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Artículos científicos

Intervención cuasi-experimental en burnout académico en estudiantes universitarios

Academic Quasi-Experimental Burnout in University Students

*Intervenção quase-experimental no esgotamento acadêmico em estudantes
universitários*

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Resumen

El *burnout* académico es una respuesta a los estresores relacionados con los estudios. El objetivo de esta investigación fue examinar si el efecto de la práctica de activación *refresh*, que es una meditación activa que a través de la respiración, el movimiento, la música y la visualización busca renovar la energía, es favorable para el diagnóstico de *burnout* académico. La intervención consistió en ocho semanas de práctica de activación *refresh*. Y para medir su impacto, se utilizó la Maslach Burnout Inventory-Student Survey (MBI-SS) antes y después de este periodo. Los participantes eran estudiantes de licenciatura de 5.º semestre o superior. El grupo experimental estuvo compuesto por 36 estudiantes ($M_{\text{edad}} = 22.08$, $SD = 1.66$) y el grupo control por 29 estudiantes ($M_{\text{edad}} = 21.62$, $SD=1.65$). Los resultados mostraron que, tras la intervención, los estudiantes del grupo experimental presentaron niveles más bajos de *burnout* en comparación a su evaluación previa y a la evolución del grupo de control. Esto sugiere que la activación *refresh* podría funcionar como una estrategia de afrontamiento a los estresores académicos para la prevención y reducción del *burnout* académico.

Palabras clave: activación *refresh*, *burnout* académico, estudiantes universitarios, intervención.

Abstract

Academic burnout is a response to study-related stressors. The aim of this research was to examine whether the effect of activation refresh practice is favorable for the diagnosis of academic burnout. The intervention consisted of eight weeks of activation refresh practice. And to measure its impact, the Maslach Burnout Inventory-Student Survey (MBI-SS) was used before and after this period. Participants were 5th semester or higher undergraduate students. The experimental group consisted of 36 students ($M_{\text{age}} = 22.08$, $SD = 1.66$) and the control group consisted of 29 students ($M_{\text{age}} = 21.62$, $SD = 1.65$). The results showed that, after the intervention, students in the experimental group presented lower levels of burnout compared to their pre-assessment and to the evolution of the control group. This suggests that refresh activation could function as a coping strategy to academic stressors for the prevention and reduction of academic burnout.

Keywords: activation refresh, academic burnout, university students, intervention.



Resumo

O esgotamento acadêmico é uma resposta aos estressores relacionados ao estudo. O objetivo desta pesquisa foi examinar se o efeito da prática de atualização de ativação, que é uma meditação ativa que busca renovar as energias por meio da respiração, movimento, música e visualização, é favorável para o diagnóstico de esgotamento acadêmico. . A intervenção consistiu em oito semanas de prática de ativação de atualização. E para medir seu impacto, o Maslach Burnout Inventory-Student Survey (MBI-SS) foi usado antes e depois desse período. Os participantes foram alunos de graduação do 5º semestre ou superior. O grupo experimental consistiu de 36 alunos (Mage = 22,08, SD = 1,66) e o grupo controle de 29 alunos (Mage = 21,62, SD = 1,65). Os resultados mostraram que, após a intervenção, os alunos do grupo experimental apresentaram níveis de burnout menores em relação à avaliação anterior e à evolução do grupo controle. Isso sugere que a ativação de atualização pode funcionar como uma estratégia de enfrentamento contra estressores acadêmicos para a prevenção e redução do esgotamento acadêmico.

Palavras-chave: ativação de atualização, esgotamento acadêmico, estudantes universitários, intervenção.

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Introduction

The academic burnout syndrome in university students has serious repercussions in the digital age. Physical and mental exhaustion, manifested in the loss of motivation, less concentration, poor school performance and loss of night sleep, has intensified today with the advent of new technologies. In this era of digital communication, via social networks, virtual teaching, the overload in the virtual study or the frustration due to the deficiencies or failures in technology have had a negative impact on university students and have triggered this pathology.

