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Relationship between technostress and academic goals in Peruvian university students

Relación entre el tecnoestrés y objetivos académicos en universitarios peruanos

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Abstract

Since 2020, educational digitalization has highlighted the impact of technostress on the academic goal orientation of Peruvian university students. This phenomenon affects their motivation, engagement, and ability to face educational challenges, emphasizing the importance of analyzing this relationship within the context of increasing digitalization. The study aimed to evaluate the relationship between technostress and academic goal orientation among Peruvian students, considering how technological demands and interpersonal relationships influence their performance. Additionally, it sought to identify strategies to mitigate the negative effects of technostress. A quantitative correlational study was conducted with 885 students using the Technostress Scale (TS4US) and the Academic Goals Orientation Questionnaire (AGOQ). Data were analyzed through statistical methods, including network analysis and a regression model. A significant negative correlation (r = -0.32) was found between technostress and academic goal orientation. Technological demands and dysfunctional interpersonal relationships impacted goals related to learning and personal growth. The regression model explained 12.5% of the variability in goal orientation, highlighting the negative effects of technological skills-demands (β = -0.228) and interpersonal relationships (β = -0.173). It is essential to implement institutional strategies such as psychological support, digital training, and regulation of technology use to create healthy educational environments that enhance academic performance and strengthen orientation toward meaningful goals.

Keywords: technostress, academic goals, technology, university students.

Resumen

Desde 2020, la digitalización educativa ha evidenciado el impacto del tecnoestrés en la orientación de objetivos académicos de estudiantes universitarios peruanos. Este fenómeno afecta su motivación, compromiso y capacidad para enfrentar desafíos educativos, subrayando la importancia de analizar esta relación en el contexto de la creciente digitalización. El estudio tuvo como objetivo evaluar la relación entre el tecnoestrés y la orientación de objetivos académicos en estudiantes peruanos, considerando cómo las demandas tecnológicas y las relaciones interpersonales influyen en su rendimiento. Además, identificar estrategias para mitigar los efectos negativos del tecnoestrés. Se realizó un estudio cuantitativo correlacional con 885 estudiantes, empleando la Escala de Tecnoestrés (TS4US) y el Cuestionario de Orientación de Objetivos Académicos (AGOQ). Los datos se analizaron mediante métodos estadísticos, incluyendo análisis de redes y un modelo de regresión. Se halló una correlación negativa significativa (r = -0.32) entre tecnoestrés y orientación de objetivos académicos. Las demandas tecnológicas y relaciones interpersonales disfuncionales impactaron en metas relacionadas con aprendizaje y superación personal. El modelo de regresión explicó el 12,5 % de la variabilidad en los objetivos, destacando los efectos negativos de las habilidades-demandas tecnológicas (β = -0.228) y relaciones interpersonales (β = -0.173). Es esencial implementar estrategias institucionales como apoyo psicológico, capacitación digital y regulación del uso tecnológico para crear entornos educativos saludables que mejoren el desempeño académico y fortalezcan la orientación hacia metas significativas.

Palabras clave: tecnoestrés, objetivos académicos, tecnología, universitarios.

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1. Introduction

1.1 Technology and the emergence of technostress

Technology is an essential component in human development, enabling the transformation of the environment and enhancing individual creativity (Esparza and Rubio, 2016). In this context, Fuentes et al. (2024) highlight that information and communication technologies (ICT) have revolutionized contemporary education and communication, facilitating access to information and promoting key digital competencies. However, this advancement has brought with it negative consequences, such as technostress, a phenomenon linked to smartphone overuse (Roig-Vila et al., 2023), job loss and invasion of privacy, which manifests through fear and pressure, and affects both psychological well-being and academic performance of university students (Kim and Park, 2018). In addition, it has been identified as a risk factor associated with decreased job satisfaction (Toscano et al., 2024), negatively affecting the well-being and professional performance of faculty (Prieto-Quezada et al., 2023).

Technostress generates mental fatigue and demotivation, which has a negative impact on academic performance, hindering the concentration and organization necessary to achieve academic goals. It also limits the efficient use of technological tools for learning, reducing opportunities for academic success (Solano and Núñez, 2024). In this line, (Ponce et al., 2023) argue that high levels of technostress are associated with a significant decrease in academic performance. In extreme cases, such stress has led students to abandon their studies due to difficulties in adapting to digital environments (Masías et al., 2023).

According to Salazar-Concha et al. (2022), technostress is a psychosocial condition derived from the intensive use of ICTs, affecting both productivity and emotional well-being. Its effects include mental exhaustion and the appearance of dysfunctional behaviors, which negatively impact mental health and academic performance. The «Technostress Questionnaire» evidences the adverse effects of ICT on students' family relationships, work and health (Coppari et al., 2018). In line, Villavicencio-Ayub et al. 2020) point out psychological, social and biological impacts such as technoanxiety and technoaddiction. Likewise, Ruiz et al. (2019) identify technoanxiety as the main variable associated with technostress, with negative effects on academic performance.

