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Artículo de investigación científica y tecnológica

Effectiveness of a multicultural technique to improve the mood of Peruvian university students

Efectividad de una técnica multicultural, para mejorar el estado de ánimo de estudiantes universitarios peruanos

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ABSTRACT

The COVID-19 pandemic affected the mental health and academic performance of university students, prompting institutions to take action. This study evaluated the effectiveness of the intercultural technique Pukllasun in reducing anxiety among Andean Peruvian students during the pandemic. In a quasi-experimental study, 181 participants were included, divided into an intervention group (IG = 49) and a control group (CG = 132), assessed with the Generalized Anxiety Disorder (GAD-7) test at the beginning and end of the study. The average age was 19.2 years (SD = 2.1) in the IG and 20.3 years (SD = 2.8) in the CG. A Student's t-test was used to analyze differences between and within groups, and Cohen's d was used to measure the effectiveness of the intervention. Initially, both groups had similar anxiety levels (t = 1.09; p = 0.246), but by the end of the study, significant differences were observed in favor of the IG, both between groups (t = 3.28; p = 0.00) and within groups (t = 2.42; p = 0.02), with large effect sizes (d = 1.68 and d = 1.38). The Pukllasun activities effectively reduced anxiety, highlighting the importance of adapting culturally relevant interventions in various educational contexts.

Keywords: mental health; pukllasun; generalized anxiety; non-pharmacological intervention.

RESUMEN

La pandemia de COVID-19 afectó la salud mental y el rendimiento académico de los universitarios, lo que llevó a las instituciones a tomar medidas. Este estudio evaluó la efectividad de la técnica intercultural Pukllasun para reducir la ansiedad en estudiantes peruanos andinos durante la pandemia. Estudio cuasi experimental, se incluyeron 181 participantes divididos en grupo intervención (GI=49) y grupo control (GC=132); evaluados con la prueba de ansiedad generalizada GAD-7, al principio y al final del estudio. La edad promedio fue de 19,2 (DE: 2,1) años en el GI y 20,3 (DE: 2,8) años en el GC. Se empleó t Student para analizar las diferencias entre y dentro de los grupos, y d de Cohen para medir la efectividad de la intervención. Al inicio, ambos grupos tenían niveles similares de ansiedad (t = 1,09; p = 0,246), pero al finalizar el estudio, se observaron diferencias significativas a favor del GI, tanto entre grupos (t = 3,28; p = 0.00) como intragrupal (t = 2,42; p = 0.02), con tamaños de efecto elevados (d = 1.68 y d = 1.38). Las actividades del Pukllasun resultaron efectivas para reducir la ansiedad, subrayando la importancia de adaptar intervenciones culturalmente relevantes en diversos contextos educativos.

Palabras clave: salud mental; pukllasun; ansiedad generalizada: intervención no farmacológica.

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INTRODUCTION

The COVID-19 pandemic was a complex event that affected the entire world, leading governments of different countries to implement restrictive measures to curb the spread of the virus (Pfefferbaum & North, 2020; Romero-Saritama et al., 1995). In Latin America, in an attempt to control the exponential growth of SARS-COV-19 infections, actions were taken such as border closures, the suspension of in-person school and work activities, the implementation of curfews and mobility restrictions, as well as the mandatory use of face masks and the promotion of social distancing (Benítez et al., 2020; Qian & Jiang, 2022).

Some countries, like Argentina and Peru, adopted more severe restrictions. Argentina, for instance, imposed one of the longest and strictest quarantines (Levi Yeyati & Sartorio, 2020; Sagripanti & Aquilano, 2022), severely limiting the mobility of its citizens and halting the continuation of all non-essential activities for months (Conde Bachiller et al., 2022; Song et al., 2021). Meanwhile, Peru, during the first wave of the pandemic, implemented nightly curfews and restrictions on interprovincial travel (Cáceres Cabana et al., 2021; Rodríguez et al., 2022). Other countries implemented rigorous measures in specific sectors, depending on the levels of infection by region and area, as was the case in Argentina, Chile, and Colombia (BBC News Mundo, 2020; Criales et al., 2020; Knaul et al., 2022).

These measures, although necessary, had significant repercussions on the mental health of the population (Ammar et al., 2020; Chan et al., 2020; Rodríguez-Fernández et al., 2021). Numerous studies documented a significant increase in mental health indicators as a result of the pandemic. One of the most prevalent disorders was generalized anxiety disorder (GAD) (Organización Mundial de la Salud [OMS], 2022), which is characterized by symptoms such as excessive worry, difficulty controlling negative thoughts, trouble concentrating, restlessness, fatigue, irritability, muscle tension, and sleep problems (Mishra & Varma, 2023). These issues hindered people's ability to carry out their daily activities normally (Jonikas et al., 2021; Qi et al., 2021). During COVID, GAD manifested with restlessness, fear, and a sense of helplessness (Becerril et al., 2022; Porcelli, 2020).

This issue was particularly complex in the university population for several reasons. At the beginning of the confinement measures, adolescents and university students were among the groups that showed the most resistance to self-care measures, quarantine, and protection against COVID-19 (Domínguez et al., 2024). In Mexico, a study focused on exploring the impact of the pandemic on a group of 93 university students, using a questionnaire that assessed physical health, emotional health, and academic aspects. 65% of the participants failed to comply with the quarantine period or social distancing measures, reporting that due to the need to fulfill certain domestic chores, work, care for a family member, or pay bills, they had to break the restrictions (Domínguez et al., 2024).

This phenomenon may be associated with psychological immaturity, which leads young people to make poorly informed and, in some cases, irresponsible decisions (Garbula, 2023; Marin, 2023; Vicsek & Mikó, 2023). Several studies reported deaths among family members because students did not take proper precautions during the pandemic (Gallo, 2020; Vicsek & Mikó, 2023). Likewise, there could be a relationship between non-compliance with the imposed restrictions and a low socioeconomic level, which would make it difficult to access means and resources, unlike their counterparts, who would have greater ease in performing tasks and limiting social contact remotely (Cantarero Prieto et al., 2023; Chang et al., 2021).

This new health landscape of contagion and death due to COVID significantly affected the mental health of university students, due to the scarcity of emotional resources to cope with this phenomenon and its

associated consequences (Andersson et al., 2024; Pan & Sass, 2020). Copeland et al. (2021) reported in their study on the impact of COVID-19 on the behavior and well-being of first-year university students, highlighting negative and persistent effects on the behavioral and emotional functioning of the students. Fontoulakis et al. (2024) obtained similar results in their research, analyzing the risk of depression, anxiety, and suicidal tendencies, reporting 15.66% dysphoria, 25.81% depression, and 6.34% suicidal tendencies. In the United States, these issues were also explored, revealing a greater predisposition toward anxiety, loneliness, and depression (Lee et al., 2021). Finally, in a multicenter study that included Latin American, Hispanic, and Spanish university populations, a high incidence of symptoms associated with depression, suicide, and post-traumatic stress was reported (Torres et al., 2023).

Additionally, university students had to continue their academic studies during this pandemic, which further affected their mental health and academic performance. As a result, several studies have shown a decrease in academic performance in this population (Camacho-Villa et al., 2023; Kissi et al., 2024; Lira Neto et al., 2024; Siena et al., 2024), due to the fear of contagion and death from COVID, there was an increase in academic absenteeism (Chandra, 2020; Sandoval Elías, 2021; Van Der Feltz-Cornelis et al., 2020); elevated stress levels (Chávez Reinoso et al., 2021), cognitive function impairment (Tortella et al., 2021), greater predisposition to illness (Chacón Figueroa, 2021; Pacori Paricahua et al., 2022) and a higher prevalence of mood-related disorders, such as anxiety and depression (Vigo et al., 2021; Woon et al., 2021; Yu et al., 2021).

Peru was not immune to this issue. In the student population at Higher Education Institutions (IES), there was an increase in complaints related to emotional distress resulting from the COVID-19 confinement (Bazo-Alvarez et al., 2024; Murrieta-Ruiz et al., 2023). The abrupt shift to virtual education and prolonged confinement had a significant negative impact on their mental health. Studies reveal that a large proportion of university students in Peru experienced high levels of anxiety and depression. An investigation of medical students at a private university in Lima found that 75.4% of first-year students showed some degree of anxiety, with women being the most affected (Saravia-Bartra et al., 2020). Additionally, another multicenter study with medical students from various Peruvian universities reported that 74% exhibited depressive symptoms, 57% showed symptoms of anxiety, and 65% manifested symptoms of psychological distress (Huarcaya-Victoria et al., 2023). These emotional problems were exacerbated by factors such as family economic instability, fear of delays in academic progress, and concern about the deterioration in the quality of their medical education (Fuerte-Montaño et al., 2021; Huarcaya-Victoria et al., 2023).

Faced with the challenges confronting the university population arising from the transition to virtual environments and the emotional impact of the pandemic, the need has emerged to develop innovative strategies that promote psychological well-being and academic performance. However, existing literature highlights the scarcity of interventions that integrate culturally relevant approaches, particularly in communities with a strong sociocultural identity, such as the Andean university population (Cubillos & Díaz, 2018; Gomez Gutierrez et al., 2024).

Emotional regulation plays a fundamental role in mitigating stress and anxiety in high academic demand contexts (Gross, 2015). Strategies such as cognitive reappraisal and positive distraction have proven effective in reducing anxiety symptoms and fostering better adaptation to situations of uncertainty (Durham et al., 2025; Youn & Marques, 2021). Within this framework, emotional intelligence is recognized as a key factor for academic success and personal well-being, emphasizing the importance of developing emotional skills in the educational context (Goleman, 1996; Mayer et al., 2008). Similarly, resilience, defined as the ability to cope with adversity and maintain stable functioning despite challenges, has been

identified as a protective factor against stress in student populations during health crises (Magorokosho et al., 2024; Shillington et al., 2024).

Despite these findings, most studies have focused their interventions on standard approaches, without considering the cultural particularities that may influence the effectiveness of coping strategies (Liu et al., 2023; Toktas, 2024; Younas et al., 2024). In this regard, incorporating emotional education strategies in academic settings has proven to be an effective means of improving emotional regulation and strengthening students' well-being (Brackett & Rivers, 2014) Therefore, it is essential to design and evaluate techniques to incorporate elements of cultural identity and a sense of community, facilitating a more effective response to academic and emotional stress.

