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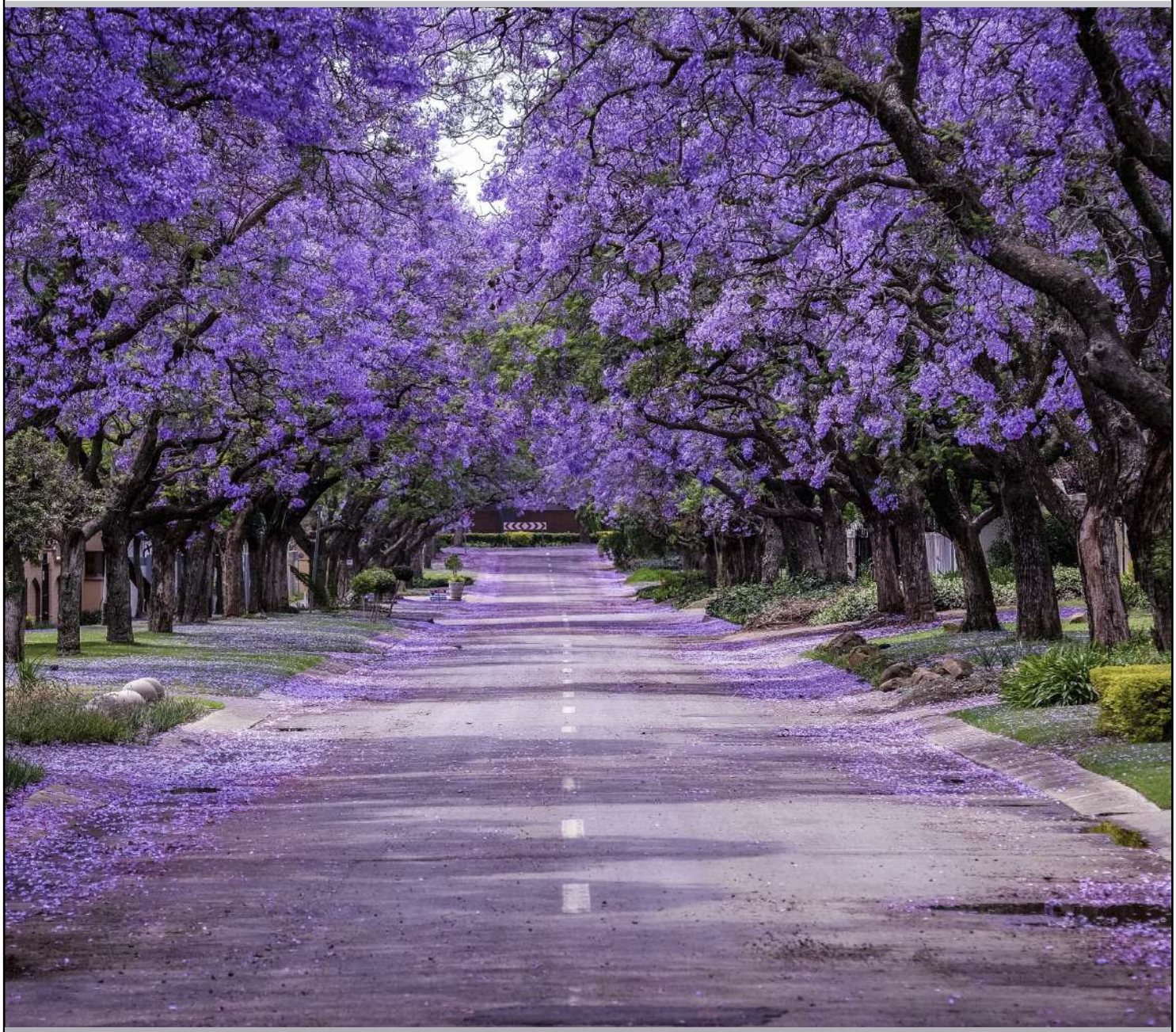

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SUMARIO / SUMMARY / RESUMO

Editorial

In the current issue of Psychology Research, we discuss a series of topical scientific articles beginning with the perception of stress in older adults and the therapeutic use of social robots in the COVID-19 pandemic era.

In this article, and because of the social limitations generated in the elderly population due to the pandemic, an increase in anxious-depressive symptomatology has been observed in this group. This work evaluates the effect of relaxation sessions including the tool of a social robot as a complement to traditional relaxation. The results indicate that the social robot as a therapeutic tool may have a relevant role in the treatment of the mental health of the elderly.

The following contribution aims to explore whether there is an aggravation of the consequences of HIV following the perception of stigma. For this purpose, a systematic review was conducted with a total sample of more than 18,000 participants, in which stigma is analyzed through test administration and quality of life assessment. The results of these investigations yield interesting data, as psychological, occupational, and economic, physical, as well as sexual repercussions were found. Most of the results seem to indicate that stigma generates repercussions that affect, above all, the mental health and social network of this population, reflecting the need to promote psychological support and treatment.

From another point of view, a study is presented that explores the relationship established between resilience, disability, and higher education. The objective of this study was to characterize the resilience of students with disabilities that allows them to face barriers in higher education in order to establish the key factors for the design of resilient support strategies. The research shows that students with disabilities present a resilient state during their university education in the presence of structural barriers that hinder their personal, academic, and social development. Based on the results, the updating of teaching staff and support services on resilience promotion models and the implementation of a resilient accompaniment route is justified.

On the other hand, the following article analyzes the relationship between drug dependence and emotional dysregulation, providing two explanatory models of emotional regulation: the process model of emotional regulation and the emotional regulation model based on emotional processing. It also explains the relationship of this ability with the consumer population and the current state of consumption in Spain. The aim of the research is to study the most recent scientific information, to evaluate the usefulness of emotional regulation for both prevention and intervention in drug addicts and, more specifically, to identify and analyze the existing relationship, the evaluative techniques and the sample used. Likewise, a series of instruments used for the assessment of emotional regulation are distinguished and described.

From a different point of view, the following study explores workplace bullying and its impact on the work climate and teacher performance. The research is aimed at finding motivational and environmental factors that enhance bullying behaviors towards teachers in two municipalities in the southern area of Puerto Rico. It explores from the teacher's perspective how the Puerto Rico Department of Education handles situations of harassment at work and how it affects the teacher's work performance in these municipalities in cases where mobbing exists. The study concludes with a series of recommendations directed to the school sector and its environment.

The last contribution of this issue is a correlational study that analyzes the relationship between experiential avoidance, insomnia, and rumination in a population of adolescents. The research shows that people with difficulties in emotional regulation assume avoidance as a pattern of conflict resolution, thus they experience many negative emotions that lead to rumination. Therefore, efforts to suppress the excitement they feel lead to insomnia and poor sleep quality.

Dr. Juan Luís Martín Ayala
Editor Jefe / Editor in chief / Editor Chefe

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PERCEIVED STRESS IN OLDER ADULTS THROUGH THE USE OF SOCIAL ROBOTS DURING COVID-19

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Abstract. In 2019, the Coronavirus or Covid-19 pandemic started. The consequences of the social limitations that were imposed on the elderly, with the total or partial absence of physical contact, have caused a decrease in their mental health due to the increase in perceived stress, leading to an increase in depressive or anxious symptoms. This research consists of 22 people between 70 and 90 years of age with mild or moderate cognitive impairment randomized in G.E. and G. C. 15 relaxation sessions are carried out with the tool of a social robot in G.E. and only relaxation in the G.C. The evaluation is carried out with a measurement through the Perceived Stress Scale before and after the process, in addition to a measurement of the heart rate before and after the last session. The results show a significant decrease in perceived stress in the G.E. while it is not significant in the G.C. In both groups, the heart rate decreased significantly. Therefore, the social robot as a therapeutic tool can play a relevant role in the treatment of the mental health of the elderly.

Keywords: Covid-19, geriatric, perceived stress, social robot, cognitive impairment.

Estrés percibido en adultos mayores mediante el uso de robots sociales durante COVID-19.

Resumen. En 2019 se inició una pandemia debido al Coronavirus o Covid-19. Las consecuencias de las limitaciones sociales impuestas en los ancianos con la ausencia total o parcial del contacto físico han provocado una disminución de la salud mental debido al aumento del estrés percibido llegando a desembocar en un aumento de la sintomatología depresiva o ansiosa. Esta investigación consta de 22 personas entre 70 y 90 años con deterioro cognitivo leve o moderado distribuidos al azar en G.E. y G. C. Se llevan a cabo 15 sesiones de relajación con la herramienta de un robot social en G.E. y solamente relajación en el G.C. La evaluación se realiza con una medición a través del Cuestionario de Estrés Percibido antes y después del proceso, además de una medición de la frecuencia cardiaca antes y después de la última sesión. Los resultados muestran una disminución significativa en el estrés percibido en el G.E. mientras que no es significativa en el G.C. En ambos grupos disminuye significativamente la frecuencia cardiaca. Por lo tanto, el robot social como herramienta terapéutica puede tener un papel relevante en el tratamiento de la salud mental de las personas mayores.

Palabras clave: Covid-19, geriatría, estrés percibido, robot social, deterioro cognitivo.

Introduction

In December 2019 an epidemic outbreak of viral origin began in the Chinese city of Wuhan, which subsequently spread becoming a worldwide pandemic and whose official taxonomic denomination was Coronavirus (Cov) type 2 associated with severe acute respiratory syndrome (SARS) being the consequent disease called Covid-19. Some of the most frequent clinical manifestations, especially in the geriatric setting, are fever, dyspnea, dry cough, and acute respiratory syndrome, in some cases showing neurological complications. The long-term consequences of this virus should not be forgotten, such as increased chances of developing post-traumatic syndrome, depression, and anxiety (Gouseff et al., 2020).

Currently, people belonging to the elderly are included in what is called the "risk group" because the incidence of Covid-19 is particularly serious for their physical and mental health (Carod-Artal, 2020). According to Niu et al. (2020) the lethality of Covid-19 in people over 80 years of age was 18.8% and the most common comorbidity was towards diseases such as hypertension (48.8%), coronary heart disease (16.1%), COPD (29.9%), diabetes mellitus (9.7%), and finally cerebrovascular disease with 6.5%, concluding that great attention should be paid to elderly patients diagnosed by Covid-19 due to the high mortality rate presented especially by people with these comorbidities.

At this time, we are living an unusual time due to the virus that has been mentioned above, which makes social norms and behaviors are affected by the risk it poses to the general population, even more so if we talk about groups of special risk such as the elderly, who suffer much stricter social norms in the physical distancing. The main objective in establishing this practice has been to avoid a chain of contagion, in the event that one of the persons was infected, this practice has been called in most cases "social distancing," since in countries around the world it has led to changes in behavioral patterns and in the usual day-to-day functioning (Galea et al., 2020). Several studies such as Wang et al. (2020), Roy et al. (2020), and Burdoff et al. (2020) have analyzed the consequences of these circumstances in the population of older adults, noting an increase in problems affecting their mental health such as disruptive behavioral behaviors, symptoms of anxiety, increased daily stress, even manifesting clear problems for sleep, these analyses have also concluded that the mortality rate has increased, which is a major problem for this sector of the population.

Likewise, other studies also point to a decline in the mental health of the geriatric population during the pandemic, like the general population, they showed high rates of fear and anxiety. However, it was observed that people who previously had a pathological diagnosis in depression or anxiety felt more stressed and depressed, and those with cognitive impairment showed a greater number of defiant behavior disorders (Wang et al., 2020; Losada-Baltar et al., 2020).

In our country it has been found through the analysis conducted by González-Sanguino et al. (2020) that 18.7% of the population revealed a possible diagnosis of depression, there being a probability that 21.6% will be diagnosed in the near future with some anxiety-related pathology (Kang et al., 2020).

Regarding the variables associated with the psychological impact, it has been concluded that loneliness is included as a predisposing risk factor for a greater negative psychological impact and can trigger symptoms compatible with the diagnosis of depression, anxiety, and post-traumatic stress disorder. This is noteworthy due to the fact that the largest range of the population living alone is above 80 years of age (Gallo Estrada & Molina Mula, 2015).

The elderly are especially susceptible to social isolation and changes in their daily routine, which has a direct negative effect on the stability necessary for them to feel vital or hopeful. Therefore, several studies point out that older adults who present depressive or anxious symptomatology, whether overlapping or explicit, may suffer an acute worsening from this

pandemic by raising their stress level if they are not in the company of neighbors, friends, or family (Moutier, 2020; Scholten et al., 2020).

Due to the increase in mental health pathology, some interventions were carried out to alleviate the high rates of anxious and/or depressive symptomatology, such as the development of psychosocial self-help guides that were distributed free of charge to both the elderly and their caregivers, psychological counseling through telephone lines, use of psychological first aid provided by caregivers with on-line support from a psychology professional, implementation of artificial intelligence programs useful in identifying people at risk of suicide, sending questionnaires with structured questions with the function of making a consultation, or diagnosis among others (Galea, 2020).

However, these programs have several deficiencies such as the lack of medical history data, data in the area of psychometrics, nonverbal language, immediate response associated with the context, among others. So it is concluded that the effectiveness of this type of procedure does not have the same result as face-to-face interventions (Huarcaya, 2020).

Recently, great technological advances are being introduced in the field of psychology which allow the patient, among many other advantages, a greater immersion in the therapy or intervention being carried out. Computer-based training has the advantage of allowing individualized therapy, being able to adjust the treatment to the patient's needs (Cipriani et al., 2006).

It has even been concluded that older adults use technology for the purpose of preventing feelings of loneliness which may result in better physical health, increased subjective well-being, reduced depressive feelings, and reduced mortality (Chopik, 2016).

Technology-based intervention for robot therapy has been analyzed with highly positive results, with effects such as increased motivation, improved mood, and stress reduction among others (Hayashi and Kato, 2016; Wada et al., 2010; McGlynn et al., 2014; Heerink et al., 2010).

These interventions are focused on imitating a therapy model based on the intervention with animals with the objective of stimulating through the senses, affecting the different cognitive areas such as memory, attention, reminiscence, motor movements, and social behaviors among others. The benefits of this type of interventions are widely accepted; however, they are still contraindicated in certain situations such as allergic people, animal phobias, places where their entry is prohibited, etc. (Zisselman et al., 1996; Williams and Henkins 2008; Laun, 2003).

Technology is currently changing the world, it is part of our immediate environment, streamlining, optimizing, and perfecting many of the tasks of our daily lives. It is a fact that is also beginning to be used in social work through various formats, some of them as elaborate as social robots. These robots are currently used to carry out sessions with a wide variety of objectives such as: reducing stress, promoting empathy, sociability, oral, and gestural communication, and therapy in advanced dementia among many others, even improving interaction with people close to them and increasing the sense of well-being (Heerink et al., 2010).

Not to be forgotten is the rehabilitation in the motor area that these robots carry out with robot-assisted therapy being equal or superior to conventional physiotherapy therapy, with special emphasis on the upper extremities (Hyuk & Kim, 2013).

Therapeutic robots are designed to facilitate greater interaction with the user through the different sensors they have, as well as the thermoregulator that maintains a pleasant temperature. They are designed with zoomorphic shapes that provide tactile sensations, autonomous behaviors, and the responses emitted by these animals. They are designed so that anyone can handle them without specialized knowledge, their function is to produce sensations such as pleasure or relaxation acting independently with different purposes and motives, these actions can be interpreted as if the robots have feelings (Shibata, 2010).

Other times zoomorphic robots satisfy affective needs (petting and cuddling) and replace a real pet that the elderly person would not be able to care for. Through the use of social robots it is intended to alleviate the feeling of stress or anxiety with the absence of risk of contact between people, so that by performing an intervention with a "robotic stuffed animal" that can be petted, hugged, talked to... and responds to each of these actions in a differentiated way, it is intended to alleviate the feeling of absence of social contact, which in turn will have an impact on an increase in the quality of life (McGlynn et al., 2014).

Among their advantages are that they are recommended for people with allergies. They are totally suitable for people who are afraid of the instinctive reactions of pets that can scratch or bite. They do not spread possible diseases and can be in nursing homes and clinics; they do not need to maintain a continuous responsibility as if they were a live animal and they can be turned off and reserved while waiting for the next intervention.

As explained above, the psychological effects produced by Covid-19 in the elderly setting have led to a generalized increase in anxiety and stress, which becomes a worrisome indicator especially because the interventions carried out are not compatible with close social interaction as has been done so far.

In this age range of the population, precautions have been taken to avoid endangering their physical health by establishing a total absence of physical contact such as kissing and hugging, which increases these stress indicators. Due to all these particularities of the moment, new types of intervention should be considered, such as the use of a social robot with which therapies are carried out where the person can interact with the robot (caressing, kissing, hugging...) and the robot reacts immediately and positively, which decreases the indicators explained above.

The difficulty of establishing physical contact derived from the social norms imposed at this time as a result of the possible Covid-19 infection establishes the main objective of this study, which hinges on the need to evaluate the effectiveness of an intervention on perceived stress in older adults with mild to moderate cognitive impairment during the Covid-19 epidemic using a social robot as a tool. Therefore, the main hypothesis of this study centers on the premise that conducting an intervention with a social robot decreases perceived stress.

Method

The final sample consisted of 22 participants, aged between 70 and 90 years. The distribution was as follows: of the 22 subjects, 11 were men and 11 were women, i.e., the sample consisted of 50% women and 50% men. The marital status of this sample reflects 1 single person, 3 married and 18 widowed. The selection to form the experimental group (E.G.) and the control group (C.G.) was carried out by chance, randomly assigning 11 persons to the C.G. and the remaining 11 to the E.G.

As for the personal characteristics describing cognitive impairment, all of them have been selected according to a previous health diagnosis prescribed by a professional in the area of dementia, in addition to clinical diagnosis of depression and anxiety, so those people who were in the ranges qualified as mild or moderate dementia and absence of diagnosis of depression or anxiety have been included in the sample. Table 1.

Table 1

Sociodemographic characteristics of the experimental and control groups

Variable		Experimental group	Control group	U
Age		82,7	85,8	22
Gender				22
	Women	6	7	
	Men	5	4	
Cognitive impairment				22
	Low	2	3	
	Moderate	9	8	
Address				22
	Individual	1	0	
	Shared	10	11	
Marital status				22
	Single	1	0	
	Married	2	1	
	Widower	8	10	

The E.G. received a total of 15 relaxation sessions using the social robot tool, while the C.G. received 15 relaxation sessions without the social robot tool. The sessions were carried out with both groups in such a way that the only difference was the introduction of the robot with the experimental group.

At the time of conducting the research, the inclusion criteria were taken into account:

- Diagnosis of mild or moderate cognitive impairment.
- Ages between 70 and 90 years old.
- Users of a day center.
- Residence in the city of Santander

On the other hand, the exclusion criteria were based on the following aspects:

- Severe cognitive impairment.
- Absence of cognitive impairment.
- Presence of clinical diagnosis in depression.
- Presence of clinical diagnosis in anxiety.
- Minimum level of sustained care.

The variables studied are based on the aspects of perceived stress, activation, and relaxation with the social robot tool. Perceived stress is known as a process that has the objective of facilitating adaptation to possible changes in the environment, although it can also have the opposite value if it is prolonged over time. One of the most widely accepted views of stress today is that of Lazarus and Folkman (1984), who define it as a relationship between the individual and the environment, which is evaluated by the person as threatening or beyond his or her control and which therefore endangers his or her well-being. It is directly related to the activation variable and inversely related to relaxation.

Perceived stress has been included as a dependent variable, as well as activation; on the contrary, the independent variable has been the relaxation sessions together with the social robot as the main instrument so that the controlled variable has been the user's exposure to several programmed sessions during a determined period of time with the use or absence of a social robot as a therapeutic tool.

Instruments

The following instruments were used to collect the information:

The Perceived Stress Scale (PSS) is a scale proposed by Levenstein et al (1993) that allows stress to be evaluated as the degree to which a situation can be assessed as unpredictable, adding a total or partial absence of control over it, which sometimes impacts on mental health, exceeding coping resources, and generating an imbalance in the normal functioning of people's psychological processes. This questionnaire has several versions among which two stand out, an original version composed of 14 items (PSS-14) and another smaller version composed of only 10 items (PSS-10).

The version used in this project was the original (PSS-14) translated into Spanish by Sanz-Carrillo et al (2001). The 14 items of this scale are distributed on a 4-point Likert-type scale where 0 means never and 4 means very frequently. Items 1, 2, 3, 8, 11, 12, and 14 refer to perceived stress and respond to a direct score that indicates that the higher the score, the higher the level of perceived stress, while items 4, 5, 6, 7, 9, 10, and 13 have an inverse score, that is, the score of the latter items is inverted to calculate the total. The total score is direct, indicating that the higher the score, the higher the level of perceived stress.

The internal consistency of this test scale seems to have evidence in its favor because the studies report a level of Cronbach's alpha coefficient that offers values of 0.9 for the total scale. The test-retest reliability (0.80) was also satisfactory and similar to the original study (San-Carrillo et al 2001).

On the other hand, the measurement of heart rate has been collected through a special device that measures the number of beats per minute.

The instrument used to carry out the intervention is categorized as a social robot. Social or service robotics has the purpose of creating a device that increases the mental and/or emotional well-being of people bringing in turn an improvement in the quality of life. (Guardón Steels, 2018). The social robot used in this project is designed with a weight of 3 kg and a length of 45 cm; it behaves like a domestic pet responding to touch, sound, and movement. The programming allows automatic learning to customize the needs and social preferences of people interacting with it. This robot is in the physical form of an animal, specifically a grizzly bear. It is covered with a soft fabric that makes it pleasant to the touch so that the affective response of the user is more likely to be positive towards the robot. On the other hand, the movements emitted by the robot are previously programmed and typical of the animal it intends to emulate; however, it also includes movements more typical of people such as hugs, caresses, and facial movements of expressions such as happiness and disgust.

Procedure

The development of the intervention has been carried out in a natural and familiar context for all participants, isolated from the other rooms of the center where a close and conducive climate has been created to carry out the relaxation sessions, through a dim and warm light, without noise or interruptions and a comfortable place where to carry out the session. It should be noted that the intervention has been carried out on an individualized basis.

Three sessions were held per week for one month, with an approximate duration of 30 minutes. The groups were randomly assigned, so that there were the same number of people in one group as in the other.

Initially, all participants were evaluated individually using the "Perceived Stress Questionnaire" and adapting the language at times of difficulty.

Subsequently, the E.G. sessions were held:

- Presentation of the robot to the user where the physical characteristics are described and a name is given so that the user can become familiar with it.
- After a period of time where the user interacts by stroking and talking to the robot, it is explained to the user that a voice-guided relaxation session will take place, where he/she must close his/her eyes and imagine what he/she hears.
- The relaxation session in voice-guided imagination is performed.

As for the C.G. sessions, they have been carried out identically to the E.G. except with the elimination of points 1 and 2; therefore, the C.G. has obtained relaxation sessions with the absence of the social robot tool.

Before the beginning and after the end of the last session, each participant was measured by means of a specialized device to determine heart rate. Finally, a second evaluation is performed through the "Perceived Stress Questionnaire" on an individual basis to all study participants.

Results

In order to determine the existence of differences in the level of stress before and after each session and the level of stress perceived before and after the application of the set of sessions, the data obtained were subjected to a descriptive statistic of comparison of means by means of a repeated measures Anova. The treatment of the data has been carried out taking a confidence level of 95% and, consequently, a margin of error of 5% (value of $p<0.005$). An analysis was carried out between the perceived stress variable (V.D.) and the relaxation with social robot variable (V.I.) in the E.G. and in the C.G. in order to study whether there is a correlation between these variables, using the Anova statistic of one factor for repeated measures.

It was found that the experimental group has had a significant result through the statistical techniques implemented, i.e., perceived stress is affected by relaxation with social robot, $F(1,10)=27.158, p<0.005, 2p\eta^{=0}.731$. On the contrary, it was found that the control group has not had a significant result through the implemented statistical techniques, i.e., perceived stress is not affected by relaxation without the social robot, $F(1,10)=1.105, p>0.005, 2p\ \eta^{=0}.1$. Table 2.

Table 2

Comparison of perceived stress pre and post E.G. and G.C. using repeated measures Anova.

Experimental Group						
Variable	Pre		Post			
	Average	DT	Average	DT	F	p
Perceived Stress	3.77	0,69	2.65	0,64	27.158	0.01

Control Group						
Variable	Pre		Post			
	Average	DT	Average	DT	F	p
Perceived Stress	2.65	0.64	3.85	0.68	1.105	0.318

On the other hand, a comparison was made between the activation variable and the relaxation sessions with the social robot in the E.G. and the C.G. It was found that the experimental group has had a significant result through the statistical techniques implemented, that is, the activation is affected by the relaxation with the social robot, $F(1,10)= 13.042, p<0.005$, , $2p\ \eta^{=204}.045$. Similarly, it was found that the control group has had a significant result through the statistical techniques implemented, i.e., activation is affected by relaxation without the social robot, $F(1,10)=23.58, p<0.005$, , $2p =0\eta^{\cdot 702}$. Table 3.

Table 3

Comparison of pre and post E.G. and C.G. activation measurement by repeated measures Anova.

Experimental Group						
Variable	Pre		Post			
	Average	DT	Average	DT	F	p
Activation	84.55	7.802	78.45	6.105	13.042	0.005

Control Group						
Variable	Pre		Post			
	Average	DT	Average	DT	F	p
Activation	78.36	6.31	72.45	5.52	23.58	0.001

Finally, an analysis was carried out between both groups using the repeated measures Anova statistic in order to analyze the interaction effect with time in the two types of therapy (with social robot and without social robot). It was found that there is interaction between the variables time (pre and post) and type of therapy on perceived stress, $F(1,20)=55.71, p<0.005$, $2p\eta = .714$. Therefore, according to the interaction effect test it seems that the effect of time on perceived stress depends on the type of therapy.

