetition, an imbalance of power between the aggressor and the victim, and the duality between direct (public) and indirect (private) forms. Furthermore, they emphasise that the victim's perception is a crucial factor, as it determines whether an action is considered harmful. Buelga et al. (2020) also identified these two forms: direct and indirect. These authors explain that direct cyberbullying includes verbal and social attacks, such as insults or blocking on social networks, while indirect forms encompass the manipulation of the victim's content, identity theft, or hacking. For their part, Jenaro et al. (2018) identify five fundamental components of cyberbullying: (1) it is an interpersonal or relational aggression; (2) it is carried out intentionally; (3) it is repetitive over time; (4) it occurs in contexts of power imbalance; and (5) its primary medium is ICT.

In the present study, a definition grounded in the work of Ortega-Ruiz et al. (2016) is adopted. Accordingly, cyberbullying is understood as any form of unjustified aggression carried out through digital devices, explicitly related to traditional bullying, with which it shares three key criteria: intentionality, repetition, and a power imbalance between the cyber-aggressor and the victim.

Beyond the academic definition of cyberbullying, research has emphasised that cyberbullying should be investigated with the aim of identifying effective means of control, given its pernicious effects at both the personal and social levels. In this sense, numerous studies have linked cyberbullying to severe psychological consequences, such as suicidal ideation among victims (Cenat et al., 2019; Fauzi, 2023; Martínez-Monteagudo et al., 2020; Sarhangi et al., 2023; Wang et al., 2020), as well as to higher levels of depressive and anxiety symptoms compared to individuals who have not experienced bullying (Begotti & Acquadro Maran, 2019; Giumetti et al., 2022; Jenaro et al., 2021; Lee et al., 2023; Lozano-Blasco et al., 2020; Sarhangi et al., 2023; Varela et al., 2022). Among victims, cyberbullying increases fear of loneliness (Varela et al., 2022) and may profoundly affect emotional and social development (Fauzi, 2023; Nagar & Talwar, 2023).

Additionally, victimised cyber-aggressors—that is, individuals who were victims before becoming cyber-aggressors—exhibit higher levels of aggressiveness (Aparisi et al., 2023). With regard to self-esteem, Donat et al. (2023) identify an association between low levels of self-esteem and a greater risk of victimisation. Cyberbullying also has a negative impact on academic performance, increasing the likelihood of study dropout among victims (Bernardo et al., 2020; Khine et al., 2020). Ali and Shahbuddin (2022) further document a negative effect on the academic performance of cyber-aggressors themselves.

On the other hand, cyberbullying has several correlates identified in the reviewed studies, among which its association with social networking sites stands out. According to Kaur et al. (2021), these platforms provide a favourable environment for online abusive behaviours, while addiction to or intensive use of social networking sites has been identified as a key predictor of this phenomenon (Chan et al., 2021; Cimke & Cerit, 2021; Giumetti & Kowalski, 2022). From a relate perspective, inappropriate use of information and communication technologies (ICT) and Internet addiction also contribute to the emergence of cyberbullying (Chu et al., 2023; González-Sodis & Leiva Olivencia, 2022; Zhong et al., 2021).

In particular, men with high levels of social media use show a greater risk of both perpetration and victimisation, whereas this pattern is not observed among women (Schodt

et al., 2021). Along the same lines, self-efficacy in the use of digital technologies appears to play a dual role, as it may reduce the likelihood of becoming a victim while simultaneously increasing the probability of becoming a cyber-aggressor (Musharraf et al., 2019). Likewise, a high level of Internet proficiency seems to lower ethical inhibitions regarding engagement in cyberbullying behaviours (Jenaro et al., 2018; Xu & Zheng, 2022).

At the psychological level, the reviewed literature has examined several correlates related to personality. Among personality traits, high levels of narcissism have been associated with a greater likelihood of engaging in cyberbullying, particularly among women, although this effect may be mitigated by a balance in emotional intelligence (Tarinkulu & Erdur-Baker, 2021; Schade et al., 2021). Conversely, elevated levels of neuroticism are associated with an increased risk of both perpetration and victimisation in cyberbullying (Gao et al., 2022; Hossain et al., 2022).

Among inhibiting factors, empathy stands out as a potential protective factor against cyberbullying (Donat et al., 2023; Lêe et al., 2021), although this relationship is not entirely clear, as suggested by the findings of Schade et al. (2021). In a meta-analysis, Zych et al. (2019) concluded that cyber-aggressors tend to exhibit lower levels of both affective and cognitive empathy, whereas victims do not show significant differences in empathy when compared with individuals who have not experienced cyberbullying. In any case, these authors caution that such conclusions are not fully conclusive.

Emotional disorders also play a relevant role in cyberbullying. Depression, stress, and anxiety increase both the likelihood of being a victim and of becoming a cyber-aggressor (Donat et al., 2023). Wei et al. (2023) highlight that anxiety among university students may act as a factor facilitating online aggressive behaviours. In this way, cyberbullying may be motivated by emotional instability or, conversely, may contribute to its development, as previously noted, thereby generating a vicious cycle of victimisation and aggression.

In another vein, there is sufficient evidence showing that individuals who engage in cyberbullying were previously victims themselves. Thus, individuals who have experienced child maltreatment or traditional bullying show a higher likelihood of becoming cyber-aggressors, encouraged by the perceived anonymity offered by the Internet (Sun et al., 2020; Dong, 2020; Akarsu et al., 2022). One possible explanation is that the negative emotions derived from these experiences may lead victims of cyberbullying to become cyber-aggressors, referred to as victimised cyber-aggressors (Aquino-Canchari et al., 2022; Li & Peng, 2022). Akarsu et al. (2022) report a significant association between chronic trauma experienced during youth and levels of cyberbullying and cybervictimisation at the university stage.

As noted earlier, the challenge posed to research by the diversity of interpretations used to define cyberbullying has been briefly outlined. In addition, other challenges must be addressed, including variability in prevalence estimates due to methodological differences across studies. For example, Zhong et al. (2021) reported a prevalence of 17.14% among cyber-aggressors and 19.93% among victims in a sample of university students in China. By contrast, Li and Peng (2022) reported higher figures in the same country, with 23.40% of cyber-aggressors, 23.20% of victimised cyber-aggressors, and 37.40% of victims. In Malaysia, prevalence rates were 24.4% for victims and 13% for cyber-aggressors (Lee et al., 2023). In Myanmar, prevalence levels were considerably higher, with 40.8% of men and 51.1% of women reporting having experienced cyberbullying in the previous year (Khine et al., 2020).

In contexts characterised by Muslim culture, prevalence rates are also significant. In Saudi Arabia, nearly half of university students have been victims of cyberbullying (Ali & Shahbuddin, 2022), while Al Qudah et al. (2020) document that 17.6% of this population engage in cyberbullying. In Qatar, 6.8% of students are cyber-aggressors, 29.2% are cyber-victims, and 35.8% identify as victimised cyber-aggressors (Alrajeh et al., 2021). In Turkey, Tanrikulu and Erdur-Baker

(2021) report that 49.7% of university students had engaged in cyberbullying during the previous six months. In Pakistan, Musharraf and Anis-ul-Haque (2018) found that the majority of university students are involved in cyberbullying, with 35% classified as victimised cyber-aggressors and 25% as victims.

In Europe, prevalence rates vary considerably. In Italy, 48.5% of university students have been victims of cyberbullying (Begotti & Acquadro Maran, 2019). In France, Cenat et al. (2019) report a prevalence of 19% in this population. In Spain, 14.4% of university students have been victims, while 7.3% have engaged in cyberbullying (Méndez et al., 2019). In addition, a comparative study involving Bolivian and Spanish students shows that 5.1% have been victims and 19.3% have been bystanders, with no significant differences between the two countries (Jenaro et al., 2021).

Cabra Torres and Marciales Vivas (2016) point to the limited amount of information available on bullying and cyberbullying in Latin America, which makes it difficult to obtain a comprehensive overview of overall prevalence rates. In the case of Peru, Puma-Maque and Cárdenas-Zuñiga (2024) published a systematic review of bullying and cyberbullying covering the period 2017–2021 in journals indexed in WoS, Scopus, SciELO, Redalyc, and PubMed; they identified only 17 articles, none of which focused on university students. With regard to cyberbullying, the victimisation rate reaches 24.6% among adolescents attending schools located in violent neighbourhoods in Lima, with a higher proportion of affected males than females (Miranda et al., 2019). Another study conducted with students aged between 9 and 11 years found that between 0.7% and 3.2% had occasionally witnessed incidents of cyberbullying (Henning et al., 2019). Likewise, Martínez et al. (2020), in a study involving adolescents from the Peruvian Amazon region, reported that 13.6% of participants identified themselves as victims of cyberbullying, 17% as both victims and cyber-aggressors, and 36.7% were not involved in any form of cyberbullying. These findings highlight the variability in prevalence rates according to age groups and methodological approaches, underscoring the need for more consistent and regionally representative research within the Peruvian context.