In recent years, it is possible to consider stress as a pandemic phenomenon of gradual and silent evolution. And if the current viral pandemic is added to this, stress becomes even more relevant due to its negative effects (Zambrano, 2020). It should be noted that, given the alarming growth of stress in recent decades, the World Health Organization (WHO) decreed burnout syndrome as a disease (Forbes Staff, May 29, 2019).

Around the world, almost 117 million young people have suffered from an anxiety disorder. By early adulthood, almost 20% will have anxiety-related difficulties in at least one area of their life, particularly with regards to their social and educational functioning. Social networks can be a source of stress that contributes to symptoms of anxiety and sleep deficit for young people between 18 and 22 years old (Child Mind Institute, 2018, p. 11). Mental health problems could increase if containment strategies for the type 2 coronavirus that causes severe acute respiratory syndrome (SARS-CoV-2) that restrict social mobility to avoid crowds are resumed, such as the disabling of face-to-face education in all their levels, online work and the closure of public spaces, which would mainly affect children and young people, who are more prone to this type of illness (Alzamora, 2020).

University students are more likely to present mental health problems with the virtualization of teaching, even more so when the adaptation is forced and unexpected. Lovón and Cisneros (2020) analyzed the repercussions on the mental health of Peruvian university students. The sample was divided into two groups: the first with sufficient technological resources and the second with limited quality technologies. The results showed that the main stressor in the first group was academic overload and in the second, in addition to stress, frustration and university dropout.

Long-term student stress as a result of university conflicts is recognized as academic burnout. In this way, it is important to have coping strategies to reduce stress, and along with this, further complications such as avoidance, violence and abuse of prohibited addictive substances can be prevented. (Barreto y Salazar, 2020).

Stress and burnout

The term burnout was coined to refer to the behavior pattern of the worker who loses motivation and interest in their work and suffers a growing decrease in energy, unleashing anxious and depressive symptoms (Carlin and Garcés de los Fayos, 2010). Burnout entails stress, a natural form of alertness to respond to dangerous circumstances or when we are about to carry out new activities or that require some partial or totally unknown demand. The individual goes through three phases: alarm, resistance and collapse or exhaustion. If the resistance phase continues, diseases such as insomnia, lack of concentration, fatigue, depression, immunological, cardiovascular, metabolic, endocrine pathologies, heart attacks, brain attacks, among others, appear (De Camargo, 2004).

Although technological instruments can provide learning and socialization opportunities, in this new digital era their use has increased to such a degree that they affect people's ability to concentrate, which is why they have become a distraction that negatively influences performance, academic and sleep quality. Young people who excessively use social networks have been observed to suffer from sleep problems, excess weight, as well as social distancing that leads to depression (Cerisola, 2017).

Most of the students present moments of stress during the course of the semester and a deficient perception of their emotions, for which reason researchers suggest that to improve the educational quality it is necessary to focus the activities, not only on the intellectual dimension, but also on the emotional aspect (Quiliano y Quiliano, 2020).

The proportion of young people receiving treatment for mental health disorders is still the lowest. At some point, 30% of children and adolescents will meet the criteria to be diagnosed with an anxiety disorder, but 80% will receive no assistance. (Child Mind Institute, 2018, p. 3).

Coping is the cognitive and behavioral response to cope with stress. The coping strategies most used by students are conflict resolution, running away from their emotions, asking their close circle for help, entrusting themselves to God, doing physical activities, asking for support and playing video games and waiting for that feeling of stress to pass (Asenjo , Linares and Díaz, 2021; Palacio, Caballero, González, Gravini and Contreras, 2012). The use of avoidance or escape strategies facilitates the appearance of burnout and, conversely, strategies focused on the problem prevent its development. Burnout is a form of reaction to stress that has lasted for a long time, a particular protective mechanism (Gil-Monte, 2001). Active coping strategies, such as looking for the positive side of the problem, planning and managing personal resources, are the most effective. Students who use them present a greater adaptation to academic stressors and less vulnerability to manifestations of stress. On the contrary, those who opt for social coping strategies (search for social support) are more susceptible to psychophysiological discomfort from stress and loss of control of the situation (González, Souto, González & Franco, 2018). Therefore, the objective of this study is to introduce refresh activation as a coping method to reduce burnout.