An analysis was also carried out between both groups using the same statistic in order to analyze whether the interaction effect on activation is equal in the two types of therapy (with social robot and without social robot) where it was found that there is no interaction between the variables time (pre and post) and type of therapy on activation, $F(1,20)=0.008, p>0.005$, $2p\eta = .091$. Table 4.

Table 4

Comparison of interaction effect between time (pre and post) and type of therapy (with robot and without robot) between E.G. and C.G.

Variable		η^{2p}	p	F
Stress	Time x Therapy	14.714	0.000	55.71
Activation	Time x Therapy	0.091	0.931	0.008

In conclusion, it has been detected through the applied statistical analysis that there is a significant difference in the level of perceived stress when the social robot tool is used in the sessions; however, this is not evident when the robot is not used. Regarding the activation variable, a significant difference was detected between the measures obtained before the beginning of the session and those obtained at the end of the session in both groups (E.G. and C.G.).

Discussion and conclusions

The present study is described with the main intention of evaluating the effectiveness of an intervention on perceived stress in older adults with mild to moderate cognitive impairment during the Covid-19 epidemic using a social robot as a tool. This intervention consists of several sessions composed of a relaxation exercise with the addition of a special tool such as a robot, which provides added qualities related to sensory and emotional stimulation. The main hypothesis is that carrying out an intervention with a social robot reduces perceived stress. The general objectives are to determine the effectiveness of an individual session, to analyze the results of perceived stress before and after the intervention with the robot, and to analyze the results of perceived stress before and after the intervention without the robot.

Regarding the results obtained in this research, a significant effect was found in the results of the Perceived Stress Scale in the E.G.., that is, it was found that the level of stress perceived after the relaxation sessions with the social robot was lower than before starting the sessions. However, no statistically significant difference was found in the C.G., so that the level of perceived stress before and after the sessions without the robot was not statistically relevant.

With regard to the measurement of heart rate, there were significant differences in the decrease of heart rate in all participants, i.e., both the sessions with and without the robot were

useful to reduce stress shortly. Therefore, it can be discerned that the relaxation sessions with and without robot lower the physiological stress level in the short term.

These results may suggest that the differential effect provided by the use of the social robot as a tool can reduce the level of perceived stress in older adults, which has a direct impact on their mental health and therefore on their emotional well-being and quality of life. The emotional state of these people, who are in the last phase of their existence, becomes one of the most important objectives to maintain satisfaction with life (Ortiz and Castro, 2009).

Some authors such as Lin and Ensel (1989) consider that mental health in the elderly is largely based on psychosocial well-being, which is enhanced by increasing personal and social resources so that important sources of social support and affection are available. The feeling of loneliness that can be caused by the social and affective restrictions derived from Covid-19 can provoke a feeling of loneliness in the elderly.

There are several studies that support the interaction through social robots with the aim of reducing the degree of stress and the feeling of loneliness, improve mood, and increase emotional well-being, being the tactile experience of the robot one of the most influential factors. These zoomorphic robots also meet the affective needs such as caressing, hugging, and kissing, and also through other behaviors such as dialogue, or even discharge of aggressive physical or verbal responses. Social robots are designed to respond in a manner consistent with the stimulus provided so that the interacting person receives an appropriate response to each situation, which facilitates the lowering of the stress level in each user (Wada et al 2008, Robinson et al 2013, Rabbitt et al 2015).

Currently it is estimated that a large percentage of the robots studied are animal-shaped, although these prototypes can incorporate surveillance and security functions, social robots have been designed primarily as robots for physical and psychological stimulation. With this type of robots, the aim is to provide more than mental health to the elderly; the objective is to achieve a better quality of life in all aspects, reducing social isolation and the feeling of loneliness (Padilla-Góngora and Padilla-Clemente, 2008).

Therefore, as mentioned by Acaril et al. (2008), Shibata et al. (2010), and Takayanagi (2014), it is considered essential to create programs aimed at implementing this project in elderly care centers such as day centers or residential centers, also as a stimulus for people who, although they do not attend centers such as those mentioned above, are prone to the absence of social contact, so that the most affected population would be those living alone. Within the therapeutic dynamics of the day center, this design can be integrated as an intervention within the multidisciplinary approach, varying the intervention at individual or group level, replacing the usual relaxation sessions or including the intervention as a complete individualized therapy.

Limitations can be found in this study based on assessing the effectiveness of a social robot as a method or tool to reduce the level of perceived stress in older adults may be:

On the one hand, the formulation of the research objectives in such a way that by increasing the specificity of the objectives a greater collection of data can be obtained which could increase the specificity of the conclusions; this has been complicated since the time lapses to carry out the project in the center were restricted. Another of the most important limitations is based on the small sample size mainly due to the current restrictions that prevent contacting a larger number of people. Finally, the lack of previous studies in the area of physical affect in elderly people during the Covid-19 pandemic should be pointed out, since it is a recent topic where several investigations are still being carried out.

The generalizability of the results of this project (external validity) may be influenced by elements such as the size of the sample, organismic factors in the selection biases due to the

selection of users from a single day center, who live in very close geographical areas and who also live with other people in their daily lives, as well as the so-called "novel phenomenon" where the introduction of an unusual tool may cause a variation in the participant's response, the effects of which may be absent as the intervention progresses. This opens the way to new lines of research for the future where we can analyze whether this therapy extended over time maintains its effectiveness or is altered, whether the effectiveness lies in the characteristics of this particular robot or can be generalized to robots with other types of structure such as a humanoid, as well as whether the need for physical contact derives from the current restrictions or also exists in different conditions such as the loneliness of people living alone.

This research presents favorable results regarding the use of robots as therapeutic tools aimed at reducing perceived stress in older adults, which opens a new challenge towards the future, expanding the horizon in psychogeriatrics where robots are part of structured therapies where they can encourage activities that promote good mental health. To this end, research must consider the needs of users in this age range and develop robots that they can manage without the digital divide being an obstacle.

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IMPACT OF STIGMA ON THE QUALITY OF LIFE OF ADULTS WITH HIV/AIDS: A SYSTEMATIC REVIEW

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Abstract. Introduction: This work was made in order to find out if there was a worsening of the consequences of HIV because of the perception of stigma. Methodology: Inclusion criteria were (1) that the articles deal with HIV/AIDS; (2) that they were scientific articles; (3) that the language of publication were Spanish or English. The exclusion criteria applied were (1) that the articles include child and adolescent population; (2) that they were single-case articles. Results: The total sample was made up of 18267 participants, most of them were women (65%), with an average age of 39'3, came from Africa or Asia, married or in a stable relationship and with an educational and socioeconomic low level. Stigma was analyzed through test administration in 55% of the articles and quality of life in 44%. Psychological and social repercussions (53%) were found, among which depressive disorder and the reduction of the social support, labor and economic (21%), physical (18%) and sexual (15%) stood out. Discussion: Most of the results showed that stigma generated repercussions that affected, above all, the mental health and social network of this population, which reflected the need to promote support and psychological treatment. Similarly, a possible relationship was found between sex, region and level of education, and the risk of contracting HIV.

Keywords: HIV, AIDS, stigma, quality of life, adults.

REPERCUSIONES DEL ESTIGMA EN LA CALIDAD DE VIDA DE LOS ADULTOS CON VIH/SIDA: UNA REVISIÓN SISTEMÁTICA

Resumen. Introducción: Este trabajo se llevó a cabo con la finalidad de averiguar si existía un agravamiento de las consecuencias del VIH tras la percepción de estigma. Metodología: Se realizó una revisión sistemática cuyos criterios de inclusión fueron (1) que los trabajos versaran sobre VIH/SIDA; (2) que se tratara de artículos científicos; (3) que el idioma de publicación fuera español o inglés. Los criterios de exclusión aplicados fueron (1) que los artículos incluyeran población infantojuvenil; (2) que se trataran de artículos de caso único. Resultados: La muestra total estuvo compuesta por 18267 participantes, la mayoría de ellos mujeres (65%), con una media de edad de 39'3 años, procedentes de África y Asia, casados o con pareja estable y con un nivel educativo y socioeconómico bajo. El estigma se analizó a través de

administración de pruebas en el 55% de los artículos y la calidad de vida, en el 44%. Se encontraron repercusiones psicológicas y sociales (53%) entre las que destacó el trastorno depresivo y la reducción de la red de apoyo; laborales y económicas (21%); físicas (18%) y sexuales (15%). Discusión: La mayoría de los resultados mostraron que el estigma sí que generaba repercusiones, las cuales afectaban, sobre todo, a la salud mental y a la red social de esta población, lo que reflejó la necesidad de fomentar el apoyo y el tratamiento psicológico. De igual manera, se encontró una posible relación entre el sexo, la región y el nivel de educación y el riesgo de contraer VIH.
Palabras clave: VIH, SIDA, estigma, calidad de vida, adultos.

Introduction

Human Immunodeficiency Virus, commonly known by the acronym HIV consists of an infectious disease that causes progressive weakening of the immune system by destroying the white blood cells that protect the body from infection or disease (WHO, 2017).

Three stages can be distinguished in this disease. First, the acute retroviral infection phase that takes place two to six weeks after infection, at which time the immune system can still act against the virus despite the fact that it occurs at high rates (Rodríguez & Moreno.II, 2017). Second, the chronic phase in which the patient may show symptoms such as fever, dry cough, diarrhea, sweating... (Iglesias Villarán et al., 2015; Rodríguez & Moreno.II, 2017; Sandí & Chan, 2016; Valle et al., 2018). Finally, in case the disease is not adequately treated, it can lead to Acquired Immune Deficiency Syndrome or AIDS characterized by presenting cancers or opportunistic infections such as pneumonia, salmonellosis, candidiasis, or tuberculosis (Bizuayehu et al., 2015; WHO, 2017).

It was in 1981 when several cases of pneumonia and Kaposi's sarcoma were diagnosed simultaneously in the United States. A year later, these diagnoses were defined as AIDS and were mostly among homosexual men, which gave rise to the stigma that HIV/AIDS was a disease that belonged to this group. However, with the passage of time, new cases were presented in people with drug addiction, prostitutes, and in those who had sex with HIV-positive people (Bran Piedrahita et al., 2017).

In 1984 the search for HIV treatment began and 12 years later the first antiretroviral therapy (ART) began to be developed, which allowed it to stop being a fatal disease (Rodríguez & Moreno.II, 2017), since it maintains the level of virus in the blood in an undetectable amount, preventing its reproduction and thus allowing the correct functioning of the immune system. In addition, this drug reduces the risk of contagion to others by 96% and has allowed 47% of people with HIV/AIDS to have an undetectable viral load (UNAIDS, 2017; WHO, 2017).

HIV/AIDS is a communicable disease, which can be transmitted through sexual contact of any kind (oral, vaginal, or anal) with a person who has HIV and does not take medication to treat the disease or does not use a condom. This route accounts for the majority of infections. Second, HIV can be transmitted via blood, for example, by sharing needles or syringes, transfusions or transplants, among others. Finally, the vertical route is the maternal-filial route in which the mother transmits the disease to her child during pregnancy, childbirth, or breastfeeding (Bartolome-García & Losa-García, 2017; Fuster et al., 2013; Rodríguez & Moreno.II, 2017; Sandí & Chan, 2016; Valle et al., 2018; WHO, 2017).

Regarding the impact of this disease, it is estimated that, globally, HIV has affected 77.3 million people and has caused the death of 35.4 million. Specifically, in

2017, almost 37 million people had HIV and 25% of them were unaware of their diagnosis (UNAIDS, 2017; Santiesteban Díaz et al., 2017).

The at-risk population is adolescents between the ages of 15 and 19 years. In 2017, a new HIV infection was recorded every 3 minutes in this population (UNICEF, 2017). Moreover, it is in Africa where most infections are concentrated (UNAIDS, 2017).

In 2017, more than 3 thousand new cases of HIV and 406 cases of AIDS were registered in Spain (Ministerio de Sanidad, Consumo y Bienestar Social, 2019).

Stigma represents one of the main challenges faced by people with this disease. Having an attribute that is not accepted by society generates external or social stigma that leads to discrimination and exclusion of the individual. This can lead to the formation of internalized stigma, which is related to the deterioration of self-concept and self-esteem and is based on the inferences that the individual makes from the negative social behavior he or she receives (Conde Higuera et al., 2016; Guevara-Sotelo & Hoyos-Hernández, 2018; Infante et al., 2006; Monteiro et al., 2016; Radusky et al., 2017) .

Despite the increasing advances in HIV treatment, this disease continues to represent a global public health problem that can seriously affect hosts at different levels. Likewise, stigma plays an important role in terms of coping and acceptance of this disease, as it represents a barrier to HIV prevention and treatment generating serious health consequences and favoring transmission (Conde Higuera et al., 2016; Monteiro et al., 2016; Radusky et al., 2017; Tamayo-Zuluaga et al., 2015). For these reasons, the main objective of the present work is presented as to define the existence and characteristics of the repercussions that stigma can generate on the quality of life of adults with HIV disease. Likewise, the secondary objectives are to specify which stigma is most frequently perceived by the HIV-positive population and to specify which factors, after knowledge of the diagnosis, the HIV-positive population perceives as positive for the maintenance or improvement of the quality of life or, on the contrary, which factors promote its deterioration.

Method

The methodology followed to obtain the information was based on the search for articles that related stigma with the consequences it generates on the quality of life of the HIV-positive population in adulthood.

To do this, a systematic search was carried out in the Pubmed and Psycinfo databases by crossing the English terms "HIV," "AIDS," "stigma," "quality of life," and "adults" and using the Boolean operator "AND." In addition, as a temporal criterion, articles published between 2015 and 2020 were included.

In addition, the inclusion criteria used were: (1) that the papers should deal with HIV/AIDS; (2) that they should be scientific articles and academic publications; (3) and that the language should be Spanish or English.

On the other hand, the exclusion criteria adopted were: (1) that the articles used a child and adolescent population (0-18 years); (2) and that they were single case studies.

The first phase comprised the systematic review of the information found based on the keywords mentioned above in the two databases. After applying the time criterion, 197 articles were obtained.

The second phase focuses on a process of applying the inclusion and exclusion criteria, from which a total of 143 articles were obtained.

In the third phase, articles were excluded by reading the abstract, the results and the discussion. On the one hand, those articles that analyzed the effect of stigma in the HIV-positive population that suffered from another priority condition that could explain

the results (for example, being in prison, suffering from postpartum depression, etc.) were discarded; and, on the other hand, articles that defined the existence or not of repercussions on the quality of life of the HIV-positive population, but did not allude to stigma, were eliminated. After applying these two criteria because they did not fit the objectives of this study, 54 articles were selected.

In the fourth phase, duplicate articles were eliminated, reducing the total number of articles to 47.

In the fifth and final phase, the 47 articles were read in full text, those that provided significant results were selected, and those that did not meet the inclusion criteria and objectives were discarded. Finally, 34 articles were selected for the development of this systematic review. Figure 1 shows the scheme of this process.

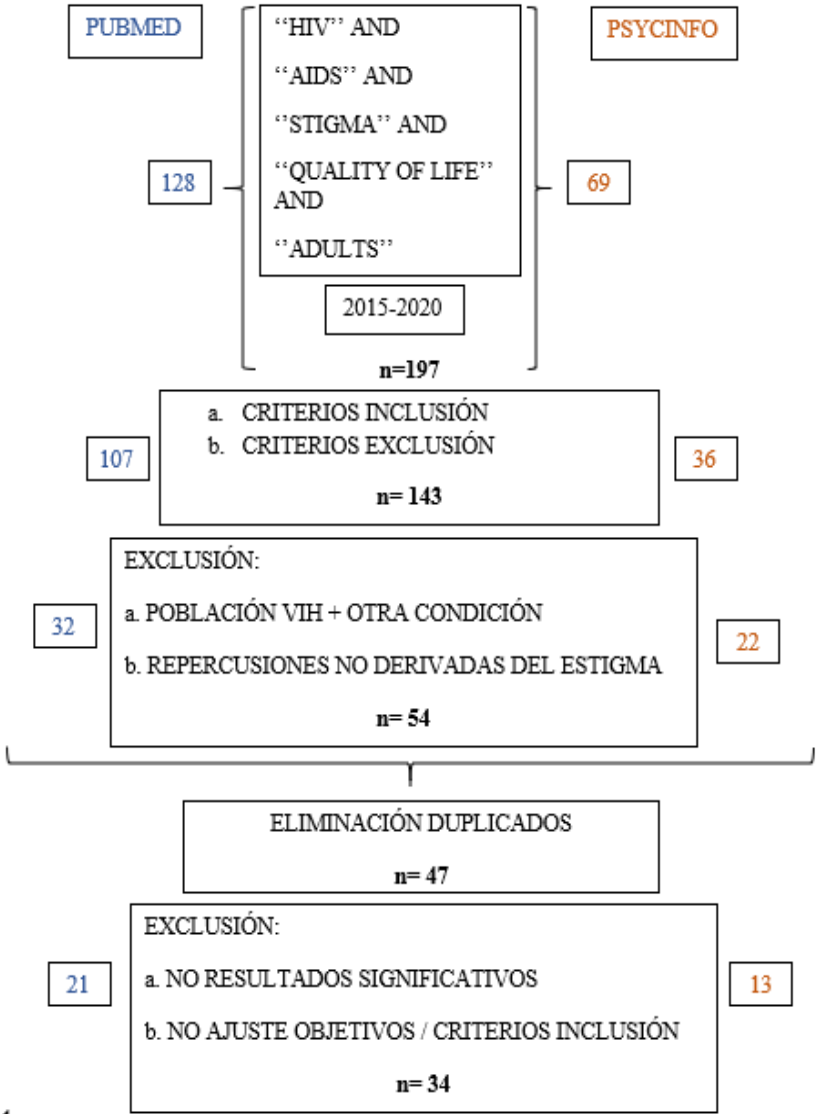

Figure 1. Search process and selection of articles.

Results

Sociodemographic characteristics were analyzed in the 34 articles (Table 1).

A total sample of 18,267 persons was obtained, of which 11,957 were women, 6,278 were men, and 32 persons identified with another gender or preferred not to provide

this information, so that, in other words, 65.46% of the sample was composed of the female gender; 34.37%, the male gender, and 0.18%, others.

In terms of age, all participants were over 18 years of age and the mean age was 39.3 years.

Of the 34 articles used in this systematic review, most of them selected African and Asian participants. Specifically, 10 selected African population for the studies, especially population belonging to East African countries (Uganda, Ethiopia, Kenya, and Malawi) and another 10 articles used Asian population, mainly Chinese, as well as Indian, Vietnamese, and Nepalese, representing 58.82% of the sample.

As for marital status, this was analyzed in 28 of the 34 articles selected (82.35%) and, in the majority, the participants were in a stable relationship or married.

Likewise, the educational and socioeconomic level was analyzed in the studies, generally finding a low educational level in which most of the participants did not exceed secondary or intermediate level and, likewise, a low-income level. These data corresponded especially to rural areas or undeveloped countries.

Table 1
Sociodemographic characteristics of the participants

Author/Year	Gender	Aver age age	Sample size	Population age	Marital status	Socioeconomic/educational level
Brown et al., 2016	118 F	37’8	118	United States	Not specified	Intermediate
Bukenya et al., 2019	12 M 18 F	41’7	30	Uganda	Married	Low
Cantisano et al., 2015	51 M 50 F	39’37	101	Dominican Republic	Partner	Low
(Cressman et al., 2020)	1578 F	55	1578	United States	Not specified	Low
Da et al., 2019	724 M 488 F	38’5	1212	China	Married	Intermediate
Ezeamama et al., 2016	123 M 277 F	35’8	400	Uganda	Married	Low
Garfin et al., 2019	600 F	34’31	600	India	Widowed	Low
Garrido-Hernansaiz & Alonso-Tapia, 2017	116 M 2 F 1 Other	32’37	119	Spain and Latin America	Single	High
Garrido-Hernansaiz et al., 2016	396 M 534 F 31 Other	33’12	961	India	Married	Low

Kamen et al., 2015	59 F	30’3	59	Malawi	Married	Low
Kuznetsova et al., 2016	48 M 32 F	34	80	Russia	Not specified	Low
Lifson et al., 2015	50 M 92 F	33’7	142	Ethiopia	Married	Low
Liu et al., 2018	220 M	36’1	220	China	Single/ Divorced/ Widowed	Intermediate/High
Loutfy et al., 2016	1929 F	41	1929	Varied (Latin America, China, Europe)	Single	Intermediate
Lyons et al., 2016	357 M	54’5	357	Australia	Single	High
Maimaiti et al., 2017	411 M 268 F	39’5	679	China	Single/ Divorced/ Widowed	Low
Mitchell et al., 2017	235 M 148 F	48	383	United States	Not specified	Low
Nevin et al., 2018	7 M 13 F	42’5	20	East Africa	Partner	High
Nyamathi et al., 2018	400 F	33’8	400	India	Married/ Widowed	Low
Nyongesa et al., 2020	94 M 356 F	42’7	450	Kenya	Married	Low
Oliveira et al., 2017	93 M 53 F	38’4	146	Brazil	Single	Intermediate
Parcesepe et al., 2020	336 M 576 F	35	912	Tanzania	Married	Low
Pasipanodya & Heatherington, 2014	22 M 27 F	37’5	49	Uganda	Partner	Low
Pinho et al., 2018	918 F	33’5	918	Brazil	Partner	Low
Reinius et al., 2018	99 M 74 F	48’1	173	Sweden	Not specified	Intermediate
S et al., 2019	305 M 294 F	38	599	Nepal	Married	Low

Secor et al., 2015	112 M	26	112	Kenya	Single	Intermediate
Shah et al., 2015	317 M	47’65	317	New York	Single	Intermediate
Siegel et al., 2018	44 M 36 F	41’6	100	New York	Married	Low
Suleiman et al., 2020	114 M 239 F	39’1	353	Nigeria	Married	Intermediate
Tran et al., 2018	1133 F	32’5	1133	Vietnam	Married	Low/Intermediate
Travaglini et al., 2018	220 F	43’4	220	United States	Single	Intermediate
Zeluf-Andersson et al., 2019	762 M 320 F	47’6	1096	Sweden	Partner	Intermediate
Zhang et al., 2016	1882 M 1105 F	42’9	2987	China	Not specified	Low

The 34 articles also alluded to the stigma and/or the impact of HIV/AIDS disease on their overall quality of life or satisfaction.

On the one hand, stigma was assessed in 18 of the 34 articles (52.94%) directly through the administration of tests. In particular, the most commonly used test was Berger's HIV Stigma Scale (α =.957), which is a psychometric test aimed at the adult population over 18 years of age and consists of 30 articles divided into 4 dimensions: enacted stigma, disclosure concerns, negative self-image, and concern about public attitudes. It was used in 10 of the 18 articles (55.56%) in which stigma was assessed.

On the other hand, quality of life was assessed through the administration of questionnaires in 15 of the 34 articles (44'11%). Specifically, the most commonly used test was "The WHO Quality of Life Scale" (WHO-QoL) (α =.895), a questionnaire that provides a profile of the quality of life of the individual giving a global view of the areas and facets that compose it. The WHO-QoL is composed of 100 Likert-type items divided into 6 areas: physical health, psychological health, level of independence, social relationships, personal environment and beliefs, and spirituality. This test is aimed at the general population and patients with any disease and its application is based on self-administration. However, in patients who cannot read or write for reasons of education, culture, or health, it could be performed by means of an interview. This test was used in 7 of the 15 articles (46.67%) that evaluated quality of life.

In addition to tests such as those mentioned above, in other articles both stigma and quality of life were assessed through personalized interviews or self-reported questionnaires.

The different repercussions that have been described in the articles selected for this systematic review are presented below.

First, in terms of physical repercussions, 6 articles (17.65%) defined aggravation or increase in HIV/AIDS symptomatology following the perception of stigma. Participants reported pain, weight loss, fatigue, nausea, vomiting, headaches, reduced appetite, decreased energy, fever, and problems with falling asleep and insomnia. In

addition, viral load and the previously mentioned symptomatology correlated negatively with physical health and, therefore, with quality of life.

Second, the population of 4 articles (11'76%) reported a series of changes in habits after diagnosis or perception of stigma such as decreased physical activity or sedentary lifestyle, smoking, alcoholism, or consumption of other substances.

Third, the population of 18 articles (52.94%) commonly reflected the presence of stress, anguish, anxiety, depression, or a deterioration of self-esteem following the perception of stigma producing a deterioration of mental health. In addition, they related their presence and the severity of mental symptomatology with a lower availability of personal and socioeconomic resources.

As for personal resources, 3 articles (8.82%) alluded to the importance of active coping and problem-focused coping (rather than emotion-focused coping) in maintaining or improving self-esteem and favoring improved functioning in general and, therefore, improved quality of life in the face of the harmful effects of stigma.

The presence of stigma, especially internalized stigma, which was the most frequent in the studies analyzed (specifically in 8 articles, representing 23.52%) and the one that presented the highest correlation with physical and emotional burdens, was related to poorer psychological functioning and general health, and to lower self-esteem, well-being, resilience, and reactance. In addition, stigma was also related to negative thoughts such as concern about how others would act towards them, fear of rejection, discomfort about not feeling understood by others, guilt, desire for privacy, hopelessness, contempt, vulnerability, shame, discouragement, sadness, health concerns, hostility, irritability... Guests defined stigma as a factor that distanced them from society, intruded on their privacy, slowed their ability to recover, and increased their worry about the disease or transmission to others.