1.2 Consequences of technostress on academic performance.

In this framework, academic objectives play a fundamental role in providing direction, guiding academic behavior and contributing to the student's personal development (Chan Chi, 2022). According to Abello et al. (2022), an adequate orientation towards these objectives allows maintaining motivation, reducing university dropout and fostering commitment to professional training. Aladini et al. (2024) emphasize that the clear definition of goals and their alignment with the educational vision enable the student to face the challenges of the academic environment and achieve comprehensive wellbeing.

Academic goals operate as a framework that structures educational intentions and behaviors, promoting meaningful learning (Saborío-Taylor and Álvarez, 2023). These goals can be performance or learning oriented, allowing the student to adjust his or her approach according to contextual demands (Cabanach et al., 2017). In addition, they regulate student behavior in accordance with the stated purposes (Moreno et al., 2019). In a study with 100 university students, (Monroy, 2022) reported that 62 % focus on obtaining good grades, 32 % prioritize learning and only 6 % seek social recognition. Similarly, Roque et al. (2021), in a sample of 1235 health sciences students, found that 41.78% presented a predominant orientation towards goals focused on learning and improving skills.

1.3 Consequences of technostress on academic performance.

Several studies have shown the negative influence of technostress on academic performance. For example, Ponce et al. (2023) found a significant inverse relationship between both factors in a sample of 251 students, recommending reducing technostress to optimize academic performance. Likewise, Salazar-Concha et al. (2020), in a study with 118 Chilean university students, pointed out that technostress increases in contexts of high academic demand and scarce institutional support, as well as in

conditions of low digital competence. Another study found that 95.2% of the participants presented high levels of technostress, affecting dimensions such as skepticism, addiction and fatigue.

These findings highlight the need to implement curricular reforms that foster emotional and leadership skills to mitigate the impact of technostress in the academic environment (Quispe et al., 2024). Penado et al. (2021) analyzed this problem in Spanish students during the COVID-19, showing higher levels of technostress in face-to-face universities, associated with the lack of technological skills and resources.

Gonzabay-Flores and Santamaria-Romero (2024) reported that 35 % of students perceived a decrease in their ability to concentrate and 30% reported a negative impact on their academic performance due to technological stress. In other research, Suriá (2023) found that technostress particularly affected women, young people, students in initial courses and non-technological careers, and was associated with intensive use of ICTs. Finally, Huanacuni (2021) reported medium-high levels of technostress in 86.4 % of the participants, with technofatigue and technoaddiction being the most prevalent dimensions. Likewise, 82.14 % of the students obtained an academic performance considered regular.

Based on this scenario, this research aims to analyze the relationship between technostress and academic goal orientation in Peruvian university students. Although the existing literature has focused mainly on the relationship between technostress and academic performance, this study proposes to delve into its relationship with the formulation and orientation of academic goals, given its key role in self-regulation and student success.

2. Methodology

2.1 Design

This study adopts a quantitative approach and uses Network Analysis as its main technique. This methodology makes it possible to examine the structure of relationships and interactions between actors (individuals, groups or organizations), representing them as nodes and the relationships between them as links (Del Rosario and Peral, 2011). Through this approach it is possible to analyze patterns such as centrality, density and cohesion, which makes it possible to understand the dynamics of the network and the distribution of resources or influences within it (Sampieri et al., 2003). In this case, the relationship between technostress and academic goal orientation in university students is analyzed.

2.2 Participants

The sample consisted of 885 Peruvian university students. Most of the participants (69.5 %) were between 18 and 25 years old, followed by 19.3 % between 26 and 35 years old, and 11.2 % aged 36 years or older. In terms of gender, 53.2% are women and 46.8% are men.

Regarding their career, 27 % belong to Health Sciences, 24.7 % to Business Sciences, 20.5 % to Engineering and Architecture, 13.1 % to Human Sciences and Education, 7.7 % to other degrees, and 7 % to Theology. In relation to geographical origin, 37.4 % come from the coast, 33.9 % from the highlands, 25.1 % from the jungle, and 3.6 % are foreign students. In addition, 84.3 % come from private universities and 15.7% from public universities. Finally, 80.9 % of the students take face-to-face classes, while 19.1 % are coursing the blended program, reflecting current trends in higher education.

2.3 Instruments

a) Technostress: the questionnaire developed by Wang and Li (2019) and adapted by Vega-Muñoz et al. (2022) for Chilean students was used. This instrument consists of 19 items distributed in three factors: 1) Personal needs and technological resources (NSR by its acronyms in Spanish), 2) Interpersonal relationships (PPF by its acronyms in Spanish), and 3) Personal capabilities and technological demands (ADTE by its acronyms in Spanish). The response scale is a five-point Likert-type scale. The instrument showed high reliability, with a total Cronbach's Alpha of 0.925; and values of 0.887 for NSR, 0.753 for PPF and 0.921 for ADTE. The KMO index was 0.897, indicating excellent sample adequacy, supporting its validity in educational contexts.

b) Academic goal orientation: the instrument developed by Skaalvik (2002), validated in Spain by Navea (2012) and later in Colombia by Manrique-Abril (2020), was applied to nursing students. The exploratory factor analysis revealed four factors

explaining 53.4 % of the total variance, corresponding to the dimensions of the original instrument: ego self-frustration goal (α = 0.838), ego overcoming goal (α = 0.733), work avoidance goal (α = 0.535), and learning goal (α = 0.508). The overall reliability was adequate (α = 0.714).