To recap, stress occurs when the person perceives their hostile and challenging environment, being overwhelmed by the events they face (Escobar, Soria, López, & Peñafiel, 2018). Stress precedes burnout, in other words, burnout is activated by having experienced stress for a long time (Zavala, 2008).

Burnout has been conceptualized as a state of exhaustion of the worker who has lost interest in his work, expressing it with cynicism and apathy (Cruz and Puentes, 2017). Following the Maslach Burnout Inventory (MBI), an instrument to measure professional burnout, the phenomenon was defined as a syndrome characterized by three dimensions: 1) emotional exhaustion (being emotionally overextended and exhausted), 2) depersonalization (feeling negative and insensitive) and 3) lack of self-actualization in the workplace (feeling incompetent and lacking experiences of success and achievements) (Maslach y Jackson, 1981).

Academic burnout

Burnout has been widely studied in workplaces, especially in health professionals (Rotenstein et al., 2018), however, it is not restricted to the workplace. Maslach and Schaufeli (1993) report that this symptom, in addition to manifesting itself in medical professionals, has manifested itself in organizational areas, as well as in the sports field, with coaches and athletes (Motta, Oliveira, Rodrigues, & Figueiredo, 2020).

For the study of burnout in the academic context, the Maslach Burnout Inventory-General Survey (MBI-GS) was adapted, giving rise to the Maslach Burnout Inventory-Students Survey (MBI-SS). The application of the latter showed that students can also suffer from burnout, characterized by physical and emotional exhaustion, they do not feel capable of fulfilling their academic tasks, they feel insecure about themselves, lack of interest and motivation to continue. (Osorio, Parrello and Prado, 2020; Palacio, Caballero and Suárez, 2017). The MBI-SS assesses exhaustion, low academic efficacy, and cynicism, the latter instead of depersonalization, which includes negative attitudes, indifference, and distance toward studying (Schaufeli, Martínez, Marques, Salanova, & Bakker, 2002).

Academic burnout has been studied in areas of medicine (Oro, Esquerda, Viñas, Yuguero & Pifarre, 2019), nursing (Uribe & Illesca, 2017), dentistry (Peralta & Moya, 2017), veterinary medicine (Puertas, Mendoza, Cáceres and Falcón, 2020), engineering (Atencia, Plaza, and Hernández, 2020), social sciences such as psychology (Torres and Bonilla, 2017), working students (Cutti, Zárata, and Ahumada, 2018) and even in university applicants (Domínguez, Velasco , Meneses, Guzmán and Castro, 2017), among other areas.

Meditation as a coping alternative

Since meditation can be practiced by anyone from anywhere, it is useful for coping with stress. Meditation, in its millennial origin, was a means of approaching the mystical, the sacred and the divine. In recent years, it has been developed, popularized, and recognized as alternative medicine; it is a common practice to reduce stress and produce a state of relaxation (Mayo Clinic, April 29, 2022). Mindfulness Based Stress Reduction (MBSR) is an example of this, the first of the therapeutic interventions that was developed based on full consciousness (Instituto Mexicano de Mindfulness, s. f.). In meditation, attention is focused and the flow of confusing thoughts that can cause stress is eliminated (Mayo Clinic, April 29, 2022).

Within the various meditation techniques, breathing is an essential exercise: mindfulness meditation (Gómez et al., 2019), tai chi chuan (Pan et al., 2018), yoga variants (Della Valle et al., 2020; Huang, Chien, and Chung, 2013; Ortiz et al., 2019), qigong (Dorcas and Yung, 2003; Oblitas et al., 2018) and vipassana meditation (Krygier et al., 2013), to name a few. When breathing is controlled, oxygen gives the brain more functional capacity, improves thermoregulation and blood pressure, in such a way that it increases the response capacity to stressors, anxiety and depression, compared to agitated breathing (Ortiz et al., 2019; Vázquez, Preciado, Franco and Sandoval, 2011). As a complement, visualization has been part of relaxation techniques and psychological training in which it is possible to improve psychological abilities (Tutte, Reche and Álvarez, 2020).