Specifically, depressive disorder was the most frequently reported. The population of 9 of the 34 articles (26.47%) reported suffering or having suffered from depressive symptoms or a depressive disorder. The instrument most commonly used to assess this was the *"Center for Epidemiological Studies Depression Scale"* (CES-D), a questionnaire used to detect cases of depression based on the presence of symptoms in the last week. It is self-administered, is aimed at the general population and has 20 articles that assess different components such as mood, feelings of worthlessness, hopelessness... It has good internal consistency (0.85-0.90) and a test-retest reliability of 0.51-0.67. The CES-D was used in 4 articles (11.76%).

Fourth, another impact identified in 5 of the selected articles (14.71%) is the impact of HIV/AIDS on partnerships and sexual relationships. The challenges faced by the HIV-positive population with regard to these types of relationships are mainly fear of disclosure and stigmatizing behaviors, irrational fear of transmission, changes in sexual intimacy and in physical and social functioning, relationship breakdown, and loss of trust. Following diagnosis, lower relationship satisfaction led to deterioration in mental health with problems such as stress, anxiety, or depression resulting in poorer quality of life.

Satisfaction within the couple correlated positively with couple identity and negatively with the presence of physical and mental symptomatology. In addition, perceived caregiver burden and overall host health also influenced partner health (Pasipanodya & Heatherington, 2014).

Those who disclosed HIV status reported stigmatizing attitudes such as distancing, contempt, violation of privacy, and accusations by their partner and their closest social circle. In the face of this, different ways of managing the disease within the couple were shown, such as breaking up, seeking external social support, and educating family and friends about the disease (Siegel et al., 2018).

Three couple-related scales were administered: *"Relationship Evaluation Scale"* measuring marital satisfaction (α=.66), *"Couple Identity Scale"* (which presented good validity) and *"Self-perceived burden scale"* (α=.75) according to the primary caregiver. In addition to this, one of the articles also evaluated sexual stigma and concluded that its impact may be greater if it acts on a population facing other types of stigma or discrimination. This type of stigma is related to the presence of depressive symptomatology and, therefore, to a lower quality of life (Secor et al., 2015).

Two articles (5.88%) showed that HIV-positive status has a considerable impact on sexuality, especially affecting frequency, sexual desire and number of sexual partners.

Fifth, social consequences due to stigma such as isolation, exclusion, rejection, devaluation, and reduction of support network were found (Nevin et al., 2018). The population of 52'94% of the articles referred these types of repercussions derived from stigma.

It was found that these impacts could be exacerbated at lower educational levels, as this implied lower awareness of the disease, care services and treatment (Lifson et al., 2015).

8 articles (23.52%) showed the reduction of the support network after diagnosis. Social support was defined as an essential factor in overcoming stigma, improving overall health, and preventing mental health-related problems (stress, distress, and depressive symptoms). Social support improved global functioning and favored active coping with the disease, protecting or favoring self-esteem. This is why participants who had a support network, a stable partner, or the support of health care providers reported less stigma affectation. Social support was evaluated in 8 articles among which the use of *"The Social Relationship Scale: Quality of Life Social Support Questionnaire"* (α=0.85-0.93) stood out.

Another of the consequences found was the loss of social position. In one of the articles, perceived social position was measured and the results revealed that the higher the stigma, lower the age, lower the social support and lower the income level, the lower the social position (Ezeamama et al., 2016).

These social consequences generate, in turn, fears of disclosure of HIV status that make the population, on some occasions, choose to hide their disease as a way to protect their social integrity and self-concept and maintain privacy. Disclosure is more frequent in intimate relationships, as it is promoted by support, which reduces symptomatology and fears (Cantisano et al., 2015; Loutfy et al., 2016).

In 4 articles (11.76%) a positive correlation was shown between perception of support and social network and quality of life and a negative correlation between internalized and enacted stigma and quality of life.

In 8 articles (23.53%), HIV stigma was added to other stigma already existing in a certain population, enhancing the effects of discrimination. The population of these studies coincided with groups already socially devalued for different reasons such as gender, drug addiction, immigration, socioeconomic level and/or disability. An example of this would be sexual stigma, which became more important in the homosexual population because they suffered greater social censure and received less support. In this case, HIV stigma would be added to the discrimination and exclusion they suffer because of their sexual condition. However, in one of the articles, the participants did not reflect an influence of stigma on their quality of life, since most of them did not perceive either HIV disease or discrimination or having to undergo treatment as factors that interfered with their lives (Cressman et al., 2020).

Sixth, and in relation to and as a consequence of social problems, 7 articles (20.59%) were found that reflected negative consequences for the economy and less job

opportunities due to the stigma, discrimination, and exclusion suffered by the HIV-positive population.

Ten articles (29'41%) showed that physical and mental health problems (or conversely the perception of health and lack of symptomatology), stigma by family and friends, dissatisfaction with caregivers, lack of psychological support, the side effects of ART such as nausea and vomiting and their duration, lack of information or education about the disease, and low economic resources were a barrier to disease prevention and care, as well as worsening disease management and limiting daily activities. All this had repercussions on quality of life and worsened it. On the other hand, a relationship was also established between adherence and marital status, education and income level, since having a partner; having received education and being employed were positively related to adherence.

On the other hand, the population of 3 articles (8'82%) reported that stigma was a barrier to accessing services and/or continuation and consistency of care, so interventions aimed at reducing stigma showed positive results in the population, provided an opportunity for early diagnosis and treatment, and increased psychological functioning by reducing morbidity, HIV transmission and mortality, and generating an improvement in the quality of life.

Similarly, 4 articles (11.76%) showed that social support promoted early diagnosis and increased adherence. In addition, it was a reminder and reinforcement for taking medication, reduced guilt for contagion, and decreased the perception of rejection and exclusion. In addition, perceived deterioration of health, the desire to care for oneself and protect one's family, good experiences with physicians, and cessation of substance use were also associated with increased adherence.

Discussion and conclusions

More than 65% of the participants were women and, in addition, most of the sample came from Africa and Asia and had low educational or socioeconomic status. Taking these data together, a relationship between region, gender, and HIV risk could be found. A higher prevalence in women could be related to gender-based violence, violence against girls, forced sexual experiences, and forced marriages. In addition, poor education and limited information on safe sex, HIV, and other sexually transmitted infections could also be explanatory factors for this prevalence. In the face of all this, it would be necessary to end the subordinate status of women and promote equality while promoting education and access to information.

All 34 articles alluded to stigma and/or the impact of HIV/AIDS disease on their overall quality of life or satisfaction. Specifically, it was internalized stigma that participants reported experiencing most frequently, which derived from discriminatory attitudes and acts of exclusion (Conde Higuera et al., 2016; Guevara-Sotelo & Hoyos-Hernández, 2018; Infante et al., 2006; Monteiro et al., 2016; Radusky et al., 2017). The prevalence of this type of stigma highlights the need, on the one hand, to implement education programs aimed at the general population to increase knowledge about the disease, foster tolerance, and respect towards the population with HIV and, on the other hand, the need for greater guidance and intervention aimed at hosts with the aim of favoring acceptance of themselves and their condition and reducing negative thoughts and feelings such as guilt or shame.

In relation to the prevalence of internalized stigma and as a possible cause of this, psychological and social repercussions were predominant. Participants in more than 50% of the articles reported suffering from symptoms of stress, anxiety or depression, and/or self-esteem problems (Brown et al., 2016; Cressman et al., 2020; Da et al., 2019; Garfin et al., 2019; Garrido-Hernansaiz & Alonso-Tapia, 2017; Kamen et al., 2015; Lyons et al., 2016), highlighting the need to give greater prominence to psychological treatment and facilitate access to it.

As part of the solution in the face of mental health-related problems and furthermore, as a preventive factor of these, social support should be encouraged (Kuznetsova et al., 2016; Nyamathi et al., 2018; Siegel et al., 2018; Tran et al., 2018) which could contribute to the minimization of consequences, improvement of the person's overall functioning, and the promotion of active coping.

Perception of support was associated with earlier diagnosis and increased adherence which could reduce morbidity and virus transmission (Kuznetsova et al., 2016; Nyamathi et al., 2018; Siegel et al., 2018; Tran et al., 2018).

Although to a lesser extent compared to the other impacts, approximately 15% population of the articles alluded to the impact of stigma on relationships and sexual relationships finding after diagnosis lower satisfaction, decreased frequency, and lower sexual desire (Bukenya et al., 2019; Da et al., 2019; Garfin et al., 2019; Kuznetsova et al., 2016; Liu et al., 2018; Loutfy et al., 2016; Nevin et al., 2018; Oliveira et al., 2017; Pasipanodya & Heatherington, 2014; Pinho et al., 2018; Reinius et al., 2018; Secor et al., 2015; Siegel et al., 2018; Zhang et al., 2016). Regarding this, the cultural component, religion, values, and morality could exert a great influence on this aspect as well as age and stigma. Catholics, for example, are per se less likely to have sex because they are more conservative, do not practice sex before marriage, or due to abstinence.

Regarding the repercussions just mentioned and as shown in the results and in previous literature (Chong Villarreal et al., 2012; Oskouie et al., 2017; Radusky et al., 2017; Tamayo-Zuluaga et al., 2015; Verma & Lata, 2016), the affectation of HIV stigma is exacerbated in marginalized communities, at risk of exclusion or minorities, which are already subject to discrimination on other grounds (Loutfy et al., 2016; Mitchell et al., 2017; Nevin et al., 2018; Oliveira et al., 2017; Parcesepe et al., 2020; Secor et al., 2015; Travaglini et al., 2018). There was only one article in which the population did not refer consequences for perceived HIV stigma, which could be due to the fact that they already suffered discrimination before having the disease (Cressman et al., 2020). The clear example of this empowering impact is the effect of HIV stigma on the homosexual community. Currently, there is still a social prejudice that HIV is a disease exclusive to homosexual men, which can generate an emotional burden and discouragement in those who suffer from it, delaying the detection of the disease by generating a refusal to be tested because of the social repercussions of having the disease. All this highlights once again the need to implement means to promote respect, tolerance, and de-stigmatization, as well as the education and interest necessary to break down the taboos surrounding HIV/AIDS.

All the consequences defined so far could explain a reduction in access to health services and adherence to treatment by posing a barrier in the face of advances (Conde Higuera et al., 2016; Monteiro et al., 2016; Radusky et al., 2017; Tamayo-Zuluaga et al., 2015) .

In response to the main objective of this study, which was to define the existence and repercussions of stigma on the quality of life of adults with HIV disease, the results

found allowed to define mainly mental repercussions, including depressive symptoms, anxiety, and negative self-image; and social repercussions, such as discrimination, isolation, and exclusion, which, in turn, were related to a decrease in economic status and job opportunities. Followed by these, participants reported physical consequences and, finally and to a lesser extent, relationship and sexual problems.

Regarding the first secondary objective, internalized stigma was the one that the population reported having suffered most frequently. On the other hand, in response to the second secondary objective, active coping and socioeconomic power were mainly defined as positive factors for the maintenance of quality of life, as opposed to physical symptoms, poor mental health, and low socioeconomic and educational level, which were described as factors that negatively affect thr quality of life.

As for the limitations of this study, it should be mentioned that only the adult population over 18 years of age has been addressed. For this reason, it would be interesting to conduct future research focusing on the juvenile population, such as adolescents between 15 and 19 years of age, who are the population at risk. It would also be interesting to conduct new studies analyzing the effect of stigma exclusively on the homosexual population, to whom the HIV/AIDS disease has been attributed throughout history. In this way, the level of impact on the group could be analyzed more broadly.

On the other hand, this systematic review was based on studies that were carried out mostly in rural areas or countries with a low socioeconomic level, thus highlighting the need for studies in developed countries or countries with better health and/or socioeconomic conditions. For example, it would be useful to carry out more studies with a European population, since research is scarce and conditions are very different. In this way, it would be possible to find out whether the conclusions drawn in this work can be extrapolated to the entire world population or to know to what extent sociocultural factors influence the stigmatization process, thus discovering whether stigma constitutes a factor of vulnerability in certain regions or at the global level.

Finally, the literature search was conducted only in the databases mentioned above, and the selection of articles was limited to those published in Spanish and/or English; therefore, if a larger number of databases and more languages were included, more evidence could be provided to the research.

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GROWING UP IN ADVERSITY: THE RESILIENCE OF STUDYING WITH DISABILITIES AT THE NATIONAL UNIVERSITY, COSTA RICA

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Abstract. This article is derived from the research of the Doctoral Thesis on resilience, disability and higher education. The study design is mixed, sequential explanatory type with a research strategy that integrates the quantitative and qualitative research approach. The purpose of the research is to characterize the resilience of students with disabilities that allows them to face barriers in higher education in order to establish the enclave factors for the design of a resilient accompaniment route. Different inquiry techniques were used, such as the SV-RES60 resilience scale, a questionnaire, and an interview. 110 students participated (55 regular and 55 graduates) who are studying or have completed a career at UNA from 2000 to 2020. A descriptive and comparative analysis is carried out using basic statistical tools and with the support of the SPSS program. quantify and characterize the information collected; also establish relationship patterns by study groups complementing with argumentation, testimonies and the theory investigated. It is concluded that students with disabilities present a resilient state during their university training in the presence of structural barriers that hinder their personal, academic and social development. Based on the results, the updating of the teaching staff and the support services on the models for promoting resilience and the implementation of a resilient accompaniment route derived from this study is justified.

Keywords: higher education, disability and resilience

CRECIENDO EN LA ADVERSIDAD: LA RESILIENCIA DEL ESTUDIANDO CON DISCAPACIDAD EN LA UNIVERSIDAD NACIONAL, COSTA RICA

Resumen. Este artículo se deriva de la investigación de Tesis Doctoral sobre resiliencia, discapacidad y educación superior. El diseño del estudio es mixto, de tipo explicativo secuencial con una estrategia de investigación que integra el enfoque investigativo cuantitativo y cualitativo. El propósito de la investigación es caracterizar la resiliencia del estudiantado con discapacidad que le permite enfrentar las barreras en la educación superior con el fin de establecer los factores de enclave para el diseño de una ruta de acompañamiento resiliente. Se emplearon distintas técnicas de indagación tales como la escala de resiliencia SV-RES60, un cuestionario y una entrevista. Se contó con la participación de 110 estudiantes (55 regulares y 55 egresados) que cursan o han cursado una carrera en la UNA del año 2000 al 2020. Se realiza un análisis descriptivo y comparativo mediante herramientas básicas de estadística y con apoyo del programa SPSS permitió cuantificar y caracterizar la información recabada; asimismo establecer patrones de relación por grupos de estudio complementando con argumentación, testimonios y teoría indagada. Se concluye que el estudiantado con discapacidad presenta un estado resiliente durante su formación universitaria ante la presencia de las barreras estructurales que obstaculiza su desarrollo personal, académico y social. A partir de los resultados se justifica la actualización del personal docente y los servicios de apoyo sobre los modelos de promoción de la resiliencia y la implementación de una ruta de acompañamiento resiliente que se deriva de este estudio.

Palabras clave: educación superior, discapacidad y resiliencia.

Introduction

The 21st century is the beginning of great social transformations, derived from economic, ecological, and ethical crises. For this reason, new forms of resilience emerge at all levels of society to survive the sadness, impotence, and lack of a future, due to the scarce values and collective positions.

Inclusive education emerges as an innovative pedagogical response in this century to respond to student diversity and their social inclusion. From this perspective, diversity is valued as a source of richness and not as otherness, disorder, abnormality, madness, illness, marginality, poverty, disability; thus favoring the construction of an axiological framework (tolerance, respect, solidarity, justice, equality, equity, among others) based on human rights.

Education, being conceived as a right, contemplates equivalent learning opportunities for all without detriment to individual differences in terms of capacities, skills, social, and cultural conditions (Opertti, 2008).

Since the 1990s, higher education institutions at the international level have promoted the inclusion of persons with disabilities in response to current legislation (IESALC/UNESCO, 2005). More recently, with the Sustainable Development (SD) approach, specifically, Goal 4 Ensure inclusive, equitable, and quality education throughout life for all (UNESCO, 2015).

The challenge for public and private universities in Latin America and the Caribbean (LAC), particularly in Costa Rica, is to renew their educational offerings and curricula in line with the principles of inclusive education, the humanistic perspective, complex, critical and systemic thinking, constructivist pedagogical trends, and advances in neuroeducation.

In addition, the Regional Commission on Higher Education (CREES) of LAC points out that the permanence and progress of the student population is a challenge in higher education, since it requires an analysis of the factors associated with academic lag, dropout, and abandonment in the region (Henríquez, 2018).

It is necessary, then to pay attention to the multiple factors that limit compliance with current legislation and educational policies in higher education in the LAC Region (Rama, 2006 and Paz, 2018). This phenomenon of invisibility of persons with disabilities in LAC can be seen in other European countries, as Echeita (2006) points out the acceptance of social inequalities as a normal fact in societies, which no longer flinch in the face of poverty, begging, abuse, and even death.

The social model of disability, a perspective shared by this research, approaches the situation of these people from a social and political perspective. For this reason, disability is conceived as a concept that evolves and is closely related to the elements of the environment, because of their interactive relationship with people with disabilities, which can hinder or facilitate their personal development and social inclusion. (UN, 2006)

In this sense, Palacios (2008) indicates that "the causes that originate the exclusion of people with disabilities are not religious or scientific, but are, to a large extent, social" (p. 26), which define their valuation and participation in society.

From this perspective, the person with disabilities was considered as a subject with rights who requires services and, therefore, should have a role in their planning and development. It is intended, then, the acceptance of the differences of people and the adjustments of the social environment to facilitate their integration and participation in society, which generated a change in the field of conceptions, as well as in social attitudes towards people with disabilities.

It is pertinent, then, to reflect on the conditions in the educational context that generate social and educational exclusion of the student population, particularly the group with a disability.

From a vision of universal accessibility, De Asís Roig (2005) states that barriers refer to "any obstacle that hinders or prevents, under conditions of equal opportunities and full participation, people's access to any of the spheres of social life" (p. 51), highlighting the interrelation between barriers to learning and participation and the accessibility conditions of educational environments.

Barriers in higher education is a phenomenon studied for three decades in the European context and in the United States, such as, Konur (2006) Abu-Hamour (2013); Cotán (2015), Morgado et al (2016).

In the LAC context there are studies by López (2016), Ocampo (2013) Salinas et al (2013), Corrales et al (2016) Forgiony (2019). In higher education in Costa Rica, Ramirez (2011), Stiller and Gross (2012), Gross (2016) Torres (2013) Vargas (2012- 2013) evidence that the prevailing barriers limit the entry and permanence of the student population, which implies that the transition from secondary to university education is difficult for students with disabilities corroborating what is indicated in the reports of international organizations (Brunner and Miranda, 2016, Henriquez, 2018).

In this sense, it is important to highlight the relevance of this research, which may contribute valuable information about the resilience of students to structural barriers in higher education in order to generate forms of support in their university education.

Problem statement

The opportunities to enter Costa Rica's higher education and complete a degree have had a remarkable expansion in the last forty years in Costa Rica. In the IV Report on the State of Costa Rican Education, by 2016, university coverage has expanded among 18-24 year olds in the Central region, urban areas, and among women (PEN, 2017).

Despite the prevailing legal support, according to the National Survey on Disability (ENADIS/ INEC, 2018) this group presents lower levels of education than the population without disabilities.

Therefore, attention to diversity in higher education entails the challenge of generating accessibility conditions that allow the construction of an inclusive university environment, without barriers, prejudices, or actions of discrimination or exclusion (Calvo, 2009).

According to the VI State of Education Report (PEN, 2017) each public university in Costa Rica applies measures to improve access for populations in vulnerable socioeconomic conditions. Only the University of Costa Rica (UCR) and the National University (UNA), coordinate the application of the Academic Admission Test (PAA).

The National University, the context where this research is conducted, for more than three decades, has had programs and academic initiatives for the educational inclusion of students with disabilities congruent with the principles and purposes of a comprehensive education according to the Organic Statute (UNA, 2016).

To respond to the requirements of this student population, UNA has an Institutional Commission on Disability (CIMAD), the Support Services Unit (USA), and other institutional support bodies that ensure equal opportunities and accessibility conditions for people with disabilities, establishing institutional guidelines and procedures for the support and monitoring of their university education.

Based on the above, it would be expected that the UNA has the ideal accessibility conditions for the student population. However, according to the Institutional Diagnostic (Fontana et al, 2012-2015), attitudinal, conceptual, and structural barriers prevail in the university context that hinder the inclusion, permanence, and graduation of students with disabilities, reflecting a contradiction with current international and national legislation that advocates for equality and equity of opportunities, education for all and inclusive education.

In a university context, which does not include diversity by itself, the topic of resilience of students with disabilities in higher education is relevant for current studies because it will reveal the systemic relationship between individual and social development of people.

The concept of resilience is broad and well-studied, with theories developed according to the historical moment and with models according to the application environments.

According to studies, the concept has undergone significant changes since its emergence in the 1960s. At the beginning, it was conceived as an innate characteristic of people, and then research moved from an approach focused on the individual dimension to a perspective on the social and holistic dimension, as well as a form of intervention and promotion practices.

Currently, resilience is conceived as a process of social construction, where personal and contextual variables converge in a dynamic and creative interrelation in the face of adverse events. That is, resilience is understood "as a process that is built in and from the social, relational, and

human schemes, although this process is manifested in individual, family, social, and organizational behaviors" (Madariaga et al, 2014, p. 12).

In the processes of social construction, resilience is mediated by the life histories of each person and the cultural contents of their own context, which of course condition the emerging resilience that will allow new ways of interpreting the adverse situations they face.

Resilience is built in and with the social fabric from this perspective in higher education, the empowerment of resilient capacities concerns all members of the university community, in this dynamic, the institutional support services have a significant role because of their essential role in the accompaniment of students with disabilities.

Therefore, the paradigm of resilience allows a new look at people, their lives, and the socio-cultural reality, which leads to rethink the forms of support and monitoring in university education.

According to the literature review, there are previous studies in the international arena (Cedeño and Intriago, 2018; Maitta et al, 2018; Moriña and Melero, 2016 and Suriá et al, 2015), which expose the need to deepen the knowledge of resilience of students with disabilities.

The resilience studies presented above found that what made the difference was a positive influence, a loving and close relationship with a *significant adult/resilience coach*, so that people in vulnerable conditions could overcome their adversities.

As this figure of the resilience coach has wide applications in the educational environment, the results of recent research, such as that of Perez et al (2010), should be considered for the implementation of teacher training programs in higher education and implementation of support services with a resilient approach.

However, the phenomenon of resilience in the UNA is little explored, only the work of Garro and Pereza (2018) is found and its results do not impact university policies, guidelines, and procedures to promote resilient accompaniment, capable of innovating the support services they currently provide.

Method

The methodology followed in the research is framed within the naturalistic paradigm with a mixed, sequential explanatory design (Hernández et al, 2014).

In the research strategy, the first stage is quantitative and the second qualitative with the integration of the data collected through the explanation and interpretation of the relationships that emerge according to the variables addressed, which will provide a more comprehensive view of the resilience resources of students with disabilities in the face of structural barriers in the university context.

We had the participation of 110 students (55 graduates and 55 regular students) selected by means of intentional sampling, taking into account the condition of disability (sensory, physical-motor, intellectual, and psychosocial) and other conditions (specific difficulties) who are studying or have studied at UNA from 2000 to 2020, with ages ranging from 20 to 54 years and most of them from the urban area of Costa Rica, who were willing to participate in the study.

In order to gather the perspective of university students, the SR-RES60 resilience scale was applied, which consists of 60 items distributed in 12 factors that are grouped in 4 areas of depth ranging from the base conditions (belief system and cultural values), the vision of oneself, the vision of the problem, and resilient behavior (evident response).

A three-part questionnaire with open and closed questions was also used. The first part addressed general information and the second part contains 6 questions about barriers in university education, ways of dealing with them and institutional support services. The third part consists of 10 questions about resilience, strategies, and recommendations. These instruments were developed by the researcher and validated by the criteria of judges (UNA academics specializing in psychology and special education).

For the analysis of the information, in the first quantitative phase, a descriptive analysis will be carried out using basic tools such as graphs and tables. The research process is carried out cyclically by organizing and recording the information in matrices (spreadsheet) according to the topic addressed. From this basis and with the support of the statistical program (SPSS) version 25 (IBM, 2019), the quantification and characterization of the data on barriers in higher education, the resilience resources of students with disabilities, and the institutional support services they receive in their university education was made possible. Patterns of relationship are established according to the divergent and convergent aspects by study groups and are complemented with the argumentation, the inclusion of testimonies and the contrast with the theoretical reference and the knowledge acquired by the researcher's experience.

For the purposes of this article, the general results of the quantitative stage are presented.

Results

The results obtained in the study are presented below, arranged according to the variables addressed.

Barriers in higher education

According to the perception of the students participating in the study, 96.46% indicated that they faced different barriers during their university education and 3.54% of the graduates indicated that they did not face any barriers during their studies. However, they mentioned at least one obstacle in the methodology and evaluation of the assignments of the degree courses in which they graduated and in the access to the virtual platform of the UNA.