Although in the region, some studies had already considered the implementation of virtual or remote academic activities as a long-term strategy before the pandemic (Antón-Sancho & Sánchez-Calvo, 2022) It is evident that students from various sectors and educational levels were not prepared for online education (Alania-Contreras et al., 2024; Roa-Meggo & Baca-Gamarra, 2024). The transition required knowledge of the use of office tools, access to the internet, and the adaptation of a space at home to attend classes (García-Planas & Taberna Torres, 2020). This complicated access to this basic right during the pandemic, increasing indicators of stress and psychological distress, especially in lower socioeconomic groups and rural populations, which have limited and precarious access to basic services necessary for education (Zea Bastidas et al., 2024); particularly access to the internet (CEPAL, 2020; Instituto Nacional de Estadistica e Informatica [INEI], 2019).

This health and academic landscape created a challenge for universities, which quickly began to develop and implement intervention measures for mental health and academic performance. In some countries, higher education institutions made mental health support services and psychological first aid available to students via phone and video calls, to address issues ranging from psychosomatic distress related to academic grades to more specific aspects of mental health or fear of contagion (Fortim et al., 2023; O'Hara, 2020). Support groups, online sessions, and surveys were also implemented to assess mood-related issues (Prado et al., 2023). They also incorporated some financial support strategies, including an increase in scholarships, emergency funds, discounts, and payment flexibility, to facilitate accessibility to education and prevent dropout during the critical period of the pandemic (McKinnon-Crowley, 2023; Urbina-Najera & Canton-Croda, 2022).

In response to stabilize mental health and academic performance, around the world, major governing bodies implemented strategies that included expanding access to mental health services through telemedicine and online consultations (Augusterfer et al., 2020; Rutkowska, 2022); campaigns and awareness guides on the importance of mental health, encouraging people to seek emotional support (Organización Panamericana de la Salud [OPS], 2020, 2022). Additionally, psychosocial support programs were developed for vulnerable populations (Equipo Humanitario del país. El Salvador, 2020; World Health Organization, 2020).

Applications, social media, and online resources were promoted that offered self-help techniques, psychological first aid, meditation, and stress management (Bak et al., 2023; Cao, 2023; Fiol-DeRoque et al., 2021; Norbury et al., 2021). Locally, help lines and telephone support services have been implemented (dos Santos et al., 2014), as well as training in techniques to strengthen resilience and other skills to cope with the health situation (Lino Talavera et al., 2023).

Some of these measures impacted mental health, showing improvements in mood and academic performance (Rutkowska, 2022) However, many of these strategies did not show significant effectiveness, or their results were not sustained in the long term (Abulfaraj et al., 2024).

Our team developed an intervention strategy called Pukllasun, aimed at first-semester university students, with a strong intercultural component. *Pukllasun* is a Quechua word that translates to "playing"; through the playing, feelings are shared, learning occurs, and mental health is improved. Originally, *Pukllasum* was a festival with deep spiritual significance, as it is a time to honor Pachamama (Mother Earth) and other Andean deities. During the celebration, offerings and ceremonies are performed to give thanks for the harvest and to ask for blessings for the future (González, 2018). This act reaffirms the community's connection with the land, ancestors, and protective spirits, keeping Andean spirituality alive (Quispe, 2021). This festival is deeply rooted in the popular and social culture of the Peruvian highlands, whether Quechua-speaking or not, and consists of recreational activities, physical exercise, and play.

In the context of confinement and restrictions on large cultural activities, we wanted to give a socio-pedagogical meaning to the term by adapting some Pukllasun activities to the virtual context. We used videos and guided games, activities designed in the Peruvian highlands, to address mental health issues and mitigate the levels of anxiety caused by COVID-19 in university students. Therefore, we analyzed the effectiveness of each task in this technique to reduce levels of generalized anxiety in a sample of Andean Peruvian students during the COVID-19 pandemic.

METHODOLOGY

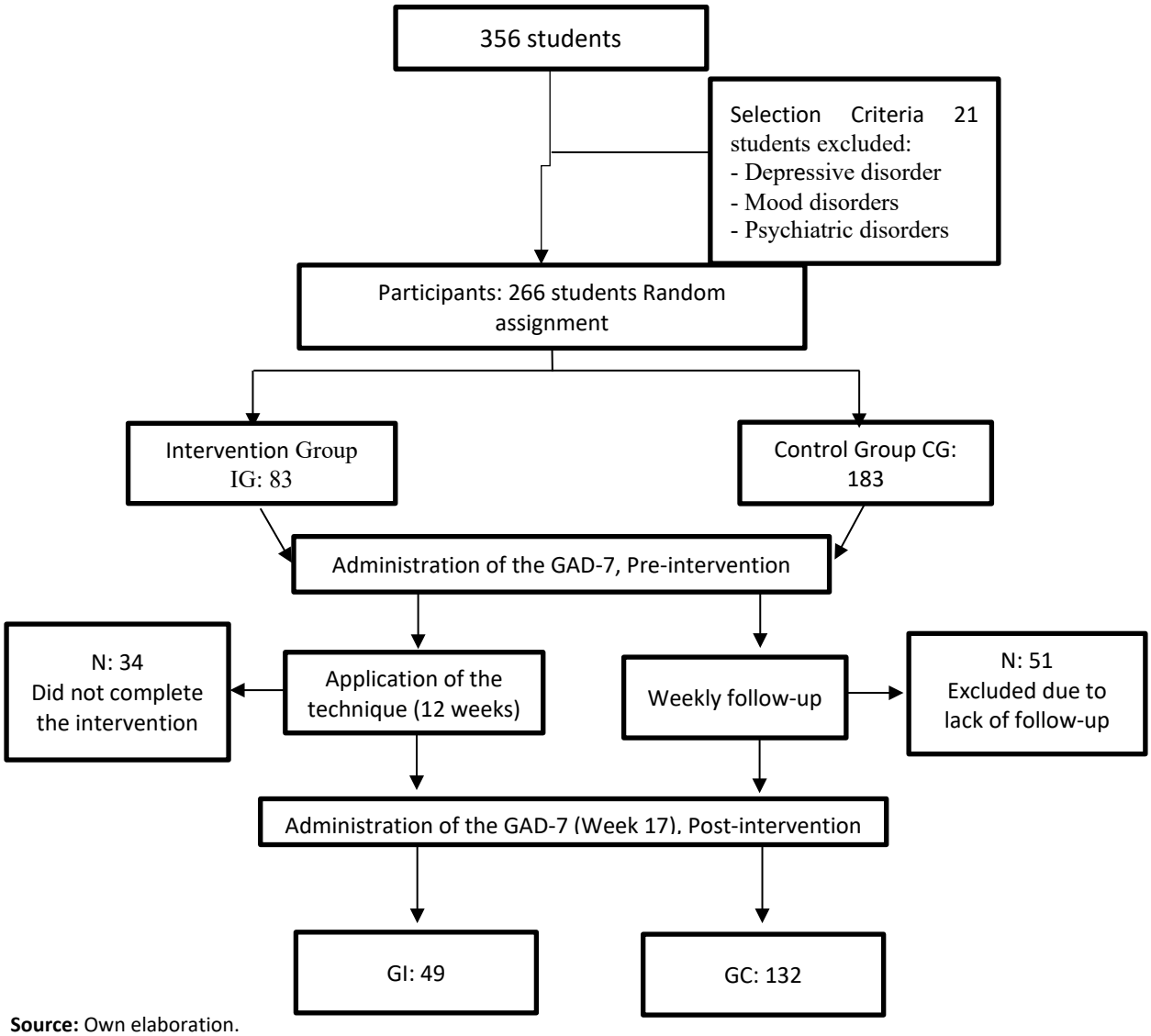
A Quasi-experimental study with pre-test, intervention, and post-test. It included an intervention group (IG=49) and a control group (CG=132); all were first-semester university students from the Faculty of Education at the National University of Huancavelica, Peru. The age of the participants was homogenized (t: 0.325; P: 0.684), but not the gender (Men: 42.3%; Women: 57.7%). In the intervention group (GI), the average age was 19.2 years (SD: 2.1), and in the control group (CG), it was 20.3 years (SD: 2.8).

Procedure

Initially, a call was made via institutional emails and social media, inviting first-semester students from the Faculty of Education at a state university located in the Peruvian highlands to aid in improving academic and socio-emotional performance indicators. Inclusion criteria included being enrolled in the first semester of one of the education programs, showing emotional disturbances, and consenting to participate in the study. 356 students responded; those with a medical diagnosis of depression or other mood or psychiatric disorders were excluded. They were referred to specialist professionals for their care. 266 students responded to the call and were randomly divided into 2 groups (IG: 83 and CG: 183).

Both groups were assessed with the GAD-7 test. Subsequently, the intervention group underwent the tasks and activities of the *pukllasun* technique. In contrast, the control group was not subjected to the technique and received weekly follow-up. At the end of the intervention, after 4 months of working with the technique, both groups were reassessed with the GAD-7 test. At this point, 49 participants from the intervention group and 132 from the control group were evaluated. 85 participants did not complete all phases of the intervention, withdrew, or were unavailable for the post-test evaluation.

Figure 1. Flowchart.



Source: Own elaboration.

Instrument

To assess anxiety levels, the Generalized Anxiety Disorder Scale (GAD-7) was used (Spitzer et al., 2006) It is a brief, self-administered screening tool designed to detect levels of generalized anxiety in individuals over the past two weeks (American Psychiatric Association, 2013). The GAD-7 consists of seven items on a Likert scale, which indicates the frequency of symptoms on a four-point scale where "0" means "not at all" and "3" means "nearly every day." It allows for the classification of anxiety severity into three categories: mild, moderate, and severe. The total score ranges from 0 to 21 points, where a score ≥ 10 indicates generalized anxiety disorder (Zhong et al., 2015).

Originally created in English by Spitzer et al. (2006), it has been translated and validated in several languages (2024; Garcia-Campayo et al., 2010; Masuyama et al., 2022; Sawaya et al., 2016; 2006). The version that has adequate values for sensitivity (0.92) and specificity (0.83) (Spitzer et al., 2006). It has been widely used in epidemiological and clinical studies to assess anxiety in various population groups, including university students (Franco-Jimenez & Nuñez-Magallanes, 2022; B. Lee & Kim, 2019), healthcare Workers

(Camargo et al., 2023; Porto et al., 2022) patients with chronic illnesses (Budikayanti et al., 2019; Seo & Park, 2015) and the general population (Villarreal-Zegarra et al., 2023; Zhong et al., 2015). Similarly, some studies have demonstrated its clinical utility and adaptability for detecting and measuring anxiety in diverse contexts (Camargo et al., 2023; Monterrosa-Blanco et al., 2021; Muñoz-Navarro et al., 2017; Seo & Park, 2015).