Although there is an extensive body of research on bullying at primary and secondary educational levels, the university context—particularly in developing countries such as Peru—remains underexplored and requires greater scholarly attention (Budnyk, 2023; Cretu & Morandau, 2024). Peruvian universities face specific challenges derived from sociocultural and economic factors that influence both the prevalence and nature of bullying (Acosta Leal et al., 2021). For instance, pronounced socioeconomic inequalities in the country may generate discrimination against students from disadvantaged backgrounds, affecting their academic performance and exacerbating existing inequalities (King et al., 2024). Furthermore, Peru's cultural diversity, which includes Indigenous populations and immigrant communities, calls for culturally sensitive research methodologies to adequately understand the dynamics of cyberbullying within this context (Falcón & Mamani, 2017; Mera-Lemp et al., 2020).

Taken together, this body of evidence depicts a landscape characterised by the expansion of cyberbullying among young adults, with a cyclical linkage between the roles of victim and cyber-aggressor. While research has predominantly focused on primary and secondary educational settings, studies conducted in university contexts—particularly in developing countries—remain scarce and yield inconclusive findings.

In this context, the general objective of the present study is to analyse the prevalence of cyberbullying among university students in Peru, as well as to explore underlying patterns of victimisation and aggression based on behavioural indicators. Complementarily, and in order to develop the general objective in greater depth, the following specific objectives are proposed:

1. To examine the psychometric properties of the ECIP-Q instrument used for data collection in a sample of Peruvian university students through exploratory factor analysis, taking into account the possible underlying complexity of the phenomenon. This approach seeks to move beyond the victim–perpetrator dichotomy and assumes that psychometric indicators are inherent to measurement within a specific sample context—and not exclusively to the instrument itself (Barbero García et al., 2015).
2. To describe the prevalence of cyberbullying in the studied sample, considering the roles of cyber-victimisation, cyber-aggression, and the coexistence of both.
3. To analyse the relationship between victim and perpetrator profiles, assessing the degree of association between both roles in situations of cyberbullying.
4. To explore possible differences in levels of involvement in cyberbullying according to sociodemographic variables such as sex and university affiliation, from a descriptive and exploratory perspective.

Method

Population and Sample

A cross-sectional, descriptive, and exploratory design was employed, consistent with survey research methodology. The study was based on a non-probabilistic purposive sample of 1,258 university students drawn from three Peruvian universities (two public and one private). The sample comprised 61.9% men and 38.1% women. Participants aged between 18 and 20 years predominated in the sample, accounting for 42.6% of the total, followed by those aged 21 or 22 years (21.5%).

Instruments

Data were collected online using the SurveyMonkey platform (surveymonkey.com), where the questionnaire was hosted. The instrument consisted of two sections. The first section included three questions on sociodemographic information (age, gender, and university affiliation), while the second section comprised the abbreviated Spanish version of the European Cyberbullying Intervention Project Questionnaire (ECIP-Q) developed by Ortega-Ruiz et al. (2016).

The ECIP-Q consists of 22 (see annex) Likert-type items with five response options, scored from 1 to 5, where 1 indicates never and 5 indicates always. The questionnaire is structured into two dimensions: cyber-victimisation and cyber-aggression (cyberbullying). Accordingly, the theoretical scores for the cyber-aggression and cyber-victimisation subscales range from 11 to 55, while the total score of the instrument ranges from 22 to 110. Higher ECIP-Q scores are interpreted as indicating a higher level of involvement in cyberbullying, either as a victim or as a cyber-aggressor.

Process

For the administration of the ECIP-Q in the present study, a team of collaborators affiliated with the three participating universities was involved. Data collection was carried out across different faculties and undergraduate degree programmes within the universities between October and December 2022. The objectives of the study were explained in detail to all participants. Informed consent was obtained from all individuals taking part in the study, emphasising the confidentiality of the data provided and the appropriate safeguarding of personal information, in accordance with current regulations and in compliance with the ethical principles established in the Declaration of Helsinki (World Medical Association, 2013).

Analysis

Data analysis was structured in several phases. First, an exploratory psychometric analysis of the ECIP-Q was conducted in order to examine the latent structure of the items in the studied sample. This approach made it possible to assess the extent to which the measurement obtained in the present study yields a structure similar to the two-dimensional model (victimisation and aggression) reported by Ortega-Ruiz et al. (2016). To this end, an exploratory factor analysis (EFA) was performed using

maximum likelihood extraction and oblique rotation (Oblimin), assuming a potential correlation between factors. The aim of this EFA was to identify the underlying structure of the data in accordance with the guidelines recommended by Carretero-Dios and Pérez (2007). The choice of EFA was justified by the exploratory nature of the study and by the assumption that the psychometric properties of a measure depend on the sample context in which it is applied.

In reporting the results of this study, a conservative criterion was adopted, whereby factor loadings below 0.40 were considered low, in accordance with the recommendations of Stevens (1996) and Hair et al. (1998). Second, the internal consistency of the instrument was estimated both at the overall level and by factors using McDonald's omega coefficient.

Subsequently, descriptive analyses were conducted to estimate the prevalence of cyberbullying, considering the roles of victimisation, aggression, and the coexistence of both. Given the ordinal nature of the variables and the lack of normality in several distributions, priority was given to the use of robust measures of central tendency and dispersion.

Finally, associations between victim and cyber-aggressor profiles were explored, as well as potential differences according to sociodemographic variables (sex, age, and university), using statistical tests appropriate to the level of measurement and the assumptions of application. All analyses were performed using Jamovi software (The Jamovi Project, 2023) and JASP version 0.95.4 (JASP Team, 2025).

Results

The data factorial structure

An Exploratory Factor Analysis (EFA) was conducted to examine the latent structure of the data. Given the ordinal nature of the ECIP-Q items, the EFA was performed using a polychoric correlation matrix, applying the minimum residual method with oblique rotation (Oblimin), assuming a possible correlation between factors. To assess the suitability of the data for factor analysis, the Kaiser–Meyer–Olkin (KMO) measure was calculated, yielding a value of 0.944. Likewise, Bartlett's test of sphericity was computed and found to be statistically significant (χ^2 = 61768.65; df = 231; $p < .001$).

The number of factors was determined using parallel analysis, a criterion considered more robust than the eigenvalue-based rule. The results supported a seven-factor solution that was conceptually interpretable and jointly explained approximately 80.7% of the total variance. The RMSEA value was 0.485, while the SRMR was 0.017 and the CFI was 0.529, which would typically be interpreted as indicating poor model fit. However, in this case, the use of fit indices derived from confirmatory models is debatable in the context of an exploratory analysis, particularly when polychoric correlations are employed and the sample size is substantially large. The results of the exploratory factor analysis are presented in Table 1.

Table 1. Exploratory Factor Analysis

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Unicidad
A21	0.691	0.038	0.055	-0.179	0.024	0.102	0.107	.399
A20	0.605	0.098	0.081	0.160	0.027	0.166	-0.012	.122
A22	0.524	0.100	0.217	0.157	0.019	0.098	0.027	.153
A19	0.461	0.142	0.213	0.238	0.007	0.216	-0.065	.013
V10	0.454	-0.083	0.060	0.122	0.261	-0.120	0.204	.481
A18	0.355	0.303	0.051	0.111	0.115	0.307	0.013	.062
V9	0.332	0.096	-0.096	0.354	0.242	0.092	0.016	.314
V11	0.258	0.061	0.086	0.402	0.342	-0.191	0.003	.304
A16	0.151	0.200	0.151	0.075	0.093	0.308	0.385	.092
V6	0.120	0.538	-0.197	0.322	0.099	0.013	0.058	.291
A12	0.107	-0.062	0.703	0.030	0.198	-0.062	0.032	.241
V8	0.101	0.021	0.156	0.784	-0.045	0.075	0.029	.069
V7	-0.076	0.256	-0.023	0.512	0.212	0.082	0.161	.265
A15	0.065	0.163	0.332	0.241	0.002	0.191	0.379	.067
A17	0.043	-0.050	0.013	-0.015	0.032	0.957	0.017	.038
V2	0.019	-0.001	0.049	-0.069	0.864	0.051	0.089	.178
A13	0.019	0.042	0.888	-0.021	0.027	0.036	0.002	.109
V4	-0.019	0.723	-0.021	0.040	0.079	0.111	0.005	.325
V5	0.019	1.042	0.054	-0.057	-0.030	-0.064	0.006	-.004
V3	-0.007	0.223	0.120	0.206	0.445	0.115	-0.343	.281
A14	0.004	0.126	0.513	0.245	0.065	0.211	0.076	.109
V1	-0.003	0.003	0.111	-0.000	0.749	0.019	-0.090	.327
Variance explained by the rotated solution	14.8%	14.3%	13.0%	12.8%	12.4%	9.9%	3.6%	80.7%
McDonald's Omega	.767	.822	.827	.746	.770	**	.843	.917

Note: Factor loadings applying parallel analysis extraction and oblimin rotation. (**). Factor 6, defined by a single item, is interpreted as a specific behavioral indicator, therefore its internal consistency was not estimated.