2.4 Procedure

Data collection was carried out by means of an online questionnaire administered to students from different Peruvian universities over a period of two months. Previously, the corresponding permissions were obtained from university authorities and professors. The instruments were validated in the Peruvian context, guaranteeing their reliability and validity. The analyses were carried out with JASP statistical software, which was used to obtain the psychometric indicators of the instruments and to proceed to the network analysis between the main variables of the study.

2.5 Data analysis

Descriptive analyses were carried out to characterize the main variables. The internal consistency of the instruments was evaluated using Cronbach's Alpha coefficient. Subsequently, a Confirmatory Factor Analysis (CFA) was applied to validate the internal structure of the constructs. Finally, a Network Analysis was performed to visually and statistically explore the relationship between technostress and academic goal orientation.

2.6 Ethical criteria

The research was approved by the Ethics Committee of the Graduate School of the Universidad Peruana Unión (Resolution No. 2024-CEEPG-00045), complying with fundamental ethical principles. All participants gave their informed consent, ensuring their understanding of the objective and procedures of the study. Data confidentiality was guaranteed and the anonymity of the participants was safeguarded. In addition, the principles of nonmaleficence, justice, beneficence, and respect for autonomy were applied, allowing participants to withdraw from the study at any time without consequences.

3. Results

In Table 1, the item-test correlation values ranged from 0.68 to 0.82, indicating that all items contribute adequately to the measurement of the technostress construct. For the total of the 19 items, Cronbach's alpha and omega coefficients reached a value of 0.941 (95 % CI: 0.935-0.947), evidencing a high internal consistency of the instrument. In the Abilities-Techneducational Demands (ADTE) dimension, both coefficients were also 0.941 (95% CI: 0.935-0.947), with item-test correlations ranging between 0.709 and 0.802. In the Needs-Inputs-Resources (NSR) dimension, the reliability was 0.919 (95 % CI: 0.910-0.920), with correlations ranging between 0.700 and 0.818. Finally, in the Person-People Factor (PPF) dimension, the coefficients were 0.900 (95 % CI: 0.890-0.910), with correlations between 0.810 and 0.815. These results support the psychometric soundness of the instrument in each of its dimensions.

Table 1. *Psychometric characteristics of the technostress instrument*

Technoeducational Skills-Demands (ADTE)		
Item	**Correlation of the element with the rest**	
TE1	0.714	
TE2	0.768	
TE3	0.709	
TE4	0.745	
TE9	0.763	Omega and Alpha Reliability 0.919 (95% CI=0.91-0.92)
TE10	0.802	
TE11	0.778	
TE14	0.795	
TE15	0.800	
TE16	0.760	
Needs-Inputs-Resources (NSR)		
Item	**Correlation of the element with the rest**	
TE5	0.794	
TE6	0.808	
TE7	0.818	Omega and Alpha Reliability 0.919 (95%CI=0.91-0.92)
TE8	0.792	
TE12	0.701	
TE13	0.700	
Person-People Factor (PPF)		
Item	**Correlation of the element with the rest**	
TE17	0.815	Omega and Alpha Reliability 0.90 (IC95%=0.89-0.91)
TE18	0.810	
TE19	0.811	

In Table 2, corresponding to the academic goal orientation scale, the item-test correlations ranged from 0.610 to 0.759, evidencing that all items contribute significantly to the measurement of the construct. Item means ranged from 2.659 to 3.860, with standard deviations ranging from 1.078 to 1.215, reflecting adequate variability in responses. Cronbach's alpha and omega coefficients reached an overall value of 0.943 (95 % CI: 0.937-0.948), indicating a high internal consistency of the scale. Items such as I10, with the highest item-test correlation (0.759), and I1, with the highest mean (3.860), stand out, reinforcing their relevance within the instrument. These results support the internal validity of the scale for assessing academic goal orientation in university students.