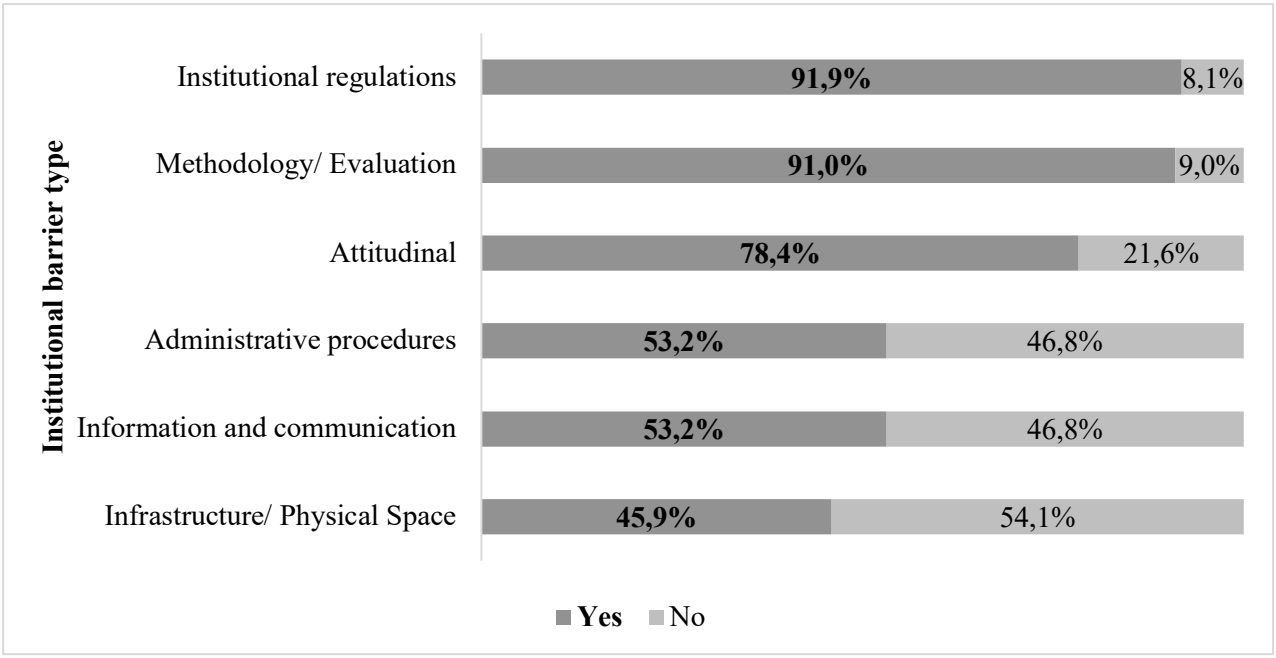

Figure 1.Type of institutional barrier in the training of students with disabilities at the National University- UNA in the year 2020, variable 1 questionnaire question 2 N110

In general terms, Figure 1 shows that 91.90% of university students indicate that the UNA does not comply with international, national, and institutional regulations on access to higher education for people with disabilities in conditions of equity; this is reflected in university teaching, since 91% of students indicate that the methodology and evaluation of courses present persistent barriers that limit their learning and academic development.

In the attitudinal area, 78.40% of university students mentioned that they have faced disparaging gestures and expressions, as well as discriminatory treatment due to their disability, affecting the socioemotional part and the interaction with their peers.

With a similar percentage, in the area of communication and information and administrative procedures at the university, 53.20% of students mention barriers that limit their autonomous participation and force them to request support from another person who does not necessarily show willingness and interest in collaborating, which generates concern and anxiety.

Moreover, for 45.90% of university students who use wheelchairs or are visually impaired, barriers in the infrastructure and physical space of the university hinder their mobility and movement on the university campus.

Regarding the meaning of barriers, 50.45% of the students indicate that they are a problem they have to face in their university education generated by the non-compliance with current regulations, the lack of accessibility conditions and lack of training for teachers and administrative staff of the UNA on disability and inclusive education. While for 49.55% of the student body, barriers are an opportunity to grow as a person. They are challenges to be overcome, struggles to be carried out, gaps to be closed, and good life experiences; this is how one student explains it: *"At the beginning barriers are obstacles, but circumstances change and they become challenges to face and move forward." (R 18).*

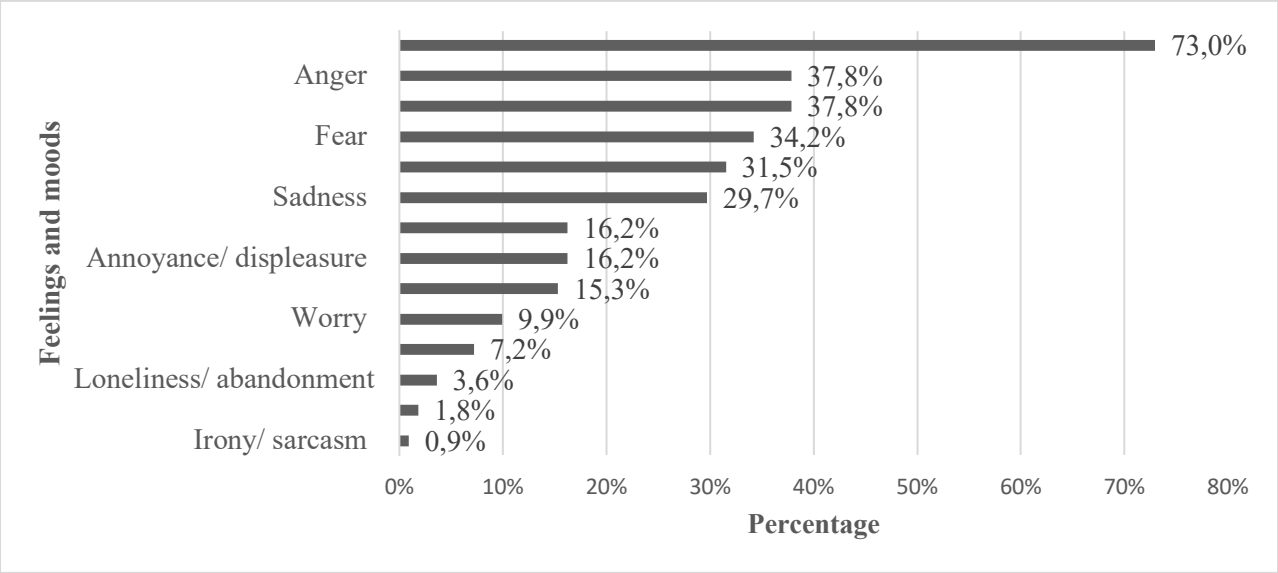

Figure 2. Feelings and moods about barriers to university education for students with disabilities in 2020; variable 1 questionnaire question 3 N 110

Figure 2 shows that the students participating in the study experience feelings of discomfort with the barriers in their university education, 73% feel frustration with the prevailing situation, which generates anger and helplessness, fear, sadness, and indignation that affect their emotional state and the quality of social interactions.

On the other hand, only 3.60% of the participating students indicated that the barriers in their university education are a source of motivation and courage to move forward, as expressed by one student: *"It generates a desire to overcome in a certain way a learning process; however, this is subjective, since it is subject to the personality and the magnitude and characteristics of the barrier." (R 2).*

Resilience in higher education

According to the results of the research, 100% of the student body affirms that they are resilient because they have been able to face and overcome adversities in their lives. The desire to overcome and the constant struggle they have had to face barriers in their university life has allowed them to move forward with their studies in an optimistic manner and with a positive vision of their future.

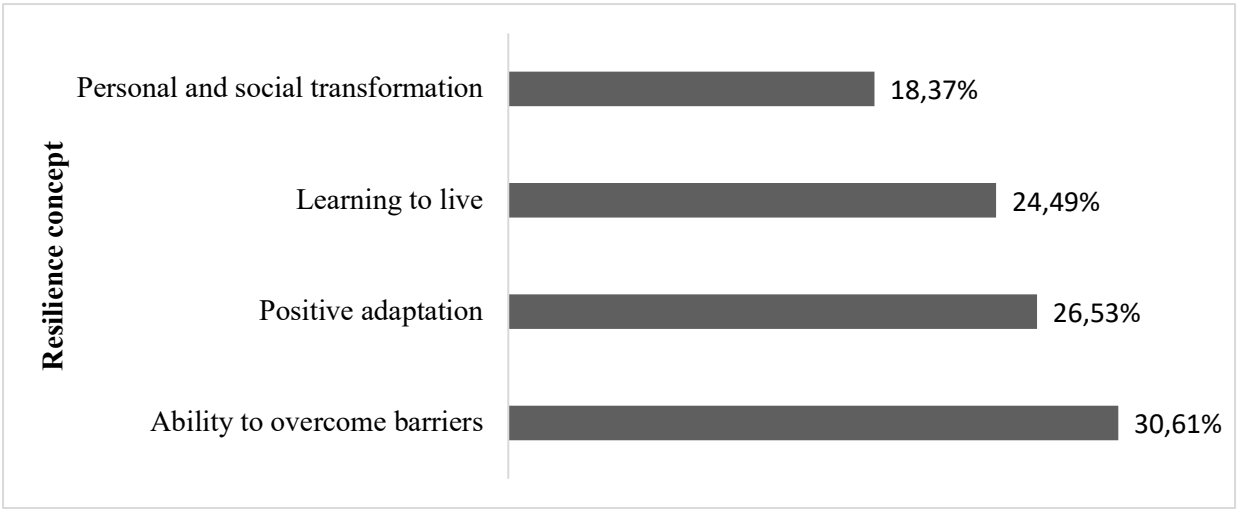

Figure 3. Concepts of resilience of students with disabilities at the National University in 2020, variable 3 questionnaire question 7 N110

Figure 3 shows that 30.61% of university students consider that resilience is a capacity to overcome life's adversities that constitute cognitive, emotional, and behavioral efforts. Some 26.53% focus on the process of positive adaptation to barriers or life circumstances in order to give a flexible response with the support of family, friends, and other people.

For 24.49% of the students, resilience consists of learning to live visualizing something positive, better, desirable, and different in order to overcome barriers and build alliances; and 18.37% highlight the process of personal and social transformation in their lives expressing: *"Resilience is a process of transformation that has been built in my life throughout the stages I have lived through." (R 3).*

Table 1
Percentage of students participating in the study by resilient characteristic in 2020

Resilient characteristics*	Percentage **
Studious / dedicated in study	39,14 %
Intelligent / ability to learn	32,43 %
Empathetic / understanding the person's situation	27 %
Strenuous / courage to undertake	23,42 %
Responsible/ fulfills obligations/ punctual	23,42 %
Proactive / manages alternatives and solutions	16,22 %
Optimistic / positive attitude in life	13,51 %
Creative / imagination and inventiveness	13,51 %
Tolerant / acceptance of situations or persons	13,51 %
Disciplined / organized	12,61 %
Respectful / considerate of the person	11,71 %
Humble / knows his/her qualities and weaknesses	11,71 %
Resilient / adaptation and transformation	10, 81 %
Brave / strong with courage	10,81 %

Note: *Each characteristic includes the interpretation of the group of participants.
Only the characteristics that represent 10% of the group of participants are included.
Variable 3, questionnaire question 9 N 110

As shown in Table 1, university students identify characteristics that define them as resilient. In the academic area, traits such as being studious, intelligent, hardworking, responsible, proactive, creative, and disciplined stand out, evidencing the importance of education in their lives, specifically university education.

In the socioemotional area, the traits that stand out are empathy, optimism, tolerance, respect and humility, resilience, and courage that allow them to face barriers in the personal, family, social, and educational spheres, adapt and maintain a healthy life.

Regarding the sources of motivation to continue with their studies, 50.45% of the students indicate that the support of their family and friends is fundamental in their lives due to the economic and emotional support. The 48.54% indicate that the career selected at the university is a reason to achieve a better future despite institutional barriers.

For 47.75% of the university students, the inner motivation they have during their university education is another essential factor to achieve academic, personal, and social goals. A 31.53% consider that the institutional support services are a reason that allows them to remain in the university because of the support they receive in the academic, social, and emotional areas, revealing its importance in university education, as expressed by a student: *"The support of the*

UNA Quality Education project is an incentive to seek alternatives when I have problems or to share with other people." (E 15)

In addition, 29.73% of the student body mentions that the beliefs and values acquired in their lives are a reason to continue with their studies, as shown: "*I believe in spirituality, even though I do not practice any religion. I believe in that light that protects us all, which, although I do not know its form, name, or place. I know it is there and that we have to be close to it with our heart transparent, free of grudges, and full of love." (E 1).*

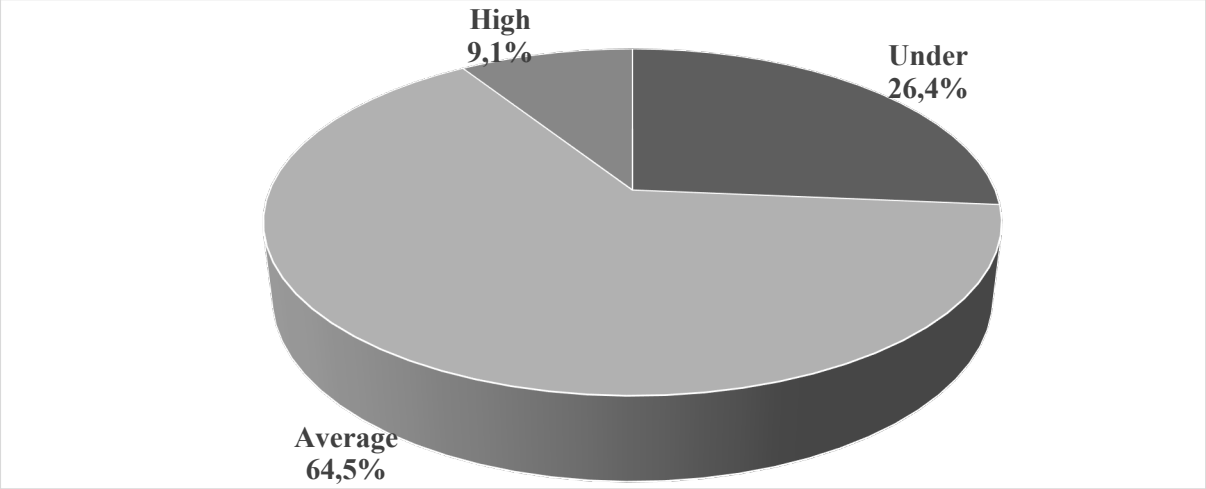

Figure 4. Level of resilience of students with disabilities at the National University according to the SV- RES60 scale in 2020, variable 3 N 110

Figure 4 shows that 64.50% obtain an average level of resilience with a range of 33 to 74 points according to the SR-RES60 scale and 9% reach a high level with a range of 71 to 90 points. A smaller proportion of students, 26.40%, obtained a low level of resilience with a range of 3 to 24 points.

On the other hand, when comparing the study groups, it can be seen that the graduate students obtain higher scores in the three dimensions of resilience (I am 59.20% graduates and 43.4% regular students; I have 59.2% graduates and 46.2% regular students; I can 44.46% graduates and 42.2% regular students).

Table 2
Percentage of resilience factors in the problem's vision-dimension according to the SV- RE60 scale and by study group in 2020

Structuring of consciousness, Saavedra and Villalta (2008)	Resilience factor by study group		
	Percentage	Regular %	Graduated %
Vision of the problem	**3. Satisfaction**	**13,50**	**21,50**
	7. Models	38,80	59,90
	11.Apprenticeship	**14,20**	**20,40**

Note: V 2 Resilience factors N 110

Table 2 shows that the participating university students obtained a low level in two factors that contribute to the *vision of approaching the problem* for the construction of resilience, evidencing that, in both study groups, they continue to perceive adverse situations as problems that generate dissatisfaction and few possibilities for learning.

Resilience strategies in higher education

According to the results of this study, **100%** of the participating students claim to use different resilience strategies in their university education.

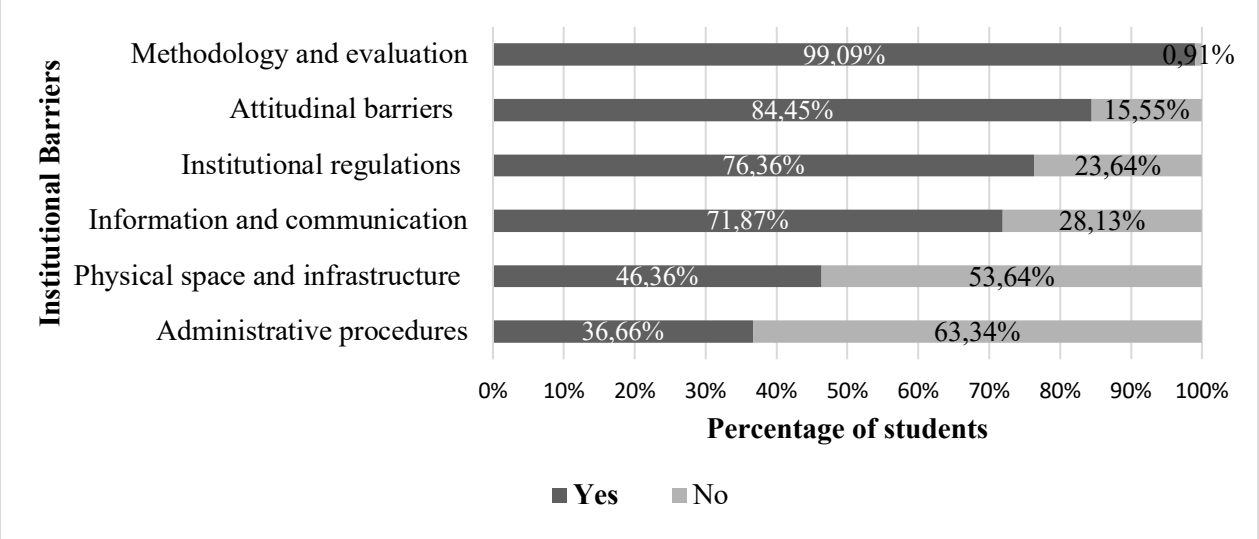

Figure 5. Resilience strategies of students with disabilities at the National University, variable 3 questionnaire question 11 N 110

Figure 5 shows that university students, faced with the prevalence of structural barriers, employ different resilience strategies, most of which are individual responses according to their

personal and social condition, reflecting their capacity for self-determination, autonomy, and pragmatism in order to generate the required support, these results being congruent with those obtained in the SV RES60 resilience scale (Figure 4).

In relation to the people the students trust to face the barriers in their university education, 88.99% indicate that they turn to their peers when they have difficulties or have to resolve various situations in their studies; in particular, university students with a visual impairment (blindness or low vision) the support of their peers is essential to move around the university campus; also to orient themselves in the class sessions and to prepare their work.

The 63.30% indicate that they find in their family and friends the economic, emotional and, in many occasions, academic support they need in their university education. This group of students indicates that usually a family member (mother, sister, or brother) helps them with the reading of documents, elaboration of materials, and transcriptions to Braille; in this way, they express, *"My family is also a great support. They represent a great economic and emotional support. They even sometimes help me to elaborate didactic materials." R.1.*

If adverse situations warrant it, 40.37% of university students turn to the UNA Quality Education Project and 3.67% to the Student Assistance Office or the Guidance and Psychology Department. In addition, 30.28% turn to the teaching staff to seek advice and collaboration to resolve conflicts in the curricular and academic areas (application of adjustments and respect for their rights).

It is noted that only 6.4% approach the university's student promotion groups, particularly music and theater, in order to find a space for support and recreation.

Institutional support services

According to the results of the research, the participating students receive different support services during their university education.

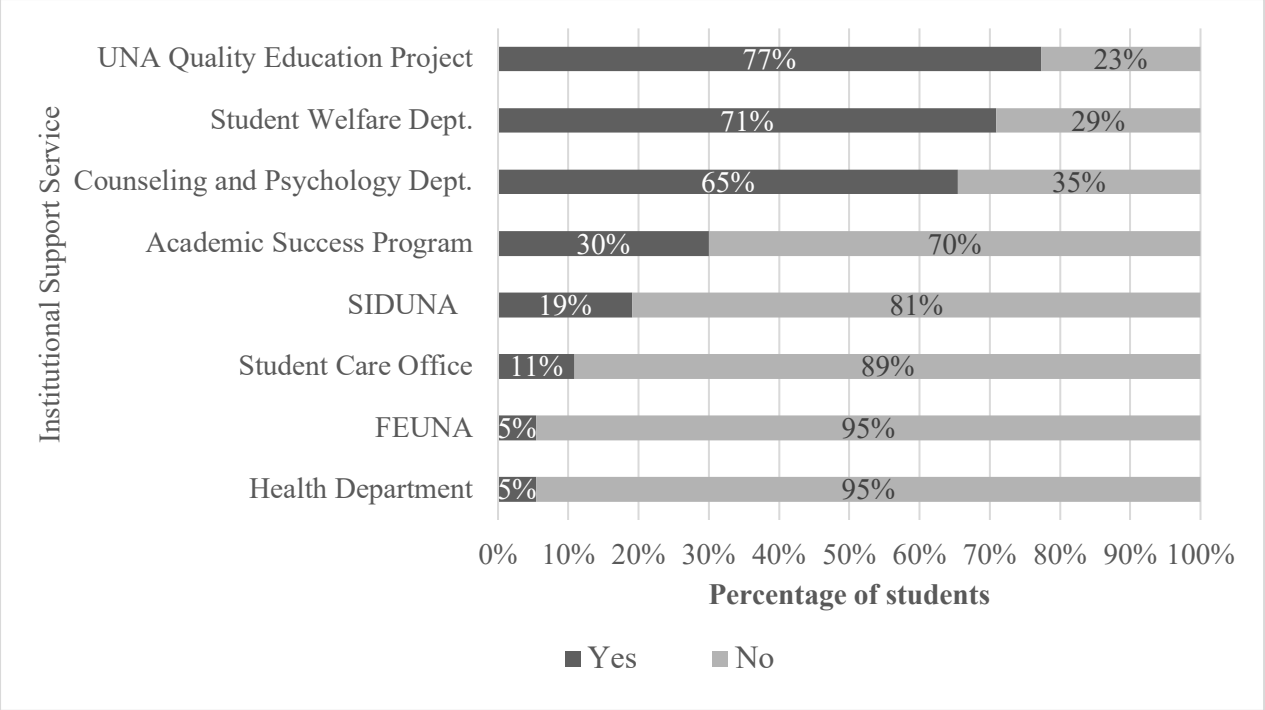

Figure 6. Institutional support service received by students with disabilities at the National University in 2020, variable 4, questionnaire question 14 N 110

As shown in Figure 6, 77% of the students attend the UNA Quality Education Project for academic support (digitalization of materials, individual support to prepare assignments, access to technological equipment, and other actions), 65% attend the Guidance and Psychology Department for psycho-pedagogical and psychological follow-up, and 30% attend the Academic Success Program to receive tutoring in the most demanding courses (mathematics, chemistry, and English).

A smaller part of the student body uses other services, such as the Information and Documentation System (SIDUNA, 19%) for the digitalization of printed documents, the Student Services Office (11%), and the Student Federation (FEUNA) and the Health Department (5%).

Discussion and conclusions

In this study, it was determined that the inaccessibility conditions prevailing at UNA harm the rights of students with disabilities and generate different forms of discrimination and exclusion with their emotional and social repercussions, since they are perceived as people who must adapt to a society that does not integrate them by itself, to a university context that does not ensure their permanence or the completion of their studies, evidencing a contradiction with the vision and mission of the university and with the principles of humanism and inclusion, the values of equity and respect for diversity (UNA, 2016).

It is concluded that the barriers faced by students with disabilities during their university education are structural because they are found in the physical, organizational, administrative, and curricular dimensions of the university that hinder their personal, academic, and social development.

These results are consistent with studies conducted in universities in Latin America and the Caribbean (Henríquez, 2018) and with the Institutional diagnosis on the constructions of academic staff about disability and the forms of support and follow-up at UNA (Fontana et al, 2012 - 2015); likewise with other studies by academics (Torres, 2013 and Vargas, 2012- 2013).

The situation of inaccessibility is not alien to other universities in the country, according to research conducted by Gross (2016), Ramirez, 2021, Stiller, and Gross (2012), students with disabilities at the University of Costa Rica (UCR) point out achievements and shortcomings in inclusion in higher education.

The presence of structural barriers in university education is a stressful aspect for students with disabilities that repeatedly exceeds their cognitive, emotional, and behavioral capacity, generating feelings of discomfort and altering their emotional state, which affects academic performance and the quality of interactions with peers, teachers, and members of the university community.

It is concluded that students with disabilities are perceived as resilient people because they have been able to face and overcome adversities in their lives, the desire to overcome, the constant struggle against barriers in their university education has allowed them to move forward with their studies in an optimistic way and with a positive vision of their future, as indicated by Luthar (2006), Forés and Grané (2016).

These results are congruent with those obtained in the SV RES60 resilience scale, since most of the participating students present an average level of resilience (64% with a range of 33 to 74 pts.) and a high level (9% with a range of 75 to 90), which are similar to the general population in other studies (Saavedra and Villalta, 2008; Saavedra et al, 2012).

On the other hand, university students who present a low level of resilience (26.4% with a range of 3 to 24 pts.) according to the SV RES60 scale, it is feasible that they should strengthen personal and social skills that allow them to face the barriers of the university environment and build increasingly healthy lifestyles, since resilience is a universal human capacity that is built in and from the social factors (Madariaga et al., 2014).

Based on the conceptualization of resilience, four stages are identified: confrontation with environmental barriers, positive adaptation, learning to live with life circumstances, and realization and transformation, these processes reflecting the routes of construction and reconstruction of resilience in each student with disabilities individually and socially in order to move forward with their lives.

Students have four sources of resilience: internal motivation (inner strength), external motivation (family support), the university career, and institutional support services that interact in a dynamic and flexible way in their lives, promoting the entry, permanence, and completion of studies in higher education, constituting a cyclical and unfinished process according to the different situations they will face in their lives (Pourtois, 2014).