To facilitate interpretation of the resulting factor structure, each factor was assigned a label based on the shared semantic content of the items it comprises:

- Factor 1: Manipulation and dissemination of digital content (aggression). This factor comprises items A18, A19, A20, A21, and A22, which refer to aggressive behaviours oriented towards the manipulation of information and digital content, social

exclusion, and the dissemination of rumours or compromising material in online environments. Overall, this factor groups actions aimed at damaging the reputation, social image, or digital integration of others through the active use of digital platforms.

- Factor 2: Identity theft and unauthorised access to accounts (victimisation). Composed of items V4, V5, and V6, this factor captures experiences of victimisation related to unauthorised access to personal accounts, digital identity impersonation, and the creation of fake profiles. It represents a specific form of cyberbullying characterised by the direct violation of the affected individual's digital identity.
- Factor 3: Direct offensive online interactions (verbal aggression). This factor includes items A12, A13, A14, and A15 and refers to behaviours of direct or indirect verbal aggression, such as the use of insults, threats, or offensive messages directed at others or disseminated within their digital environment. These are forms of cyberbullying primarily based on hostile communication.
- Factor 4: Attacks on privacy and personal image (victimisation). Comprised of items V7, V8, V9, and V11, this factor groups situations in which individuals are victims of public exposure of personal information, dissemination or manipulation of images, and the spread of online rumours. The factor reflects a modality of cyberbullying focused on violations of privacy and reputational harm.
- Factor 5: Verbal abuse and threats in digital environments (victimisation). This factor is formed by items V1, V2, and V3, which describe experiences of insults, disparaging remarks, and threats received through digital media. It represents a form of victimisation based on the use of language as a mechanism of intimidation or psychological harm.
- Factor 6: Active impersonation through fake accounts (specific aggression). This factor is defined by item A17, which refers to the creation of fake accounts to impersonate another person. Given its high factor loading and highly specific nature, this factor is interpreted as a concrete behavioural indicator rather than as a general latent dimension of cyberbullying.
- Factor 7: Technical intrusion into others' accounts (instrumental aggression). Comprising items A15 and A16, this factor captures behaviours involving account hacking and unauthorised access to personal information, carried out with the aim of impersonating or harming others. This modality of aggression requires specific technical skills and is distinct from other, more communicative or relational forms of cyberbullying.

As can be inferred from the EFA results, the initial distinction between cyber-aggression and cyber-victimisation is not exhausted by a simple bidimensional structure, but rather conceals a more complex and conceptually informative internal organisation. Specifically, cyber-aggressive behaviours are distributed across several differentiated factors that reflect specific modalities of aggressive behaviour in digital environments, namely Factors 1 (manipulation and dissemination of digital content), 3 (direct offensive interactions), 6 (active impersonation through fake accounts), and 7 (technical intrusion into others' accounts).

In turn, cyber-victimisation is articulated through Factors 2 (identity theft and unauthorised access to accounts), 4 (attacks on privacy and personal image), and 5 (verbal abuse and threats in digital environments), which capture different forms of victimisation experiences within the context of cyberbullying. The identified factors show correlations of moderate magnitude, which supports the use of an oblique rotation and suggests the existence of conceptual relationships among the different manifestations of cyberbullying, without implying complete overlap between dimensions (see Table 2)

Table 2. Correlations (Spearman's rho) between factors and scales

Variable	F2	F3	F4	F5	F6	F7	Total Aggression	Total Victimization	Total ECIP-Q
F1. Manipulation and dissemination	.494	.580	.551	.498	.575	.335	.642	.586	.664
F2. Identity theft (V)	1.000	.382	.607	.445	.409	.220	.724	.617	.711
F3. Offensive interactions		1.000	.437	.598	.538	.274	.755	.442	.567
F4. Attacks on privacy (V)			1.000	.480	.405	.198	.381	.664	.631
F5. Verbal abuse and threats (V)				1.000	.345	.097	.449	.804	.779
F6. Active impersonation					1.000	.312	.464	.233	.330
F7. Technical intrusion						1.000	.370	.264	.303
Total Aggression							1.000	.507	.702
Total Victimization								1.000	.955
Total ECIP-Q									1.000

Note: All correlations are statistically significant ($p < .001$).

With regard to internal consistency, the total scale yielded a McDonald's omega coefficient of .917, indicating a high level of reliability. Analysis of the individual item contributions showed that the removal of none of the items produced substantial increases in the omega value, suggesting adequate internal coherence of the scale as a whole. Complementarily, internal consistency was estimated for the global cyber-victimisation and cyber-aggression subscales, both of which also showed high values ($\omega = .865$ and $\omega = .891$, respectively), supporting the reliability of both general dimensions.

Likewise, the factors derived from the exploratory factor analysis presented, for the most part (see the last row of Table 1), adequate levels of internal consistency, with omega coefficients ranging from .74 to .83, which can be considered acceptable in the context of an exploratory analysis. In the case of factors composed of a small number of items, reliability values should be interpreted with caution. In particular, internal consistency was not estimated for Factor 6, which is defined by a single item, as such coefficients are not interpretable for unidimensional scales.

Descriptive characteristics: prevalence

Table 3 presents the descriptive statistics for the ECIP-Q items. It can be observed that, for all items, the majority of participants selected the first and second response options on the scale, and the median value was 1 for all variables. In addition, the distributions showed departures from normality (Shapiro–Wilk $p < .001$); therefore, robust statistics and non-parametric tests were prioritised.

Table 3. Descriptive statistics of the ECIP-Q items

	Median	Interquartile range	Mean	Std. Deviation	Answer percentage					W (Shapiro – Wilk)*
					0	1	2	3	4	
V1	1.00	1.00	1.39	0.792	72.4	21.4	2.7	1.4	2.1	.5431
V2	1.00	1.00	1.43	0.768	68.3	25.6	3.2	1.2	1.7	.5853
V3	1.00	0.00	1.23	0.577	81.9	14.9	2.0	0.5	0.7	.4478
V4	1.00	0.00	1.19	0.499	83.4	15.0	0.8	0.3	0.5	.4237
V5	1.00	0.00	1.20	0.493	82.2	16.4	0.7	0.3	0.4	.4443
V6	1.00	0.00	1.17	0.456	84.7	14.1	0.6	0.4	0.2	.4144
V7	1.00	0.00	1.14	0.434	87.7	11.1	0.6	0.2	0.3	.3602
V8	1.00	0.00	1.10	0.404	92.6	6.0	0.6	0.4	0.3	.2559
V9	1.00	0.00	1.13	0.440	89.1	9.5	0.8	0.2	0.4	.3300
V10	1.00	1.00	1.36	0.685	71.8	23.9	2.1	1.0	1.1	.5550
V11	1.00	0.00	1.25	0.587	80.1	17.1	1.4	0.6	0.8	.4634
A12	1.00	0.00	1.24	0.659	83.1	13.0	1.7	0.7	1.4	.4139
A13	1.00	0.00	1.18	0.534	86.6	11.1	1.0	0.4	0.8	.3628
A14	1.00	0.00	1.06	0.344	96.0	2.9	0.5	0.4	0.2	.1670
A15	1.00	0.00	1.05	0.331	97.0	2.1	0.3	0.2	0.4	.1310
A16	1.00	0.00	1.05	0.294	96.7	2.6	0.2	0.2	0.2	.1407
A17	1.00	0.00	1.10	0.376	91.4	7.9	0.2	0.2	0.3	.2788
A18	1.00	0.00	1.03	0.258	97.9	1.6	0.2	0.1	0.2	.0982
A19	1.00	0.00	1.04	0.301	97.7	1.4	0.5	0.2	0.2	.1139
A20	1.00	0.00	1.06	0.340	96.3	2.5	0.5	0.4	0.2	.1576
A21	1.00	0.00	1.27	0.665	79.9	16.1	2.1	0.3	1.5	.4569
A22	1.00	0.00	1.06	0.353	96.3	2.7	0.4	0.2	0.4	.1544

**Note:* all W values are significant at p<.001

Descriptive characteristics: profiles

Considering the descriptive results for the factors presented in Table 4, it can be observed that, within the cyber-aggression dimension, the overall prevalence of the analysed behaviours is low, with mean values ranging between 1.05 and 1.16, and medians equal to 1 across all factors. This pattern suggests that most participants report minimal or virtually non-existent involvement in cyber-aggressive behaviours. It should be noted that the score distributions display marked positive skewness. Specifically, the factors related to manipulation and dissemination of digital content (F1; mean = 1.14) and technical intrusion into others' accounts (F7; mean = 1.05) show a low average frequency of these behaviours. Nevertheless, the high kurtosis values observed for these factors indicate the presence of extreme cases. This suggests that, although infrequent, these forms of aggression may be present among a small number of participants. From a relate perspective, direct offensive online interactions (F3; mean = 1.16) and active impersonation through fake accounts (F6; mean = 1.10) exhibit low mean levels but highly concentrated distributions at the lower end of the scale, indicating notable heterogeneity in the intensity of aggressive behaviours.