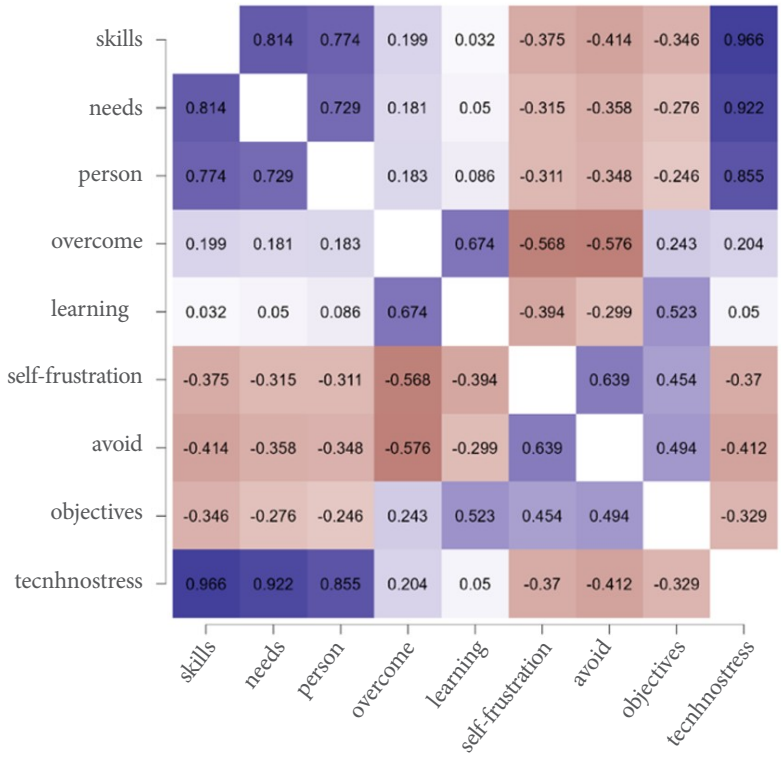
Table 2. *Psychometric characteristics of the Academic Goal Orientation instrument*

Reliability statistics from frequent individual items			
Item	**Correlation of the element with the rest**	**Mean**	**DT**
I7	0.732	2.958	1.191
I11	0.718	2.953	1.215
I14	0.736	2.901	1.192
V28	0.738	3.403	1.083
I6	0.725	3.397	1.078
I2	0.747	3.227	1.144
I10	0.759	3.167	1.108

Reliability statistics from frequent individual items			
Item	**Correlation of the element with the rest**	**Mean**	**DT**
I8	0.690	2.834	1.171
I15	0.668	2.777	1.190
I12	0.634	2.659	1.192
I3	0.654	2.947	1.186
I16	0.642	3.776	1.123
I1	0.626	3.860	1.113
I9	0.610	3.840	1.109
I5	0.651	3.692	1.163

Figure 1 shows a negative correlation between technostress and academic goal orientation (r = -0.32), suggesting that higher levels of technostress are associated with lower academic achievement orientation. This trend is replicated in the dimensions of technostress: Person-People Factor (r = -0.24), Needs-Inputs-Resources (r = -0.27), and Technoeducational Skills-Demands (r = -0.34). Likewise, the dimensions of academic orientation related to ego self-frustration (r = -0.37) and work avoidance (r = -0.41) show similar negative correlations, reinforcing the inverse relationship between technostress and adaptive academic attitudes.

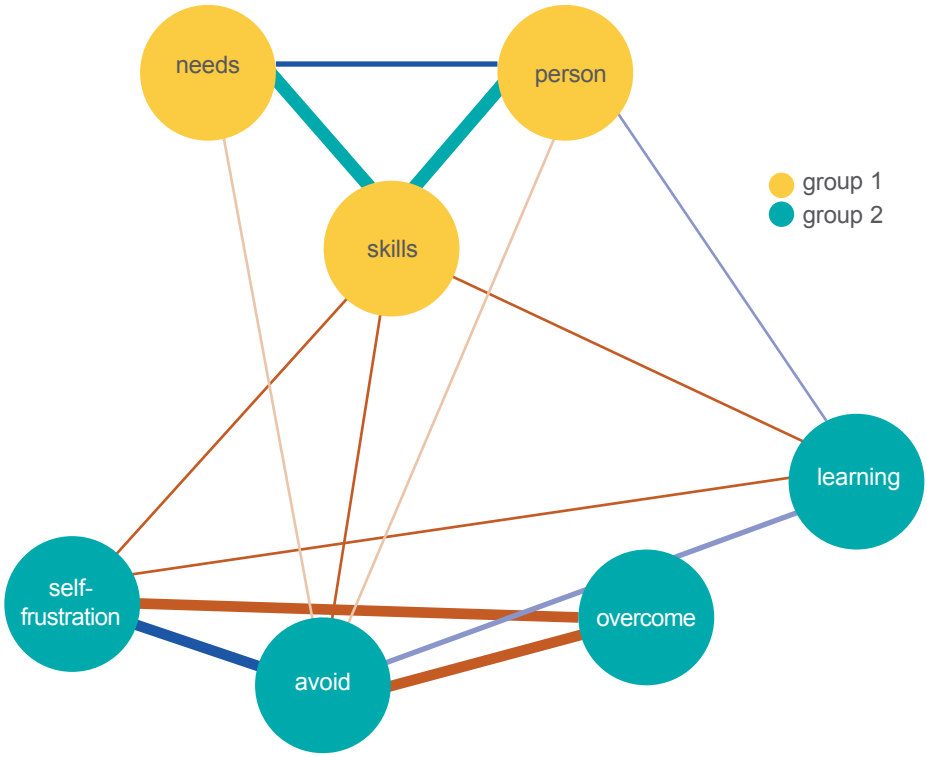
Figure 1. *Technostress heat map and academic goal orientation*