From the results of the SV RES60 resilience scale, it is determined that the graduate students achieve a higher score in the three dimensions of resilience (*I am/ I am, I have, and I can;* Grotberg,

1995) than the group of regular students. This is consistent with the adult stage in which they find themselves, since it allows them a particular way of appropriating the events in their lives, a strengthened capacity in their personal and professional achievements, with stable links and networks; also with more collaborative and slower generative responses.

While regular students obtain a lower level of resilience in the previous dimensions, which is a result congruent with the young adult stage in which they are exploring different ways to face adversities in their lives; with aspirations and projects to achieve, which requires a generative response focused on their academic goals, relying on their personal possibilities and the resources of their environment to successfully complete their studies, allowing them to achieve personal and professional fulfillment.

It is concluded that the possibilities of learning from adverse situations continue to be a critical aspect in their lives, particularly in higher education, since in the dimension of resilience, vision of the problem (barriers in higher education), both groups of students present a low level in the factors: satisfaction and learning according to the SV- RE60 scale.

Given the structural barriers in the UNA, it is determined that the student body generates resilient responses through individual actions. It is evident, then, the absence of a strategy as a student group that ensures not only their rights in higher education and the conditions of accessibility in university education, but also their emotional well-being, the empowerment of their capabilities, and their social projection.

In university education, it was determined that the role played by peers (classmates, friends, and students with disabilities) and people they trust in institutional support services in building resilience is relevant because they show empathy, maintain constant communication (cell phone), serve as a guide, and give them recommendations to overcome the adversities they may encounter during their university education.

It is concluded, then again, that students with disabilities present a resilient state during their university education, which consists of more than the sum of personality traits, since resilient characteristics are modeled according to the demands of each stage, particularly in higher education, as indicated by Connor and Davidson (2003).

Based on the results of the study, it is justified to update the academic and administrative staff of the UNA and to renew the praxis of the institutional support services from the models of resilience promotion committed to the maximization of human potential and well-being. In addition, it is intended to establish the resilient enclave factors for the implementation of an accompaniment route at the National University.

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DRUG DEPENDENCE AND EMOTIONAL DYSREGULATION: A SYSTEMATIC REVIEW

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Abstract. Introduction: Emotional regulation has been linked to a large number of mental disorders. Its definition has had some controversy and distinctions according to the author. Two explanatory models of emotional regulation are provided: the emotional regulation process model and the emotional regulation model based on emotional processing. Likewise, the relationship of this ability with the consumer population and the current state of consumption in Spain are explained. The objective of this study is to study the most recent scientific information, evaluate the usefulness of emotional regulation for prevention and intervention in drug addicts, and more specifically, identify and analyze the existing relationship, the evaluative techniques, and the sample used. Method: The selection of articles has been made from 2016 to 2020, these being related to emotional regulation and the drug dependent population. Searches were carried out in Scopus and Psycinfo, using the following terms: "emotional regulation" AND "drug addiction". Results: Of the total number of potential articles, 20 were selected that met the established inclusion and exclusion criteria. Numerous beneficial relationships between emotional regulation and drug addicts stand out, focusing the research found in adult populations. Likewise, a series of instruments used for the evaluation of the emotional regulation. Discussion: In this review it is concluded that emotional regulation has a great influence on the drug-dependent population, obtaining numerous benefits from its development, which are given at a level of both prevention and intervention.

Keywords: emotional regulation, emotional intelligence, drug dependence, addiction, systematic review.

DROGODEPENDECIA Y DESREGULACIÓN EMOCIONAL: UNA REVISIÓN SISTEMÁTICA

Resumen. Introducción: La regulación emocional se ha relacionado con gran cantidad de trastornos mentales. Su definición ha tenido cierta controversia y distinciones según el autor. Se aportan dos modelos explicativos de la regulación emocional: el Modelo procesual de regulación emocional y el Modelo de regulación emocional basado en el procesamiento emocional. Asimismo, se explica la relación de esta habilidad con la población consumidora, y el estado actual de consumo en España. El objetivo de este estudio es estudiar la información científica más reciente, evaluar la utilidad de la regulación emocional para la prevención y la intervención en personas drogodependientes, y de manera más específica, identificar y analizar la relación existente, las técnicas evaluativas, y la muestra empleada. Método: La selección de artículos se ha realizado desde el año 2016 hasta 2020, estando estos relacionados con la regulación emocional y la población drogodependiente. Fueron ejecutadas búsquedas en Scopus y Psycinfo, utilizando los siguientes términos: "emotional regulation" AND "drug addiction". Resultados: Del total de artículos potenciales, se seleccionaron 20 que se ajustaban a los criterios de inclusión y exclusión establecidos. Se destacan numerosas relaciones beneficiosas entre la regulación emocional y las personas drogodependientes, centrándose las investigaciones encontradas en poblaciones adultas. Asimismo, se distinguen y describen una serie de instrumentos empleados para la evaluación de la R.E. Discusión: En esta revisión se concluye que la regulación emocional tiene una gran influencia en la población drogodependiente, obteniéndose de su desarrollo numerosos beneficios, los cuales se dan a un nivel tanto de prevención como de intervención.

Palabras clave: regulación emocional, inteligencia emocional, drogodependencia, adicción, revisión sistemática.

Introduction

Emotional regulation (ER) is key in various disorders such as addictions, self-injurious behaviors, mood disorders, or anxiety disorders, being found in these dysfunctional regulation strategies (McNally, Palfai, Levine, & Moore, 2003; Gratz, 2003). In general, a person with less capacity to regulate his emotions will present difficulties in his daily life, appearing together with these psychological disorders; this is because emotions have an adaptive function to the environment, facilitating decision making and preparing the individual to act (Gross, 1999).

When analyzing the publications related to this topic, a marked increase can be seen in recent years. As can be observed in *Figure 1,* the published documents related to emotional regulation have a gradual increase in the last 20 years, indicative that there is a greater interest in what concerns this topic.

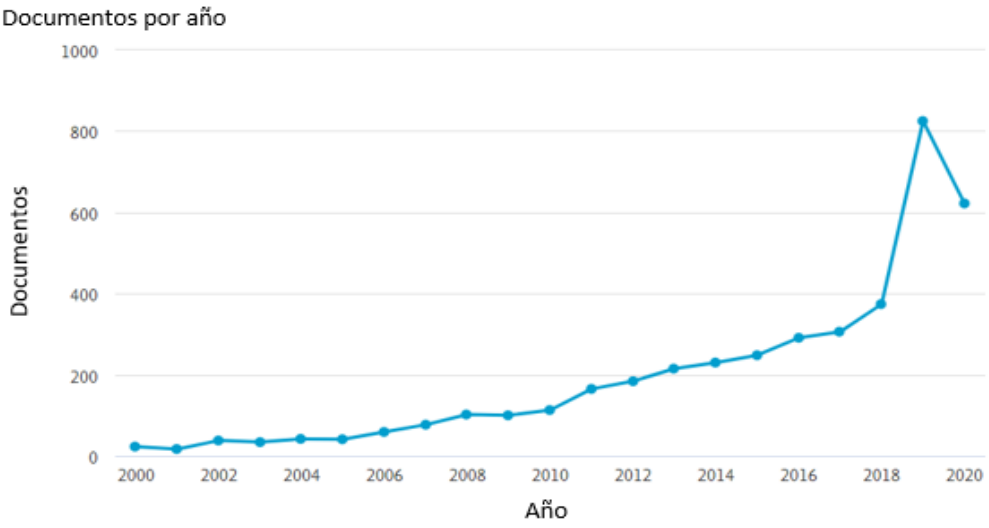

Figure 1. Documents by year published with the term "emotional regulation" in the area of psychology in the last 20 years. Copyright 2020 by Scopus.

In *Figure 2,* an increase in the interest of the ER related to substance addiction is observable, the increase in this case is not as marked as in the previous one, but it continues to show a tendency to grow.

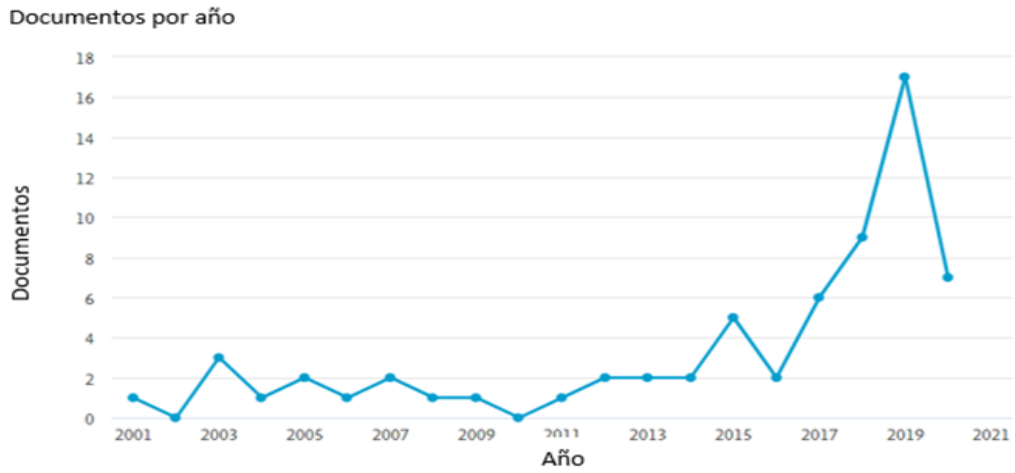

Figure 2. Documents published by year with the terms "emotion regulation" and "drug addiction" in the area of psychology in the last 20 years. Copyright 2020 by Scopus.

Thompson (1994) and Gross (1999) agree that ER consists of the control or management of our emotions; such management can be functional or dysfunctional. In addition to the above, emotion regulation can be understood as the key process of emotional intelligence (E.I.) (Brenner & Salovey, 1997; Extremera, Durán, & Rey, 2005; Jiménez & López-Zafra, 2008; Pérez & Castejón, 2006), this aspect makes certain authors refer to both concepts as similar, although to be exact, ER should be included as a skill within EI. There are four levels of interaction between behavior and emotion, being factors of great importance when carrying out functional and adaptive behaviors:

1. The perception, evaluation, and expression of emotion.
2. The facilitating effect of emotions with respect to thinking.
3. The understanding and analysis of emotions using emotional knowledge.
4. Reflective regulation of emotions to promote intellectual and emotional growth.

There are several explanatory models of ER; in this review, two models stand out: the *Process model of emotional regulation (*Gross, 1999) and the *Emotional regulation model based on emotional processing* (Hervás, 2011). The selection of these two models, over others, is because they encompass the characteristics of ER, complementing each other.

The process model of emotional regulation (Gross, 1999)

This author differentiates several phases: Situation-Attention-Interpretation-Response. Emotional regulation strategies can be established according to the phase in which one finds oneself. Gross (1999), differentiates regulation focused on the antecedents of the emotion, and regulation focused on the emotional response.

In the first phase, people can choose or avoid different situations based on our previous experiences, preferably choosing situations that provoke positive emotions. In addition, within the situation itself, the person can choose the path he or she wishes to take.

Regarding attention, it has been seen that the attentional focus has a great relevance in the emotional response of the person. Research has corroborated that this attention can be trained and automated using very few cognitive resources (Wadlinger & Isaacowitz, 2011).

Interpretation is the phase on which most therapies have focused by working on emotional regulation, through cognitive reappraisal, demonstrating its influence on the subsequent emotional response.

Finally, there is the emotional response; in this case, we can work on various aspects such as emotional experience, behavioral expression/manifestation, or physiological activation. At the clinical level, the aim is to reduce the psychobiological level of the emotion.

Several limitations have been highlighted around this model, among them: nothing is said about emotional acceptance as an emotional regulation strategy, when it has widely demonstrated its positive effects (e.g., Alberts, Schneider, & Martijn, 2012; Liverant, Brown, Barlow, & Roemer, 2008). Second, the way in which Gross poses this model can lead to elaborate maladaptive behaviors, mostly focused on avoidance.

Emotional regulation model based on emotional processing (Hervás, 2011).

There are authors who defend that in order to regulate emotions, an active process of understanding and elaboration of the emotion is necessary (Hunt, 1998).

Stanton, Kirk, Cameron, and Danoff-Burg (2000), integrate emotional processing as a type of emotional coping, considering the latter as the ability to cope with a high intensity emotion. This study differentiates between emotional expression, considering it as the ability to recognize the emotion and express it through a corresponding behavior; and emotional processing, as the ability to know and understand the emotion.

This model argues that emotional processing is not only valid for high intensity emotions, but that it has positive effects for any situation, establishing six phases necessary for optimal emotional processing.

1. Emotional openness. Ability to be aware of your emotions.
2. Emotional attention. A range of attentional resources must be devoted to emotion (Gratz & Roemer, 2004; Salovey, Mayer, Goldman, Turvey & Palfai, 1995).

The first two phases can be related to Gross's (1999) stage of attention.

3. Emotional acceptance. Avoid making a negative judgment about the emotion (Gratz & Roemer, 2004).
4. Emotional labeling. A person's ability to recognize what he or she feels and put a "name" to it (Gratz & Roemer, 2004; Salovey et al., 1995).
5. Emotional analysis. A person's ability to understand what he or she is feeling and to reflect on it (Stanton, Kirk, Cameron & Danoff-Burg, 2000).

In this phase, there are a series of elements to be analyzed: first of all, the origin, that is, *where* the emotion comes from; then it is necessary to understand *why* it has appeared, that is, *what it* means. Many times emotions are activated through a series of mechanisms by mistake, it is necessary to observe if the emotion is coherent in the situation experienced; and, finally, if the emotion is coherent, it is necessary to *learn* from it.

6. Emotional modulation. Using various strategies to manage the emotion felt (Gratz & Roemer, 2004; Salovey et al., 1995).

Regarding its relationship with drug dependence, the study conducted by Fernández, Jorge & Bejar (2009) revealed that both substance abuse and consumption is used as an external self-regulation technique, i.e., as a way of relieving negative emotional states. This is also appreciable in the research carried out by Echeburúa & Corral (1999), in which it was found that a person who presents a dependence or addiction would tend to perform the behavior in question, in order to reduce the negative emotional states present.

Taking into account the aforementioned results, it can be inferred that addicts lack essential tools such as how to discriminate between emotions, how to express and regulate them, as well as how to guide their thinking and behavior; these tools would be very useful to this group in order to face their problematic consumption.

In Spain, one of the latest carried out surveys on alcohol and drugs (EDADES Study 2017-2018) identifies that the age of onset of consumption is less than 13 years, although the average age of consumption would be at 32 years. Likewise, there is an increase in legal drugs such as alcohol and tobacco, and with regard to non-legal drugs, it is worth highlighting the increase in cannabis consumption, especially in adolescents and young adults. All of this shows the importance of providing help for this problem, both in terms of prevention and intervention.

It is true that the study on the relationship between EI and substance addiction is still recent; however, there are studies that seem to indicate and affirm that such intelligence intervenes in a positive way in its relationship with addictions. Apart from the aforementioned studies, it is worth highlighting significant studies such as the following:

- The study on EI and alcohol conducted by Petterson, Malouff & Thorsteinsoon, (2011) in which significant type relationships were found between a low level of emotional intelligence and high consumption.
- The research on cocaine use conducted by Aranda, González, Salguero, Gualda & Herero (2009), it was concluded that EI acts as a direct protective factor against cocaine use.
- The article on legal drug use by Trinidad & Johnson (2002), in which it was observed that EI correlates negatively with substance use, adding also that adolescents with high EI are more able to resist peer pressure.

With the aforementioned conclusions, we can see the importance of emotional intelligence in drug dependence, as well as the important role that an adequate emotional regulation plays.

Taking into account all the aspects reviewed in relation to the ER and drug addictions, this work presents the following objectives:

General objectives:

- Study the most recent scientific information on the subject in question, in order to provide a clear current view of addictions and the possible aspects that may be of help for this problem.
- Evaluate the usefulness of emotional regulation for both prevention and intervention with drug addicts.

Specific objectives:

- Identify the relationship between emotional regulation and substance abuse.
- Know the different techniques for the evaluation of emotional regulation and analyze the most used ones.
- Analyze the groups of participants based on age and gender.

Method

Two databases, Psycinfo and Scopus, were used to search for articles with the following search terms: "emotional regulation" and "drug addiction." In this review, the following inclusion and exclusion criteria were applied in the selection of articles.

Criteria that had to be met in order to be included are:

- Published in the last 5 years, 2016-2020
- Original studies
- Academic publications
- Articles in English or Spanish
- An investigation in which emotional regulation was evaluated in order to look for a relationship with drug dependence.

As exclusion criteria, it was established that articles would not be included:

- Whose analyzed population was not that of drug-dependent patients.
- That they were not finished.

Results

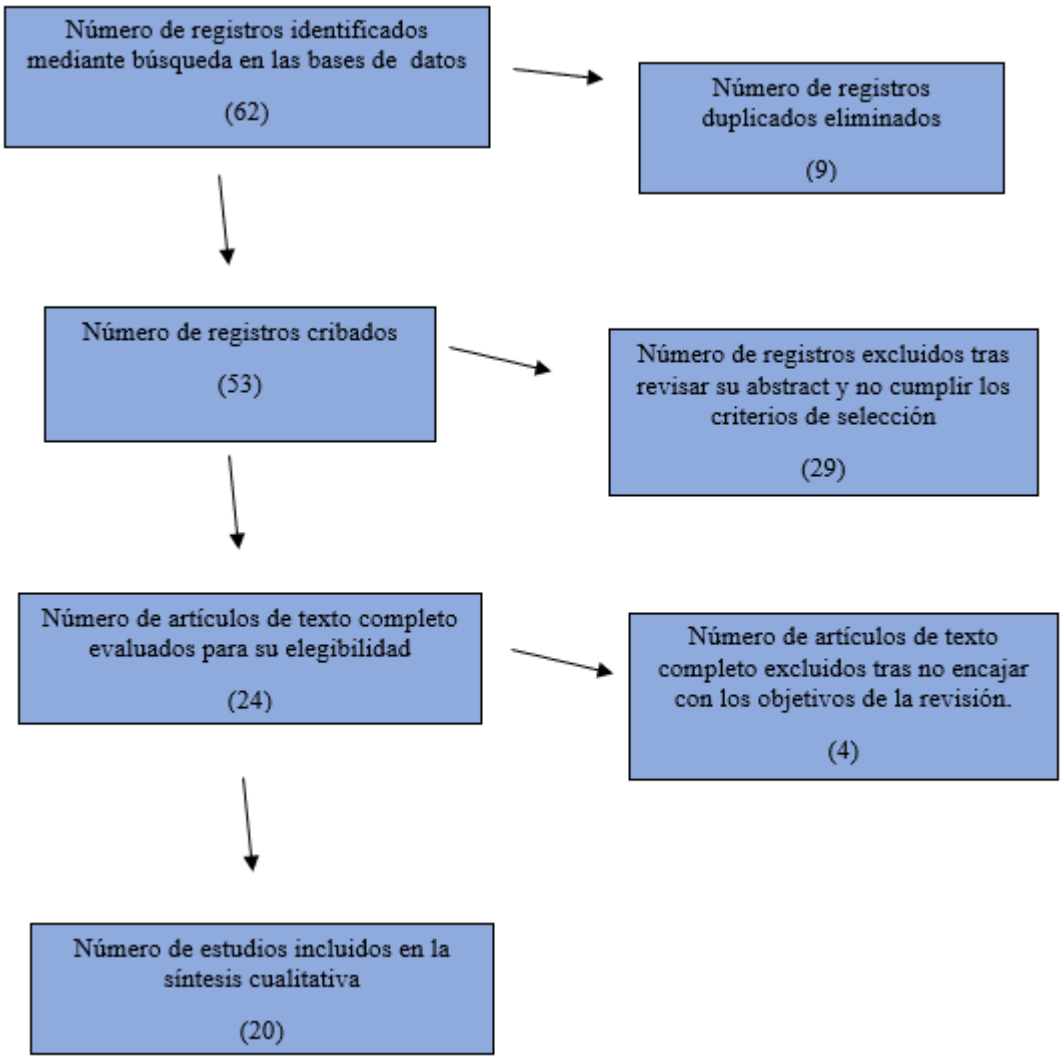

Figure 3. Flow diagram.

Table 1

Classification of the articles selected for review in this article

Author-Year	Participants	Evaluation instruments	Relationship between ER-Observed drug dependence	Brief conclusion
Bakhshaie, Rogers, Kauffman, Tran, Buckner, Ditre & Zvolensky, (2019).	N (Males/Females): 2080 (443/1637) Young adults (Average 21 years old)	The Positive Affect Negative Affect Scale *(PANAS)*; Difficulties in Emotion Regulation Scale *(DERS).*	Emotional dysregulation explained, in part, the association between negative affect and nonmedical opioid use among a large number of people.	- Role of emotional dysregulation as a possible mechanism in the association between negative affect and nonmedical opioid use. - Further work is needed in the future to assess the value and feasibility of brief emotion regulation interventions in young adults for emotional distress and non-medical opioid use.
Cavicchioli, Ramella, Vassena, Simone, Prudenziati, Sirtori & Maffei (2020).	N (Men/Women): 319 (186/133) Adults (Average 46 years)	Difficulties with emotion regulation scale *(DERS).*	An influence of emotional dysregulation on the co-occurrence of compulsive behaviors (such as gambling, compulsive sex, compulsive shopping, eating problems...) was found.	- This is the first study to show empirically the role of emotional dysregulation and conscious self-regulation of attention as psychological processes involved in the co-occurrence between alcohol use disorder and other addictive behaviors. - Studies are recommended to empirically test the therapeutic role of conscious self-regulation of attention in various addictive behaviors.
Clarke, Lewis, Myers, Henson & Hill (2020).	N (Men/Women): 179 (98/81) Adults (Average 40 years old)	Difficulties with emotion regulation scale *(DERS);* Emotion Regulation Questionnaire *(ERQ)***.**	A relationship was found between well-being, emotion regulation, and relapse in outpatient treatment patients. Difficulties in emotion regulation were associated with higher odds of relapse days.	- A negative correlation was observed between emotional regulation and relapse. - Future research is needed to clarify and extend the current results.
Decker, Morie, Hunkele, Babuscio, & Carroll (2016).	N (Men/Women): 72 (34/38) Adults (Average age 41 years)	Emotion Regulation Questionnaire *(ERQ***).**	Neither cognitive reappraisal nor emotional suppression was related to cocaine withdrawal during treatment as measured by self-report or urinary toxicology.	- Cognitive reappraisal (CR) was not associated with cocaine abstinence before or during treatment, although a previous study found that low CR and high emotional suppression were associated with heroin use. - This research needs to be replicated; still, it is possible that cocaine and heroin have different associations with emotion regulation.

Dingle, Neves, Alhadad & Hides (2018).	N (Men/Women): 70 (46/24) Young Adults (Average 25 years)	Difficulties in Emotion Regulation Scale *(DERS).*	The representative sample of drug addicts obtained higher levels of dysregulation than the control group.	- A difference was observed between the emotional regulation present in the experimental group (patients with drug dependence) and the control group, with a lower ER in the experimental group. - They highlight the need for future longitudinal studies to assess how emotion regulation relates to the initial onset, severity, and progression of substance use disorder in adults.
El-Rasheed, ElAttar, Elrassas, Mahmoud & Mohamed (2017).	N (Males/Females): 60 (60 males) Young Adults (Average 20 years)	Toronto Alexithymia Scale-20 *(TAS-20).*	A significant relationship was found between addiction potential and emotion (mainly in aspects such as acceptance, intentional behaviors, and impulsivity). All this influencing and exacerbating addictive behavior.	- Adolescents with substance abuse were observed to have worse mood regulation than controls. - The association between emotion control and substance abuse may exacerbate increased motivations to use substances as regulators of uncontrollable emotions.
Estevez, Jáuregui, Sanchez-Marcos, López-González, & Griffiths (2017).	N (Males/Females): 472 (229/243) Teenagers (Average: 15 years)	Difficulties in Emotion Regulation Scale *(DERS).*	Substance addictions (alcohol and drugs) and non-substance addictions (Internet, video games, and gambling) were positively correlated with emotion dysregulation.	- Emotion regulation difficulties predict substance and non-substance addictions. - This study provides new evidence for future research on the risk and protective factors involved in addiction.
García, Luque, B., Ruiz, & Tabernero (2017).	N (Men/Women): 53 (45/8) Adults (Average: 40 years)	Regulatory Emotional Self-Efficacy scale *(RESE).*	It was found that a person with a good ability to regulate his or her emotions would be less likely to suffer from depression and therefore have better cognitive performance.	- The variable of self-regulation of positive emotions can be worked on in order to avoid depression, and therefore cognitive deterioration in the consumer population.
Hardy, Fani, Jovanovic, & Michopoulos, (2018).	N (Males/Females): 229 (229 females) Adults (Average of 39)	The Difficulties in Emotion Regulation Scale *(DERS).*	Emotional dysregulation in women with addiction is related to eating problems.	- Common features of food addiction and substance use disorder are described, particularly depression and patterns of emotional dysregulation. - The need for further research is highlighted.