Other resources, such as movement, have been successfully used within meditation to reduce stress and improve psychological traits in yogic disciplines (Della Valle et al., 2020; Hartfiel, Havenhand, Khalsa, Clarke, & Krayner, 2011; Huang et al., 2013), martial (Pan et al., 2010; Gow et al., 2017), dance (Asian, Blanco and Ramírez, 2020; Marín, 2011) or simple physical activation (De Arco and Castillo, 2020; Krasner et al., 2009; López et al., 2020). These meditation techniques that involve body movement are known as active meditation, and are an alternative to traditional passive techniques (Morrison et al., 2020). Music is another recurring coping resource (Corporán, Pérez & Ortega, 2014; García, Toro & Molina, 2021); It can work as a motivational stimulus in accompaniment with physical exercise (Felipe et al., 2017) or by simple listening (Smith, 2008; Tejada *et al.*, 2020).

Based on the above, we can see that there are different coping techniques and resources that help reduce stress and burnout: some consider the importance of breathing (Kabat-Zinn, 1990; Pan et al., 2018; Gómez et al., 2019), movement (Gow et al., 2017;

Krasner et al., 2009, Oblitas et al., 2018; Pan et al., 2018), music (Bell and Akombo, 2017; Taets, Tavares, Marques and Alves, 2019), or visualization (Damirchi, Hosseini, and Babaei, 2018; Fogarty, Booth, Gamble, Dalbeth, and Consedine, 2015; Tutte et al., 2020) and some others combine two of these elements (Felipe et al. ., 2017). These four elements: breathing, movement, music and visualization make up a new burnout coping technique called refresh activation, which is the subject of this research.

Refresh activation technique

The refresh activation is classified as an active meditation, since the person is guided to go through a visualization process in physical movement with music that elevates their mood and breathing that focuses them in the moment and relaxes them. Therefore, the technique consists of four elements: breathing, movement, music and visualization.

Breathing

Breathing is a tool that connects with oneself that can be done anywhere and at any time. As a technique or exercise, it consists of controlled breathing, it can be guided by a therapist, of which the repetition of respiratory cycles is recommended, capable of positively affecting stress management and resilience (Moreno, Cárdenas, Cárdenas, Nieto and Lopera, 2021; Ugarte, González-Pinto and Cabo, 2015). Breath control has several variants that can be classified as fast or slow, both of which are beneficial in reducing perceived stress (Sharma et al., 2013).

In refresh activation, breathing is slow and deliberate, with the intention of immediately reaching the here and now, that is, full consciousness (Sharma et al., 2013). The intention is to break the person's thought cycle. The breath used in refresh activation consists of inhaling deeply, filling the space in the belly and chest, holding the breath, and exhaling. Breathing is fundamental as it is in any activity, it always accompanies us, and its management is beneficial for stress reduction.

Motion

Meditation in movement involves continuous, slow and fluid movements that relax the mind while strengthening the body, and that contribute to improving the quality of life (Pan, 2010). A study on the persistence of the effects of meditation over two years, with an eight-week intervention, showed that meditators not only kept their studied characteristics

stable (perceived stress, self-pity, burnout), but also increased the time dedicated to meditation. physical activities (Fuertes et al., 2019). This fact is matched by research that reports benefits when movement is integrated into meditation, for example, the case of yoga (Pan et al., 2018), tai chi (Gow et al., 2017), qigong (Oblitas et al., 2018) or simply the rhythmic movement (Thauh and Abiru, 2010). The findings described show that physical activity, dance, postural movements, asanas, and even walking, combined with meditation, intensify the benefits of the latter.

In the case of refresh activation, the rhythmic movement is free, but it is essential that, during the process, the person give themselves a massage, stretch their body, dance, etc., so that the body receives a new way of working emotions. thoughts and bodily sensations.