The Pukllasun technique

Pukllasun is a word from Quechua, an indigenous language of South America, particularly spoken in Peru, as well as in Bolivia, Ecuador, and Argentina. The word "Pukllasun" is composed of two parts: "Puklla," which means "game" or "fun," and "Sun," which is a suffix indicating "festival" or "celebration." Therefore, "Pukllasun" can be translated into Spanish as "Festival of Play" or "Celebration of Fun." In the Andean culture of Peru, Pukllasun is a traditional festival celebrated at various times of the year, particularly during the harvest season or in honor of fertility deities. During the festival, games, dances, music, and rituals are performed to thank the gods for the abundance of resources, food, and life.

Pukllasum is celebrated primarily in the Andean regions of Peru during the carnival season, typically in February and March. The festival is connected to the Andean worldview, which integrates nature, spirituality, and community life (Huamán, 2015; Valderrama, 2018). The celebration focuses on life, fertility, the renewal of nature, and the continuity of ancestral traditions. In this context, "playing" or "Puklla" is a symbolic way to celebrate abundance and seek the protection and favor of Andean deities (Ríos, 2017).

During the festival, a series of rituals, dances, music, and community activities centered around games are performed. Participants typically dress in traditional costumes, colorful masks, and decorations that reflect the rich cultural heritage of the región (Sánchez, 2016). Among the prominent traditional dances is the "tinku," which symbolizes the confrontation and harmony between opposing forces, as well as other dances that represent stories, myths, and daily life (Cáceres, 2019). Additionally, it is common to prepare and share traditional foods, symbolizing abundance and the act of sharing with the community and the spirits of nature (Flores, 2020).

Besides its spiritual dimension, Pukllasum is a moment of unity and strengthening of community bonds. Collective activities and games promote solidarity and cooperation among community members, reinforcing the cultural and social identity of the participants (Vega, 2019). The festival is an opportunity for Andean communities to celebrate together, preserving and passing on their cultural traditions to new generations.

In the context of the COVID-19 pandemic, students from the Faculty of Education at the National University of Huancavelica began to exhibit various emotional and physical ailments. This was due to the conditions of confinement, contagion, or family losses associated with the Coronavirus. The student population has a significant concentration of rural and ethnic backgrounds. Therefore, considering that the cultural festivities of Pukllasun were restricted in the community and with the aim of providing support during the pandemic, a strategy was designed that retained the cultural essence of Pukllasun, with the objectives of: first, mitigating the psychosocial and mental health effects; and second, supporting and evaluating the academic activities that students should carry out autonomously or independently at home. To achieve this, the following steps were taken:

1. The research team developed a series of videos (36) that included tutorials for games and activities that students were required to complete. These activities were designed to be carried out safely at home during confinement. The tasks and physical activities emulated those performed during the in-person Pukllasun festivals. Therefore, students engaged in activities involving precision, strength, agility, and balance, using materials available at home, such as brooms, sinks, ropes, hoops, balls, and clothing items, among other household objects.

2. Each video featured background music appropriate to the Pukllasun festivities. These videos were validated by family members and key cultural actors from the community.

3. Each tutorial video lasted 10 minutes. Each session took 2 hours, which included a group review of the video. Subsequently, participants had to perform the activities individually, recording each one (5 minutes) and then sharing their experience in a focal group discussion. A total of 36 videos were used over 12 sessions (3 months), with one session held each week.

4. At the end of each session, group experiences were shared.

5. A control group was included, which declared not being interested in participating in the virtual Pukllasun activities, despite being offered the opportunity to join. Instead, they were monitored weekly for their control status, reviewing their emotional state and the non-engagement in stimulating group activities.

Statistical analysis

First, descriptive analyses of skewness and kurtosis were performed, and the Kolmogorov-Smirnov tests were used to estimate the statistical normality of the data. Then, to analyze the average results on the Generalized Anxiety Disorder Scale (GAD-7) before and after the intervention, between the study groups, a Student’s t-test for independent samples was used; this included intergroup and intragroup mean difference analyses. Finally, for significant results, *Cohen's d* was used to measure the effect size of the Pukllasun technique on participants' generalized anxiety symptoms, based on the methodology of Thalheimer & Cook (2002). The data provided by Cohen's d are interpreted as follows: a small effect, with values ranging from 0.15 to 0.40; a medium effect, with scores between 0.40 and 0.75; and a large effect, when the statistic score is greater than 0.75. All analyses were processed using SPSS 27.

Formal aspects

This study was conducted following all ethical guidelines and standards for human experimentation according to the Helsinki Declaration of 1975, revised in 2008. The participation was voluntary, and informed consent was obtained from all participants beforehand. Additionally, the study was reviewed and approved by the Ethics Committee of the Universidad Nacional Autónoma Altoandina de Tarma (Ethical Act No. 01-2024). The research was funded by the Peruvian Mining Canon Fund (FOCAM), with the Research Competitive Fund Resolution 0254-2021-CU-UNH. At the conclusion of the study, all participants were gathered in an auditorium where the results of the study were presented. Additionally, a practical manual to improve mental health indicators, incorporating the Pukllasun technique, was distributed. Furthermore, this research is part of an international and multicentric study that is analyzing mental health indicators among university students in Latin America.

RESULTS

As shown in Table 1, in the pre-intervention intergroup analysis, no statistically significant differences were observed in the average scores of the GAD-7 test (t: 1.09; p: 0.246). In contrast, upon completing the intervention with the Pukllasun technique activities, significant differences were found (t: 3.28; p: 0.00**), with a very high effect size (d: 1.68) favoring the intervention group (GI).

Table 1. Intergroup Comparisons Pre and Post Intervention

	Initial Assessment				**Final Assessment**				
	IG	**CG**			**IG**	**CG**			
	ME±ED	ME±ED	***t***	***p***	ME±ED	ME±ED	***t***	***p***	*d Cohen*
GAD-7	11,16	11,86	1,09	0,246	8,36 ± 2,17	11,89± 2,08	3,28	0.00**	1.68
IG: Intervention Group. GC: Control Group. ME: Mean. ED: Standard Deviation. *t*: t Student. P<0.05									

Source: Own elaboration.

Next, an intragroup analysis was conducted to verify the presence of changes in the average results of the GAD-7 for each study group separately. According to Table 2, only the members of the intervention group exhibited significant intragroup differences in their average performances on the generalized anxiety test (t: 2.42; p: 0.02**). These results decreased following the intervention with the Pukllasun technique, showing a large effect size (d: 1.38). In contrast, the control group did not show differences in the average scores of the anxiety test (t: -0.63; p: 0.87).

Table 2. Intragroup Comparisons Pre- and Post-Intervention

Test		**Initial Mean**	**Final Mean**	***t***	***p***	***d* Cohen**
GAD-7	**IG**	11,16	8,36	2,42	0.02**	1.38
	CG	11,86	11,89	-0,63	0,87	-
IG: Intervention Group. GC: Control Group.						

Source: Own elaboration.

DISCUSSION

The health emergency that occurred in 2021 had profound repercussions on the mental health of the general population globally, especially affecting students who faced a new landscape in their academic training (Di Malta et al., 2022; Giusti et al., 2021). This change directly impacted their academic performance and led to the development of symptoms associated with Generalized Anxiety Disorder (GAD) (Jehi et al., 2024; Siena et al., 2024). As a result, there was an urgent need to create and implement programs and strategies that mitigated emotional effects and aimed to improve academic performance and the well-being of university students.

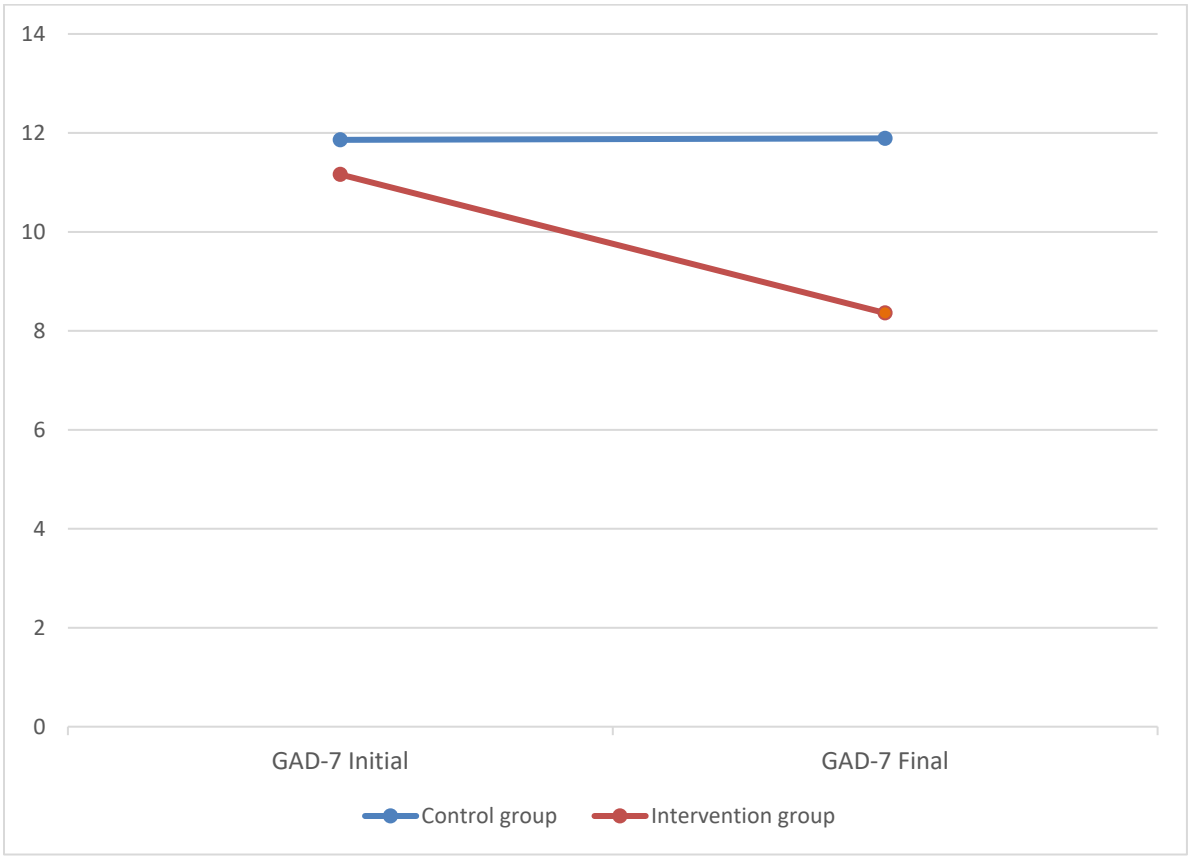
In this regard, our research group analyzed the effectiveness of a set of integrated tasks rooted in interculturality, known as Pukllasun. The intervention activity consisted of a series of video tutorials,

carefully designed to address and reduce levels of generalized anxiety; activities that simulated the cultural activities of this festival (Pukllasun) from the Andean highlands of Peru. The research focused on applying these techniques to a specific sample of Andean Peruvian university students who faced additional challenges due to the COVID-19 pandemic. Through these audiovisual resources, the aim was to provide an accessible and effective tool to mitigate the psychological impact that the pandemic had on this population.