Network analysis evidences connections between technostress (represented by orange nodes) and academic goal orientation (blue nodes). Thicker lines indicate relationships of greater magnitude, especially highlighting the influence of technostress on maladaptive academic attitudes such as work avoidance and ego self-frustration. In particular, the Technoeducational Skills-Demands dimension

shows a significant association with academic goals, suggesting that perceived technological demands affect how students cope with their academic goals. This analysis allows us to identify critical areas of intervention to mitigate the negative effects of technostress on academic performance.

Figure 2. *Network analysis between technostress and academic goal orientation*



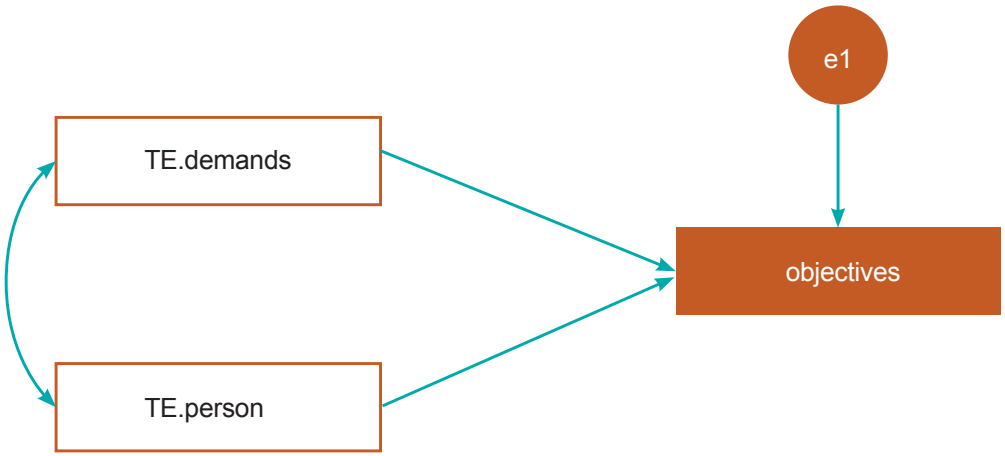
A multiple regression analysis was conducted to examine the relationship between technostress and academic goal orientation in college students. The model explained 12.5% of the observed variance ($R^2 = 0.125$; $F = 38.54$, $p < .001$), suggesting that the dimensions of technostress contribute moderately to the explanation of the dependent variable. The Technoeducational Skills-Demands ($B = -0.357$, $\beta = -0.228$, $t = -4.336$, $p < .001$) and Person-People ($B = -0.139$, $\beta = -0.173$, $t = -3.369$, $p = .001$) dimensions showed significant negative effects, indicating that higher levels of technological demands and interpersonal difficulties are associated with lower academic goal orientation. In contrast, the Needs-Inputs-Resources dimension did not present a significant effect in the model ($B = 0.037$, $\beta = 0.020$, $t = 0.400$, $p = .689$), suggesting that the perception of technological resources does not relevantly influence students' academic orientation

Table 3. *Regression model of the technostress dimensions and academic objectives*

Predictor variables	Not standardized coefficients		Standardized coefficients	t	Sig.
	B	Error Desv.	Beta		
(Constant)	60,856	.749		81,234	.000
TE.Claims	-.357	.082	-.228	-4,336	.000
TE.Resources	.037	.092	.020	.400	.689
TE.Person	-.139	.041	-.173	-3,369	.001

A structural model was built that included the dimensions Technoeducational Skills-Demands and Person-People, which presented a positive covariation of 0.72, indicating a high interrelation between them. The model showed significant associations with academic goal orientation and explained 11.4 % of the variance of this variable. The fit indices were excellent, with a comparative fit index (CFI) of 1.0 and a square root of approximation residual (SRMR) of 0.000, supporting the adequacy of the model to represent the influence of technostress on academic orientation in college students.

Figure 3. *SEM diagram of the explanatory model of the academic objectives*



4. Discussion

In response to the crisis in higher education, the Peruvian Ministry of Education established in 2014 the obligation to comply with basic quality conditions in universities, including adequate equipment for the teaching-learning process and the clear definition of academic objectives. Subsequently, standards were incorporated that required the implementation of a robust system of information and communication technologies (ICT), with the purpose of facilitating the achievement of academic objectives and ensuring the graduate profile defined in the curricular plans. Likewise, the importance of managing technostress was recognized as a critical factor to improve educational performance (SINEACE, 2018). This comprehensive reform aims to ensure that students achieve their academic goals effectively, promoting both academic success and student wellbeing.