Jalali, Hashemi, Hasani, & Fakoor Sharghi (2017).	N (Males/Females): 52 (52 males) Adults (Average: 31 years)	Cognitive Emotion Regulation Questionnaire *(CERQ)*	It was observed that better emotional regulation increased the self-esteem of prisoners with addiction, and stabilized their emotions, allowing them to have greater control over their consumption.	- Working on the regulation of emotions in prisoners with addiction allowed them to improve their management of emotions in the face of consumption. - It is recommended that the results be extrapolated with caution, as they cannot be extrapolated to the entire consumer population.
Jara-Rizzo, Navas, Catena, & Perales (2019).	N (Men/Women): 196 (162/34) Adults (Average: 34 years)	Emotion Regulation Questionnaire *(ERQ).*	A relationship between emotional dysregulation and pathological gambling was observed. In particular, reappraisal was positively associated with gambling cognitions.	- The basic neurocognitive mechanisms of gambling disorder are related to emotional regulation. - Not only are the emotional roots of gambling cognitions corroborated, but also their overlap with higher-order models of emotion regulation strategies.
Jauregui, Estevez, & Urbiola, (2016).	N (Males/Females): 274 (274 males) Adults (Average: 36 years)	The Difficulties in Emotion Regulation Scale *(DERS).*	It was found that pathological gamblers tended to have more difficulties with respect to emotional regulation. Pathological gambling may be a way of regulating negative emotions and a consequence of failures in self-control.	- Pathological gamblers may present emotional regulation difficulties, which may also be a predictor of pathological gambling and comorbid disorders. - The treatment of pathological gambling can benefit from the improvement and promotion of emotional regulation skills.
Kumar, Kumar, Benegal, Roopesh, & Ravi (2019).	N (Males/Females): 50 (50 males) Adults (Average: 34 years)	Affect Regulation Checklist *(ARC).*	A positive relationship is observed between cognitive remediation and mind-body exercises, with emotional regulation, in dependent people. Adequate emotional regulation reduces anxiety and stress levels and facilitates self-control.	- A comprehensive model is recommended for the intervention of alcohol-dependent persons, with special emphasis on the promotion of emotional regulation skills.

Lutz, Gross, & Vargovich, (2018).	N (Males/Females): 149 (61/88) Adults (Average: 54 years)	The Difficulties in Emotion Regulation Scale *(DERS).*	Greater difficulties in emotion regulation are associated with higher levels of pain-related disability and increased risk of opioid abuse.	- It is important to assess and address emotion regulation in patients with chronic pain. - Difficulties in emotion regulation are associated with poorer functioning and increased risk of opioid abuse in this population. - More research is needed regarding this topic, and how it can be included in the prevention and intervention of these addictions.
Paulus, Vujanovic & Wardle, (2016).	N (Men/Women): 119 (67/52) Adults (Average: 36 years)	The Difficulties in Emotion Regulation Scale *(DERS).*	Emotional dysregulation was related to an increase in the frequency of alcohol consumption, more problems related to consumption, and the degree of problems observed by the drug addicts themselves.	- Felt anxiety may be a risk factor for alcohol-related problems, but not consumption. - Difficulties in regulating emotions may explain these associations, suggesting a relevant avenue for clinical development.
Sloan, Hall, Simpson, Youssef, Moulding, Mildred, & Staiger (2018).	N (Men/Women): 10 (4/6) Young adults (Average: 19 years)	The Difficulties in Emotion Regulation Scale *(DERS).*	A relationship between emotional regulation and improvements during rehabilitation is observed.	- There are quite favorable data on the treatment of emotional regulation in young age groups; a population that is quite complex when it comes to dealing with problems such as substance abuse. - Further research along these lines is recommended.
Wang, Burton, & Pachankis, (2018).	N (Males/Females): 218 (127/91) Adults (Average: 36 years)	Difficulties in Emotion Regulation Scale *(DERS).*	Emotional dysregulation is related to the stigma associated with depression, increasing the tendency of individuals to use substance abuse as a coping technique.	- Deficits in emotional regulation are implicated in the development of problematic substance use, employed by the individual to cope with psychological distress. - It is recommended that this line of research be pursued for both preventive and substance abuse intervention purposes.
Weiss, Bold, Sullivan, Armeli & Tennen (2017).	N (Males/Females): 1640 (754/886) Young adults (Average: 19 years)	Emotion Regulation Questionnaire *(ERQ).*	A relationship was found between the use of emotional regulation strategies and a lower tendency to subsequent consumption.	- There are reciprocal relationships between emotion regulation strategies and substance use. - Higher daytime use of distraction, reappraisal, and problem solving predicts lower evening substance use, whereas higher evening substance use predicts higher next-day avoidance and reappraisal.

Weiss, Forkus, Contractor, & Schick (2018).	N (Men/Women): 311 (106/205) Young adults (Average: 19 years)	Difficulties with emotion regulation scale *(DERS).*	A relationship was identified between difficulties in regulating positive emotions and alcohol and drug abuse.	- Findings suggest utility of addressing difficulties in regulating positive emotions in treatments aimed at reducing alcohol and drug abuse among college students.
Zohreh & Ghazal (2018).	N (Men/Women): 320 (320 men) Young adults (Average: 21 years)	Difficulties with emotion regulation scale *(DERS).*	A positive correlation was observed between behavioral inhibition, behavioral activation systems, and difficulties in emotional regulation. Likewise, emotional dysregulation explained an important part of the variance in addiction potential.	- Emotional regulation predicts some of the potential for addiction. - It can be used to facilitate intervention techniques that can help in the treatment of substance abuse.

Considering *Table 1*, the total number of evaluated participants amounts to 6874, counting the smallest sample with only 10 participants (Sloan, Hall, Simpson, Youssef, Moulding, Mildred, & Staiger, 2018) and the largest sample with 2080 participants (Bakhshaie, Rogers, Kauffman, Tran, Buckner, Ditre & Zvolensky, 2019). Of the total there are 3755 females (54.64%) and 3118 males (45.36%). It is worth noting that there are both articles in which the sample is represented only by females (Hardy, Fani, Jovanovic, & Michopoulos, 2018), and studies only consisting of males (El-Rasheed, ElAttar, Elrassas, Mahmoud & Mohamed, 2017; Jalali, Hashemi, Hasani, & Fakoor Sharghi, 2017; Jauregui, Estevez, & Urbiola, 2016; Kumar, Kumar, Benegal, Roopesh, & Ravi, 2019; Zohreh & Ghazal, 2018).

In relation to age, three age groups were differentiated: adolescents (under 18 years), young adults (18-29 years) and adults (30-65 years). It was observed that most of the research is aimed at an adult population (60%), a smaller proportion at the young adult group (35%) and, finally, one study was presented with adolescents (5%) (Estevez, Jáuregui, Sanchez-Marcos, López-González, & Griffiths, 2017).

About the total number of instruments 22 were identified, almost all of them are specific to emotional regulation, except one of them where it is assessed indirectly (4.5%) through the "*Toronto Alexithymia Scale-20" (TAS-20) (*El-Rasheed, ElAttar, Elrassas, Mahmoud & Mohamed, 2017). Six instruments used are distinguished: "*Difficulties in Emotion Regulation Scale*" *(DERS) (*59.2%); "*Emotion Regulation Questionnaire*" *(ERQ)* (18.3%); "*The Positive Affect Negative Affect Scale*" *(PANAS)* (4.5%); "*Regulatory Emotional Self-Efficacy scale*" *(RESE)* (4.5%)**;** "*Cognitive Emotion Regulation Questionnaire*" *(CERQ)* (4.5%)**;** "*Affect Regulation Checklist*" *(ARC)* (4.5%)**.**

Regarding the relationship observed, we studied consumer populations with addictions to various substances such as opioids, alcohol, cannabis, cocaine and non-substantial addictions such as Internet, video games or gambling. In all of them, an improvement in E.R. brought them benefits such as:

- An improvement during rehabilitation (such as in experienced well-being and a reduction in relapses).
- A lower frequency of subsequent consumption.
- Anxiety and stress reduction.
- Decrease in depression in the consumer population.
- Improvement of eating problems associated with consumption.
- Increased self-esteem and self-control.

In general, the ER has relevance and influence both at the beginning of consumption, as well as in the severity of addiction and subsequent progression; therefore, a preventive, rehabilitative, maintenance, and of intervention function is appreciated.

Discussion and conclusions

Taking into account the situation of the last few years of consumption in our country of both legal and non-legal drugs, there is a problem that is increasing, and that has increased even more due to the pandemic that we are experiencing, which has triggered consumption. Therefore, it is important to seek new ways to prevent and intervene in addictions and, of these, working with the ER is a key factor, since the consuming population stands out for having difficulties to control their emotions and uses drugs to make up for the shortcomings at this level.

Regarding the differences in the year 2020 in *Figure 1* and *Figure 2*, in the introduction section, it should be noted that the number of articles in both graphs seems to drop significantly. This is understandable due to the pandemic experienced during this year that has caused, on the one hand, a reduction in the number of studies in general, and on the other hand, these studies are focused on consequences caused by confinement.

After the analysis of the 20 selected articles, it is observed that, by working emotional regulation in the addictions collective, such people obtain a series of benefits. These benefits seem to be of great importance, improving both the intervention and subsequent rehabilitation (Dingle, Neves, Alhadad & Hides, 2018). All this is related to the fact that people who present an addiction, whether substantial or non-substantial, tend to use consumption as a way to regulate their emotions, mainly in particularly stressful moments in their lives (Estevez, Jáuregui, Sanchez-Marcos, López-González, & Griffiths, 2017). Because of this, ER would allow increasing the number of tools of this group and would promote regulation skills that would replace consumption, avoiding the subsequent development of addiction and the related consequences.

The benefits found include self-control, reduction of stress, depression, and anxiety and as a result of the above, a lower frequency of consumption as indicated by the results (El-Rasheed, ElAttar, Elrassas, Mahmoud & Mohamed, 2017; García, Luque, B., Ruiz, & Tabernero, 2017; Jalali, Hashemi, Hasani, & Fakoor Sharghi, 2017; Kumar, Kumar, Benegal, Roopesh, & Ravi, 2019). These benefits are particularly important in the early stages of the problem, leading to greater control over the addiction and a

reduction in the severity of subsequent damage; and in the intervention, being related to an increase in the effectiveness of the intervention (although this should continue to be studied in future research). It should be noted that only in the research by Decker, Morie, Hunkele, Babuscio, & Carroll (2016), a relevant influence of emotional regulation in cocaine addicts was not found. In the same article, it is mentioned that more research is needed, but that it seemed to indicate that emotional regulation was not as relevant as in other addictions, for example, opioids, alcohol, gambling disorders, among others.

In this review, a wide range of instruments to assess emotional regulation has been observed, but of all of them the most employed were the *DERS* and the *ERQ*. A brief description of the two tests mentioned will be given below:

- *DERS (Gratz & Roemer, 2004).* It is a 36-item questionnaire, whose purpose is the evaluation of the global capacity that the person presents to respond adaptively to distressing emotions in life. It focuses on six domains: (a) lack of emotion acceptance; (b) inability to perform certain behaviors in the face of negative emotions; (c) impulsive behaviors in the face of negative emotions; (d) limited access to effective emotional regulation strategies; (e) lack of emotional awareness; and (f) lack of emotional clarity. The DERS has been shown to be sensitive to change over time (Gratz & Gunderson, 2006), exhibiting good test-retest reliability, (Gratz & Tull, 2010) and exhibited high internal consistency ($\alpha = .951$), in research by Fisher, Atzil-Slonim, Bar-Kalifa, Rafaeli, & Peri, (2019).
- *ERQ (Gross & John, 2003).* Questionnaire consisting of 10 items, it aims to measure two emotional regulation strategies, suppression (4 items) and reappraisal (6 items) on a 7-point Likert-type scale. Adequate validity and reliability of the test has been observed in reviews (Sánchez, González & Adánez, 2020).

After the exposed characteristics, it is understandable that they tend to be the most used, being adequate instruments for the evaluation of ER (Sánchez-Teruel & Robles-Bello, 2018; Guzmán-González, Trabucco, Urzúa, Garrido & Leiva, 2014).

The limitations found in this study are mentioned below. Firstly, the studies found do not focus on the elderly, and there is only one study on adolescents; therefore, part of the general population is not reflected in this review. This is because many of the studies found did not work with this type of sample and others, despite having a sample of this type, it did not work on ER directly but acted as a secondary factor, which is why it was not included in this review.

Likewise, this review has focused on articles written in English or Spanish. Research written in other languages may yield new information on the topic addressed.

In general, emotional regulation is an essential mechanism to maintain a functional and adaptive behavior, especially for problems such as addictions, whose central axis are emotions and their mismanagement, mainly derived from a lack of tools or strategies to manage them properly, reaching, for example, the use of drugs as a mechanism to reduce negative emotions.

This review concludes that emotional regulation has a great influence on the drug-dependent population, obtaining from its development numerous benefits, which occur at a level of both prevention and intervention, so that working with this skill is essential to reduce both the incidence and collateral damage of this problem. In addition to this, when analyzing the evaluative techniques used, it can be appreciated that these have a correct scientific support, allowing an adequate and professional analysis of the ER in the sample.

Regarding future lines of research, it is recommended to use samples with both adolescent and elderly populations to observe whether the same problems occur and whether emotional regulation plays a greater role. Similarly, they should focus on the use of ER in aspects of primary prevention, and how the promotion of these abilities can help to avoid later addictions.

Another aspect to highlight is that articles strictly pertaining to psychology have been used. Articles from other areas of interest should be taken into consideration, which may shed new light on this topic, such as those pertaining to neurosciences, in which case future reviews/research should be carried out to observe the involvement of emotional regulation in the brain, both in the population with and without addiction.

Finally, it is considered necessary to improve drug dependence intervention programs focused on improving emotional regulation skills, which would allow the implementation of more complete and effective interventions to address this problem.

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PSYCHOLOGICAL HARASSMENT AT WORK (MOBBING) AND ITS IMPACT ON THE CLIMATE AND WORK PERFORMANCE IN TEACHERS OF THE PUBLIC SYSTEM TEACHING OF THE SOUTHERN AREA OF PUERTO RICO

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Abstract: This research aimed to find how changes in the organizational climate exacerbate behaviors of harassment of teachers in two municipalities in the southern area of Puerto Rico. It was examined how the Puerto Rican Department of Education manages situations of labour harassment and how mobbing has affected teacher performance. A sample of 202 teachers in the public education system was used. An intentional non-probabilistic sampling was performed. The following questionnaires were used: (A) Alamo Questionnaire on Labour Abuse (2006) and (B) Organizational Climate Questionnaire of the Department of Health of Lima, Peru (Ugarte et al, 2009). The objectives of the study were achieved. The results and conclusions show us: (i) teachers affected by harassment will tend to perceive their work performance decreases; (ii) negative organizational climate makes greater predisposition to harassment and work

performance decreases; (iii) there is no protocol in the Department of Education to manage harassment situations; (iv) teachers reflected an equivalent proportion between subjecting or confronting the bullying; (v) the largest number of participants identified the stalker as their immediate boss; (vi) the consequences of psychological harassment at work manifest at physical level (cardiovascular disorders) and psychological (stress and depression). The study's recommendations are as follows: legal counselling for teachers and guidance for school directors. Further investigations on the subject are expected to be continued and the adoption of the Law in Puerto Rico.

Keywords: teachers, Department of Education of Puerto Rico, psychological work harassment, organizational climate, work performance.

ACOSO PSICOLÓGICO LABORAL (MOBBING) Y SU IMPACTO EN EL CLIMA Y DESEMPEÑO LABORAL EN MAESTROS DEL SISTEMA PÚBLICO DE ENSEÑANZA DEL ÁREA SUR DE PUERTO RICO

Resumen: Esta investigación pretendió hallar como los cambios en el clima organizacional exacerba conductas de acoso hacia el maestro en dos municipios del área sur de Puerto Rico. Se indagó cómo el Departamento de Educación de Puerto Rico maneja las situaciones de acoso laboral y cómo el mobbing ha afectado el rendimiento laboral del maestro. Se utilizó una muestra de 202 maestros del sistema de educación pública. Se realizó un muestreo no probabilístico de tipo intencional. Se utilizaron los siguientes cuestionarios: (A) Cuestionario del Álamo sobre Maltrato Laboral (2006) y (B) Cuestionario de Clima Organizacional del Departamento de Salud de Lima, Perú (Ugarte et al, 2009). Los objetivos del estudio fueron logrados. Los resultados y las conclusiones nos muestran: i) los maestros afectados por el acoso tenderán a percibir que su rendimiento laboral disminuye; ii) el clima organizacional negativo hace que sea mayor la predisposición al acoso y que el rendimiento laboral disminuya; iii) no existe un protocolo en el Departamento de Educación para manejar situaciones de acoso; iv) los maestros reflejaron una proporción equivalente entre someterse o enfrentarse al acosador; v) la mayor cantidad de participantes identificaron al acosador como su jefe inmediato; vi) las consecuencias del acoso psicológico en el trabajo se manifiestan a nivel físico (trastornos cardiovasculares) y psicológico (estrés y depresión). Las recomendaciones del estudio son las siguientes: asesoramiento legal para los maestros y orientación a directores escolares. Se espera que se continúen nuevas investigaciones sobre el tema y que se apruebe la Ley en Puerto Rico.

Palabras clave: maestros, Departamento de Educación de Puerto Rico, acoso psicológico laboral, clima organizacional, rendimiento laboral.

Introduction

During the last decade of the 20th century and the beginning of the 21st century there has been an increase in cases of psychological mistreatment, verbal and physical violence in the work environment (Guevara, 2006; cited by Soto, 2006; Castro and Sanchez, 2009). Between 2017 and 2018, 51.8% of employees in Puerto Rico experienced workplace bullying (Rivera, 2020). Piñuel and Oñate (2002) point out that these cases arise because of organizational changes. Werther and Davis (2008) explain how organizational

changes (e.g., performing additional tasks to the job) adversely affect the emotional state of workers.

Since the mid-1950s, Puerto Rico has legislated to protect the constitutional rights of employees. In 1959, the first law aimed at protecting employees from employment discrimination went into effect. Since then, a series of laws have emerged to safeguard the labor rights of Puerto Ricans (Rivera, 2020).

In Puerto Rico, the studies of Martínez et al, 2005 frame the concept of *mobbing* as psychological harassment. What is certain is that whether *mobbing* or psychological harassment or moral harassment exists everywhere, what can differentiate them is how it occurs in different contexts and in different cultures.

Senate Bill 1008 (2005, October 7) initially established the legal definition of mobbing in Puerto Rico. That definition was used to submit House Bill 3898 (2012, June 12), which would establish the Law against Psychological Violence in the Workplace in Puerto Rico:

> "labor harassment in the workplace constitutes that abusive verbal, written, or physical conduct in a repeated manner by the employer, its agents, supervisors, or employees, unrelated to the legitimate interests of the employer's business, unwanted by the person, which violates his constitutionally protected rights, such as the inviolability of the dignity of the person, protection against abusive attacks on his honor, reputation and private or family life, and protection against risks to his health or personal integrity in his work or employment. This harassing conduct creates an intimidating, humiliating, hostile, or offensive working environment, unsuitable for any person (p. 2)".

The truth is that both the reaction and the consequences of mobbing vary according to the individual's coping capacity, personal characteristics, and social support (Vélez, 2006). According to Martínez (2009), the consequences of mobbing are registered at four levels: (a) for the victim, (b) for the organization (company), (c) for the family), and (d) for the broader society. Ventín (2011b) insists that mobbing is not a pathology, but a series of hostile behaviors that make a worker ill. Therefore, health services will be the first door to which they will turn for external help since they cannot find it within the company (the company ignores it, colleagues avoid it). The repercussions for the family and the social support network translate into aspects such as neglect of family roles and responsibilities, family and couple arguments, loss of consortium projects, divorce, poor school performance of children, loss of friends, avoidance of social contact, and difficulties in the family economy due to possible medical expenses or loss of income due to absence from work. The family is really the faceless victim of mobbing (Ahumada, 2010; Martínez, 2009, Sanz and Rodríguez, 2011).

In the company, the consequences are loss of productivity, increased economic expenditure due to disability retirements and/or early retirements, demands on workers to increase their productivity, violence in the workplace, and poor organization in the workplace that influences both the health and behavior of the worker (Ahumada, 2010; Martinez, 2009; Peralta, 2004).

Mobbing can cause severe occupational illnesses and incapacity to generate income and can lead to social isolation. There may be cases of suicidal ideas, which in extreme

situations may be put into practice (Leymann, 1996). Frequently, *mobbing* generates combined physical and mental disorders that incapacitate the person who suffers it (Zapf and Einarsen, 2003).

The model on which the present research is based is that of Campbell, McCloy, Oppler, and Sager (1993) who proposed a model of job performance that provides a more detailed view of job performance and helps to separate factors that are under the direct control of the worker from those that are not. Based on extensive research with Army personnel, Campbell developed a hierarchical model of job performance (Campbell, 1990; Campbell, McHenry, & Wise, 1990; Landy & Conte, 2005). He proposed three direct determinants of job performance: declarative knowledge (CD), skills and procedural knowledge (HCP), and motivation (M). By determinants, the author means the basic building blocks or causes of performance.

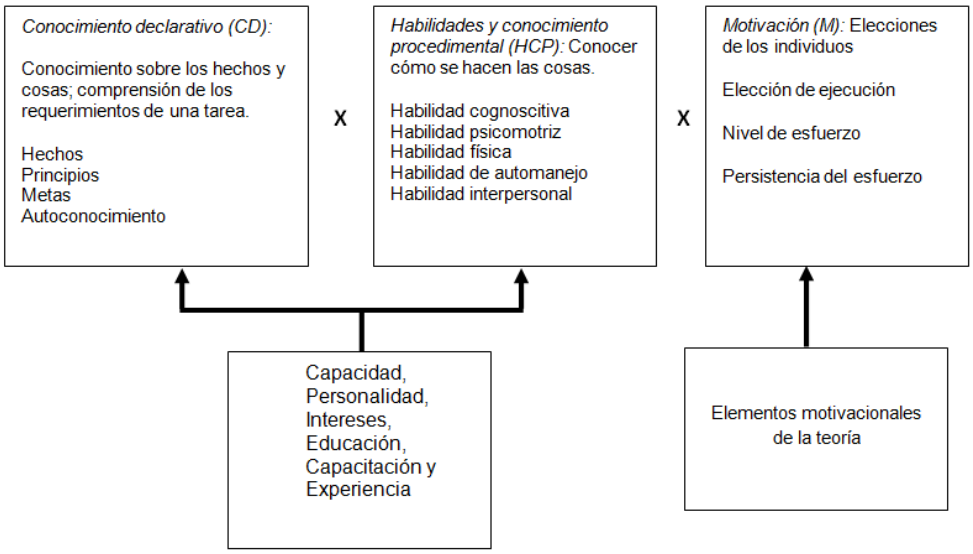

Figure 1. Determinants of Job Performance from Campbell et al (1993).

Jasén (2010) also proposes that many of the variables such as ability, personality, interest, training, experience, and motivators have an *indirect* effect on performance, as can be seen in Figure 1. These variables can affect performance by simply changing the level of declarative knowledge (CD), skills and procedural knowledge (HCP), or motivation (M). For example, increased training or experience will affect performance by increasing declarative knowledge, skill and procedural knowledge; incentives will affect performance by increasing motivation (inducing a person to perform at a high level or over a long period) (Campbell et al., 1993; Landy and Conte, 2005).

There is another important aspect to Campbell's Model: the components of actual performance. Declarative knowledge, procedural knowledge and skill, and motivation are determinants of performance, not behaviors (not performance per se). Campbell et al.'s (1993) research identified at least eight basic components of performance, some of which can be found in any job. When the eight components are combined with the three determinants and the various indirect determinants of performance, an extensive model is

obtained as presented in Figure 2. Although eight performance components are specified, not all will appear in every job. However, the model allows performance to be analyzed in all or parts of such components. Campbell et al. (1993) assert that three of the components: skill in the main task, demonstrated effort, and maintenance of personal discipline are essential at some level of any job.

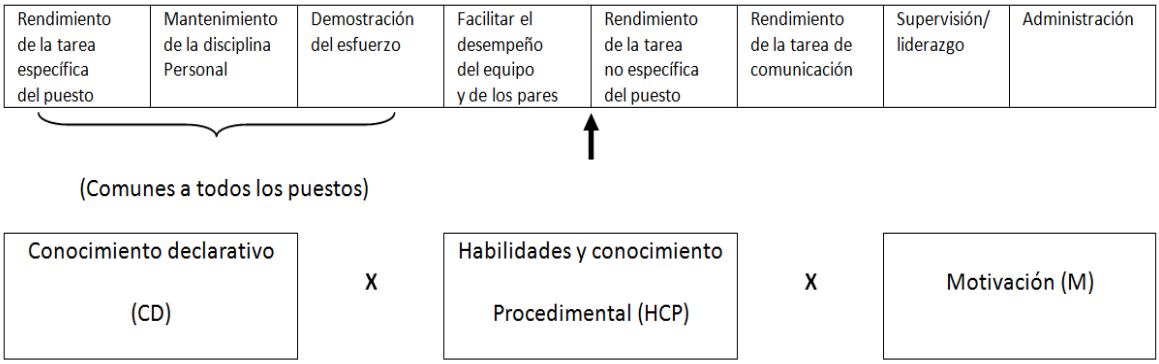

Figure 2. The Campbell et al. model (1993)

Other authors (Jasen, 2010), point out that it should not be forgotten that Campbell, McCloy, Oppler, and Sager (1993) rightly state that the consequences and results at work are not under the total and exclusive control of the employee, but that there may be many other causes of poor performance that do not depend on the worker himself, such as, for example:

- Organizational practices: poor internal communication, poor training, inappropriate assignment, lack of attention to employee needs, unclear work guidelines, among other factors.
- Job-related concerns: changing or unclear requirements, boredom or excessive workload, lack of development opportunities, problems with colleagues, lack of resources, lack of job skills, among others.
- Personal problems: family, economic, emotional instability, problems in reconciling work and family, among others.
- External factors: highly competitive industry, conflict between the employee's ethical values and the demands of the position, conflicts between unions and management, among others.