Music

Music for therapeutic purposes, known as music therapy, is designed to work on physical, emotional, social and cognitive needs (García et al., 2021; Mercadal and Martí, 2008). Listening to music with aerobic exercise favors mood, as demonstrated by the descriptive study by Felipe et al., 2017), where music, as an independent variable, was added and excluded from the exercise sessions of 48 patients with coronary artery disease. to compare their state of mind before and after performing the auditory stimulation, between sessions with and without any intervention. The results showed that the emotional state can be raised, and stress and other negative factors can be reduced, when there is auditory stimulation with music.

Musical relaxation has been used to decrease stress and anxiety levels in various adult populations, including psychiatric, medical, student, and work settings. With the mere fact of listening to melodies, they experience a drop in the level of stress, symptoms of depression and, in addition, they acquire a greater concentration in their activities (Corporán et al., 2014, Smith, 2008). In a study with first-cycle university students, the effectiveness of music in reducing stress levels was tested. The experimental group attended daily sessions of 20 minutes of music therapy in the weeks of examinations of units II and III. The results showed that, unlike the control group, which was not intervened, the students in the experimental group significantly decreased their level of academic stress, which favored their university adaptation and academic performance (Tejada et al., 2020). Other studies have found that music is the most effective resource for students to combat stress (Asenjo et al., 2021). The

music used in the refresh activation is fluid and energetic so that the person elevates their mood (Felipe *et al.*, 2017).

Visualization

Visualization consists of imagining as clearly as possible what we want to materialize (Gawain, 1991). Visualization trials induced by mental training have reported an improvement in cognitive functions over physical training (Damirchi *et al.*, 2018). The importance of visualization lies in the fact that it allows one to free oneself from what does not contribute positively (Dispenza, 2012), to integrate thoughts and ideas of who one pretends to be (Matthews, 2004) and to focus on materializing such thoughts (Moñivas, García & García, 2012). These three steps enable the achievement of creative visualization goals (Gawain, 1991). So the three stages of visualization that the person goes through during the refresh activation are: release, integrate and focus.

As a visualization tool, releasing is about being honest with yourself. Recognize what is not beneficial, what is no longer useful and, then, decide to be free (Dispenza, 2012). Matthews (2004) alluded to this principle describing it as cleaning a house, taking care of valuable things and taking out the trash. The latter, the garbage, represents the destructive emotions, attitudes and feelings fixed in the past and the future, such as resentment, guilt, uncertainty, fear, etc. There are catharsis techniques used to counteract negative emotions. Although the results are heterogeneous (Prieto *et al.*, 2020), there are indications of how effective an emotional purification intervention is.

Integrating refers to guiding attention towards what you want to achieve, strengthening the now as if you were that person who has already achieved it. Positive thinking works because those who invoke it have what they want in mind and therefore gravitate toward their goals (Matthews, 2004). In the sports sphere, a team of hockey players improved their levels of self-confidence, attention, concentration, anxiety, optimism and resilience with visualization techniques aimed at experiencing the sensation of well-being and enjoying positive emotions. (Tutte *et al.*, 2020).

In medicine, visualization has also been tested as an adjunct to clinical treatment. The effects of visualization, physical exercise, and both combined were studied in older women with mild cognitive impairment. The findings showed that computer-assisted visualization had greater benefits than physical exercise in terms of cognitive functions such as working memory, signal processing, reaction time, learning, etc. The group that exercised mentally

maintained these benefits six months later, which stood as evidence of the plasticity that the brain can achieve with regulated and constant visualization (Damirchi et al., 2018). Even mental rehearsal is a beneficial form of training among surgeons since it does not require the availability of the operating room, and although it does not appear in study plans, it is a commonly used tool (Davison, Raison, Khan, Dasgupta, & Ahmed, 2017). . The psychological techniques of visualization and induced relaxation perfect the results.

The focus tool allows you to develop a strategy with action and commitment and increase internal capacity. In neuroscience, it is known that the pain-receptor brain circuits are electrically activated when attention is focused on the area of the body that afflicts, thus maintaining the presence of pain. When these brain circuits are fired repeatedly, the connections between them are further strengthened (Dispenza, 2007). It is possible to use the psychological process of mindfulness as an instrument to train skills that allow greater assertiveness and empowerment (Moñivas et al., 2012). In the medical literature there are studies that suggest how powerful the focus of attention can be to modify the reality of oneself and one's social environment (Kok & Singer, 2017). Whether the effect is positive (Leuchter, Cook, Witte, Morgan, & Abrams, 2002) or negative (Meador, 1992), change occurs when the person accepts and believes in an external agent and abandons himself to the result.