In this context, the findings of this study evidence a negative and significant correlation between technostress and academic goal orientation in Peruvian university students, in line with that reported by Cabanach et al. (2017). These results suggest that elevated levels of technostress may interfere with academic goal attainment, especially among students with a performance avoidance orientation, negatively affecting their motivation and ability to concentrate. Thus, technostress is configured as a factor that weakens goal focus, promotes avoidance behaviors and reduces academic engagement, in line with previous research on stress in educational contexts.

The network analysis conducted identified significant relationships between technostress and maladaptive attitudes such as ego self-frustration and work avoidance. These findings are consistent with Salazar-Concha et al. (2022), who highlight technostress as a psychosocial factor that contributes to burnout and decreased performance, even in the workplace. The presence of these attitudes in students with high levels of technostress reinforces the idea that this type of stress affects not only academic performance, but also self-regulation and perseverance, key elements for achieving educational goals.

However, Nascimento et al. (2024) offer a different view by pointing out that technostress can, in certain cases, be perceived positively, especially by teachers who interpret it as a challenge that stimulates pedagogical innovation. This contrast highlights that the impact of technostress is mediated by con-

textual and experiential factors. While in students its effect tends to be negative, in more experienced professionals it can function as a stimulus for the development of adaptive and transformative skills.

For their part, Moreno et al. (2019) point out that students with defined learning goals tend to develop more successful academic trajectories, in contrast to those oriented to avoid failure, who tend to adopt counterproductive behaviors, such as challenge avoidance. This approach supports the results of this study, in which it is observed that technostress, especially in interaction with an avoidance orientation, negatively influences academic performance. This relationship between goals, motivation, and successful performance underscores the need to implement differentiated intervention strategies that help students effectively manage technostress and develop a proactive approach toward their educational goals.

This study contributes theoretically to the field by evidencing the negative impact of technostress on academic orientation, reinforcing the importance of considering this variable in models of student motivation and achievement.

However, some limitations should be considered. Despite having a large sample of Peruvian students, the results cannot be generalized to other cultural or geographic contexts. The cross-sectional quantitative design limits the analysis of the evolution of technostress over time. The use of self-administered questionnaires could have introduced self-perception or social desirability biases. In addition, potentially influential variables such as family support, socioeconomic conditions or previous digital skills, which could modulate the relationship between technostress and academic orientation, were not included. Nor were mediating or moderating variables, such as digital literacy or access to technological resources, explored. Finally, the study focused exclusively on university students, so it is recommended that other educational levels be included in future research to obtain a more comprehensive view of the phenomenon. The absence of a longitudinal approach also prevents us from capturing possible variations in contexts of accelerated educational digitalization.

5. Conclusions

The findings of this study show that technostress has a significant negative relationship with academic goal orientation in Peruvian university students. Specifically, high levels of technostress are associated with decreased motivation, decreased focus on educational goals and, consequently, lower academic performance. This relationship is reinforced by the results of network analysis, which identified consistent links between technostress and avoidance attitudes, such as ego self-frustration and the tendency to avoid academic work. These patterns reflect not only an interference of technostress on academic performance, but also its negative impact on students' emotional well-being and perseverance.

These results underscore the need to understand technostress as a multifactorial phenomenon that affects multiple dimensions of student behavior. From this perspective, it is urgent to design and implement institutional programs that include psychological support, training in digital skills and coping strategies. Such initiatives would contribute not only to mitigate the adverse effects of technostress, but also to enhance essential adaptive competencies in highly digitalized educational environments.

Similarly, it is recommended that higher education institutions develop differentiated interventions that take into account individual variables, such as motivational orientation (learning vs. avoidance), level of digital literacy and possible differences in the way men and women experience and manage technological stress. Likewise, the formulation of educational policies that promote a balanced, conscious and ethical use of technologies could foster healthier, more inclusive and achievement-oriented learning environments.

In summary, this research provides valuable empirical evidence on the effect of technostress on academic goal orientation and highlights the importance of integrating preventive and intervention strategies that respond to the challenges of digital transformation in the university setting. Addressing technostress in a systematic and contextualized way represents a crucial opportunity to strengthen educational quality, promote student well-being, and ensure successful academic trajectories in an increasingly digitized society.

Author contributions

Emilyn Verde-Avalos: conceptualization, research, validation, writing-revision and editing.

José Livia-Segovia: formal analysis, methodology, software, visualization.

Second Malca-Peralta: acquisition of financing, resources, original draft deed.

Josué Turpo-Chaparro: data curation, project management, supervision.