The main *objective* of this research was to find motivational and environmental factors (organizational climate) that exacerbate bullying behaviors towards teachers in two municipalities in the southern area of Puerto Rico. We inquired from the teacher's perspective how the Puerto Rico Department of Education handles situations of workplace harassment and, in cases where *mobbing* exists, how it has affected the teacher's job performance in these municipalities. In order to find answers to the objectives, the following hypotheses were proposed:

Hypothesis 1: The teacher affected by *mobbing* will have a decrease in job performance in his or her work area.

Hypothesis 2: A tense or negative organizational climate predisposes to psychological harassment at work.

Hypothesis 3: The healthier the organizational climate in the workplace, the lower the teacher's perception of decreased job performance.

Hypothesis 4: Lack of knowledge about the protocol for psychological harassment at work prevents the teacher from facing a harassment situation that will affect his or her work performance.

Method

The research *design* was carried out using a non-probability purposive sampling because the questionnaires were administered by school social workers who knew the teachers affected by the bullying and applying the Code of Ethics for Social Work Professionals of Puerto Rico (canon III, article 1: confidentiality). They were provided confidentiality of the process through informed consent.

The *participants* in this study were teachers in the public school system of Puerto Rico. A representative sample of 202 teachers was used.

The used measuring *instruments* were as follows:

• *Del Álamo Questionnaire on Workplace Bullying (*Del Álamo, 2006). It evaluates psychological harassment at work. It is composed of the following items: (1) the first part is composed of forty-three items answered on a scale of 0 to 2 points and (2) the second part of the questionnaire consists of ten open-ended questions that the participant would answer, if these applied to his or her situation of harassment. Finally, (3) a final question was included to assess the effect of *mobbing* on the teacher's job performance. For this question measuring *job performance* (hypothesis 4) the same rating scale of the first 43 items was used.

• *Organizational Climate Questionnaire* obtained from the Health Department of Lima, Peru (Ugarte, Melitón, Clendenes, and García, 2009). It contains 53 items that are answered on a Likert scale from 0 to 4 points. This questionnaire measures the dimensions of organizational climate (communication, conflict and cooperation, comfort, structure, identity, identity, innovation, leadership, motivation, reward, remuneration, and decision making).

The reliabilities (Cronbach's alpha) for the sample used were as follows: 0.97 for the Del Álamo Questionnaire and 0.98 for the Organizational Climate Questionnaire. These questionnaires were provided during October 2012 to May 2013 and finally achieved authorization as a doctoral thesis by March 2016.

SPSS version 21.0 software was used for *data analysis.* The following analyses of the results were performed: descriptive statistics, summary of case processing, goodness of fit, pseudo R-squared, and parameter estimates. For the analysis of the variables, since the variables do not follow a normal distribution it was not possible to apply Pearson's Correlation Coefficient and the calculation of Spearman's Rank Correlation Coefficient was chosen. This coefficient is a measure of linear association that uses the ranks, order numbers, of each group of subjects and compares these ranks. Spearman's correlation coefficient is governed by the rules of Pearson's simple correlation, and the measurements

of this index correspond from + 1 to - 1, passing through zero, where the latter means no correlation between the variables studied, while the first two extremes denote maximum rank correlation. The equation used in this procedure, when in the ordering of the ranks of the observations there is no tied or linked data, is the following:

$$p = 1 - \frac{6 \sum D^2}{N(N^2 - 1)}$$

Where:

p= Spearman's correlation coefficient.

D^2 = differences between the ranges of the two variables, squared.

N = sample size expressed in pairs of ranges of the variables.

To test the reliability of the scales used, they were analyzed using Cronbach's Alpha. The *Alamo Workplace Abuse Questionnaire* yielded 0.97 for the 43 items of the scale and the *Organizational Climate Questionnaire* 0.98 for the 53 items. Additionally, Bartlett's test of Sphericity was performed where both scales yielded a significance level of .000. Finally, the construct validity for both scales was 0.83.

In terms of the sample, there was a predominance of female participation (154 participants/ 76%) versus 24% male participation (48 participants). These data coincide with the findings obtained in the research of Martínez (2006), Rivera (2009), and Velázquez (2002). The 90% of the sample ranged in age from 21-30 years. Of this sample, only 14 participants (7%) claimed to have some type of disability. The majority of the respondents had a high school diploma (64% / 129 participants). The 36% /73 participants had completed a master's degree and only 1% (2 participants) a doctorate. This is indispensable to reach the highest economic income reflected in the salaries of teachers who apply to the Teacher Career Law (Velázquez, 2002). The 44% (89 participants) had 11 years of experience in the Department of Education and finally 23% /46 participants with 0-10 years of experience.

Results

Since the variables do not follow a normal distribution, it is not possible to apply Pearson's correlation coefficient and we opted for the calculation of Spearman's rank correlation coefficient. This coefficient is a measure of linear association that uses the ranks, order numbers of each group of subjects and compares these ranks. Spearman's correlation coefficient is governed by the rules of Pearson's simple correlation, and the measurements of this index correspond from + 1 to - 1, passing through zero, where the latter means no correlation between the variables studied, while the first two extremes denote maximum rank correlation. Starting with the variable Mobbing (Mobb1) according to the histogram plot and the Kolmogorov-Smirnov test with Lilliefors correction (Table 1), there is a negative skewness, as the data are clustered to the left of the mean (Figure 3). The distribution of the *mobbing* variable is not normal because the significance level is less

than 0.05. The results of the basic statistics indicate that 17 participants (8%) of the sample had a moderate degree of *mobbing* and 28 participants (14%) of the sample had a mild degree of *mobbing.* No participant according to the Del Álamo Scale experienced severe *mobbing.*

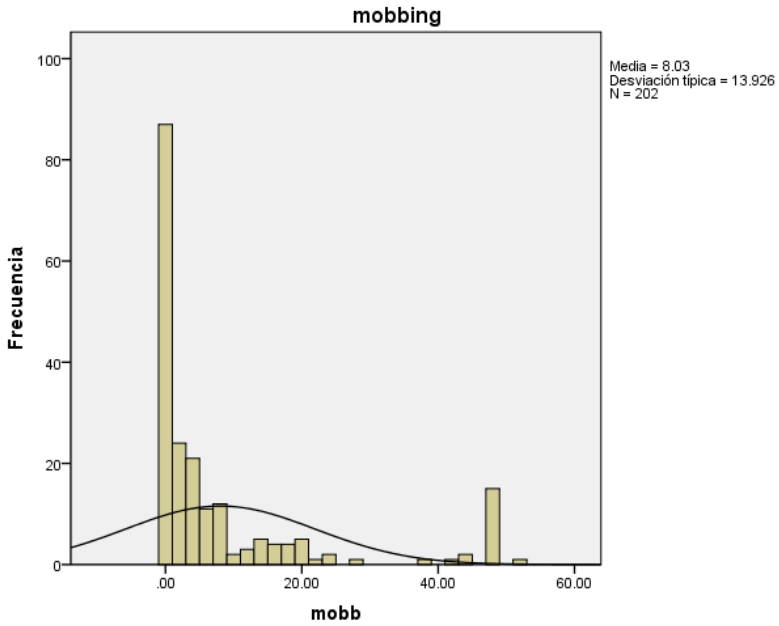

Figure 3. Histogram plot for the variable *Mobbing.*

Table 1
Kolmogorov-Smirnov Normality Test for the following variables

Normality test						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistician	gl	Sig.	Statistician	gl	Sig.
Mobb1	,282	202	,000	,616	202	,000
Rdto1	,451	202	,000	,574	202	,000
Climate1	,067	202	,026	,964	202	,000

Note: a. Lilliefors' significance correction

In the results of the histogram plot and the Kolmogorov-Smirnov test with the Lilliefors correction (Table 1) on the variable Job Performance (Rdto1), they determine that the variable shows a negative skewness (the data are clustered to the left of the mean) and the distribution is not normal because, again, the significance level is less than 0.05 (Figure 4).

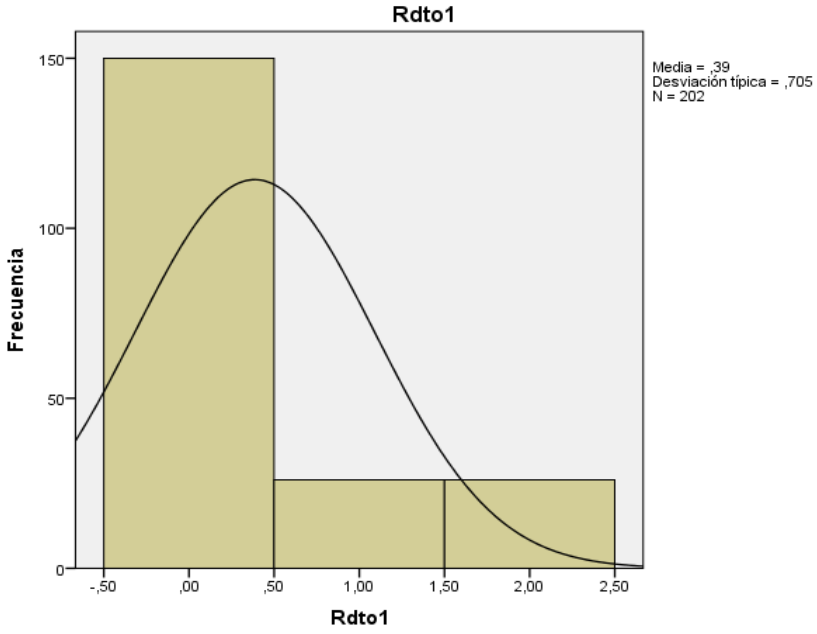

Figure 4. Histogram plot for the Labor Performance variable.

The basic statistics of the variable are shown in the following table:

Table 3
Descriptive statistics of the variables

		Rdto1	Climate1	Mobb1
N	Valid	202	202	202
	Lost	0	0	0
Media		,3861	138,9158	8,0347
Standard deviation.		,70493	42,03786	13,92638

The variable has a standard deviation of 0.70 and a mean (average) of 0.39 (Table 3). The graphs show us that most educators do not perceive that their job performance decreases because they are victims of *mobbing*.

Table 4
Frequency distribution of the Labor Performance variable (Rdto1)

		Labor Performance (Rdto1)			
		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	,00	150	74,3	74,3	74,3
	1,00	26	12,9	12,9	87,1
	2,00	26	12,9	12,9	100,0
	Total	202	100,0	100,0	

The results of the frequency distribution show that only 25.8% of the respondents perceive some type of decrease in their performance and of this total, half say that their decrease is severe (Table 4). In this sense, the mean of the variable has a value of 0.39. Bearing in mind that the scale scores are from 0 to 2, the value obtained is closer to the lower limit. In view of this information, we could affirm that teachers in the municipality do not perceive a lower professional performance.

For the Organizational Climate variable (Climate 1), the results of the histogram plot determine a bell shape (Figure 5), but the Kolmogorov-Smirnov test with the Lilliefors correction (Table 1), determines that this variable is not normal either ($p<0.05$).

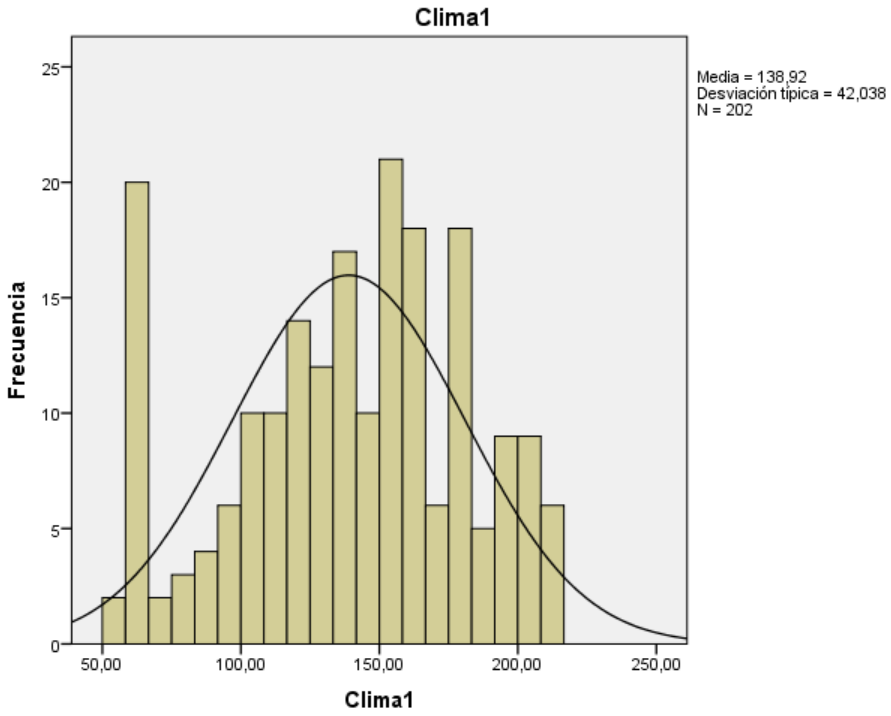

Figure 5. Histogram plot for the Organizational Climate variable (*Climate1*).

The variable has a standard deviation of 42.03 and a mean of 138.91 (Table 3). The results show that most educators do not consider that there is a negative or tense organizational climate. The sample score on climate tells us that out of a maximum of 212 (53 items multiplied by the maximum score of each item which is 4 = 212), 138.91 points were obtained, which indicates that most of the participants answered that there is an organizational climate to be improved.

In line with the previous results, the majority of educators do not consider that there is a very negative or unhealthy organizational climate, but there is a large group that considers that it should be improved. If the variable is analyzed by quartiles, the results are as follows:

- The 25% of the respondents consider the Organizational Climate to be unhealthy, obtaining a maximum value in the stratum of 110.75 (110.75; 55-128).
- Half of the sample considers that the climate in which they carry out their activity is at least improvable (142; 129-202).
- Finally, the remaining 25% consider the environment in which they work to be suitable and healthy.

As a final analysis, in the individual treatment of the variables, a table summarizing the frequencies of the responses is provided (Table 5) to try to establish an overview of the results. As a preliminary clarification, it is established that the Organizational Climate variable will be treated differently from the previous case. For this analysis, the results have been ordered inversely to their original definition in order to be able to study the quartiles in a consistent manner.

Table 5
Summary of the frequencies of the research variables

		Mobbing	Job Performance	Organizational Climate
Quartiles	25	0	0	110.75
	50	1	0	142
	75	7,25	1	171

In conclusion, 75% of the sample believe that their level of *Mobbing* is minimal (7.25; 0-31), that their work performance has decreased moderately (1), and that their Organizational Climate should be better (171; 129-202). These results will be completed with the joint analysis of the variables that will allow us to verify or not the research hypotheses.

The results of the four hypotheses proposed for the research were as follows:

Hypothesis 1: It is accepted, the teacher affected by psychological harassment at work (*mobbing*) will have a decrease in job performance in their work area.

Hypothesis 2: It is accepted, a tense or negative organizational climate predisposes to psychological harassment at work.

Hypothesis 3: It is accepted, the healthier the organizational climate in the workplace, the lower the teacher's perception of decreased job performance.

Hypothesis 4: This hypothesis is rejected, according to which the lack of knowledge about the protocol for psychological harassment at work prevents the teacher from facing a situation of harassment that will affect his or her work performance. The results reflected that being a victim of workplace bullying (and/or the alleged lack of knowledge) did not prevent the participant from seeking help in any way (friends, family, therapeutic, and legal).

The interpretation of hypothesis 4 was carried out qualitatively through a descriptive analysis of the answers provided by the participants to the open-ended questions. Only *60 (30%) participants* of the total sample (n=202) answered the open-ended questions (10 questions) of the Del Álamo Questionnaire on Workplace Abuse.

The results were interpreted in the light of the model proposed by Campbell et al. (1993). Among the most relevant results, the following stand out:

- Teachers were harassed by their school principals (66.6%/40 participants), senior government managers (8.3%/5), and co-workers (28.3%/17).
- In the *second* open-ended *question* they were asked to quantify how many times they suffered *mobbing*, dividing the answer between: daily, weekly, or monthly. The results obtained were as follows: 43.3% (26) of the teachers answered that they were subjected to mobbing daily, 15% (9) expressed that they were victims of mobbing monthly, and 11.6% (7) were victims occasionally.
- *Third*, they were asked to specify how long ago the mistreatment began and what were its first manifestations. These were their responses: 28% (16 participants) of the teachers were victims of bullying for 3 consecutive years, 13.3% (8 participants) were victims for 1 to 2 years, and 6.6% (4 participants) were victims for 1 to 11 months.
- Among the manifestations of *mobbing* were: poor performance evaluations, forcing them to perform tasks, refusing to provide health accommodations, intimidation, withholding information from the teacher, avoiding meetings, absenting themselves from meetings and discussing important issues in the teacher's absence, classroom discipline situations with students with oppositional defiant disorder that went unattended, name calling in front of other teachers, criticizing the teacher's clothing, insulting the teacher when the principal was asked about financial management, arguments in meetings, and preference for some employees.
- In the *fourth question*, they were asked to state how long they had been working for time the intensity of the *mobbing* had become unbearable: 19 participants (31.6%) stated that the mobbing had become unbearable in the last 2 years, 6 participants (10%) stated that they could not bear it for 1 year, 5 participants (8.3%) stated that they had suffered it for 3 months or less, 3 participants (5%) surprisingly rated it as unbearable for the last 10, 20 and 21 years each, 3 other participants (5%) stated that they had endured it for up to 6 years.
- The *fifth question* asked them to identify whether or not there was a triggering event for the *mobbing*: 28 participants (46.6%) answered that they did not identify any

triggering event and 16 participants (26.6%) answered that there were triggering events.

- Among the situations they experienced that triggered harassment (*question six*), they stated hiding information from the teacher, not attending situations of aggression, avoiding attending meetings, calls for attention, criticizing and insulting the teacher in front of others, discussions in faculty meetings, and preference for specific employees.
- In *question seven*, participants were asked whether bullying increased or decreased over the years: 4 participants (6.6%) identified that the mistreatment went less over the years, 26 (43.3%) identified that the mistreatment was greater over the years, and 30 (50%) identified that the mistreatment varied or stayed the same as the years went by.
- *Question eight* was presented to probe the participant's reaction to the harassment. The question was asked: What do you do in the face of mistreatment at work (what do you say or do, do you submit or not, do you confront or not), etc.? Twenty-six participants (43.3%) submitted to the harassment, that is, they said they did not do or say anything, 26 (43.3%) confronted the harasser and filed complaints, 2 (3.3%) said they took the situation to the last consequences and defended their rights.
- As for the negative consequences of mobbing, 17 (28.3%) participants said that mobbing had affected them greatly in the work area: 9 (15%) said they only performed the necessary tasks, 7 (11.6%) said they did not want to come to work, 5 (8.3%) said their motivation decreased, 2 (3.3%) said they felt dissatisfied, and 2 (3.3%) said their work performance decreased. Overall, about 42 participants (70%) of the educators said that being *mobbed* did affect their job performance in some way.
- With respect to personal consequences, the psychological and emotional manifestations manifested among the victims of harassment were depression, stress, discomfort, insomnia, frustration, anxiety, irritability, low esteem, feelings of having studied the wrong profession, sadness and poor memory, having greatly affected their family environment, frequent arguments with their partners, divorce, decreased sexual desire, discouragement, rumors reaching their children that affected them emotionally, distancing from friends, not engaging in recreational activities, decreased performance as an athlete. Among the physical manifestations manifested by the participants were high blood pressure and muscular pain.
- Other data reflected that 23 (38.3%) participants expressed that their quality of life had decreased a lot or they rated it as poor.

Discussion and conclusions

Because of the analysis of the results obtained in this research work, some theoretical and methodological implications linked to the research objectives that seek to find motivational and environmental factors that trigger *mobbing* and how the teacher handles situations of mobbing can be deduced.

The objectives that framed this research and that served as a frame of reference for the development of the thesis, related to the teachers of two towns in the southern area of Puerto Rico, were achieved. The following is a breakdown of the fundamental conclusions reached in this research work. Thus, the results obtained show us that:

1. Teachers affected by psychological harassment at work will tend to perceive that their job performance decreases, as formulated in the first hypothesis. In the qualitative domain, 70% (42 participants) of the educators stated that suffering from *mobbing* has influenced their work performance in some way.

2. The environmental factors that influence workplace bullying were investigated, and it was concluded that a negative or tense organizational climate increases the predisposition to psychological workplace bullying among teachers. This result is in line with the findings of the literature cited.

3. Job performance also decreases when the organizational climate is tense or negative. On the contrary, the healthier the climate, the lower the educator's perception of decreased performance. In light of the results obtained in this research, it is clear that the majority of teachers in the public school system in two towns in the southern area of Puerto Rico do not report a decrease in their professional performance.

4. Among the qualitative findings, it also stands out that the victims of *mobbing* suffered harassment episodes with a frequency of one to two times per week. The length of time that the mobbing lasted was variable, ranging from only once to 20 years. Thus, participants identified that workplace bullying remained the same over the years or increased and that there were initial triggering events for the bullying. The longest number of years experiencing *mobbing* prevailed in 16 participants (28.3%) who were affected for 3 years. These data are consistent with those found by Di Martino, Hoel, and Cooper (2003), Einarsen, et al (2003), Hoel and Cooper (2001), Hoel, Rayner, and Cooper (1999), and Velez (2006).

5. We investigated how the Puerto Rico Department of Education handled bullying situations according to the teachers' perspective. From the qualitative data, it was found that 59 participants (98.33%) know the protocol to follow in case of harassment. In addition, it was found that there are still teachers who do not know where to go to seek help (less than 1%), get oriented about *mobbing,* and the rights that cover them to defend themselves (Huertas, 2008, Lexjuris, 2013). It should be noted that the process used until 2018 to handle harassment situations was neither detailed nor written in a formal protocol nor published by the Department of Education since there was no mobbing law in Puerto Rico (*Senate Bill 1008*; 2005, October 7). It was not until August 7, 2020 that the Law to prohibit and prevent mobbing in Puerto Rico was signed (Rivera, 2020). Guidance based on the bills drafted by the Puerto Rico Department of Labor and Human Resources was found for May 8, 2019 (Department of Labor and Human Resources, 2019).

6. How teachers handle workplace bullying situations was studied. Surprisingly, the data reflected an equal proportion between submitting to and confronting the bully among the 60 participants who answered the qualitative questions of the Del Álamo questionnaire (23/ 38.3% submitted to and 26/ 43.3% confronted the bully). These data coincide with those found by Rosado (2006), Topa, Depelo and Morales (2007).

7. The largest number of participants, 40 (66.6%) of the qualitative responses identified the bully as their immediate boss (school principal), 17 participants (28.3%) identified their coworkers and an important data was that 5 participants (8.3%) identified high level bosses (school superintendents). These data coincide with those found by Lebrón (2007), Martínez (2006), Rodríguez (2007).

8. The consequences of psychological harassment at work are manifested at the physical (cardiovascular disorders) and psychological (stress and depression) levels (Colunga et al, 2012; Ventín, 2011a).

9. An important contribution of this part of the work is that part of the data and results obtained could constitute a predictive tool that could be used in decision making in the organization, in which according to the calculation of probabilities and knowing the levels of *Mobbing* suffered by a given worker and the degree of goodness of his Organizational Climate, it could be estimated whether his work performance has decreased or not (Morales, 2020).

Among the limitations of this research, we highlight (1) that although Campbell's extended model has a great deal of intuition as well as research support (McCloy et al, 1994), it considers performance as a unitary entity or as a broad individual factor [which contradicts what is observed daily in the work area] and an equally ineffective view that holds that each job is different and there can be no general understanding of job performance beyond the particular job under consideration (Campbell et al., 1993; cited by Landy and Conte, 2005). (2) Low sample participation in the qualitative area of the Del Alamo Questionnaire on Workplace Abuse, which consisted of 10 open-ended questions. (3) The need to carry out future studies in Puerto Rico to study this issue in depth with the law already passed is highlighted. (4) Finally, the age of the study is recognized as a limitation since the questionnaires were submitted between 2012-2013. However, we consider that the situation of mobbing in Puerto Rico has not improved in recent years.

The legislative bodies of Puerto Rico approved the Bill against Workplace Harassment on May 5, 2014 (Bauzá, 2014), House Bill 306 was approved on July 24, 2020 (Colón, 2020) and finally, on August 7, 2020, the Law to Prohibit and Prevent Workplace Harassment in Puerto Rico was approved (Rivera, 2020). According to the results and conclusions of this study, the recommendations that emerge are the following: it is imperative to act by implementing prevention strategies as indicated by the law in Puerto Rico (Rivera, 2020). Teachers must be empowered with effective strategies for legal advice (in the form of information campaigns and through the sole legal representative of teachers, as is the Teachers Association of Puerto Rico), search for information, and psychological help for them and their families. It is vital to bring to the schools and their principals the legal implications of continuing with this unhealthy organizational climate. Finally, it is hoped that further research on this topic will continue, expanding the sample in Puerto Rico.

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CORRELATIONAL STUDY: EXPERIENTIAL AVOIDANCE, INSOMNIA AND RUMINATION IN ADOLESCENTS

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Abstract. The main objective of the study was to analyze the relationship of the variables experiential avoidance, ruminant response style and insomnia according to sex, age and academic level. It is a cross-sectional correlational observational study, with a non-clinical sample in an adolescent population, selected by non-probabilistic sampling. The instruments used were the AAQ-II, the RRS and the ISI, which measure experiential avoidance, ruminant response style, and insomnia, respectively. The results show a positive linear correlation between the administered questionnaires (AAQ-II, RRS and ISI), the highest being between AAQ-II and RRS (0.648). In addition, significant differences have been found as a function of sex for experiential avoidance (sig. 0.001, assuming different variances) and for rumination (sig. 0.090, assuming equal variances). There could be an association between these three variables, in addition to reciprocal feeding in adolescents.