Our results show that the initial scores for both the intervention group (GI) and the control group (GC) were similar before starting the intervention, with no statistically significant differences between the groups (t: 1.09; p: 0.246). It is important to note that both groups exhibited concerning levels of generalized anxiety symptoms before the intervention began, which underscores the urgency of implementing effective interventions. In contrast, when analyzing the scores after the intervention, a notable improvement in Generalized Anxiety Disorder (GAD) symptoms was observed in the experimental group (t: 3.28; p: 0.00**) (see Figure 2).

This result suggests that psychoeducational strategies and non-pharmacological techniques based on play can have a considerable positive impact on students' mood and mental health. These improvements reflect not only the effectiveness of the applied interventions but also their potential to be integrated into educational programs as tools for emotional and psychological support. This approach has been supported by several previous studies highlighting the effectiveness of these interventions in educational contexts (Pallavicini et al., 2018; Respati et al., 2024; Tomoiagă & David, 2022; Xin et al., 2024).

Figure 2. Changes in participants' mood.



Source: Own elaboration.

These findings align with existing evidence demonstrating that mental health interventions must be culturally adapted to be effective in Indigenous communities. Among Indigenous university students, mindfulness has been modified to fit their worldview and reduce anxiety (Beshai et al., 2023). Video games have also been explored as therapeutic tools, helping to overcome access barriers in these communities (Ferrari et al., 2022). Additionally, repeated intergroup interactions have been shown to reduce social anxiety and decrease stress reactivity (Page-Gould et al., 2008). In this context, Pukllasun, a playful technique based on traditional Andean activities, has proven effective in reducing anxiety in university students. This aligns with the results observed in our study, where Pukllasun demonstrated a significant impact in lowering anxiety levels among university students.

In the second place, an intragroup analysis was conducted separately on the average GAD-7 scores for each study group (experimental and control). The results revealed a notable reduction in anxiety levels after the intervention. In contrast, the control group (GC) maintained similar scores before and after the study, suggesting that the absence of the technique applied in the experimental group (GI) prevented improvements in anxiety for these participants. These findings underscore the effectiveness of the Pukllasun technique in reducing or mitigating anxiety levels among university populations, highlighting its potential as a tool for managing students' emotional well-being. This effectiveness is particularly relevant given the context of the severe impact in which the study was conducted, marked by the COVID-19 pandemic, which led to an increase in the prevalence of Generalized Anxiety Disorder (GAD) among university students. Thus, the technique not only demonstrates its effectiveness under normal conditions but also in crisis situations, reinforcing its importance as part of psychological support strategies in educational settings. Additionally, it highlights the socio-emotional value of play in its various forms and variations. In this case, symbolic play, emulating traditional cultural festivities, helps alleviate emotional distress and improves mental health and academic performance, as described in various previous studies (Bratton et al., 2013; Hamari et al., 2016; Li et al., 2013; Respati et al., 2024).

Finally, we found that the change in participants' mood was associated with the application and training in the skills proposed by the *pukllasun* technique. This led to a significant reduction in emotional distress among the included population. Effect size analyses using Cohen's *d* indicated that the reduction in anxiety symptoms was primarily due to students' participation in the virtual Pukllasun activities. In this regard, the available evidence points to two main approaches for addressing mental health. The first is pharmacological treatment, which should be complemented by psychotherapeutic interventions to ensure sustained results over time. However, some studies question the effectiveness of this type of treatment, as it may not demonstrate long-term improvements in quality of life on its own (Andrade, 2022; Bumpus, 2020; Hasler et al., 2002). Additionally, it is important to highlight that such treatments can be costly and less accessible for vulnerable, rural, and ethnic populations (Iseselo et al., 2016; Knapp et al., 2006).

In second place, non-pharmacological intervention techniques have been analyzed to mitigate emotional and cognitive distress (López et al., 2015; Rodrigues et al., 2021); even in neurodegenerative conditions (López, Véliz, et al., 2015; López, Veliz, et al., 2015). Among these, interventions include physical activity training (Popovych et al., 2022), techniques based on board games (Respati et al., 2024), the use of applications or web platforms(Suen et al., 2024; Szigethy et al., 2023), and the implementation of strategies with video games to reduce symptoms (Kowal et al., 2021). There is extensive evidence supporting the effectiveness of these interventions in the treatment of various disorders and conditions, including generalized anxiety disorder (GAD) (Kowal et al., 2021; Respati et al., 2024; Schaeuffele et al., 2022; Suen et al., 2024)

Additionally, some studies have implemented techniques specific to particular communities, facilitating skill development through activities with a strong cultural identity (Fondo Nacional de Desarrollo de la Educación Peruana [FONDEP], 2015; Sourander et al., 2024). In this regard, our research group recently conducted an intervention study with the cultural orientation of Pukllasun; these were interventions based on games and playful activities in a face-to-face format, aimed at fostering group exploration, cultural, spiritual, and emotional integration of a broad group of Quechua university students; with the goal of improving emotional well-being and academic performance (Rodriguez-Benites et al., 2024). The results showed changes in the emotional perception of stressful situations when they are approached socially and culturally; additionally, an increase or maintenance in academic performance was observed. This reinforces that non-pharmacological techniques can become an alternative to counteract the psychological impact of stressful conditions in the university population; and especially when these activities consider the intercultural vision of well-being and mental health.

The results indicate that Pukllasun is an effective strategy for reducing anxiety in university students, with statistically significant effects supporting its applicability in higher education contexts. A long-term follow-up would allow for a more comprehensive evaluation of its lasting benefits and adaptability across different educational and cultural settings. Future studies could strengthen the discussion by incorporating moderation analyses, including various factors that provide a deeper understanding of the phenomenon. Variables such as gender, socioeconomic status, cultural context, and access to support networks may influence the effectiveness of the intervention. Integrating these analyses would help identify the conditions under which Pukllasun has the greatest impact, offering valuable insights for its adaptation and implementation in different educational and cultural settings.

Despite these positive findings, the study has some limitations. First, the sample was limited to students from a university in the Andean region of Peru, restricting the generalizability of the results to other populations with different cultural backgrounds. While the findings suggest that the Pukllasun technique positively impacts anxiety reduction, it is necessary to replicate the study in other educational and cultural contexts to assess its broader applicability. A second limitation relates to the study's design. Although an intervention was conducted, it cannot be classified as a follow-up study. Therefore, once the study concluded, it was not possible to determine whether the reduction in anxiety symptoms was sustained over time in the intervention group. A long-term follow-up would provide valuable insights into the persistence of the benefits and the adaptability of Pukllasun in diverse educational and cultural contexts.

Additionally, the study did not aim to balance gender representation within the sample. This factor should be considered in future research, as previous studies suggest that men and women may respond differently to interventions based on play and emotional expression. Another potential limitation is the influence of uncontrolled variables, such as family support, access to technological resources, and academic workload, which may have impacted the results. Despite these limitations, this study provides valuable evidence supporting the importance of culturally adapted psychological interventions. The integration of identity and community elements into emotional regulation strategies emerges as a promising approach for student populations. Future research should expand the scope of Pukllasun, exploring its effectiveness in different academic environments and evaluating its impact on multiple dimensions of psychological and academic well-being.

In this regard, the study addresses a critical issue in mental health and higher education. Its culturally adapted approach is valuable, but its impact could be further enhanced through replication studies in other contexts. Future research could explore its effectiveness in universities with students from diverse ethnic

and socioeconomic backgrounds, as well as in urban and rural settings outside the Andean region. Finally, a third limitation relates to the cultural relevance of the Pukllasun activities. They may be more effective in Quechua or Aymara cultural contexts, such as communities in Peru, Bolivia, and northern Argentina and Chile. Therefore, the activities of the technique might require adjustments to be effective in diverse cultural settings.

With these limitations in mind, we can conclude that a three-month intervention using a set of activities infused with the cultural essence of a widely practiced festival in the Andean community of Peru effectively reduces generalized anxiety disorder symptoms among university students. Activities that emulate the Pukllasun festival in a virtual setting and involve group sharing of experiences have a significant effect in reducing mental health issues among university students. These activities help decrease risky behaviors and self-harm, while also improving academic performance and overall quality of life.

DECLARATION OF CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest. During the execution of the work and the writing of the article, no personal or external interests have influenced their actions, including misconduct or values that deviate from the usual and ethical standards of research.

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BIBLIOGRAPHIC REFERENCES

1. Abulfaraj, G. G., Upsher, R., Zavos, H. M. S., & Dommett, E. J. (2024). The Impact of Resilience Interventions on University Students' Mental Health and Well-Being: A Systematic Review. Education Sciences, 14(5), 510. https://doi.org/10.3390/educsci14050510

2. Alania-Contreras, R. D., Ruiz-Aquino, M., Alvarez-Risco, A., Condori-Apaza, M., Chanca-Flores, A., Fabián-Arias, E., Rafaele-de-la-Cruz, M., Del-Aguila-Arcentales, S., Davies, N. M., Ortiz de Agui, M. L., & Yáñez, J. A. (2024). Evolving attitudes toward online education in Peruvian university students: A quantitative approach. Heliyon, 10(9), e30566. https://doi.org/10.1016/j.heliyon.2024.e30566

3. Aloka, P. J. O., Omare, J. M., Owuor, E. A., Okongo, C., & Owino, J. (2023). Well-Being and Mental Health Initiatives for Students in Universities (pp. 1–13). https://doi.org/10.4018/979-8-3693-2833-0.ch001

4. American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders. In Diagnostic and statistical manual of mental disorders: DSM-5TM, 5th ed. American Psychiatric Association. https://doi.org/10.1176/appi.books.9780890425596

5. Ammar, A., Mueller, P., Trabelsi, K., Chtourou, H., Boukhris, O., Masmoudi, L., Bouaziz, B., Brach, M., Schmicker, M., Bentlage, E., How, D., Ahmed, M., Aloui, A., Hammouda, O., Paineiras-Domingos, L. L., Braakman-jansen, A., Wrede, C., Bastoni, S., Pernambuco, C. S., … Hoekelmann, A. (2020). Psychological consequences of COVID-19 home confinement: The ECLB-COVID19 multicenter study. PLOS ONE, 15(11), e0240204. https://doi.org/10.1371/journal.pone.0240204