The hypothesis is then proposed: refresh activation decreases the effect of burnout syndrome, that is, exhaustion, academic efficacy and cynicism, in university students.

Materials and methods

The study was quasi-experimental and longitudinal, with the objective of evaluating how the daily practice of refresh activation influenced the dimensions of academic burnout in a group of university students. The study was quasi-experimental (before and after) because two measurements were made, for the experimental and control group, one before the intervention and the other after; longitudinal, because two measurements of the MBI-SS were made at two different moments, at the beginning and at the end of the investigation, and the differences found were analyzed to verify if the effect of the refresh activation was favorable on the academic burnout scores of the students. Such activation is made up of elements such as breathing, movement, music and visualization.

Participants

Undergraduate students who were in the fifth semester or higher of their degree were invited to participate voluntarily; students who carried out 100% of their studies virtually, with more than 20 hours of virtual study per week, with a high amount of 20 hours on social networks and who considered themselves to have a high level of stress. The total student body of the university was more than 5000 students (5504); The sample was made up of 86 students, 43 students agreed to participate and were integrated into the experimental group and 43 into the control group. A refresh activation training was offered through social networks. The inclusion criteria in the experimental group were practicing the training for an average of 20 minutes a day and completing at least three quarters of the total sessions. For the control group, they consisted of completing the questionnaires at both times (before and after the intervention). In total, 36 students from the experimental group met the inclusion criteria and 29 from the control group.

Instrument

The burnout measurement instrument was the MBI-SS, which was adapted from the MBI-GS, and this in turn from the original Maslach Burnout Inventory-Human Services Survey (MBI-HSS) questionnaire. The MBI-SS, widely accepted for the assessment of academic burnout, consists of 15 items; the dimension of Emotional Exhaustion (feeling of tiredness and fatigue) occupies five of these 15 items, that of Cynicism (depersonalization, apathy, indifference) four items and that of Academic Efficacy (growing doubt of their ability in the study) six items. The MBI-SS has been examined for scalability, structural validity and reliability, with positive results in different instruments. (Pérez y Brown, 2019).

Table 1. Ítems of MBI-SS

	Ítems
Ago1	The academic activities of my degree have me emotionally exhausted
Ago2	I find myself physically exhausted at the end of a day at university
Ago3	I'm exhausted from studying so much
Ago4	I feel tired when I get up in the morning and have to face another day at university
Ago5	Studying or going to class all day is stressful for me.
Cin1	I have lost interest in the race since I started university
Cin2	I have lost enthusiasm for my career
Cin3	I have distanced myself from my studies because I think they would not be really useful
Cin4	I doubt the importance and value of my studies
Efi1	I can effectively solve problems that arise in my studies
Efi2	I believe I make an effective contribution to the classes I attend
Efi3	In my opinion, I am a good student
Efi4	I have learned many interesting things during the course of my studies
Efi5	It stimulates me to achieve goals in my studies
Efi6	During class, I feel confident that I am effective at getting things done.

Source: Schaufeli *et al.* (2002)

Procedure

The refresh activation was taught to the experimental group on the first day of the intervention, with the different tools and active pauses of the method. To encourage the group to carry out this activation frequently, a two-hour weekly online group session was offered, supervised by the same monitor person who carried out the intervention for eight weeks, as applied in the methodology used by Fuertes *et al.* (2019). To guarantee and monitor activation in the experimental group, daily reminder messages were sent. In addition, each participant posted in the group when he had done it in order to motivate the other participants. In an instance prior to the intervention, sociodemographic characteristics were recorded to collect relevant information: age, sex, cohabitation, degree and degree in progress, whether they also

worked, perception of health status, psychiatric history, average weekly hours dedicated to physical exercise and academic training.