Keywords: acceptance and commitment therapy, experiential avoidance, insomnia, rumination, adolescents.

ESTUDIO CORRELACIONAL: EVITACIÓN EXPERIENCIAL, INSOMNIO Y RUMIACIÓN EN ADOLESCENTES

Resumen. El objetivo principal del estudio fue analizar la relación de las variables evitación experiencial, estilo de respuesta rumiativo e insomnio en función del sexo, edad y nivel académico. Se trata de un estudio observacional correlacional transversal, con una muestra no clínica en población adolescente, seleccionados mediante muestreo no probabilístico. Los instrumentos utilizados han sido el AAQ-II, el RRS y el ISI, que miden evitación experiencial, estilo de respuesta rumiativo e insomnio, respectivamente. Los resultados muestran una correlación lineal positiva entre los cuestionarios administrados (AAQ-II, RRS e ISI), siendo la más alta entre AAQ-II y RRS (0,648). Además, se han encontrado diferencias significativas en función del sexo para la evitación experiencial (sig. 0,001, asumiendo varianzas diferentes) y para la rumiación (sig. 0.090, se asumen varianzas iguales). Podría existir una asociación entre estas tres variables, además de una alimentación recíproca en adolescentes.

Palabras clave: terapia de aceptación y compromiso, evitación experiencial, insomnio, rumiación, adolescentes.

Introduction

Within the history of behavior therapy there are three distinguishable moments, which refer to first, second, and third generation therapies, depending on what characterizes each of them. The first generation is situated in the 1950s, and involved the establishment of scientific principles, given mainly by the psychology of learning. The second generation is situated around 1970, with cognitive-behavioral therapy (CBT); psychological science was added to information processing (Pérez, 2006). The third generation is situated from the 1990s onwards; they are known as contextual therapies. In scientific terms, this movement was initially identified as clinical behavior analysis, emphasizing its behavioral character based on functional analysis and radical behaviorism, and with particular interest in verbal behavior (Kohlenberg, Kohlenberg, Kanter and Parker, 2002).

Specifically, "third wave" or "cognitive-behavioral contextual therapies," a term coined by Hayes, refers to an expansion or prolongation of previous developments and studies. This can be seen, for example, in the inclusion of traditional CBT procedures within the new therapeutic approaches, although it is true that there are two main differences: the purposes and mechanisms of change are aimed at increasing behavioral repertoires, and not at reducing or changing anything; and interventions that have not received good experimental support are no longer used. Furthermore, it is added that it is accepted to integrate any technique that allows altering the context of an internal content. They focus mainly on the context and function of psychological events (thoughts, sensations, or emotions) rather than on the content, validity, intensity or frequency, as was the case in the first and second generation. Therefore, they do not focus on changing the content of internal experiences, but on modifying their function, by modifying the context in which they take place. Third-wave approaches aim to create skill sets that can be used in other situations, thus eliminating the syndromic approach and replacing it with new learning. Finally, another aspect to consider is that the therapist is required to explore the same principles that will be worked with the patient, and not only the patient, as in the previous stages (Maero, 2013).

A comprehensive review of studies of first- and second-generation therapies confirms that there is little empirical support for the role of cognitive change as causal in the symptomatic improvements achieved in CBT. Three empirical anomalies have been identified in terms of the research literature: there is a paucity of data indicating that changes in cognitive mediators cause symptomatic change; analyses of treatment components have not demonstrated that cognitive interventions add significant value to therapy; and CBT treatments have been associated with rapid symptomatic improvement prior to the introduction of specific cognitive interventions (Hayes, 2004).

Third generation therapies are Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999); Functional Analytic Psychotherapy (FAP) (Kohlenberg Tsai, 2008); Dialectical Behavior Therapy, (DBT) (Linehan, 1993); Integrative Couples Therapy (ICT) (Jacobson et al., 2000); Behavioral Activation (BA) (Jacobson, Martell, & Dimidjian, 2001); Mindfulness-Based Therapy (MBT) (Segal, Williams, & Teasdale, 2002); Person-Based Cognitive Therapy for Psychosis (Chadwick, 2009) (see Perez, 2014).

Acceptance and Commitment Therapy (ACT), developed by Steven Hayes, is the best known and most developed of all third generation therapies. It has its conceptual basis in Relational Frame Theory (RFT), a psychological theory of language and human cognition (Hayes, Bames-Holmes, & Wilson, 2012). RFT focuses on the influence of language and cognition, conceived as relational learning (Ramnerö & Törneke, 2008). It argues that in the process of language, objects and events are learned to be related based

on socially established symbols or cues until the abstraction of the contextual cue that relates them is produced (Hayes, Barnes-Holmes, Roche, 2001). Both RFT and ACT have growing empirical evidence (Ruiz, 2010), as well as a variety of extensions, from substance use (Luciano, Páez-Blarrina and Valdivia-Salas, 2010) to chess improvement (Ruiz and Luciano, 2009).

Moreover, ACT is framed in a functional philosophical position. Thus, psychological events (understood as any behavior emitted by the individual, including thinking, feeling, remembering...) are only understood in relation to their context, and are conceptualized as the set of ongoing interactions between the organism and its current and historical context (Hayes, 2004). In functional contextualism, psychological events, both public and private, are analyzed as if they were an indivisible whole, taking into account the present circumstances and those determined by their history; the role of context is taken as the center of the analysis and understanding of the nature and function of any psychological event; emphasis is placed on a pragmatic criterion of truth, i.e., that which works for the person and is useful for producing change will be taken as true; and specific scientific objectives are established, which will make it possible to assess what is useful and what has worked (Bligan and Hayes, 1996; Hayes, 2004).

From experimental studies around RFT and its conception about how behavior works, ACT proposes a dimensional and transdiagnostic system of psychopathology in which a series of processes common to most psychological problems are established, which has been called "experiential avoidance" or more recently "psychological inflexibility" (Hayes et al., 1996; Luciano, 2016).

Experiential avoidance can be defined as the tendency to avoid or escape from particular private events such as bodily sensations, emotions, thoughts, memories, behavioral predispositions, etc. and attempts to modify the form or frequency of those events and the context that provokes them (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996), even when doing so is ineffective, costly or unnecessary (Hayes & Lillis, 2012). This is a pattern that underlies numerous distinct diagnoses in traditional classification systems, such as addictions, impulse control disorders, eating disorders, affective disorders, anxiety disorders, psychotic symptoms, post-traumatic stress disorder, and chronic illness (Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004; Ruiz, 2010). Avoidance- and control-directed actions are negatively reinforced movements, lighten the painful experience, as well as positively reinforced, since they conform to cultural rules that state that control is the solution to the problem. However, these behaviors are the real problem and cause a rebound effect, bringing back the discomfort, and sometimes even more intense and widespread (Campbell-Sills, Barlow, Brown, & Hofmann, 2006).

On the other hand, six processes are described within ACT. All of them have the ultimate goal of addressing the function of the disturbing internal processes (not altering the content) and thus generating flexibility in the regulation of behavior. In other words, to break with the behavioral rigidity of experiential avoidance disorder (EAD), which is given by psychological inflexibility (Wilson & Luciano, 2002; Hayes & Stroshal, 2004). Values clarification and the practice of cognitive defusion, or discriminating and becoming aware of thoughts and sensations or memories that supervene in the here and now are the two central aspects (Törneke, Luciano, Barnes-Holmes, & Bond, 2015). Values would be global directions chosen, desired, verbally constructed, which cannot be attained as objects, but can be chosen moment to moment from behavior (Paez, Gutierrez, Valdivia, & Luciano, 2006). To understand defusion it is necessary to know what fusion is. Thus, fusion occurs when the person becomes entangled in the thoughts and functions of words, and is controlled by them. This "fused" way of functioning leads to narrow, inflexible, and insensitive behavioral repertoires. Therefore, defusion involves creating

non-literal contexts and entails acceptance, openness, and awareness of private events to be at the service of actions based on the person's own values (Hayes, 2004). The other processes would be acceptance of private events; the level of contact with the present moment "here and now" doing what matters; self as context, which understands the self as a process that is present, as opposed to the contained self; and, finally, action committed to present values. Functional analysis will indicate the characteristics of the inflexibility pattern of experiential avoidance, and the therapeutic goal will focus on facilitating cognitive flexibility with private events while the person orients his or her life toward what truly matters (Luciano & Valdivia, 2006).

Psychological flexibility is the therapeutic alternative to be pursued by ACT. It is defined as the ability to contact fully with the present moment, to be aware and to be able to appreciate with distance the thoughts and sensations one has, and to persist or change behavior, when doing so places the person in a direction with values (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Therefore, the main therapeutic objective in ACT is to make the reaction to discomfort more flexible, because resistance limits life, and focusing on the control of discomfort, letting go, or merging with it, means losing the valuable direction (Luciano & Valdivia, 2006).

Several studies have demonstrated the positive effect of ACT on various mental disorders. For example, training in pain acceptance increases pain tolerance (Dahl, Wilson, & Nilsson, 2004); in chronic illness, acceptance of difficult thoughts and feelings as well as willingness to move on are good predictors of adequate disease self-management (Gregg, 2004).

Thus, insomnia has also been investigated, and it appears that experiential avoidance may be a risk factor for insomnia (Zakiei et al., 2017). Furthermore, research shows that emotional disorders and sleep disorders are related (Spoormaker and van den Bout, 2005). Thus, they deduce that experiential avoidance may be associated with insomnia. Avoiding internal thoughts and experiences increases physiological arousal and negative emotions, leading to insomnia (Fledderus, Oude Voshaar, Ten Klooster, & Bohlmeijer, 2012). Zakiei, Khazaie, Reshadat, Rezaei, and Komasi (2020) reaffirmed in their research that difficulties in emotion regulation were greater in patients with insomnia. Likewise, it has been found that ACT can also be effective in controlling insomnia (Khazaie and Zakiei, 2019; Päivi et al., 2019; Zakiei and Khazaie, 2019; Dalrymple et al., 2010). ACT increases the patient's desire for a good sleep experience by making changes in the relationship with attitudes and thoughts in the context of the person with their sleep problem, with a view to improving sleep quality (Khazaie and Zakiei, 2019).

On the other hand, there are studies that have related experiential avoidance and rumination (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Rumination is the response style by which people focus on repetitive thoughts, their causes or consequences, instead of considering problem-solving strategies that would help reduce such private events (Nolen-Hoeksema, 1991). Pérez Álvarez (2014) adds that rumination is the behavior of repeatedly analyzing about the same fact, without these being enlightening of the situation, but rather as a pattern of avoidance. Rumination is presented as a form of cognitive perseveration (Aldao, Nolen-Hoeksema and Schweizer, 2010). Maladaptive emotional regulation strategies are believed to aggravate this ruminative response style, having important implications in numerous mental and physical disorders, thus termed "transdiagnostic" processes (Harvey, Watkins, Mansell, & Shafran, 2004; Kring & Sloan, 2009). On the other hand, results from relational studies have found significant relationships between experiential avoidance and rumination, along with depression and

anxiety, in non-clinical populations (college students) (Cribb, Moulds, & Carter, 2006; Moulds, Kandris, Starr, & Wong, 2006).

Adolescents present difficulties, especially, in controlling their reactions and impulses when experiencing intense emotions. Therefore, on many occasions they lack tools to cope with the demands of social interactions and the search for a life path (Madil, Quintero, & Maero, 2017). In the adolescent population, an excess of experiential avoidance behaviors to mitigate short-term pain is noted, as well as an excessive fusion with thoughts, which makes it difficult for adolescents to commit to values and a life path (Murrell, Coyne, & Wilson, 2004). On the other hand, a particular relationship between rumination and depressive and anxious disorders has been shown (Cova, Rincón & Melipillán, 2007). Thus, several epidemiological studies point out sex and age as critical factors, indicating that women are twice as likely as men to present rumination and depression and, in turn, a greater tendency to ruminate in response to emotional distress in adolescence and adulthood has been reported (Nolen-Hoeksema and Watkins, 2011). Finally, several studies have found a high prevalence of insomnia in both healthy children and children with psychiatric comorbidity, such as anxiety, depression, and autism spectrum disorders (Chesson, Anderson, & Littner, 1999; Roberts, Roberts, Roberts, Chan, 2006). A meta-analysis by Dewald, Meijer, Oort, Kerkhof and Bögels (2010) concluded that insufficient sleep, poor sleep quality, and sleepiness are common problems in children and adolescents and are related to learning, memory and school performance.

The present study will expand the knowledge of experiential avoidance as a possible diagnostic functional dimension to be used. More specifically, it will allow a better understanding of experiential avoidance patterns and their relationship with insomnia and ruminative response style, as well as between insomnia and rumination. To know how these variables are presented in the adolescent population and how they are associated with each other taking into account age, sex, and academic year. Since experiential avoidance is at the basis of numerous diagnoses, it is a risk factor for insomnia and has been found to be related to ruminative thinking; and at the same time, a relationship has been found between insomnia and emotional disorders, and rumination with depression and anxiety, exploring the association of these three variables and how they may influence age, sex and, academic year will offer a greater understanding of the influence of these variables in adolescents, since they are a population at risk for suffering from emotional problems, with a view to being able to establish lines of intervention in these areas in the future.

The aim of this study was to analyze the relationship between the variables experiential avoidance, rumination, and insomnia as a function of age, sex, and academic level in young people between 12 and 17 years of age, in order to achieve a better understanding, to know how they are presented and if there are associations between these variables. For this purpose, a demographic data questionnaire was administered; the AAQ-II to measure experiential avoidance; the RRS to evaluate ruminative thinking; and the ISI for insomnia.

The hypotheses proposed are the following: (1) the greater the experiential avoidance, the greater the insomnia; (2) the greater the experiential avoidance, the greater the rumination; (3) the greater the rumination, the greater the insomnia; (4) significant differences in experiential avoidance, rumination, and insomnia scores with respect to sex, age, and academic year; and, (5) the greater the age and higher the academic level, the higher the scores in experiential avoidance, rumination, and insomnia.

Method

Design

Cross-sectional correlational observational study with a nonclinical sample.

Participants

A non-probabilistic sample of 103 students from the 1st, 2nd, 3rd, and 4th years of E.S.O. who voluntarily participated in the research was included, of which 58 were female (56.3%) and 45 male (43.7%). The ages ranged from 12 to 17 years with a total mean age of 13.87. The sample was drawn from the Colegio y Escuela Hogar Cristo Rey Alcalá La Real (Jaén), enrolled in the 2019-2020 academic year.

The inclusion criteria were: (1) consent to participate in the study; (2) be in school in the academic years 1-4 of E.S.O., and (3) be in the age range of 12-18 years. Exclusion criteria were: (1) having audiovisual deficits, (2) having any psychiatric disorder or medical pathology that prevented correct participation.

Instruments

Acceptance and Action Questionnaire - II (AAQ-II) (Bond et al., 2011). The Spanish adaptation of Ruiz, Langer, Luciano, Cangas, and Beltrán (2013) has been used. It is a general measure of experiential avoidance or psychological inflexibility. It consists of 7 items on a 7-point Likert-type scale, with 1 being *never true* and 7 *always true*. The items reflect unwillingness to experience unwanted emotions or thoughts and lack of ability to be in the present moment and behave accordingly when experiencing unwanted psychological events. The instrument presents a unifactorial solution with good internal consistency (Cronbach's alpha = .88), good convergent, divergent, and discriminant validity.

Ruminative Responses Scale (RRS) by Nolen-Hoeksema et al. (1990; cited in Nolen-Hoeksema and Morrow, 1991). The Spanish adaptation of Hervás (2008) has been used. It evaluates the presence of a ruminative response style: reproaches and reflection. It is composed of 22 items with a 4-point Likert-type response scale, being 1 *almost never* and 4 *almost always*. Adequate reliability was proven through the retest, being the internal consistency higher than in the original test ($\alpha = 0, 93$) for the global scale (Hervás, 2008).

Insomnia severity index (ISI) (Morin, 1998; Bastien, Vallières and Morin, 2001). The Spanish version adapted for youth and adults was used (Fernandez-Mendoza et al., 2012). It is a brief, simple, and self-administered questionnaire. It consists of 5 items that are evaluated on a 5-point Likert-type scale, where 0 is *nothing* and 4 is *a lot*, obtaining a score from 0 to 28. The first item evaluates the severity of insomnia; the second, sleep satisfaction; the third item, interference with daytime functioning; and the fourth and fifth, the perception of the sleep problem and the level of concern about sleep, respectively. The Spanish version of the ISI shows adequate internal consistency indices (Cronbach's $\alpha = 0.82$). Confirmatory factor analysis showed that a three-factor structure provides a better fit to the data. Reliability and validity were confirmed for assessing the subjective severity of insomnia in the Spanish-speaking population (Fernandez-Mendoza et al., 2012).

Procedure

First, the AAQ-II, RRS, and ISI instruments were prepared, together with the informed consent form and a demographic data questionnaire, in paper format for administration.

All the instruments were administered at the Colegio y Escuela Hogar Cristo Rey Alcalá La Real during the academic year 2020-2021, specifically in the month of January. To gain access to the sample, it was necessary to contact the director of the center to explain in detail the purpose and objectives of the study, and to obtain his or her consent. The time for administering the questionnaires was determined in advance. All participants gave their consent to voluntarily collaborate in the study. A detailed explanation of how to complete the questionnaires was provided to the participants and the anonymity of the responses was guaranteed. The order of administration of the instruments was demographic data questionnaire, AAQ-II, RRS, and ISI, with an approximate duration of 20 minutes for the total class.

Finally, the questionnaires were collected and the data and scores were duly corrected and annotated. The pertinent statistical analysis was then performed.

Data analysis

Statistical analyses were performed using the IBM SPSS version 22.0 statistical package.

To begin with, a descriptive analysis was performed, expressing the qualitative variables by means of a frequency distribution and the quantitative variables by means of frequency distribution, arithmetic mean, variance, and standard deviation. We continued analyzing the possible association between the study variables by calculating bivariate Pearson correlation coefficients: experiential avoidance with ruminative thinking and with insomnia, respectively; and, on the other hand, ruminative thinking with insomnia. The Student's t-test for independent samples was used to compare whether there are significant differences for the sex variable (with two levels, male and female) and according to the questionnaire administered (AAQ-II, RRS and ISI). Finally, to analyze the other two variables, age (with six levels, 12, 13, 14, 15, 16, and 17 years) and grade (with four levels, 1st, 2nd, 3rd, and 4th year of E.S.O.) we chose the one-factor ANOVA for independent samples.

Since we have not found significant differences between any of the variables analyzed in the ANOVA, it does not make sense to perform a more exhaustive analysis using post hoc tests to find out exactly between which two levels there are significant differences.

Results

Of the total study sample, 103 participants, 43.7% were male and 56.3% female with an age range of 12 to 17 years, with an average age of 13.87. Regarding academic level, 22.3% were in the 1st year of E.S.O., 26.2% in the 2nd year of E.S.O., 29.1% in the 3rd year of E.S.O., and 22.3% in the 4th year of E.S.O. (See Table 1).

Table 1
Demographic variables of the study sample

	Frequency	**Percentage**

Sex	Man	45	43,7
	Woman	58	56,3
	Total	103	
Academic Level	1ST E.S.O.		22,3
	2ND E.S.O.		26,2
	3RD E.S.O.		29,1
	4TH E.S.O.		22,3
	Total	103	
Age	12	18	17,5
	13	23	22,3
	14	27	26,2
	15	27	26,2
	16	5	4,9
	17	3	2,9
	Total:	103	
	Media:	13,87	

Standard deviation:	1,28
Variance:	1,64

There is a positive linear relationship between the scores on all the questionnaires, i.e., if they score high on one questionnaire they will score high on the other. Comparing the correlations, the highest is between the AAQ-II questionnaire and RRS (0.648), then between ISI and RRS (0.386), and finally AAQ-II and ISI (0.297). (See Table 2)

Table 2
Pearson correlation between AAQ-II and RRS, AAQ-II and ISI, and RRS and ISI.

	AAQ-II and RRS	RRS and ISI	AAQ-II and ISI
Pearson correlation	0,648	0,386	0,297
Sig. (bilateral)	0	0	0,002
N	103	103	103

Note: * Correlation is significant at the 0.01 level (bilateral)

From the t-test for independent samples for the sex variable (with two levels, male and female), we obtain that in the AAQ-II questionnaire; there are significant differences in the sex variable, which means that men and women score differently in experiential avoidance. The variances are assumed to be different since the significance is less than 0.05 in Levene's test, and the null hypothesis is rejected. Again, we found significant differences between men and women in terms of mean scores in RRS (ruminative thinking). Equal variances are assumed since in Levene's test the significance is 0.09, greater than 0.05, and the null hypothesis is rejected. Finally, in the ISI questionnaire (sleep problems) no significant sex differences were observed in the mean scores. Equal variances are assumed (Levene's test significance 0.368, greater than 0.05, so the null hypothesis is accepted) and we see that the significance of the T-test is 0.101, so in this case, being greater than 0.05, the null hypothesis is accepted. (See Table 3)

Table 3
T-test for independent samples for the sex variable according to questionnaire.

		Levene test for equality of variances		T-test for equality of means						
		F	Sig.	t	gl	Sig. (bilat.)	Diff. of averages	Standard error of the diff.	95% confidence interval for the diff.	
									Inf.	Sup.
AAQ-II	Assumes equal var.	12,298	0,001	-2,273	101	0,025	-4,03142	1,77395	-7,55045	-0,51238
	Equal var. are not assumed			-2,363	100,630	0,020	-4,03142	1,70570	-7,41522	-0,64762
RRS	Assumes equal var.	2,926	0,090	-3,852	101	0,000	-9,27280	2,40740	-14,04844	-4,49715
	Equal var. are not assumed			-3,951	100,714	0,000	-9,27280	2,34675	-13,92828	-4,61731
ISI	Assumes equal var.	0,818	0,368	-1,656	101	0,101	-1,62337	0,98002	-3,56747	0,32073
	Equal var. are not assumed			-1,626	87,157	0,108	-1,62337	0,99833	-3,60761	0,36086

The one-factor ANOVA for independent samples to analyze the variable age (with six levels, 12, 13, 14, 15, 16, and 17 years) and grade (with 4 levels, 1st, 2nd, 3rd, and 4th year of E.S.O.) did not find significant differences for either variable in any of the questionnaires (AAQ-II, RRS, and ISI).

Discussion and conclusions

It is stated that people with difficulties in emotional regulation assume avoidance as a pattern of conflict resolution; they are not flexible with their private events, so they experience many negative emotions that lead to rumination (Saxena, Dubey and Pandey, 2011). Therefore, efforts to suppress the arousal they feel leads them to insomnia and poor sleep quality. Moreover, in the results of the research conducted by Zakiei, Khazaue, Reshadar, Rezaei, Komasi (2020) it was obtained that experiential avoidance was higher in patients with insomnia compared to non-clinical population, thus concluding that experiential avoidance plays a role in predicting sleep disorders. Studies show that efforts directed at the avoidance of private experiences cause an increase in mental arousal and, therefore, rumination, thus decreasing the quality of sleep. It has been shown that when a person with insomnia tries to control their thoughts and feelings, their insomnia is aggravated (Dalrymple et al., 2010).

ACT has been applied for different disorders in the adolescent population group. For example, in the study conducted by Wicksel, Melin, and Lekander in 2009 (in Mandil et al., 2017) they apply ACT to 32 adolescents with chronic pain and show better results than a control group receiving pharmacological treatment, among others. Regarding anxious disorders, significant improvements are found regarding quality of life and symptomatology, as well as in the management of daily life in anxious young people treated with ACT (Mandil et al., 2017). Hayes, Boyd, and Sewell (2011) show in a study that adolescents with depressive mood disorders who are treated with ACT, present statistically significant results both at the end of treatment, as well as in the long term.

Thus, after the relevant data analysis of the scores presented by the study sample, the correlations of the hypotheses raised are confirmed: experiential avoidance correlates positively with insomnia and rumination, respectively, and likewise, positive correlations between rumination and insomnia. On the other hand, significant sex differences were found for experiential avoidance and rumination scores, but not for insomnia. We could say, then, that the established objectives have been achieved, although we should take into account the study limitations that may have influenced the results.

Among the limitations of the study are mainly the sample size, which requires replications to improve the transfer of findings; the non-clinical sample, which could lead to more representative scores of our variables in a clinical sample; and, not having made a comparison with higher courses such as High School or Vocational Training, since there are greater academic demands and older age could influence the association of the variables. It should be taken into account that this was a cross-sectional study, so it would be important to examine the effects of the experiential avoidance, rumination, and insomnia variables in longitudinal studies. It should be noted that extreme caution should be exercised when generalizing the results of the present study, since it was carried out in a single school in Alcalá la Real.

For future lines of research, a correlational observational study could be carried out, also with a non-clinical sample, but with a larger sample size, and extending the range of age and academic level to observe more precisely how age and academic level may be

influencing our variables. It would also be interesting to be able to conduct research with the same approach, but in a clinical sample, without the need for a very large sample size. Thus, we would have a better understanding of how the variables of experiential avoidance, rumination, and insomnia interact in adolescence when they present a clinical diagnosis.

In conclusion, it is possible that these three variables have a reciprocal feedback between them, so that, if an adolescent has a tendency to avoidance of unpleasant or upsetting private events, he or she more readily has rumination-oriented thoughts, which leads to greater insomnia, and this in turn reinforces experiential avoidance and rumination.

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