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IMPACT OF FOMO IN HIGHER EDUCATION: CHALLENGES AND STRATEGIES FOR THE INTEGRATION OF ICT IN LEARNING, INCLUSION AND UNIVERSITY PSYCHOLOGICAL WELL-BEING

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ABSTRACT

In a context where Information and Communication Technologies (ICT) and social networks play a fundamental role, many university students experience a constant pressure to stay connected and updated, which is known as Fear of Missing Out (FoMO). This phenomenon, related to the fear of missing out on important social or academic events, can generate high levels of anxiety and stress, affecting both psychological well-being and the learning process. This study aims to explore how FoMO influences the psychological well-being of university students, as well as to identify challenges and strategies to integrate ICTs in a healthy and effective way in higher education. A quantitative methodology with a descriptive and cross-sectional design was used, applying a questionnaire that measured FoMO, psychological well-being and ICT use in a sample of 289 university students. The results show a significant relationship between FoMO and affectations to psychological well-being, suggesting that the constant pressure to stay connected can generate negative effects on students' mental health. In addition, strategies for the integration of ICTs in learning and inclusion are discussed, promoting a responsible use that favors both academic performance and the general well-being of students.

KEYWORDS: FoMO, psychological wellbeing, ICT, higher education, inclusion, learning

INTRODUCTION

Technological progress has substantially modified educational methods, especially at the university level. With the increasing influence of Information and Communication Technologies (ICT) in the daily routine of higher-level students, a psychological phenomenon called Fear of Missing Out (FoMO), or the fear of being left behind, has emerged. This phenomenon refers to the distress experienced by individuals when they feel that they are not aware of social interactions, activities or events occurring around them.

In the educational context, FoMO can generate several challenges, both in terms of learning as well as inclusion and well-being for students. Therefore, it is essential to analyze how this phenomenon affects university education and what strategies could be implemented to mitigate its detrimental effects, while taking advantage of the benefits of ICTs in academia.

FoMO has been explained by Przybylski et al. (2013) as a feeling of anxiety originated by the desire to be constantly informed about the activities and events that other people are experiencing. In the university environment, this phenomenon is mainly expressed in interactions on digital platforms and social networks, where students feel the pressure to participate in all activities, both social and academic, that take place online. Thanks to ICTs, social networks allow continuous connection and constant exposure to others' experiences, which increases stress and the worry of not being involved in all relevant activities (Arellano et al., 2025).

Among the characteristics of FoMO are social anxiety, the constant need to be aware of what others are doing, and the tendency to use ICTs excessively to avoid missing important opportunities. This phenomenon directly influences the emotional well-being of students, affecting their concentration and their ability to balance their studies with their social life (Rodriguez, 2025).

The effect of FoMO on the academic performance of university students is notable, since firstly, the anxiety derived from the possibility of missing events or activities generates a constant distraction that interrupts the learning process. This distraction, caused by the compulsion to constantly check social networks, interferes with the ability to concentrate and reduces productivity in academia (Ocenda, 2025).

In addition, FoMO can foster superficial learning, as students may choose to consume information quickly, without delving deeper into relevant academic content or topics. This attitude of superficiality, resulting from constant exposure to an endless flow of online information, compromises the quality of learning and limits the development of deep cognitive skills (Przybylski et al., 2013). In the long term, this phenomenon can result in fragmented understanding of subjects and impaired academic performance. Similarly, FoMO is associated with difficulty in effective time management. Students may feel overburdened by the number of activities, both academic and social, that they must complete in order not to fall behind.

This can generate an overload of tasks, which affects educational quality due to the lack of time to delve deeper into subjects or rest adequately (Sánchez-Romero, Giménez-Gualdo and Vidal-Martínez, 2024).

Inclusion is a key principle in university education, as it seeks to ensure that all students, regardless of their economic or social background, have access to the same learning opportunities. However, the FoMO can represent an obstacle to inclusion, particularly when students lack the resources to stay connected to ICTs at all times. Those who do not have digital devices or constant access to the Internet may feel excluded from the social and academic interactions that take place online (Valderrama Cardona and Zúñiga Vargas, 2024). This phenomenon can intensify inequalities in access to education, as students with economic constraints may experience a feeling of disconnection, which affects both their emotional and academic well-being (Kovan, 2024).

However, ICTs also offer opportunities to foster inclusion; if handled appropriately, technologies can facilitate access to educational materials, create virtual learning communities, and provide spaces for students to interact with each other regardless of their location; therefore, it is essential that universities ensure that all students have the same opportunities to participate in these digital platforms, regardless of their economic situation (Mata, 2024).

The well-being of college students is critical to both their academic and personal development, however, FoMO can negatively affect that well-being. Students who experience this phenomenon may feel pressure to be always connected, which generates stress, anxiety, and exhaustion (Suárez Flórez, Pertuz Méndez, Rodríguez Vargas, & Macea Carvajal, 2024).

This constant exposure to social networks can diminish self-esteem, as students tend to compare their lives with those of their peers, feeling that they are not meeting social or academic expectations.