Analysis of data

The MBI-SS items are answered on a Likert-type scale from zero to six. The scores for each dimension are obtained by calculating the arithmetic mean of the scores obtained in their respective items. The Wilcoxon signed rank non-parametric test was used to determine if there are significant differences in the pairs of related samples, that is, between the pre- and post-intervention assessment. To interpret the results of the MBI-SS, the NTP-732 measurement scale of the National Institute for Occupational Safety and Hygiene of Spain (Bresó et al., s.f.) was used, which presents a measurement instrument with normative data, according to the possible values that each dimension can take. The NTP-732 standard works as a commonly used guideline in the interpretation of the MBI-SS (Figueroa, Plaza y Hernández, 2019; Puertas *et al.*, 2020; Ríos, Carrillo y Sabuco, 2012).

Results

Of the 86 students who agreed to participate, 65 (75%) met the inclusion criteria, 36 met all the sessions in the experimental group and 29 in the control group. In the experimental group, 47.2% were women and 52.8% were men, with a mean age of 22.08 years ($SD = 1.66$) and a mean of 19.27 hours per week ($SD = 19.79$) dedicated to academic activities. In the control group, 51.27% were women and 48.3% were men, with a mean age of 21.62 years ($SD = 1.66$) and a mean of 27.24 hours per week ($SD = 13.13$) dedicated to academic activities.

In the first evaluation (applying the MBI-SS), in the pretest, the results were similar for both groups (Table 1). Mean Burnout ($M = 3.92$ vs. $M = 3.95$) and Academic Efficacy ($M = 4.12$ vs. $M = 4.50$) were lower in the experimental group compared to the control group; In the Cynicism dimension ($M = 2.06$ vs. $M = 1.79$), on the contrary, the experimental group scored higher than the control group. The reliability of the MBI-SS questionnaire, evaluated with Cronbach's alpha coefficient, was good in the dimensions of Exhaustion (0.86), Cynicism (0.85) and Academic Efficacy (0.71) (Nunally and Bernstein, 1994).

In the second test, in the Exhaustion dimension, both groups had a significant change, both had a decrease. The mean of the experimental group went from a value of 3.92 to one

of 3.26 and its p value of 0.0033 was less than 0.05. The control group's mean went from a value of 3.95 to one of 3.55, and their p-value of 0.0332 was less than 0.05. In the Cynicism dimension, in both groups the change was not significant, the two groups hardly changed. The mean of the experimental group went from a value of 2.06 to one of 2.02 and its p value of 0.4658 was not less than 0.05; the mean of the control group went from a value of 1.79 to one of 2.03 and its p value of 0.1365 was not less than 0.05. Regarding the Academic Effectiveness dimension, only the experimental team had a significant increase, while the control team did not. The mean of the experimental group went from a value of 4.12 to one of 4.42 and its p value of 0.0037 was less than 0.05. The mean of the control group went from a value of 4.50 to one of 4.43 and its p value of 0.4952 was not less than 0.05 (table 1).

Table 2. Wilcoxon Z test and associated pre-test and post-test probability of the MBI-SS

Dimension	Group	Pretest	DE	Postest	DE	Z Wilcoxon	P
		M1		M2			
Exhaustion	Experimental	3.92	1.27	3.26	1.38	2.71	0.0033
	Control	3.95	1.19	3.55	1.2	1.83	0.0332
Cynicism	Experimental	2.06	1.41	2.02	1.39	0.08	0.4658
	Control	1.79	1.34	2.03	1.58	1.09	0.1365
Academic Inefficacy	Experimental	4.12	0.81	4.42	0.77	2.67	0.0037
	Control	4.5	0.75	4.43	0.86	0.01	0.4952

The percentage distribution by categories of the subjects studied (Table 2) before and after the intervention makes it possible to observe the displacements that occurred within the NTP-732 scale, especially in the experimental group. Although the control group, with its passive participation, did not remain immobile, its evolution is hardly perceptible.