By contrast, the cyber-victimisation dimension shows slightly higher values, indicating a relatively greater prevalence of victimisation experiences compared to aggressive behaviours. In this regard, the factor of verbal abuse and threats in digital environments (F5) presents the highest mean value (mean = 1.35), suggesting that this type of experience constitutes one of the most common forms of cyberbullying within the sample. The factors of identity theft and unauthorised access to accounts (F2; mean = 1.13) and attacks on privacy and personal image (F4; mean = 1.16) also display low absolute levels, although higher than those observed for most aggression-related factors. As with the cyber-aggression dimension, the high values of skewness and kurtosis for these factors indicate a highly uneven distribution of experiences, with the coexistence of a large number of cases reporting low levels of involvement and a small number of participants reporting more intense victimisation experiences.

Table 4. Descriptive profile of participants by factors

Dimension	Factor	Mean	Median	Std. Deviation	Skewness	Kurtosis	W (Shapiro–Wilk)*
Aggression	F1. Manipulation and dissemination	1.136	1	0.323	6.513	59.573	.423
Aggression	F3. Offensive interactions	1.129	1	0.337	6.048	50.210	.409
Aggression	F6. Active impersonation	1.160	1	0.443	4.830	29.961	.405
Aggression	F7. Technical intrusion	1.163	1	0.391	4.406	27.817	.468
Victimization	F2. Identity theft	1.350	1	0.587	2.760	10.213	.642
Victimization	F4. Attacks on privacy	1.100	1	0.376	5.583	43.493	.279
Victimization	F5. Verbal abuse and threats	1.047	1	0.291	9.403	105.182	.151
Victimization scale	Cybervictimization (maximum possible=55)	13.604	12	4.131	4.023	25.862	.620
Aggression scale	Cyberbullying (maximum possible=55)	12.132	11	3.302	7.763	78.396	.339
Total scale	Cybervictimization-bullying (maximum possible=110)	25,736	24	6.914	6.176	54.469	.499

**Note:* all W values are significant at p<.001

Regarding the descriptive results of the analysed profiles, cyber-victimisation shows a mean score of 13.60 (SE = .116), with a standard deviation of 4.13, within a theoretical range of 11 to 55 points. Analysis of the score distribution indicates that 25% of participants obtained values equal to or below 11, while the median was 12 points, and 75% scored 15 points or lower. This pattern reflects a clearly asymmetric distribution, with relatively greater dispersion of scores compared to the aggression profile.

In turn, the cyber-aggression profile shows a mean score of 12.13 (SE = .093), with a standard deviation of 3.30, and a score range likewise situated between 11 and 55 points. In this case, percentile values indicate lower variability, with identical values at the 25th and 50th percentiles (11 points), and a moderate increase to 12 points at the 75th percentile. Overall, although both profiles share a similar score range and comparable central values, the results suggest that cyber-victimisation experiences exhibit greater heterogeneity, whereas cyber-aggressive behaviours tend to cluster at low levels, showing a more homogeneous distribution.

Furthermore, analysis of the correlation matrix (Table 2) reveals a strong positive association between cyber-aggression and

cyber-victimisation profiles. Given the ordinal nature of the scales and the substantial departures from normality observed, associations were estimated using Spearman's rho coefficient. The results show a strong correlation between both dimensions ($\rho = .507$; $p < .001$), indicating that greater involvement in cyber-aggressive behaviours is associated with a higher frequency of victimisation experiences.

This pattern of association suggests the presence of complex relational dynamics in cyberbullying, in which the roles of cyber-aggressor and victim do not emerge as mutually exclusive categories, but may instead coexist or overlap within certain student profiles. In this sense, the findings support the conceptualisation of cyberbullying as a multidimensional phenomenon, in which active involvement in aggressive behaviours is consistently related to exposure to victimisation experiences in digital environments.

With regard to the prevalence of cyberbullying, a conservative criterion was adopted whereby the selection of any response option other than never (value 1 on the scale) was interpreted as an indication of having experienced cyberbullying, either in the role of victim or cyber-aggressor. Accordingly, individuals who obtained the minimum score of 11 points on the victimisation or aggression subscales were considered participants who had not experienced cyberbullying in the corresponding role.

Based on this criterion, 63.2% of participants were classified as non-victims (P = .632, 95% CI [.605, .658]), whereas 36.8% reported having been victims to some extent (P = .368, 95% CI [.342, .395]). Similarly, 62.7% of participants indicated that they had not acted as cyber-aggressors in cyberbullying situations (P = .627, 95% CI [.600, .653]), compared to 37.3% who acknowledged having engaged in such behaviours on at least one occasion (P = .373, 95% CI [.347, .400]). Taken together, these results point to the possible coexistence of both roles within the context of university cyberbullying.

This coexistence is supported by the statistically significant association observed in the chi-square test ($\chi^2 = 199$; $df = 1$; $p < .001$). Among participants who never identified themselves as victims of cyberbullying (n = 463), 87.9% also did not identify as cyber-aggressors, whereas 12.1% reported having engaged in aggressive behaviours. In contrast, among those who reported having been victims to some extent (n = 795), 51.9% also identified as cyber-aggressors, compared to 48.1% who did not report aggressive behaviours. Overall, it is noteworthy that 32.8% of the total sample (n = 413) simultaneously fell into both victim and cyber-aggressor profiles. The contingency coefficient (CC = .369) further supports the existence of a relationship of moderate magnitude between the two profiles.

In order to analyse possible differences according to sex, and given the violation of the normality assumption observed across all variables, independent-samples Student's t tests were conducted, complemented by the non-parametric Mann–Whitney U test. This approach allowed the results to be contrasted from both parametric and non-parametric perspectives.

Overall, the findings indicate that most items do not show statistically significant differences by sex, or alternatively display differences of very small magnitude. With regard to victimisation items, statistically significant differences were observed only for items V7, V8, and V9; however, the associated effect sizes were small ($|d| < .15$; $r < .05$), which limits their practical relevance. No consistent differences between men and women were identified for the remaining victimisation items.

With regard to cyber-aggression items, statistically significant differences were observed for several items (A12, A13, A14, A15, A16, A18, A19, A20, and A22) in both the Student's t test and the Mann–Whitney test. However, effect sizes were small in all cases, with Cohen's d values below .30 and low rank-biserial correlations, suggesting that the observed differences - although statistically significant due to the large sample size - lack substantive magnitude from a practical standpoint.

This pattern was also evident in the analyses conducted at the factor and scale levels. Although statistically significant differences were detected for some factors (F1, F2, F3, and F7) and for the total ECIP-Q score, the associated effect sizes remained small ($|d| \leq .27$). Consequently, the results point to a high degree of homogeneity in responses between men and women, with no evidence of substantively relevant differentiated patterns in involvement in cyber-aggressive behaviours or experiences of cyber-victimisation according to sex. These findings further support the decision that stratifying the interpretation of results by sex is not necessary.

Finally, possible differences according to participants' university affiliation were examined. To this end, one-way analyses of variance were conducted, complemented by their corresponding non-parametric tests, in order to ensure the robustness of the findings. In all cases, and considering a 99% confidence level, no statistically significant differences between universities were identified, either at the level of individual items, the cyber-aggression and cyber-victimisation subscales, or the total ECIP-Q score. Once again, the results indicate a high degree of homogeneity in participants' patterns of involvement in cyberbullying.

Discussion and Conclusions

The initial objective of the study was to examine the prevalence levels of cyberbullying among university students in Peru, given that this country is situated within a context of socioeconomic development that entails a set of specific challenges, and in light of the negative impact of cyberbullying on individuals who experience and/or perpetrate it. Within this context, the analysis of prevalence, together with the examination of underlying structures, provides a reference point for the design of potential socio-educational interventions aimed at addressing these processes of social transmission.