6. Andersson, C., Berman, A. H., Lindfors, P., & Bendtsen, M. (2024). Effects of COVID-19 contagion in cohabitants and family members on mental health and academic self-efficacy among university students in Sweden: a prospective longitudinal study. BMJ Open, 14(3), e077396. https://doi.org/10.1136/bmjopen-2023-077396

7. Andrade, C. (2022). Antidepressant Drugs and Health-Related Quality of Life. The Journal of Clinical Psychiatry, 83(3). https://doi.org/10.4088/JCP.22f14527

8. Antón-Sancho, Á., & Sánchez-Calvo, M. (2022). Influence of Knowledge Area on the Use of Digital Tools during the COVID-19 Pandemic among Latin American Professors. Education Sciences, 12(9), 635. https://doi.org/10.3390/educsci12090635

9. Augusterfer, E. F., O'Neal, C. R., Martin, S. W., Sheikh, T. L., & Mollica, R. F. (2020). The Role of Telemental Health, Tele-consultation, and Tele-supervision in Post-disaster and Low-resource Settings. Current Psychiatry Reports, 22(12), 85. https://doi.org/10.1007/s11920-020-01209-5

10. Bak, M., Chiu, C., & Chin, J. (2023). Mental Health Pandemic During the COVID-19 Outbreak: Social Media As a Window to Public Mental Health. Cyberpsychology, Behavior, and Social Networking, 26(5), 346–356. https://doi.org/10.1089/cyber.2022.0116

11. Bazo-Alvarez, J. C., Bazalar-Palacios, J., Quiñones-Negrete, M. M., Ipanaqué, M., Cjuno, J., Hoyt, L. T., Bennett, C. R., & Cohen, A. K. (2024). COVID-19-Related Experiences and Perspectives of Peruvian College Students: A Descriptive Study. Health Education & Behavior, 51(3), 367–375. https://doi.org/10.1177/10901981231216738

12. BBC News Mundo. (2020, April 15). Coronavirus: el mapa interactivo que muestra las medidas o distintos tipos de cuarentena que adoptaron los países de América Latina. https://www.bbc.com/mundo/noticias-america-latina-52248497

13. Becerril, C. E. J., Barrones, V. A., Hernandez, L. R. P., Ramírez, E. A. O., Gutierrez, F. O., & Torres, J. M. Z. (2022). Factors that carry way the appearance of anxiety during the COVID-19 pandemic. International Journal Of Community Medicine And Public Health, 9(3), 1516. https://doi.org/10.18203/2394-6040.ijcmph20220386

14. Benítez, M. A., Velasco, C., Sequeira, A. R., Henríquez, J., Menezes, F. M., & Paolucci, F. (2020). Responses to COVID-19 in five Latin American countries. Health Policy and Technology, 9(4), 525–559. https://doi.org/10.1016/j.hlpt.2020.08.014

15. Billah, M., Rutherford, S., Akhter, S., & Tanjeela, M. (2023). Exploring mental health challenges and coping strategies in university students during the COVID-19 pandemic: A case study in Dhaka city, Bangladesh. Frontiers in Public Health, 11. https://doi.org/10.3389/fpubh.2023.1152366

16. Bratton, S. C., Ceballos, P. L., Sheely-Moore, A. I., Meany-Walen, K., Pronchenko, Y., & Jones, L. D. (2013). Head start early mental health intervention: Effects of child-centered play therapy on disruptive behaviors. International Journal of Play Therapy, 22(1), 28–42. https://doi.org/10.1037/a0030318

17. Budikayanti, A., Larasari, A., Malik, K., Syeban, Z., Indrawati, L. A., & Octaviana, F. (2019). Screening of Generalized Anxiety Disorder in Patients with Epilepsy: Using a Valid and Reliable Indonesian Version of Generalized Anxiety Disorder-7 (GAD-7). Neurology Research International, 2019, 1–10. https://doi.org/10.1155/2019/5902610

18. Bumpus, J. A. (2020). Low-Dose Tramadol as an Off-Label Antidepressant: A Data Mining Analysis from the Patients' Perspective. ACS Pharmacology & Translational Science, 3(6), 1293–1303. https://doi.org/10.1021/acsptsci.0c00132

19. Cáceres Cabana, Y. D., Malone, A., Zeballos, E. Z., Huamani Huaranca, N. O., Tinta, M. T., Gonzales Beltrán, S. A., Arosquipa, A. A., & Pinedo, D. (2021). Pandemic response in rural Peru: Multi-scale institutional analysis of the COVID-19 crisis. Applied Geography, 134, 102519. https://doi.org/10.1016/j.apgeog.2021.102519

20. Cáceres, M. (2019). Rituales y Danzas Andinas. Editorial Cultural.

21. Camacho-Villa, M. A., Díaz-Marín, I. J., Paredes Prada, E. T., De la Rosa, A., & Niño-Cruz, G. I. (2023). Cross-Sectional Analysis of Colombian University Students' Perceptions of Mental Health during the COVID-19 Pandemic: Repercussions on Academic Achievement. Healthcare, 11(14), 2024. https://doi.org/10.3390/healthcare11142024

22. Camargo, L., Herrera-Pino, J., Shelach, S., Soto-Añari, M., Porto, M. F., Alonso, M., González, M., Contreras, O., Caldichoury, N., Ramos-Henderson, M., Gargiulo, P., & López, N. (2023). Escala de ansiedad generalizada GAD-7 en profesionales médicos colombianos durante pandemia de COVID-19: validez de constructo y confiabilidad. Revista Colombiana de Psiquiatría, 52(3), 245–250. https://doi.org/10.1016/j.rcp.2021.06.003

23. Cantarero Prieto, D., Lanza-León, P., Moreno, P., Lera, J., Gonzalez, F., González Rodríguez, I., & Blázquez-Fernández, C. (2023). Coronavirus fear of contagion and compliance with social distancing measures: evidence for a sample of a Spanish university community. PeerJ, 11, e14771. https://doi.org/10.7717/peerj.14771

24. Cao, Y. (2023). The impact of the COVID-19 pandemic on people's mental health find mitigation measures from the current popular social media platform. In S. Sukumaran (Ed.), International Conference on Modern Medicine and Global Health (ICMMGH 2023) (p. 117). SPIE. https://doi.org/10.1117/12.3000138

25. CEPAL. (2020). Informe especial COVID-19. Universalizar el acceso a las tecnologías digitales para enfrentar los efectos del COVID-19. https://www.fcc.gov/consumers/guides/guia-de-velocidades-de-banda-ancha.

26. Chacón Figueroa, J. I. (2021). Trastorno de ansiedad en situación de pandemia por COVID-19. Revista Diversidad Científica, 1(1), 169–176. https://doi.org/10.36314/diversidad.v1i1.18

27. Chan, J. F.-W., Yuan, S., Kok, K.-H., To, K. K.-W., Chu, H., Yang, J., Xing, F., Liu, J., Yip, C. C.-Y., Poon, R. W.-S., Tsoi, H.-W., Lo, S. K.-F., Chan, K.-H., Poon, V. K.-M., Chan, W.-M., Ip, J. D., Cai, J.-P., Cheng, V. C.-C., Chen, H., … Yuen, K.-Y. (2020). A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. The Lancet, 395(10223), 514–523. https://doi.org/10.1016/S0140-6736(20)30154-9

28. Chandra, Y. (2020). Online education during COVID-19: perception of academic stress and emotional intelligence coping strategies among college students. Asian Education and Development Studies, 10(2), 229–238. https://doi.org/10.1108/AEDS-05-2020-0097

29. Chang, S., Pierson, E., Koh, P. W., Gerardin, J., Redbird, B., Grusky, D., & Leskovec, J. (2021). Mobility network models of COVID-19 explain inequities and inform reopening. Nature, 589(7840), 82–87. https://doi.org/10.1038/s41586-020-2923-3

30. Chávez Reinoso, J. P., Chávez Guevara, J. E., Villarreal Meza, D. C., & Ortiz Parra, L. A. (2021). Factores de estrés en estudiantes universitarios en época de pandemia (Covid-19). Horizontes. Revista de Investigación En Ciencias de La Educación, 5(20), 1258–1272. https://doi.org/10.33996/revistahorizontes.v5i20.275

31. Cjuno, J., Villegas-Mejía, R. A., & Coronado-Fernández, J. (2024). Adaptación y análisis psicométrico del cuestionario de ansiedad generalizada (GAD-7) al Quechua Collao en Perú. Revista Peruana de Medicina Experimental y Salud Pública, 121–128. https://doi.org/10.17843/rpmesp.2024.412.13373

32. Conde Bachiller, Y., Puente Gete, B., Gil Ibáñez, L., Esquivel Benito, G., Asencio Duran, M., & Dabad Moreno, J. V. (2022). Pandemia COVID-19: impacto sobre la tasa de conjuntivitis virales. Archivos de La Sociedad Española de Oftalmología, 97(2), 63–69. https://doi.org/10.1016/j.oftal.2021.03.002

33. Copeland, W. E., McGinnis, E., Bai, Y., Adams, Z., Nardone, H., Devadanam, V., Rettew, J., & Hudziak, J. J. (2021). Impact of COVID-19 Pandemic on College Student Mental Health and Wellness. Journal of the American Academy of Child & Adolescent Psychiatry, 60(1), 134-141.e2. https://doi.org/10.1016/j.jaac.2020.08.466

34. Criales, J. P., Singer, F., & Torrado, S. (2020, March 11). Nueve países de Latinoamérica imponen restricciones a los viajeros provenientes de focos de la epidemia del coronavirus. El País.

35. Di Malta, G., Bond, J., Conroy, D., Smith, K., & Moller, N. (2022). Distance education students' mental health, connectedness and academic performance during COVID-19: A mixed-methods study. Distance Education, 43(1), 97–118. https://doi.org/10.1080/01587919.2022.2029352

36. Domínguez, T. de J. P. L., Campos, D. A. E., Velázquez, I. N. L., & Hernández, L. M. G. (2024). Impacto del confinamiento 2020 en estudiantes de una universidad pública en México. South Florida Journal of Health, 5(1), 37–54. https://doi.org/10.46981/sfjhv5n1-004

37. dos Santos, A. de F., D'Agostino, M., Bouskela, M. S., Fernandéz, A., Messina, L. A., & Alves, H. J. (2014). Uma visão panorâmica das ações de telessaúde na América Latina. Rev Panam Salud.