References

Abello, D., Alonso-Tapia, J. & Panadero, E. (2022). Cuestionario de metas situadas, ajuste y validación transcultural: comparación entre estudiantes colombianos y españoles. *Electronic Journal of Research in Educational Psychology*, *21*(3), 667-692. https://bit.ly/3ZxaStU

Aladini, A., Bayat, S. & Abdellatif, M. S. (2024). Performance-based assessment in virtual versus non-virtual classes: impacts on academic resilience, motivation, teacher support, and personal best goals. *Asian-Pacific Journal of Second and Foreign Language Education*, *9*(1). https://doi.org/10.1186/s40862-023-00230-4

Cabanach, R. G., Taboada, V. F., Souto-Gestal, A. & González Doniz, L. (2017). ¿Media la orientación de las metas académicas el estrés en estudiantes universitarios? Does the orientation of the academic goals mediate the stress in university students? *Revista de Investigación en Educación, 15*(2), 109-121. https://bit.ly/3FM5Jrf

Chan Chi, G. I. (2022). Sentido de vida y metas de estudiantes en formación docente: caso de una universidad mexicana. *RIDE Revista Iberoamericana para la Investigación y el Desarrollo Educativo*, *13*(25). https://doi.org/10.23913/ride.v13i25.1248

Coppari, N. B., Bagnoli, L., Codas, G., López, H., Martínez, Ú., Martínez, L. & Montanía, M. (2018). Validez y confiabilidad del cuestionario de tecnoestrés en estudiantes paraguayos. *Perspectivas en Psicología: Revista de Psicología y Ciencias Afines, 15*(2), 40-55. Universidad Nacional de Mar del Plata. https://bit.ly/445vCul

Del Rosario, F. F. & Peral, P. D. (2011). Análisis de redes como Método para la definición de conceptos: Bibliografía. *Anales de Documentación, 14*(1), 1-14. Universidad de Murcia. https://bit.ly/3HySI4W

Esparza, P. R. & Rubio, B. J. E. (2016). ¿Qué es Tecnología? Una aproximación desde la Filosofía: Disertación en dos movimientos. *Revista Humanidades*, *6*(1), 1-43. https://doi.org/10.15517/h.v6i1.25113

Fuentes, S. L., Cárdenas, B. J. P. & Chávez, B. R. M. (2024). Optimizando el aprendizaje colaborativo intercultural bilingüe mediado por las Tics: Caso Universidad Estatal de Bolívar. *ReHuSo: Revista de Ciencias Humanísticas y Sociales*, *9*(2), 109-119. https://doi.org/10.33936/rehuso.v9i2.6624

Gonzabay-Flores, C. F. & Santamaria-Romero, G. P. (2024). El impacto del tecnoestrés en el rendimiento académico de los estudiantes de Educación General Básica. *Polo del Conocimiento, 9*(9). https://bit.ly/45TzUas

Huanacuni, L. R. (2021). Tecnoestrés & rendimiento académico en estudiantes de Enfermería en tiempos de COVID-19. *Investigación e Innovación: Revista Científica de Enfermería*, *1*(2), 21-27. https://doi.org/10.33326/27905543.2021.2.1218

Kim, K. & Park, H. (2018). The effects of Technostress on Information Technology Acceptance. *Journal of Theoretical and Applied Information Technology*, *31*, 24. https://bit.ly/4e1wyEp

Manrique-Abril, F. G. (2020). Academic goals orientation questionnaire for Colombian nursing students: validity and reliability study. *Nurse education today*, *84*, 104226. + https://doi.org/10.1016/j.nedt.2019.104226

Masias, Y. Y., Aco, C. E. A. & Colque, C. W. (2023). Tecnoestrés y rendimiento académico de estudiantes de primer ciclo de estudios de la Universidad Andina del Cusco, 2021. *Yachay - Revista Científico Cultural*, *12*(2), 67-77. https://doi.org/10.36881/yachay.v12i2.640

Monroy, H. E. J. (2022). Metas académicas de los jóvenes formados en una universidad privada. *Revista Universitaria Digital de Ciencias Sociales (RUDICS), 24*, 1-18. https://bit.ly/43I1eqL

Moreno, J. E., Chiecher, A. & Paoloni, P. (2019). Los estudiantes universitarios y sus metas académicas. Implicancias en el logro y retraso de los estudios. *Ciencia, Docencia y Tecnología*, *30*(59 nov-abr). https://doi.org/10.33255/3059/693

Nascimento, L., Correia, M. F. & Califf, C. B. (2024). Towards a bright side of technostress in higher education teachers: Identifying several antecedents and outcomes of techno-eustress. *Technology in Society*, *76*. https://doi.org/10.1016/j.techsoc.2023.102428

Penado, A. M. R.-D.-D. M. P., Rodicio-García, M. L., Mosquera-González, M. J. & Rego-Agraso, L. (2021). *Tecnoestrés objetivo en estudiantes universitarios durante la pandemia por COVID-19*. Adaya Press. https://bit.ly/4kIZuDR

Ponce, P. J. E., Hernández, G. E., Jalixto, E. H. M. & Chiri, S. P. C. (2023). El tecnoestrés en el rendimiento académico en estudiantes. *Horizontes. Revista de Investigación en Ciencias de la Educación*, *7*(28), 852-861. https://doi.org/10.33996/revistahorizontes.v7i28.559