From this perspective, the results of the study provide several insights, which are discussed below following the structure of the preceding section. First, the factor analysis revealed the existence of a complex structure of phenomena captured by the instrument, which underlies cyberbullying as defined in the present study, in line with the perspective proposed by Ortega-Ruiz et al. (2016). From this approach, victimisation encompasses verbal abuse as well as attacks on personal identity and privacy. In turn, the profile of aggressive behaviours is expressed through manipulation of online identity, theft of personal information, online aggression, and the dissemination of rumours.

These actions are consistent with the repertoire of behaviours associated with cyberbullying reported in other countries. For example, Zhong et al. (2021) concluded that in China the most prevalent actions include mocking comments in online forums, excluding others by blocking or removing their posts, and accessing email accounts to block them. Also in China, Li and Peng (2022) identified attacking and insulting others, violating privacy, and creating false information as the most frequently used forms of cyberbullying. In Italy, Begotti and Acquadro Maran (2019) reported unwanted sexual insinuations, identity fraud, and threats of violence as the main forms of cyberbullying.

In the present study, the prevalence of Peruvian university students who have experienced cyberbullying as victims is below forty per cent of the participants. A similar proportion was found among those who reported having engaged in behaviours that can be classified as cyberbullying. These figures exceed those reported by Aquino-Canchari et al. (2022), who also focused on Peruvian university students. In their study, the authors reported a prevalence of 24.70% for victims, 13.70% for cyber-aggressors, and 13.30% for victimised cyber-aggressors. In the present study, the proportion of individuals occupying both victim and cyber-aggressor roles is almost double that reported by these authors. This discrepancy may be attributable to differences in methodological approaches, as well as to the way in which cyberbullying indicators were operationalised through the instruments used, among other factors.

Moreover, the results show a marked positive skew, insofar as participants' scores tend to cluster at the lower end of the response scale. This finding supports the general conclusions reported by Aparisi et al. (2023), who identified three cyberbullying profiles among university students: a first group comprising 87.6% of their sample, characterised by low scores for both victimisation and cyber-aggression; a second group including 10% of students with moderately high scores for becoming cyber-aggressors and/or cyber-victims; and a third group, representing 2.4% of the sample, displaying very high levels of cyber-aggression and high levels of cyber-victimisation.

With regard to sex differences, although a greater tendency towards aggression among men was identified in the overall prevalence percentages, the associated effect sizes were not substantial. This absence of marked differences is also reported in previous studies, such as that by Martínez-Monteagudo et al. (2020) with a Peruvian population, or the study by Serrano et al. (2021), who likewise found no differences in a sample of Spanish pre-service teachers. However, sex differences have been identified in other studies (Al Qudah et al., 2020; Ali & Shahbuddin, 2022; Donat et al., 2023; Jenaro et al., 2018; Lee et al., 2023; Musharraf et al., 2019; Tarinkulu & Erdur-Baker, 2021), with some reporting a higher prevalence of cyber-victimisation among women in Pakistan (Musharraf & Anis-ul-Haque, 2018), Italy (Begotti & Acquadro Maran, 2019), and Qatar (Alrajeh et al., 2021). Moreover, Lowry et al. (2016) concluded that one reason for the lower proportion of female cyber-aggressors is that women tend to perceive greater costs and fewer benefits associated with engaging in cyberbullying compared to men.

Taken together, these findings highlight two aspects that warrant further investigation. First, sex differences tend to be observed primarily in the cyber-aggressor role. Second, such differences appear more frequently in studies conducted with predominantly non-Hispanic populations. Therefore, beyond potential methodological differences, comparative cross-cultural research should also be considered in order to examine the contribution of sociocultural factors to the manifestation of cyberbullying.

Nevertheless, it should be noted that the absence of clear differences between men and women, observed both in the present study and in previous research, may be related to methodological biases arising from gender-insensitive research approaches. As pointed out by Ferrer-Pérez and Bosch-Fiol (2019), a substantial part of empirical research on violence and aggressive behaviours has tended to adopt "gender-blind" approaches, equating behaviours without sufficiently considering their differential meanings, contexts, and consequences. From this perspective, the use of self-report instruments and decontextualised behavioural indicators may contribute to an artificial homogenisation of scores between sexes, thereby obscuring power dynamics, processes of gendered socialisation, and underlying motivations that are not always captured by frequency-based measures. This consideration calls for a cautious interpretation of the absence of sex differences and highlights the need for research designs and analytical strategies that explicitly incorporate a gender-sensitive perspective in the study of cyberbullying.

With regard to age, the present study did not find statistically significant differences. However, studies conducted with other populations have reported differences, such as a decrease in prevalence with increasing age (Lei et al., 2020; Schade et al., 2021). This finding is plausible insofar as the observed differences may be attributable to cultural variations between generations. In this respect, the absence of age-related differences in the present study may be explained by the narrow age range of the participants included in the sample. Therefore, the existence of studies reporting intergenerational differences provides further support for future research to examine sociocultural differences not only across cultures, but also across generations.

The results of the present study, together with the reviewed literature, clearly show that there is a non-negligible proportion of

victimised cyber-aggressors in Peru (Aquino-Canchari et al., 2022), that is, individuals who engage in aggressive behaviours after having previously been victims. This transition is unlikely to be simple and undoubtedly involves complex processes. One possible key factor is the power imbalance inherent to bullying situations (Rivituso, 2014). Victims who feel powerless and unable to defend themselves may resort to cyberbullying as a means of asserting control or regaining a sense of power, even when such behaviours are directed at others who appear more vulnerable. From this perspective, such behaviour may be understood as a maladaptive coping mechanism. Another contributing factor may be the anonymity and psychological distance afforded by digital environments (Morales-Arjona et al., 2022), whereby cyber-aggressors may feel less accountable for their actions when operating behind a screen. Moreover, the lack of immediate consequences may further reinforce these behaviours, potentially leading to an escalation of cyberbullying.

However, a more comprehensive and contextualised explanation can be drawn from Albert Bandura's social cognitive theory, which provides a useful framework for understanding the relationship between vicarious learning and cyberbullying. According to this theory, individuals learn by observing, imitating, and modelling cyberbullying behaviours when these are perceived as successful or rewarded. In the context of cyberbullying, this implies that individuals who witness cyberbullying incidents—either online or offline—are more likely to engage in such behaviours if they observe positive outcomes, such as social approval, or the absence of negative consequences, such as punishment (Zeng et al., 2021). This learning process is not passive; rather, it involves active information processing, interpretation of social cues, and expectations regarding the outcomes of one's actions. Furthermore, characteristics of the model influence the effectiveness of vicarious learning, as individuals are more likely to emulate models they perceive as competent, credible, and similar to themselves (Park & Puranam, 2023), as may occur with peers or admired figures within cyberbullying contexts.

As can be observed, the findings of the present study, together with the reviewed literature, highlight the magnitude of cyberbullying as a problem in both developed and developing countries. The data from this study indicate that Peruvian university students are not immune to this phenomenon and exhibit prevalence levels that justify the development of socio-educational programmes aimed at intervention.

Given the significant impact of cyberbullying on students' well-being and academic success, higher education institutions have a critical role to play in addressing this issue. This includes the development and implementation of comprehensive anti-bullying policies that specifically address cyberbullying (Vaill et al., 2020). In addition, universities need to invest in education and awareness programmes aimed at promoting digital literacy, responsible online behaviour, and bystander intervention (Akrami et al., 2024; Amin et al., 2024). Such programmes can equip students with strategies to recognise and respond to cyberbullying, thereby fostering a more supportive and inclusive university climate (James et al., 2023).

Within these programmes, attention should be paid to the environmental context, social relationships, and personal circumstances of both victims and cyber-aggressors in order to fully understand the complexity of cyberbullying. This is particularly important given evidence indicating that external environmental factors exert a stronger influence on cyber-aggressors, whereas internal factors are more influential for victims (Li & Peng, 2022).

In this sense, scientific evidence has identified actions that appear to be effective in managing cyberbullying. For example, studies such as that by Yang (2021) emphasise the development of positive skills—such as seeking help or practising forgiveness—which help to mitigate the negative impact on mental health. To some extent, this may be explained by the fact that most victims take few or no proactive measures to counteract the effects of

cyberbullying (Crespi et al., 2021).

In conclusion, the findings indicate that, while Peru shares similarities with other countries in terms of the forms and effects of cyberbullying, it also faces specific challenges derived from its sociocultural and economic context. This issue calls for a comprehensive response from higher education institutions, which should implement specific anti-cyberbullying policies, promote digital literacy, and foster responsible online behaviour. Futhermore, future research should combine longitudinal designs and culturally sensitive approaches to better understand the dynamics of cyberbullying in higher education.

Acknowledgments

Project and funding: This work is part of the I+D Project PID2021-122206NB-I00, "Towards a gender-sensitive curriculum in initial teacher training", of the State Plan for Scientific and Technical Research and Innovation (Ministry of Science and Innovation, Spain), attached to the University of Seville.