In addition, information overload and the need to be on top of everything can generate emotional exhaustion, which negatively impacts the mental health of students. Academic burnout, which involves physical and emotional exhaustion derived from academic demands, can be intensified by the pressure to remain constantly available in the digital environment (Gordillo, 2024). In addition, FoMO can contribute to social isolation, as students may feel marginalized if they fail to engage in social interactions that are developed through ICTs, even though these interactions are not always authentic or meaningful experiences.

Therefore, the aim of the following research was to learn about FoMO influences on the psychological well-being of university students, as well as to identify challenges and strategies for integrating ICTs in a healthy and effective way in higher education.

METHODOLOGY

Research Design

The research adopted a quantitative approach, with a non-experimental, cross-sectional design and a descriptive-correlational scope.

Participants

The sample consisted of 289 students from various health careers. The mean age of the participants was 22.32 years, with 26.2% men ($M=21.32$, $SD=2.69$) and 73.82% women ($M=22.06$, $SD=3.93$). In terms of their academic background, 68.9% were in their fifth semester in programs such as: psychology (38.3%), biomedical engineering (29.5%), physiotherapy (18.7%) and nutrition (13.5%).

Participants were purposively selected who met the following requirements: being a university student, being in the age range of 18 to 25 years, having used social networks in the last three months, and having signed an informed consent before starting the survey.

Research instruments

Fear of Missing Out (FoMOs) scale (Przybylski et al., 2013). This scale assesses the feeling of discomfort resulting from thinking that others are having rewarding experiences in which the individual is not present. It has also been adapted to Spanish population (Gil, Chamarro et al.

Questionnaire on the use of ICTs in student learning was designed to assess the frequency and impact of the use of Information and Communication Technologies (ICTs) in the university learning process. This instrument, adapted from the model of previous questionnaires on the use of ICT in education (Vázquez-Cano, 2012), consists of a total of 24 items, with a Likert-type response format, whose scores range from 1 (Never) to 5 (Always). The scale allows measuring aspects such as the frequency of ICT use, the perception of their effectiveness in learning, barriers and associated difficulties. The questionnaire is structured in five main subscales: frequency of ICT use (8 items), perception of ICT effectiveness (5 items), online interaction and collaboration (4 items), Barriers and difficulties (4 items), and the use of ICTs (4 items) and the impact on emotional well-being (3 items). With a Cronbach's alpha of .81

Sociodemographic questionnaire: a questionnaire was developed that collected the variables of sex, age, time in use of social networks and semester.

Procedure

For data collection, a Google forms online questionnaire was used, which was distributed through institutional platforms between 10/09/2024 and 10/01/2025. Prior to accessing the questionnaire, informed consents were given, clarifying that participation was voluntary and anonymous, and the objective of the research was explained. The average time for filling out the questionnaire varied between 25 and 30 minutes. Participants were not compensated for their participation. The research complied with the ethical criteria for human research, according to the ethical standards of the American Psychological Association manual (APA, 2010) and the Helsinki declaration (World Medical Association, 1964) and was approved by the Bioethics Committee of the Universidad del Valle de México with approval number CBUM042025.

Data analysis

To assess the relationship between ICT use, FoMO, inclusion in learning and emotional well-being, correlation analyses were performed using Pearson's coefficient, because the scatter plots showed linear relationships between the variables. An exploratory analysis was performed to detect outliers, followed by a descriptive analysis that included measures such as mean, standard deviation and the Shapiro-Wilk W value. The impact of time spent on ICT on FoMO and emotional well-being was explored using a difference analysis. If significant differences were found, post hoc tests were applied using Dunn's test with Bonferroni adjustment to control for type I error. To study the impact of sex on FoMO and emotional well-being, the Mann-Whitney U test was used, and the effect size was calculated using Cohen's d. All analyses were performed with SPSS Statistics version 24 software.

RESULTS

Table 1 presents the descriptive values of the variables analyzed in the research on the impact of FoMO in higher education, as well as the challenges and strategies for the integration of ICT in learning, inclusion and university psychological well-being. The mean values for each variable show a slight inclination towards intermediate scores.

Table 1. Descriptive statistics of the study variables.

Variables	Mín.	Máx.	M	DE	ω
1. FoMO	11	46	24.21	5.41	.80
2. Use of ICT in learning	5	25	6.34	3.02	.75
3. Inclusion in learning	0	11	7.12	2.91	.70
4. University psychological well being	17	26	21.16	3.57	.75

To evaluate the relationship between FoMO, ICT use in learning, educational inclusion and university psychological well-being, a Pearson correlational analysis was performed, the results of which are shown in Table 2. The results confirmed a significant negative correlation between FoMO and university psychological well-being ($r = -.527$), as well as between FoMO and ICT use ($r = -.503$). In addition, the relationship between ICT use and learning inclusion reached a value of $r = -.515$.

Table 2. Correlations between FoMO, ICT use, educational inclusion and psychological well-being.