38. Equipo Humanitario del país. El Salvador. (2020). Guía para el acompañamiento Psicosocial durante la emergencia COVID-19.

39. Fiol-DeRoque, M. A., Serrano-Ripoll, M. J., Jiménez, R., Zamanillo-Campos, R., Yáñez-Juan, A. M., Bennasar-Veny, M., Leiva, A., Gervilla, E., García-Buades, M. E., García-Toro, M., Alonso-Coello, P., Pastor-Moreno, G., Ruiz-Pérez, I., Sitges, C., García-Campayo, J., Llobera-Cánaves, J., & Ricci-Cabello, I. (2021). A Mobile Phone–Based Intervention to Reduce Mental Health Problems in Health Care Workers During the COVID-19 Pandemic (PsyCovidApp): Randomized Controlled Trial. JMIR MHealth and UHealth, 9(5), e27039. https://doi.org/10.2196/27039

40. Fondo Nacional de Desarrollo de la Educación Peruana [FONDEP]. (2015). Mininchakuy Entramar los hilos de un tejido la integración de todo clave para una Educación Intercultural Bilingüe. Sistematización de la experiencia de la Institución Educativa No. 382 de Putica, Cangallo, Ayacuch. https://repositorio.minedu.gob.pe/handle/20.500.12799/4217

41. Fortim, I., Peron, P. R., Cardinalli, I. E., Id1, K. El, Santos, E. F., Fasanella, N. A., & Almeida Batista, M. (2023). Psychological Suffering during COVID-19 Pandemic-A Sample from a Brazilian University. Journal of Psychology & Psychotherapy. https://doi.org/10.35248/2161-0487.23.13.457

42. Fountoulakis, K. N., Alias, N. A., Bjedov, S., Fountoulakis, N. K., Gonda, X., Hilbig, J., Jakovljević, M., Kulig, B., Mahale, G., Manafis, A., Mohammed, M., Nadareishvili, I., Navickas, A., Patsali, M. E., Pavlichenko, A., Pilaga, S. M., Razali, S., Romanov, D., Rossitza, I., … Smirnova, D. (2024). Students' mental health during the pandemic: results of the observational cross-sectional COVID-19 MEntal health inTernational for university Students (COMET-S) study. Frontiers in Psychiatry, 14. https://doi.org/10.3389/fpsyt.2023.1320156

43. Franco-Jimenez, R. A., & Nuñez-Magallanes, A. (2022). Propiedades psicométricas del GAD-7, GAD-2 y GAD-Mini en universitarios peruanos. Propósitos y Representaciones, 10(1). https://doi.org/10.20511/pyr2022.v10n1.1437

44. Fuerte-Montaño, L., Castro Santisteban, M., Enrique Soto Pérez Palma, R., Alejandro Concha-Huarcaya, M., & Angel Giraldo-Quispe, M. (2021). Positive mental health in Peruvian university students during the COVID 19 pandemic. In Journal of Positive School Psychology (Vol. 2022, Issue 3). http://journalppw.com

45. Gallo, C. (2020, August 26). Los jóvenes son "los principales impulsores" del Covid-19 en América Latina. France 24. https://www.france24.com/es/20200825-jovenes-principales-impulsores-covid19-america-ops

46. Garbula, J. M. (2023). Students' Diaries as a Source of Knowledge about Their Everyday Education and Private Lives During the COVID-19 Pandemic. Prima Educatione, 7, 123–137. https://doi.org/10.17951/pe.2023.7.123-137

47. García-Campayo, J., Zamorano, E., Ruiz, M. A., Pardo, A., Perez-Paramo, M., Lopez-Gomez, V., Freire, O., & Rejas, J. (2010). Cultural adaptation into Spanish of the generalized anxiety disorder-7 (GAD-7) scale as a screening tool. Health and Quality of Life Outcomes, 8(1), 8. https://doi.org/10.1186/1477-7525-8-8

48. García-Planas, M. I., & Taberna Torres, J. (2020). Transición de la docencia presencial a la no presencial en la UPC durante la pandemia del COVID-19. IJERI: International Journal of Educational Research and Innovation, 15, 177–187. https://doi.org/10.46661/ijeri.5015

49. Giusti, L., Mammarella, S., Salza, A., Del Vecchio, S., Ussorio, D., Casacchia, M., & Roncone, R. (2021). Predictors of academic performance during the covid-19 outbreak: impact of distance education on mental health, social cognition and memory abilities in an Italian university student sample. BMC Psychology, 9(1), 142. https://doi.org/10.1186/s40359-021-00649-9

50. González, P. (2018). Cosmovisión Andina y Festividades Rurales.

51. Hamari, J., Shernoff, D. J., Rowe, E., Coller, B., Asbell-Clarke, J., & Edwards, T. (2016). Challenging games help students learn: An empirical study on engagement, flow and immersion in game-based learning. Computers in Human Behavior, 54, 170–179. https://doi.org/10.1016/j.chb.2015.07.045

52. Hasler, G., Schnyder, U., Klaghofer, R., & Angst, J. (2002). Treatment of Depressive Disorders with and without Medication - A Naturalistic Study. Pharmacopsychiatry, 35(6), 235–238. https://doi.org/10.1055/s-2002-36387

53. Huamán, R. (2015). El Pukllay y su Significado en la Cultura Quechua. Editorial Andina.

54. Huarcaya-Victoria, J., Elera-Fitzcarrald, C., Crisol-Deza, D., Villanueva-Zúñiga, L., Pacherres, A., Torres, A., Huertas, G., Calderón, D., Noriega-Baella, C., Astonitas, E., & Salvador-Carrillo, J. (2023). Factors associated with mental health in Peruvian medical students during the COVID-19 pandemic: a multicentre quantitative study. Revista Colombiana de Psiquiatría, 52(3), 236–244. https://doi.org/10.1016/j.rcp.2021.06.002

55. Instituto Nacional de Estadistica e Informatica [INEI]. (2019). Informe técnico. Estadísticas de las tecnologías de información y comunicación en los hogares.

56. Iseselo, M. K., Kajula, L., & Yahya-Malima, K. I. (2016). The psychosocial problems of families caring for relatives with mental illnesses and their coping strategies: a qualitative urban based study in Dar es Salaam, Tanzania. BMC Psychiatry, 16(1), 146. https://doi.org/10.1186/s12888-016-0857-y

57. Jehi, T., Mulvey, M., Shulgan, E., Burke, E., Dean, M., Betancourt, J., Carliss, G., Khan, R., Majzoub, N., Halawani, R., Beeson, L., & Zeman, C. (2024). Anxiety, Depression, Stress, and Test Anxiety are Inversely Associated with Academic Performance Among Undergraduate Students Post-COVID-19 Confinement. American Journal of Health Education, 55(2), 89–99. https://doi.org/10.1080/19325037.2023.2296943

58. Jonikas, J. A., Cook, J. A., Swarbrick, M., Nemec, P., Steigman, P. J., Boss, K. A., & Brice, G. H. (2021). The impact of the COVID-19 pandemic on the mental health and daily life of adults with behavioral health disorders. Translational Behavioral Medicine, 11(5), 1162–1171. https://doi.org/10.1093/tbm/ibab013

59. Kissi, J., Wise Kwabla Pomegbe, W., Adzakpah, G., Kumasenu Mensah, N., Owusu-Marfo, J., Wooduwa Asmah, Z., Ekua Tawiah, G., & Amoah-Anomah, G. (2024). Unmasking the coronavirus pandemic impact on students' academic performance (University of Cape Coast—Ghana). PLOS Global Public Health, 4(7), e0003409. https://doi.org/10.1371/journal.pgph.0003409

60. Knapp, M., Funk, M., Curran, C., Prince, M., Grigg, M., & McDaid, D. (2006). Economic barriers to better mental health practice and policy. Health Policy and Planning, 21(3), 157–170. https://doi.org/10.1093/heapol/czl003

61. Knaul, F. M., Touchton, M. M., Arreola-Ornelas, H., Calderon-Anyosa, R., Otero-Bahamón, S., Hummel, C., Pérez-Cruz, P., Porteny, T., Patino, F., Atun, R., Garcia, P. J., Insua, J., Mendez, O., Undurraga, E., Boulding, C., Nelson-Nuñez, J., Velasco Guachalla, V. X., & Sanchez-Talanquer, M. (2022). Strengthening Health Systems To Face Pandemics: Subnational Policy Responses To COVID-19 In Latin America. Health Affairs, 41(3), 454–462. https://doi.org/10.1377/hlthaff.2021.00981

62. Kowal, M., Conroy, E., Ramsbottom, N., Smithies, T., Toth, A., & Campbell, M. (2021). Gaming Your Mental Health: A Narrative Review on Mitigating Symptoms of Depression and Anxiety Using Commercial Video Games. JMIR Serious Games, 9(2), e26575. https://doi.org/10.2196/26575

63. Lee, B., & Kim, Y. E. (2019). The psychometric properties of the Generalized Anxiety Disorder scale (GAD-7) among Korean university students. Psychiatry and Clinical Psychopharmacology, 29(4), 864–871. https://doi.org/10.1080/24750573.2019.1691320

64. Lee, J., Solomon, M., Stead, T., Kwon, B., & Ganti, L. (2021). Impact of COVID-19 on the mental health of US college students. BMC Psychology, 9(1), 95. https://doi.org/10.1186/s40359-021-00598-3

65. Leraas, B. C., Kippen, N. R., & Larson, S. J. (2018). Gender and Student Participation. Journal of the Scholarship of Teaching and Learning, 18(4). https://doi.org/10.14434/josotl.v18i4.22849

66. Levi Yeyati, E., & Sartorio, L. (2020). Take me out: De facto limits on strict lockdowns in developing countries.

67. Li, T. M., Chau, M., Wong, P. W., Lai, E. S., & Yip, P. S. (2013). Evaluation of a Web-Based Social Network Electronic Game in Enhancing Mental Health Literacy for Young People. Journal of Medical Internet Research, 15(5), e80. https://doi.org/10.2196/jmir.2316

68. Lino Talavera, A., Pari Quispe, L., Lima Condori, V. M., Calsin Molleapaza, I., Mamani Cachicatari, G., Martínez Pérez, J., Ripoll Córdoba, D., & Caldichoury Obando, N. (2023). Efectividad de una estrategia de intervención para fortalecer la resiliencia en estudiantes secundarios peruanos en la postpandemia. Praxis, 19(3), 365–380. https://doi.org/10.21676/23897856.5437

69. Lira Neto, J. C. G., Sáber, A. J. G., Roza, M. P. da, Freitas, M. B. T. de, Grifante, L., Fernandes, B. K. C., & Penha, J. C. da. (2024). Impact of the COVID-19 pandemic on the education and health of university students. Rev Enferm UFPI, 13(1). https://doi.org/10.26694/reufpi.v13i1.5016

70. López, N., Véliz, A., Allegri, R., Soto-Añari, M., Chesta, S., & Coronado, J. C. (2015). Efectos del ejercicio físico sobre la memoria episódica en ancianas chilenas sanas. LIBERABIT, 21(1), 81–89.