References

Acosta Leal, D. A., Ponce Martínez, E. H. P., & González-Martínez, C. G. (2021). La educación superior como escenario para la inclusión de la diversidad sexual en el aula de clases. *Sinergias Educativas, 6*(2), 49-65. https://doi.org/10.37954/se.v6i2.173

Akarsu, O., Budak, M.I., & Okanli, A. (2022). The relations of childhood trauma with cyberbullying and cyber victimization among university students. *Archives of Psychiatric Nursing, 41*, 181-187. https://doi.org/10.1016/j.apnu.2022.06.004

Akrami, K., Akrami, M., Akrami, F., Ahrari, M., Hakimi, M., & Fazil, A. W. (2024). Investigating the adverse effects of social media and cybercrime in higher education: A case study of an online university. *Studies in Media, Journalism and Communications, 2*(1), 22-33. https://doi.org/10.32996/smjc.2024.2.1.3

Al Qudah, M. F., Al-Barashdi, H. S., Hassan, E. M. A. H., Albursan, I. S., Heilat, M. Q., Bakhiet, S. F. A., & Al-Khadner, M. A. (2020). Psychological security, psychological loneliness, and age as predictors of cyberbullying among university students. *Community Mental Health Journal, 56*(3), 393–403. https://doi.org/10.1007/s10597-019-00455-z

Ali, S.I., & Shahbuddin, N.B. (2022). The relationship between cyberbullying and mental health among university students. *Sustainability, 14*(11), 6881. https://doi.org/10.3390/su14116881

Alrajeh, S., Hassan, H.M., Al-Ahmed, A.S., & Hassan, D.A. (2021). An investigation of the relationship between cyberbullying, cybervictimization and depression symptoms: A cross sectional study among university. *PLoS ONE, 16*(12), e0260263. https://doi.org/10.1371/journal.pone.0260263

Amin, S. M., Mohamed, M. A. E., El-Sayed, M. M., & El-Ashry, A. (2024). Nursing in the digital age: The role of nursing in addressing cyberbullying and adolescents' mental health. *Journal of Psychiatric and Mental Health Nursing*, *32*, 57–70. https://doi.org/10.1111/jpm.13085

Aparisi, D., Delgado, B., & Bo, R.M. (2023). Latent profiles of cyberbullying among university students and its relationship with social anxiety and aggressiveness. *Education and Information Technologies, 28*(10), 13269-13285. https://doi.org/10.1007/s10639-023-11725-5

Aquino-Canchari, C.R., Baquerizo-Quispe, N.S., Miguel-Ponce, H.R., & Medina-Alfaro, I.I. (2022). Maltrato y cyberbullying asociado a la autoestima en estudiantes de medicina de una universidad peruana durante el rebrote de la COVID-19. *Educación Médica, 23*(4), 100754.

https://doi.org/10.1016/j.edumed.2022.100754

Asociación Médica Mundial (2013). Principios éticos para las investigaciones médicas en seres humanos. Declaración de Helsinki (7ª ed.). https://www.wma.net/es/policies-post/declaracion-de-helsinki-de-la-amm-principios-eticos-para-las-investigaciones-medicas-en-seres-humanos/

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Prentice Hall.

Barbero García, M.I., Vila, E., & Holgado, F.P. (2015). *Psicometría*. Sanz y Torres.

Begotti, T., & Acquadro Maran, D. (2019). Characteristics of Cyberstalking Behavior, Consequences, and Coping Strategies: A Cross-Sectional Study in a Sample of Italian University Students. *Future Internet*, *11*(5), 120. https://doi.org/10.3390/fi11050120

Bernardo, A. B., Tuero, E., Cervero, A., Dobarro, A., & Galve-González, C. (2020). Acoso y ciberacoso: Variables e influencia en al abandono universitario. *Comunicar, 64*, 63-72. https://doi.org/10.3916/C64-2020-06

Budnyk, O. (2023). (Un) Critical Pedagogy: Current Priorities and Prospects of Development. *Journal of Vasyl Stefanyk Precarpathian National University, 10*(1), 7–23. https://doi.org/10.15330/jpnu.10.1.7-23

Buelga, S., Postigo, J., Martínez-Ferrer, B., Cava, M.J., & Ortega-Barón, J. (2020). Cyberbullying among adolescents: Psychometric properties of the CYB-AGS Cyber-Agressor Scale. *International Journal of Environmental Research and Public Health*, *17*(9), 3090. https://doi.org/10.3390/ijerph17093090

Cabra Torres, F., Marciales Vivas, G. (2016). Cyberbullying and Education: A Review of Emergent Issues in Latin America Research. En Navarro, R., Yubero, S., Larrañaga, E. (Eds.) *Cyberbullying Across the Globe.* Springer. https://doi.org/10.1007/978-3-319-25552-1_7

Carretero-Dios, H., & Pérez, C. (2007). Normas para el desarrollo y revisión de estudios instrumentales: Consideraciones sobre la selección de test en la investigación psicológica. *International Journal of Clinical and Health Psychology, 7*(3), 863-882.

Cenat, J.M., Smith, K., Hébert, M., & Derivois, D. (2019). Cybervictimization and suicidality among French undergraduate students: A mediation model. *Journal of Affective Disorders*, *249*, 90-95. https://doi.org/10.1016/j.jad.2019.02.026

Chan, T.K.H., Cheung, C.M.K., & Lee, Z.W.Y. (2021). Cyberbullying on social networking sites: A literature review and future research directions. *Information & Management*, *58*(2), 103411. https://doi.org/10.1016/j.im.2020.103411

Chu, X., Li, Y., Wang, P., Zeng, P., & Lei, L. (2023). Social support and cyberbullying for university students: The mediating role of internet addiction and the moderating role of stress. *Current Psychology*, *42*(3), 2014-2022. https://doi.org/10.1007/s12144-021-01607-9

Çimke, S., & Cerit, E. (2021). Social media addiction, cyberbullying and cyber victimization of university students. *Archives of Psychiatric Nursing*, *35*(5), 499-503. https://doi.org/10.1016/j.apnu.2021.07.004

Crespi, I., Hendry, B., & Fermani, A., & Hellsten, L.M. (2021). Extending the Current Theorization on Cyberbullying:

Importance of Including Socio-Psychological Perspectives. *Italian Journal of Sociology of Education, 13*(3), 85-110. https://doi.org/10.14658/pupj-ijse-2021-3-5

Cretu, D.M. & Morandau, F. (2024). Bullying and cyberbullying: a bibliometric analysis of three decades of research in education. *Educational Review, 76*(2), 371–404 https://doi.org/10.1080/00131911.2022.2034749

Donat, M., Willisch, A., & Wolgast, A. (2023). Cyber-bullying among university students: Concurrent relations to belief in a just world and to empathy. *Current Psychology*, *42*, 7883-7896. https://doi.org/10.1007/s12144-022-03239-z

Dong, Y. (2020). The effect of traditional bullying-victimization on behaviour cyberbulling among college students: Based on the structural equation mode. *International Journal of Social Psychology, 35*(1), 175-199. https://doi.org/10.1080/02134748.2019.1687969

Falcón, P. M., & Mamani, L. A. (2017). Actitudes lingüísticas en contextos interculturales: población Asháninka Bajo Chirani. *RLA. Revista de Lingüística Teórica y Aplicada, 55*(1), 95–115. https://doi.org/10.4067/S0718-48832017000100095

Fauzi, M.A. (2023). Cyberbullying in higher education: a review of the literature based on bibliometric analysis. *Kybernetes*, *52*(9), 2914-2933. https://doi.org/10.1108/K-12-2022-1667

Ferrer-Pérez, V. A., & Bosch-Fiol, E. (2019). El sesgo de género en la investigación sobre la violencia. *Anuario de Psicología Jurídica, 29*, 1–8. https://doi.org/10.5093/apj2019a1

Gao, J., Liu, F., Xu, J., Wang, J., Mou, J., & Wang, L. (2022). The influence of family incivility on cyberbullying perpetration: A moderated mediation model. *Frontiers in Psychology, 13*, 975335. https://doi.org/10.3389/fpsyg.2022.975335

Giumetti, G.W., & Kowalski, R.M. (2022). Cyberbullying via social media and well-being. *Current Opinion in Psychology*, *45*, 101314. https://doi.org/10.1016/j.copsyc.2022.101314

Giumetti, G.W., Kowalski, R.M. & Feinn, R. (2022). Predictors and outcomes of cyberbullying among college students: a tow wave study. *Aggressive Behavior, 48*(1), 40-54. https://doi.org/10.1002/ab.21992

González-Sodis, J.L., & Leiva, J.J. (2022). Perception of TIC conflicts among secondary school students in a private school. School mediation as a response. *Innoeduca. International Journal of Technology and Educational Innovation, 8*(2), 58-68. https://doi.org/10.24310/innoeduca.2022.v8i2.12655

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis*. Prentice-Hall.