Prieto-Quezada, Ma. T., Romero-Sánchez, A. & Oliva, H. (2023). Adicción a las TIC. Perspectiva docente desde tres centros universitarios. *Alteridad*, *18*(1), 48-58. https://doi.org/10.17163/alt.v18n1.2023.04

Quispe, J. L., Quispe, Ú. I., Farias, C. V. & Hernández, P. Y. (2024). Tecnoestrés en el desgaste académico de estudiantes universitarios del Perú. *Areté, Revista Digital del Doctorado en Educación de la Universidad Central de Venezuela*, *10*(19). https://doi.org/10.55560/arete.2024.19.10.9

Roig-Vila, R., López-Padrón, A. & Urrea-Solano, M. (2023). Dependencia y adicción al smartphone entre el alumnado universitario: ¿Mito o realidad? *Alteridad*, *18*(1), 34-47. https://doi.org/10.17163/alt.v18n1.2023.03

Roque, H., Alonso, G. S., Salazar, G. Y. E., Criollo, C. A. del R. & Curay, Y. C. E. (2021). Estrategias de aprendizaje y metas académicas en estudiantes universitarios ecuatorianos de ciencias de la salud. *EDUMECENTRO*, *13*(3), 196-216. https://bit.ly/4dYh9oe

Ruiz, D. V. E., Ríos-Manríquez, M. & Sánchez-Fernández, M. D. (2019). Los Tecno Recurso Laborales y su impacto en el Tecnoestrés. Un Caso empírico. *International Journal of Innovation*, *7*(2), 299-311. https://doi.org/10.5585/iji.v7i2.247

Saborío-Taylor, S. & Álvarez, C. A. (2023). Las metas académicas según escalas de aprendizaje, logro y refuerzo social: un estudio desde las percepciones según género. *Revista Ensayos Pedagógicos*, *18*(2), 1-24. https://doi.org/10.15359/rep.18-2.14

Salazar-Concha, C., Encina Ramírez, C., Rojas Ramírez, G. & Araya-Guzmán, S. (2022). Technostress and its effect on productivity in university students in times of COVID-19. *Revista Venezolana de Gerencia*, *27*(100), 1721-1738. https://doi.org/10.52080/rvgluz.27.100.26

Salazar-Concha, C., Ficapal-Cusí, P. & Boada-Grau, J. (2020). Tecnoestrés. Evolución del concepto y sus principales consecuencias. *Teuken Bidikay - Revista Latinoamericana de Investigación en Organizaciones, Ambiente y Sociedad*, *11*(17), 165-180. https://doi.org/10.33571/teuken.v11n17a9

Sampieri, H. R., Fernández, C. C. & Baptista, P. L. (2003). *Metodología de la Investigación.* https://bit.ly/3HACnNb

SINEACE. (2018). *Explicación de estándares del modelo de acreditación de programas de estudios de educación superior universitaria.* https://bit.ly/3Tl2v0W

Skaalvik, E. M. (2002). Self-enhancing and self-defeating ego goals in mathematics lessons: relationships among task and avoidance goals, achievement, self-perceptions, anxiety, and motivation (A Scientific Educology). *International Journal of Educology*, *16*(1). https://bit.ly/3HGkOuR

Solano, C. V. V. & Núñez, L. L. (2024). Estudios transdisciplinarios en comunicación y sociedad. *revistainvecom.org* (Vol. 5, Issue 2). www.revistainvecom.org.

Suriá, M. R. (2023). Use of technologies, techniques and their influence on academic performance inuniversity students. *Anuario de Psicologia*, *53*(2), 33-42. https://doi.org/10.1344/anpsic2023.53/2.4

Toscano, F., Galanti, T., Giffi, V., Fiore, T. Di, Cortini, M. & Fantinelli, S. (2024). The mediating role of technostress in the relationship between social outcome expectations and teacher satisfaction: evidence from the COVID-19 pandemic in music education. *Research in Learning Technology*, *32*. https://doi.org/10.25304/rlt.v32.3086

Vega-Muñoz, A., Estrada-Muñoz, C., Andreucci-Annunziata, P., Contreras-Barraza, N. & Bilbao-Cotal, H. (2022). Validation of a measurement scale on technostress for university students in Chile. *International Journal of Environmental Research and Public Health*, *19*(21). https://doi.org/10.3390/ijerph192114493

Villavicencio-Ayub, E., Aguilar, D. G. I. & Calleja, N. (2020). Impact of technostress on the mexican population and its relation with sociodemographic and work variables. *Psicogente*, *23*(44). https://doi.org/10.17081/psico.23.44.3473

Wang, X. & Li, B. (2019). Technostress among teachers in higher education: An investigation from multidimensional person-environment misfit. *Frontiers in Psychology*, *10*(JULY). https://doi.org/10.3389/fpsyg.2019.01791