Table 3. Comparison and distribution of the results of the MBI-SS after the intervention

	Experimental		Control	
	Pretest	Posttest	Pretest	Posttest
Exhaustion				
Very Low	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)
Low	0 (0.0 %)	2 (5.6 %)	0 (0.0 %)	0 (0.0 %)
Medium (Low)	4 (11.1 %)	6 (16.7 %)	1 (3.4 %)	4 (13.8 %)
Medium (High)	4 (11.1 %)	7 (19.4 %)	6 (20.7 %)	6 (20.7 %)
High	15 (41.7 %)	12 (33.3 %)	9 (31.0 %)	12 (41.4 %)
Very High	13 (36.1 %)	9 (25.0 %)	13 (44.8 %)	7 (24.1 %)
Cynicism				
Very Low	2 (5.6 %)	1 (2.8 %)	3 (10.3 %)	3 (10.3 %)
Low	5 (13.9 %)	3 (8.3 %)	3 (10.3 %)	2 (6.9 %)
Medium (Low)	5 (13.9 %)	6 (16.7 %)	4 (13.8 %)	5 (17.2 %)
Medium (High)	10 (27.8 %)	14 (38.9 %)	10 (34.5 %)	11 (37.9 %)
High	11 (30.6 %)	9 (25.0 %)	7 (24.1 %)	3 (10.3 %)
Very High	3 (8.3 %)	3(8.3 %)	2 (6.9 %)	5 (17.2 %)
Academic Inefficacy				
Very Low	2 (5.6 %)	2 (5.6 %)	0 (0.0 %)	1 (3.4 %)
Low	8 (22.2 %)	3 (8.3 %)	5 (17.2 %)	5 (17.2 %)
Medium (Low)	17 (47.2 %)	13 (36.1 %)	8 (27.6 %)	11 (37.9 %)
Medium (High)	5 (13.9 %)	9 (25.0 %)	11 (37.9 %)	4 (13.8 %)
High	3 (8.3 %)	8 (22.2 %)	2 (6.9 %)	7 (24.1 %)
Very High	1 (2.8 %)	1 (2.8 %)	3 (10.3 %)	1 (3.4 %)

Discussion

The objective of this work was to introduce refresh activation as a coping method to reduce burnout in university students from the Bajío region (Mexico). In the Exhaustion dimension, both groups had a decrease. In the dimension of Cynicism, in both groups the change was not significant, the two groups hardly changed. In the Academic Effectiveness dimension, only the experimental team had a significant increase, while the control team did not.

In line with what Corporán, Pérez and Ortega (2014) point out, the results show that the main cause of stress in students has its origin in the overload of university work, especially in terms of semesters. Faced with this scenario, it is recommended that teachers and the university administration provide support and provide resources aimed at reducing stress, such as therapies, techniques, recreational activities or sessions and courses that address issues on its management and treatment.

The study may have a recruitment bias, because the students were highly motivated to participate in "something" that would help them reduce the stress of their courses and virtual demands, since they were invited during exam time. In addition, due to the characteristics of the quasi-experimental study carried out, all the participants developed in the same environment and the significant changes in both groups, in Exhaustion, for example, must have been caused by randomization.

Conclusions

The fundamental finding of this study was that university students with a virtual education, typical of our digital age, partially decreased their burnout syndrome after the intervention. This was significantly reduced only in the Academic Effectiveness dimension due to the refresh activation carried out. In this way, the hypothesis proposed in the present study, that is, that the refresh practice reduces exhaustion and cynicism resulting from burnout syndrome and increases academic efficiency in university students, was confirmed only in the dimension related to the latter. Academic effectiveness.

This research contributed to offering a new technique for coping with stress, which enables the implementation of this type of activation among students and the prevention of the use of violence or use of addictive substances.

Future lines of research

This is an applied contribution of the refresh activation, since its empirical precedents are null. In addition, the small, non-significant decrease in burnout cynicism may be an indication that requires an improvement in the refresh activation procedure, particularly in the academic field. This is because the virtual education of the digital age has generated new and high university challenges. For this reason, it is suggested in future research to delve deeper into how virtual education increases burnout syndrome, but, above all, into the way in which refresh activation can contribute to reducing this pathology.

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