Hawkins, C. (2024). Using young peoples' lived experiences to explore definitional characteristics for cyberbullying. *Pastoral Care in Education, 42*(3), 249–268. https://doi.org/10.1080/02643944.2023.2254779

Henning, C., Cuesta, L. M., Fernández, F. A., & Dorival, M. (2019). Cyberbullying, detección y factores de análisis: Un estudio comparativo. *Revista Espacios, 40*(2), 12.

Hossain, M. A., Quaddus, M., Warren, M., Akter, S., & Pappas, I. (2022). Are you a

cyberbully on social media? Exploring the personality traits using a fuzzy-setconfigurational approach. *International Journal of Information Management*, *66*, 102537. https://doi.org/10.1016/j.ijinfomgt.2022.102537

James, Z., Fuseini, M., Puoza, D.-D., & Issah, S. (2023). Preventing cyberbullying in language classrooms among level 100 tertiary students: Creating the awareness of its prevalence and effects on students. *Integrated Journal for Research in Arts and Humanities, 3*(5). https://doi.org/10.55544/ijrah.3.5.6

JASP Team. (2025). *JASP* (Version 0.95.4) [Computer software]. https://jasp-stats.org/

Jenaro, C., Flores, N., & Frías, C.P. (2018). Systematic review of empirical studies on cyberbullying in adults: What we know and what we should investigate. *Aggression and Violent Behavior, 38*, 113-122. https://doi.org/10.1016/j.avb.2017.12.003

Jenaro, C., Flores, N., & Frías, C.P. (2021). Anxiety and depression in cyberbullied college students: A retrospective study. *Journal of Interpersonal Violence, 36*(1-2), 579-602. https://doi.org/10.1177/0886260517730030

Kaur, P., Dhir, A., Tandon, A., Alzeiby, E.A., & Abohassan, A.A. (2021). A systematic literature review on cyberstalking. An analysis of past achievements and future promises. *Technological Forecasting & Social Change*, *133*, 120426. https://doi.org/10.1016/j.techfore.2020.120426

Khine, A.T., Saw, Y.M., Htut, Z.Y., Khaing, C.T., Soe, H.Z., Swe, K.K., & Hmajima, N. (2020). Assessing risk factors and impact of cyberbullying victimization among university students in Myanmar: A crosssectional study. *PloS ONE*, *15*(1), e0227051. https://doi.org/10.1371/journal.pone.0227051

King, R. B., Wang, Y., Fu, L., & Leung, S. O. (2024). Identifying the top predictors of student well-being across cultures using machine learning and conventional statistics. S*cientific Reports, 14,* 8376. https://doi.org/10.1038/s41598-024-55461-3

Lêe, J., Cheung, H.S., Chee, G., & Chai, V.E. (2021). The Moderating Roles of Empathy and Attach- ment on the Association Between Latent Class Typologies of Bullying Involvement and Depressive and Anxiety Symptoms in Singapore. *School Mental Health, 13*(3), 518–534. https://doi.org/10.1007/s12310-021-09411-3

Lêe, M.H. L., Kaur M., Shaker V., Yee A., Sham R., & Siau C.S. (2023). Cyberbullying, Social Media Addiction and Associations with Depression, Anxiety, and Stress among Medical Students in Malaysia. *International Journal of Environmental Research and Public Health, 20*(4), 3136. https://doi.org/10.3390/ijerph20043136

Lei, H., Mao, W., Cheong, C. M., Wen, Y., Cui, Y., & Cai, Z. (2020). The relationship between self-esteem and cyberbyllying: A meta-analysis of children and youth students. *Current Psychology, 39*(3), 830-842. https://doi.org/10.1007/s12144-019-00407-6

Li, W., & Peng, H. (2022). The impact of strain, constraints, and morality on different cyberbullying roles: A partial test of agnew´s general strain theory. *Frontiers in Psychology, 13*, 980669. https://doi.org/10.3389/fpsyg.2022.980669

Lowry, P. B., Zhang, J., Wang, C., & Siponen, M. (2016). Why do adults engage in cyberbullying on social media? An

integration of online disinhibition and deindividuation effects with the social structure and social learning model. *Information Systems Research, 27*(4), 962-986. https://doi.org/10.1287/isre.2016.0671

Lozano-Blasco, R., Cortés-Pascual, A. & Latorre-Martínez, M.P. (2020). Being a cybervictim and a cyberbully–The duality of cyberbullying: a meta-analysis. *Computers in Human Behavior*, *111*, 106444. https://doi.org/10.1016/j.chb.2020.106444

Martínez-Monteagudo, M.C., Delgado, B., García-Fernández, J.M., & Ruiz-Esteban, C. (2020). Cyberbullying in the university setting. Relationship with emotional problems and adaptation to the university. *Frontiers in Psychology, 10*, 3074. https://doi.org/10.3389/fpsyg.2019.03074

Martínez, J., Rodríguez-Hidalgo, A., & Zych, I. (2020). Bullying and cyberbullying in adolescents from disadvantaged areas: Validation of questionnaires, prevalence rates, and relationship to self-esteem, empathy, and social skills. *International Journal of Environmental Research and Public Health, 17*(17), 6199. https://doi.org/10.3390/ijerph17176199

Méndez, I., Ruiz, C., Martínez, J.P., & Cerezo, F. (2019). Cyberbullying according to sociodemographic and academic characteristics among university students. *Revista Española de Pedagogía, 77*(273), 261-276. https://doi.org/10.22550/REP77-2-2019-06

Mera-Lemp, M. J., Bilbao, M., & Basabe, N. (2020). School satisfaction in immigrant and Chilean students: The role of prejudice and cultural self-efficacy. *Frontiers in Psychology, 11,* 613585. https://doi.org/10.3389/fpsyg.2020.613585

Miranda, R., Oriol, X., & Amutio, A. (2019). Risk and protective factors at school: Reducing bullies and promoting positive bystanders' behaviors in adolescence. S*candinavian Journal of Psychology, 60*(2), 106–115. https://doi.org/10.1111/sjop.12513

Morales-Arjona, I., Pastor-Moreno, G., Ruiz-Prez, I., Sordo, L., & Henares-Montiel, J. (2022). Characterization of cyberbullying victimization and perpetration before and during the covid-19 pandemic in Spain. *Cyberpsychology, Behavior, and Social Networking, 25*(11), 733-743. https://doi.org/10.1089/cyber.2022.0041

Musharraf, S., & Anis-ul-Haque, M. (2018). Cyberbullying in different participant roles: Exploring differences in psychopathology and well-being in university students. *Pakistan Journal of Medical Research, 57*(1), 33-39.

Musharraf, S., Bauman, S., Anis-ul-Haque, M., & Malik, J. A. (2019). General and ICT self-efficacy in different participants roles in cyberbullying/victimization among Pakistani university students. *Frontiers in Psychology, 10*, 1098. https://doi.org/10.3389/fpsyg.2019.01098

Nagar, P. M., & Talwar, V. (2023). Tending to the Emotional Experience of Cyber-Victimized Youth: How Teachers Can Support Victims of Severe Cyberbullying Incidents. *Computers in the Schools*, *41*(4), 375–398. https://doi.org/10.1080/07380569.2023.2256714

Ortega-Ruiz, R., Del Rey, R., & Casas, J.A. (2016). Evaluar el bullying y el cyberbullying validación española del EBIP-Q y del ECIP-Q. *Psicología Educativa*, *22*(1), 71-79. https://doi.org/10.1016/j.pse.2016.01.004

Park, S., & Puranam, P. (2023). Vicarious Learning Without Knowledge Differentials. *Management Sciences,*

70(5), 2999-3019 https://doi.org/10.1287/mnsc.2023.4842

Peter, I., & Petermann, F. (2018). Cyberbullying: A concept analysis of defining attributes and additional influencing factors. *Computers in Human Behavior*, *86*, 350-366. https://doi.org/10.1016/j.chb.2018.05.013

Puma-Maque, O. C., & Cardenas-Zúniga, M. (2024). Bullying y cyberbullyng en el contexto peruano (2017-2021): una revisión sistemática. *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud, 22*(1), 1-21. https://doi.org/10.11600/rlcsnj.22.1.6163

Rivituso, J. (2014). Cyberbullying victimization among college students: an interpretive phenomenological analysis. *Journal of Information Systems Education, 25*(1), 71-75.