71. López, N., Veliz, A., Soto, M., & Allegri, R. (2015). Intervención no farmacológica en pacientes con enfermedad de Alzheimer leve. Revista Española de Geriatría y Gerontología, 50(3), 150–151. https://doi.org/10.1016/j.regg.2014.11.005

72. López, N., Véliz, A., Soto-Añari, M., Ollari, J., Chesta, S., & Allegri, R. (2015). Efectos de un programa combinado de actividad física y entrenamiento cognitivo en pacientes chilenos con Alzheimer leve. Neurología Argentina, 7(3), 131–139. https://doi.org/10.1016/j.neuarg.2015.04.001

73. Marin, E. (2023). Young people assessment of measures to counteract the COVID-19 pandemic (on the example of Primorsky Region). Vestnik Instituta Sotziologii, 14(1), 78–100. https://doi.org/10.19181/vis.2023.14.1.5

74. Masuyama, A., Shinkawa, H., & Kubo, T. (2022). Validation and Psychometric Properties of the Japanese Version of the Fear of COVID-19 Scale Among Adolescents. International Journal of Mental Health and Addiction, 20(1), 387–397. https://doi.org/10.1007/s11469-020-00368-z

75. McKinnon-Crowley, S. (2023). Financial Aid Access During the 2020 Pandemic Period. Journal of Student Affairs Research and Practice, 60(1), 17–30. https://doi.org/10.1080/19496591.2022.2096407

76. Mishra, A. K., & Varma, A. R. (2023). A Comprehensive Review of the Generalized Anxiety Disorder. Cureus, 15(9), e46115. https://doi.org/10.7759/cureus.46115

77. Monterrosa-Blanco, A., Cassiani-Miranda, C. A., Scoppetta, O., & Monterrosa-Castro, A. (2021). Generalized anxiety disorder scale (GAD-7) has adequate psychometric properties in Colombian general practitioners during COVID-19 pandemic. General Hospital Psychiatry, 70, 147–148. https://doi.org/10.1016/J.GENHOSPPSYCH.2021.03.013

78. Muñoz-Navarro, R., Cano-Vindel, A., Moriana, J. A., Medrano, L. A., Ruiz-Rodríguez, P., Agüero-Gento, L., Rodríguez-Enríquez, M., Pizà, M. R., & Ramírez-Manent, J. I. (2017). Screening for generalized anxiety disorder in Spanish primary care centers with the GAD-7. Psychiatry Research, 256, 312–317. https://doi.org/10.1016/j.psychres.2017.06.023

79. Murrieta-Ruiz, V., Reátegui-Garcia, M. E., De-Los-Rios-Pinto, A., Reategui-Garcia, J., Benito-Vargas, R. M., Caira-Chuquineyra, B., Fernandez-Guzman, D., & Salazar Granara, A. (2023). Sleep Quality and Mental Health in Students at a Jungle University in Peru: A Cross-sectional Study During COVID-19 Pandemic Confinement. Revista Colombiana de Psiquiatría. https://doi.org/10.1016/j.rcp.2023.11.005

80. Norbury, A., Liu, S. H., Campaña-Montes, J. J., Romero-Medrano, L., Barrigón, M. L., Smith, E., Aroca, F., Artés-Rodríguez, A., Baca-García, E., Berrouiguet, S., Billot, R., Carballo-Belloso, J. J., Courtet, P., Gomez, D. D., Lopez-Castroman, J., Perez-Rodriguez, M. M., Díaz-Olivan, I., Espinosa-Salido, P., Guerra-Carrasco, N., … Perez-Rodriguez, M. M. (2021). Social media and smartphone app use predicts maintenance of physical activity during Covid-19 enforced isolation in psychiatric outpatients. Molecular Psychiatry, 26(8), 3920–3930. https://doi.org/10.1038/s41380-020-00963-5

81. O'Hara, D. (2020, October 30). College counselors ensure students can access mental health services during COVID-19. American Psicological Association. https://www.apa.org/members/content/college-counselors-covid-19

82. Organización Mundial de la Salud [OMS]. (2022). Salud mental y COVID-19: datos iniciales sobre las repercusiones de la pandemia. https://www.who.int/es/publications/i/item/WHO-2019-nCoV-Sci_Brief-Mental_health-2022.1

83. Organización Panamericana de la Salud [OPS]. (2020). PAP. Primera ayuda Psicológica. Juntos más fuertes. Una guía para ayudarle a usted y a su comunidad. https://iris.paho.org/handle/10665.2/35229

84. Organización Panamericana de la Salud [OPS]. (2022). En tiempos de estrés, haz lo que importa. Una guía ilustrada. Versión adaptada para América Latina. In En tiempos de estrés, haz lo que importa. Una guía ilustrada. Versión adaptada para América Latina. Pan American Health Organization. https://doi.org/10.37774/9789275323939

85. Pacori Paricahua, J. Y., Pacori Paricahua, E. W., & Pacori Paricahua, A. K. (2022). Nivel de ansiedad por riesgo de contagio de COVID-19 en pacientes que acuden a los hospitales de la región Andina, 2022. Revista Vive, 5(15), 688–697. https://doi.org/10.33996/revistavive.v5i15.180

86. Pallavicini, F., Ferrari, A., & Mantovani, F. (2018). Video Games for Well-Being: A Systematic Review on the Application of Computer Games for Cognitive and Emotional Training in the Adult Population. Frontiers in Psychology, 9. https://doi.org/10.3389/fpsyg.2018.02127

87. Pan, W., & Sass, T. (2020). Potential Remediation Strategies in the Wake of COVID-19 School Closures: A Review of the Literature. Georgia Policy Labs Reports. https://doi.org/10.57709/30728953

88. Pfefferbaum, B., & North, C. S. (2020). Mental Health and the Covid-19 Pandemic. New England Journal of Medicine, 383(6), 510–512. https://doi.org/10.1056/NEJMp2008017

89. Popovych, I., Hoi, N., Koval, I., Vorobel, M., Semenov, O., Semenova, N., & Hrys, Antonina. (2022). Strengthening of student youth's mental health using play sports. Journal of Physical Education and Sport, 22(6), 1384–1395. https://doi.org/10.7752/jpes.2022.06174

90. Porcelli, P. (2020). Fear, Anxiety and Health-Related Consequences After the Covid-19 Epidemic. Clinical Neuropsychiatry, 17(2), 103–111. https://doi.org/10.36131/CN20200215

91. Porto, M. F., Ocampo-Barba, N., Flores-Valdivia, G., Caldichoury, N., & López, N. (2022). Propiedades psicométricas del GAD-7 para detectar ansiedad generaliza en profesionales sanitarios de Bolivia. Revista Peruana de Medicina Experimental y Salud Pública, 39(1), 115–116. https://doi.org/10.17843/rpmesp.2022.391.8620

92. Prado, A. da S., Kohls, E., Baldofski, S., Rummel-Kluge, C., & Freitas, J. de L. (2023). Acceptability and Feasibility of Online Support Groups for Mental Health Promotion in Brazilian Graduate Students During the COVID-19 Pandemic: Longitudinal Observational Study. JMIR Formative Research, 7, e44887. https://doi.org/10.2196/44887

93. Qi, T., Hu, T., Ge, Q.-Q., Zhou, X.-N., Li, J.-M., Jiang, C.-L., & Wang, W. (2021). COVID-19 pandemic related long-term chronic stress on the prevalence of depression and anxiety in the general population. BMC Psychiatry, 21(1), 380. https://doi.org/10.1186/s12888-021-03385-x

94. Qian, M., & Jiang, J. (2022). COVID-19 and social distancing. Journal of Public Health, 30(1), 259–261. https://doi.org/10.1007/s10389-020-01321-z

95. Quispe, E. (2021). Pachamama: La Madre Tierra en la Espiritualidad Andina. Ediciones del Qosqo. .

96. Respati, T., Feriandi, Y., Frederico, R., Nugroho, E., Pardosi, J. F., & Withall, A. (2024). Efficacy of a Mental Health Game-Board Intervention for Adolescents in Remote Areas: Reducing Stigma and Encouraging Peer Engagement. The Open Public Health Journal, 17(1). https://doi.org/10.2174/0118749445310785240603045859

97. Ríos, F. (2017). Tradiciones Festivas en los Andes. Universidad de San Marcos.

98. Roa-Meggo, Y. J., & Baca-Gamarra, A. M. (2024). ONLINE LEARNING FOR UNIVERSITY STUDENTS IN LIMA-PERU. SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4843774

99. Rodrigues, S. L. da S., Silva, J. M. da, Oliveira, M. C. C. de, Santana, C. M. F. de, Carvalho, K. M., & Barbosa, B.J. A. P. (2021). Physical exercise as a non-pharmacological strategy for reducing behavioral and psychological symptoms in elderly with mild cognitive impairment and dementia: a systematic review of randomized clinical trials. Arquivos de Neuro-Psiquiatria, 79(12), 1129–1137. https://doi.org/10.1590/0004-282x-anp-2020-0539

100. Rodríguez, R., Machimbarrena, M., & Tarrero, A. I. (2022). Environmental Noise Evolution during COVID-19 State of Emergency: Evidence of Peru's Need for Action Plans. Acoustics, 4(2), 479–491. https://doi.org/10.3390/acoustics4020030

101. Rodriguez-Benites, C., Antezana-Iparraguirre, R., Quispe-Ayala, C., Apumayta, R. Q., Cárdenas-Valverde, J., & Lopez Velasquez, N. (2024). Programa Pukllasun Para Mitigar Niveles De Ansiedad Producida Por La Covid-19 En Educación Superior Universitaria. 21(S4), 844–855. www.migrationletters.com

102. Rodríguez-Fernández, P., González-Santos, J., Santamaría-Peláez, M., Soto-Cámara, R., Sánchez-González, E., & González-Bernal, J. J. (2021). Psychological Effects of Home Confinement and Social Distancing Derived from COVID-19 in the General Population—A Systematic Review. International Journal of Environmental Research and Public Health, 18(12), 6528. https://doi.org/10.3390/ijerph18126528