Variables	1	2	4	4
1. FoMO	1			
2. Use of ICT in learning	-0.320	1		
3. Inclusion in learning	-0.527	0.248	1	
4. University psychological well being	-0.503	0.198	-0.527	1

Note: $p < .01$

The results, presented in Table 3, indicated that women presented significantly higher scores than men in ICT use in learning, educational inclusion, university psychological well-being and FoMO. These differences were statistically significant ($p < .01$), suggesting that the impact of ICT on these variables varies by gender. Mann-Whitney test as a function of sex with respect to ICT use, FoMO, educational inclusion and university psychological well-being.

Variables	Contrast statistic	P	d	Female	Male
1. FoMO	4960.00	.003*	.389	98.28	134.82
2. Use of ICT in learning	3762.00	<.001*	.721	90.69	134.50
3. Inclusion in learning	3778.50	<.001*	.689	92.13	134.20
4. University psychological well being	4299.00	<.001*	.614	93.90	120.69

DISCUSSION

The results obtained in this research provide valuable empirical evidence on the impact of the FoMO (Fear of Missing Out) phenomenon on university learning, educational inclusion and psychological well-being of higher education students, in line with the objectives set out in the study.

First, regarding the connection between FoMO and psychological well-being, a significant negative correlation was found ($r = -.527$), suggesting that the higher the FoMO, the lower the psychological well-being of students. This finding supports the existing literature, which indicates that FoMO can generate anxiety, stress, and other emotional affects, as students feel caught between their need to be constantly connected and the negative impact this has on their mental health (Przybylski et al., 2013; Oberst et al., 2017). This link between FoMO and psychological well-being implies that students

who experience greater concern about what they are missing on social networks may be less engaged in their educational process, which negatively affects their overall well-being.

On the other hand, a significant negative correlation was found between FoMO and the use of Information and Communication Technologies (ICT) in learning ($r = -.503$), suggesting that students who experience higher FoMO tend to use ICT less effectively in their studies. This finding can be explained by the fact that FoMO diverts students' attention from their academic activities to social networks, affecting their ability to concentrate and efficiently use digital tools for their learning (Oberst et al., 2017). Previous studies support this idea, as multitasking, commonly associated with excessive ICT use, can impair students' ability to retain information and perform academic tasks effectively (Rosen et al., 2013).

The analysis also revealed a significant negative relationship between ICT use in learning and educational inclusion ($r = -.515$), indicating that, in certain contexts, the uncontrolled or poorly managed use of ICT can hinder efforts to promote an inclusive educational environment. Educational inclusion is affected when ICTs are not used equitably, which can generate digital divides and make it difficult for some groups of students to fully participate in teaching and learning processes (Selwyn, 2016). This result highlights the need to strategically and accessibly integrate ICTs to ensure that all students, regardless of their socioeconomic level or technological skills, can benefit from digital tools.

To counteract the negative effects of FoMO in higher education, academic institutions must implement a series of strategies that effectively integrate ICTs without compromising the well-being of students. First, it is essential to promote a balanced use of technologies, adopt policies that limit the excessive use of social networks during academic hours, thus creating a more learning-centered environment (Quispe Fernández, Quispe Fernández, Farias Clavo and Hernández Domínguez, 2024). It is also essential to foster the development of digital competencies in students, so that they can use ICTs in a conscious and healthy way. Through digital skills training programs, students can learn to manage their time effectively and integrate ICTs into their educational process without generating unnecessary anxiety or distraction (Santos, Jassan, López, & Soto, 2024). In addition, universities should provide psychological support services to help students manage FoMO-related stress and other emotional factors that may affect their well-being. Psychological support is essential to prevent academic burnout and promote a healthy balance between study, social life, and self-care (Bocanegra & Cupil, 2024).

One of the main limitations of this study is the size and context of the sample, composed of 289 students from a single university, which limits the ability to generalize the results to other institutions or academic disciplines. In addition, the temporal context of the study, conducted in a specific period of the academic year, may have influenced the results due to factors such as exam stress or vacations.

Therefore, it is suggested that the sample be expanded to include students from various universities and areas of study, which would improve the representativeness of the results. Likewise, it would be useful to conduct longitudinal research to observe how students' behaviors and attitudes evolve throughout their university life.

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I am Giovanna Acierna Padilla, a graduate of the Bachelor's Degree in Psychology at UVM Campus Toluca. I consider myself a committed person and able to address the challenges of my profession. I became interested in FOMO syndrome because I consider it essential for society to know about it. Nowadays, dependence on social networks impacts our relationships and well-being. It is essential to understand how electronic devices can affect our mental health and to encourage a more conscious and balanced use of technology.



I have a PhD in Human Development Studies and a PhD in Social Ethics and Humanities. Currently, I am a full time Professor at the Universidad del Valle de México, Toluca Campus. My inspiration lies in contributing to knowledge through the training of mental health professionals, promoting its impact on human development. Furthermore, I am convinced that research is a powerful tool to empower university women, allowing them to develop their potential, generate relevant knowledge and contribute to social change, thus strengthening the role of women in science and education.