Sarhangi, N., Rostami, M., Abbasirad, R., Fasihi, M., & Ahmadboukani, S. (2023). Cyber victimization and suicidal behavior in high school students: The mediating role of psychological problems and perceived social support. *Psychology in the Schools, 60*(7), 2395-2408. https://doi.org/10.1002/pits.22868

Schade, E. C., Voracek, M. & Tran, U. S. (2021). The nexus of the Dark Triad Personality traits with cyberbullying, empathy, and emotional intelligence: A structural-equation modeling approach. *Frontiers in Psychology, 12*, 659282. https://doi.org/10.3389/fpsyg.2021.659282

Schodt, K. B., Quiroz, S.I., Wheeler, B., Hall, D.L., & Silva, Y.N. (2021). Cyberbullying and mental health in adults: the moderating role of social media use and gender. *Frontiers in Psychiatry, 12*, 674298. https://doi.org/10.3389/fpsyt.2021.674298

Serrano, C., Royo, P., Laorden, C., & Giménez, M. (2021). Cyberbullying in Spanish university example. *REOP Revista Española de Orientación y Psicopedagogía, 32*(2), 132-149. https://doi.org/10.5944/reop.vol.32.num.2.2021.31283

Stevens, J. (1996). *Applied Multivariate Statistics for the Social Sciences (3r ed.)*. Lawrence Erlbaum Associates.

Sun, X., Chen, L., Wang, Y., & Li, Y. (2020), The link between childhood psychological maltreatment and cyberbullying perpetration attitudes among undergraduates: Testing the risk and protective factors. *PLoS ONE*, *15*, e0236792. https://doi.org/10.1371/journal.pone.0236792

Tanrikulu, I., & Erdur-Baker, O. (2021). Motives behind cyberbullying perpetration: A test of uses and gratifications theory. *Journal of Interpersonal Violence, 36*(13-14), 6699-6724. https://doi.org/10.1177/0886260518819882

The Jamovi project (2023). Jamovi (Version 2.3) [Computer Software]. Disponible en https://www.jamovi.org

Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior, 26*(3), 277-287. https://doi.org/10.1016/j.chb.2009.11.014

Vaill, Z., Campbell, M., & Whiteford, C. (2020). *An analysis of British university student anti-bullying policies: How British universities compare with Australian universities*. Taylor & Francis. https://doi.org/10.1080/23322969.2020.1825990

Varela, J.J., Hernández, C., Miranda, R., Barlett, C.P., & Rodríguez-Rivas, M.E. (2022). Victims of cyberbullying: Feeling Loneliness and Depression among Youth and Adult Chileans during the Pandemic. *International Journal of Environmental Research and Public Health, 19*(10), 5886. https://doi.org/10.3390/ijerph19105886

Wang, G.F., Han, A.Z., Zhang, G.B., Xu, N., Xie, G. D., Chen, L.R., Yuan, M.Y. & Su, P.Y. (2020). Sensitive periods for the effect of bullying victimization on suicidal behaviors among university students in China: The roles of timing and chronicity. *Journal of Affective Disorders*, *268*, 12-19. https://doi.org/10.1016/j.jad.2020.02.049

Wei, H., Ding, H., Liu, M., & He, A. (2023). The relations between filial piety belief and cyberbullying perpetration among Chinese university students: A conditional process analysis. *Current Psychology*, *42*, 24707-24716. https://doi.org/10.1007/s12144-022-03518-9

Xu, W., & Zheng, S. (2022). Personality traits and cyberbullying perpetration among Chinese university students: The moderating role of Internet self-efficacy and gender. *Frontiers in Psychology, 13*, 779139. https://doi.org/10.3389/fpsyg.2022.779139

Yang, F. (2021). Coping strategies, cyberbullying behaviors, and depression among Chinese netizens during the COVID-19 pandemic: a web-based nationwide survey. *Journal of Affective Disorders*, *281*, 138-144. https://doi.org/10.1016/j.jad.2020.12.023

Zeng, K., Wang, D., Ye, Q., Li, Z., & Zheng, X. (2021). Influence of an individual's unethical behaviour on peers' vicarious learning in organisations: The role of moral anger. *Cross Cultural & Strategic Management, 24*(4), 601-621 https://doi.org/10.1108/CMS-08-2019-0281

Zhong, J., Zheng, Y., Huang, X., Mo, D., Gong, J., Li, M., & Huang, J. (2021). Study of the influencing factors of cyberbullying among Chinese college students incorporated with digital citizenship: From the perspective of individual students. *Frontiers in Psychology, 12*, 621418. https://doi.org/10.3389/fpsyg.2021.621418

Zych, I., Baldry, A.C., Farrington, D.P., & Llorent, V.J. (2019). Are children involved in cyberbullying low on empathy? A systematic review and meta-analysis of research on empathy versus different cyberbullying roles. *Aggression and Violent Behavior*, *45*, 83-97. https://doi.org/10.1016/j.avb.2018.03.004

Annex: Scale items

V1. Someone has used foul language or insults against me via email or text message.

V2. Someone has used foul language about me to others via the internet or text message.

V3. Someone has threatened me via messages online or text message.

V4. Someone has hacked my email account and stolen my personal information.

V5. Someone has hacked my account and impersonated me.

V6. Someone has created a fake account to impersonate me.

V7. Someone has posted personal information about me online.

V8. Someone has posted compromising videos or photos of me online.

V9. Someone has altered photos of me that I had posted online.

V10. I have been excluded or ignored from a social network or chat room.

V11. Someone has spread rumors about me online.

A12. I have used foul language or insults against someone via text message or internet messages.

A13. I have used offensive language about someone to other people in online messages or text messages.

A14. I have threatened someone via text messages or online messages.

A15. I have hacked into someone's email account and stolen their personal information.

A16. I have hacked into someone's account and impersonated them.

A17. I have created a fake account to impersonate someone else.

A18. I have posted someone's personal information online.

A19. I have posted compromising videos or photos of someone online.

A20. I have edited photos or videos of someone that were posted online.

A21. I have excluded or ignored someone on a social network or chat platform.

A22. I have spread rumors about someone online.

Autores

Rumiche Chávarry, Rocío del Pilar (rrumiche@usat.edu.pe) 0000-0001-8457-7330

She holds a PhD in Research Methods and Innovation from the University of Málaga. She is a full-time lecturer and researcher at Universidad Católica Santo Toribio de Mogrovejo (Peru), where she has been working since 2003. She is registered as a researcher in the National Registry of Science, Technology and Technological Innovation (RENACYT) of CONCYTEC (Peru) and is accredited by ANECA (Spain) as Private University Lecturer and Contracted Doctor. She is the author of scientific articles and book chapters focusing on digital technologies and their use and impact in education and on students.

Author contribution (RPRCh): Literature Review, Editing Review.

Conflict of interest statement: RPRCh declares that there is no conflict of interest for conducting/publishing the study

Ríos Ariza, José Manuel (jmrios@uma.es) 0000-0002-1879-8677

He holds a PhD in Education from the University of Málaga and has been a Full Professor at this institution since 1994. He has been a member of the National System of Researchers of Mexico and served as Full Professor at the University of Guadalajara (Mexico) for six years. As a lecturer and/or researcher, he has worked in 21 countries and has participated in 31 funded research projects. He is the author or co-author of research articles, book chapters, and books. His research interests focus on educational innovation and change management processes, as well as digital technologies applied to education.

Author contribution (JMRA): Conceptualization, Supervision, Project Management, Resources.

Conflict of interest statement: JMRA declares that there is no conflict of interest for conducting/publishing the study

Cholán Valdez, Óscar Rufino (ocholan@unc.edu.pe) 0000-0003-1292-5011

He is a sociologist, holds a PhD in Psychology, and is a university lecturer. He is a consultant and researcher with experience in public–private management, Ecological Economic Zoning (EEZ), territorial planning, and disaster risk management. He has acted as a facilitator in watershed management plans, socio-environmental conflict management, and territorial demarcation processes, and has conducted social studies for development projects and social impact assessments. His research interests include emerging issues related to technology and social networks.

Author contribution (ORChV): Literature Review, Editing Review.

Conflict of interest statement: ORChV declares that there is no conflict of interest for conducting/publishing the study

Matas Terrón, Antonio (amatas@uma.es) 0000-0003-1401-4932

He is a Senior Lecturer at the University of Málaga (Spain), affiliated with the Teaching Unit of Research Methods and Educational Diagnosis. He holds a degree in Psychology and a PhD in Education from the University of Málaga. His research focuses on educational measurement, psychometrics, and programme evaluation, with a particular interest in the methodological analysis of complex social and educational phenomena. He has carried out teaching and research activities at several national and international universities.

Author contribution (AMT): Data Curation, Methodology, Software, Validation, Visualization, Writing (original draft, revision, and editing).

Conflict of interest statement: AMT declares that there is no conflict of interest for conducting/publishing the study.

Revista **EL**ectrónica de **I**nvestigación y **EV**aluación **E**ducativa

E-Journal of Educational Research, Assessment and Evaluation

[ISSN: 1134-4032]