103. Romero-Saritama, J. M., Simaluiza, J., Fernandez, H., Romero-Saritama, J. M., Simaluiza, J., & Fernandez, H. (1995). Revista española de salud pública. Revista Española de Salud Pública, 95. https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1135-57272021000100188&lng=es&nrm=iso&tlng=es

104. Rutkowska, A. (2022). Telemedicine Interventions as an Attempt to Improve the Mental Health of Populations during the COVID-19 Pandemic—A Narrative Review. International Journal of Environmental Research and Public Health, 19(22), 14945. https://doi.org/10.3390/ijerph192214945

105. Sagripanti, J.-L., & Aquilano, D. R. (2022). Progression of COVID-19 under the Highly Restrictive Measures Imposed in Argentina. Journal of Public Health Research, 11(1), jphr.2021.2490. https://doi.org/10.4081/jphr.2021.2490

106. Sánchez, A. (2016). Máscaras y Disfraces en el Carnaval Andino.

107. Sandoval Elías, D. P. (2021). Recursos tecnológicos y conectividad: causas principales del ausentismo y deserción estudiantil. Revista Docencia Universitaria, 2(1), 32–39. https://doi.org/10.46954/revistadusac.v2i1.22

108. Saravia-Bartra, M. M., Cazorla-Saravia, P., & Cedillo-Ramirez, L. (2020). Anxiety level of first-year medical students from a private university in Peru in times of Covid-19. Revista de La Facultad de Medicina Humana, 20(4), 568–573. https://doi.org/10.25176/RFMH.v20i4.3198

109. Sawaya, H., Atoui, M., Hamadeh, A., Zeinoun, P., & Nahas, Z. (2016). Adaptation and initial validation of the Patient Health Questionnaire – 9 (PHQ-9) and the Generalized Anxiety Disorder – 7 Questionnaire (GAD-7) in an Arabic speaking Lebanese psychiatric outpatient sample. Psychiatry Research, 239, 245–252. https://doi.org/10.1016/j.psychres.2016.03.030

110. Schaeuffele, C., Homeyer, S., Perea, L., Scharf, L., Schulz, A., Knaevelsrud, C., Renneberg, B., & Boettcher, J. (2022). The unified protocol as an internet-based intervention for emotional disorders: Randomized controlled trial. PLOS ONE, 17(7), e0270178. https://doi.org/10.1371/journal.pone.0270178

111. Seo, J.-G., & Park, S.-P. (2015). Validation of the Generalized Anxiety Disorder-7 (GAD-7) and GAD-2 in patients with migraine. The Journal of Headache and Pain, 16(1), 97. https://doi.org/10.1186/s10194-015-0583-8

112. Siena, L. M., Mussetto, I., Renzi, E., Baccolini, V., Migliara, G., Sciurti, A., Covelli, A., De Vito, C., Marzuillo, C., Villari, P., & Massimi, A. (2024). Decline in academic performance and mental health during the COVID-19 pandemic: a cross-sectional survey among Sapienza University of Rome students. Frontiers in Public Health, 12. https://doi.org/10.3389/fpubh.2024.1408191

113. Song, H., McKenna, R., Chen, A. T., David, G., & Smith-McLallen, A. (2021). The impact of the non-essential business closure policy on Covid-19 infection rates. International Journal of Health Economics and Management, 21(4), 387–426. https://doi.org/10.1007/s10754-021-09302-9

114. Sourander, A., Ishikawa, S., Ståhlberg, T., Kishida, K., Mori, Y., Matsubara, K., Zhang, X., Hida, N., Korpilahti-Leino, T., Ristkari, T., Torii, S., Gilbert, S., Hinkka-Yli-Salomäki, S., Savolainen, H., & Närhi, V. (2024). Cultural adaptation, content, and protocol of a feasibility study of school-based "Let's learn about emotions" intervention for Finnish primary school children. Frontiers in Psychiatry, 14. https://doi.org/10.3389/fpsyt.2023.1334282

115. Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder. Archives of Internal Medicine, 166(10), 1092. https://doi.org/10.1001/archinte.166.10.1092

116. Suen, Y. N., Leung, C. M., Wan, Y. S., Chan, K. T., Wong, M. T. H., Hui, C. L. M., Chan, K. W. S., Lee, E. H. M., & Chen, E. Y. H. (2024). Evaluation of a Low-Intensity Online Intervention (LiON) for Reducing Distress and Mental Health Symptoms in Young People. Journal of Adolescent Health, 74(1), 89–97. https://doi.org/10.1016/j.jadohealth.2023.08.022

117. Szigethy, E. M., Silfee, V., Marroquin, M. A., Pavlick, A. N., Wallace, M. L., Williams, K. R., & Hoberman, A. M. (2023). A Digital Cognitive-Behavioral Intervention for Depression and Anxiety Among Adolescents and Young Adults. Psychiatric Services, 74(4), 437–440. https://doi.org/10.1176/appi.ps.202200045

118. Thalheimer, W., & Cook, S. (2002). How to calculate effect sizes from published research: A simplified methodology . WORK-LEARNING RESEARCH, 9. www.work-learning.com

119. Tomoiagă, C., & David, O. (2022). The Efficacy of Guided and Unguided Game-Based Cognitive-Behavioral Therapy in Reducing Distress in College Students. Games for Health Journal, 11(6), 403–413. https://doi.org/10.1089/g4h.2021.0195

120. Torres, A., Palomin, A., Morales, F., Sevilla-Matos, M., Colunga-Rodríguez, C., Ángel-González, M., Sarabia-López, L. E., Dávalos-Picazo, G., Delgado-García, D., Duclos-Bastías, D., Vazquez-Colunga, J. C., Vazquez-Juarez, C. L., Egea-Romero, M. P., & Mercado, A. (2023). A Cross-sectional Study of the Mental Health Symptoms of Latin American, US Hispanic, and Spanish College Students Amid the COVID-19 Pandemic. International Journal of Mental Health and Addiction, 21(6), 3865–3884. https://doi.org/10.1007/s11469-022-00827-9

121. Tortella, G. R., Seabra, A. B., Padrão, J., & Díaz-San Juan, R. (2021). Mindfulness and Other Simple Neuroscience-Based Proposals to Promote the Learning Performance and Mental Health of Students during the COVID-19 Pandemic. Brain Sciences, 11(5), 552. https://doi.org/10.3390/brainsci11050552

122. Urbina-Najera, A. B., & Canton-Croda, R. M. (2022). Retention and support strategies for university students during COVID-19 pandemic. 2022 IEEE Global Engineering Education Conference (EDUCON), 423–427. https://doi.org/10.1109/EDUCON52537.2022.9766549

123. Valderrama, J. , & E. L. (2018). Carnaval y Cosmovisión en los Andes Peruanos. Ediciones del Sur.

124. Van Der Feltz-Cornelis, C. M., Varley, D., Allgar, V. L., & de Beurs, E. (2020). Workplace Stress, Presenteeism, Absenteeism, and Resilience Amongst University Staff and Students in the COVID-19 Lockdown. Frontiers in Psychiatry, 11. https://doi.org/10.3389/fpsyt.2020.588803

125. Vega, C. (2019). La Importancia de las Festividades Comunitarias en los Andes. Revista de Antropología. .

126. Vicsek, L., & Mikó, F. (2023). Young people's moral decision-making and the Covid-19 pandemic in Hungary. Intersections, 9(1), 101–119. https://doi.org/10.17356/ieejsp.v9i1.1044

127. Vigo, D., Jones, L., Munthali, R., Pei, J., Westenberg, J., Munro, L., Judkowicz, C., Wang, A. Y., Van den Adel, B., Dulai, J., Krausz, M., Auerbach, R. P., Bruffaerts, R., Yatham, L., Gadermann, A., Rush, B., Xie, H., Pendakur, K., & Richardson, C. (2021). Investigating the effect of COVID-19 dissemination on symptoms of anxiety and depression among university students. BJPsych Open, 7(2), e69. https://doi.org/10.1192/bjo.2021.24

128. Villarreal-Zegarra, D., Barrera-Begazo, J., Otazú-Alfaro, S., Mayo-Puchoc, N., Bazo-Alvarez, J. C., & Huarcaya-Victoria, J. (2023). Sensitivity and specificity of the Patient Health Questionnaire (PHQ-9, PHQ-8, PHQ-2) and General Anxiety Disorder scale (GAD-7, GAD-2) for depression and anxiety diagnosis: a cross-sectional study in a Peruvian hospital population. BMJ Open, 13(9), e076193. https://doi.org/10.1136/bmjopen-2023-076193

129. Woon, L. S.-C., Leong Bin Abdullah, M. F. I., Sidi, H., Mansor, N. S., & Nik Jaafar, N. R. (2021). Depression, anxiety, and the COVID-19 pandemic: Severity of symptoms and associated factors among university students after the end of the movement lockdown. PLOS ONE, 16(5), e0252481. https://doi.org/10.1371/journal.pone.0252481

130. World Health Organization. (2020). Mental health and psychosocial considerations during the COVID-19 outbreak.

131. Xin, Z., Lim, S. P., & Zhao, H. (2024). The Impact of Sports Games on the Psychological Health of Middle School Students. Journal of Contemporary Educational Research, 8(3), 95–100. https://doi.org/10.26689/jcer.v8i3.6400

132. Yu, Y., She, R., Luo, S., Xin, M., Li, L., Wang, S., Ma, L., Tao, F., Zhang, J., Zhao, J., Li, L., Hu, D., Zhang, G., Gu, J., Lin, D., Wang, H., Cai, Y., Wang, Z., You, H., … Lau, J. T.-F. (2021). Factors Influencing Depression and Mental Distress Related to COVID-19 Among University Students in China: Online Cross-sectional Mediation Study. JMIR Mental Health, 8(2), e22705. https://doi.org/10.2196/22705

133. Zea Bastidas, M. N., Bellido Lazo, V. M., Mendoza Núñez, R., & Sánchez Chavez, W. (2024). Estrés académico en estudiantes escolarizados en zona rural peruana durante la pandemia por COVID 19: estresores, síntomas y estrategias de afrontamiento. Revista Científica Pakamuros, 12(1), 119–127. https://doi.org/10.37787/fc47mg93

134. Zhong, Q.-Y., Gelaye, B., Zaslavsky, A. M., Fann, J. R., Rondon, M. B., Sánchez, S. E., & Williams, M. A. (2015). Diagnostic Validity of the Generalized Anxiety Disorder - 7 (GAD-7) among Pregnant Women. PLOS ONE, 10(4), e0125096. https://doi.org/10.1371/journal.pone.0125096