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ORIGINAL RESEARCH

Concern About Returning to Face-to-Face Classes After the Pandemic: Importance of Emotional Intelligence and Stress Coping Strategies in Health Science Students

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Introduction: The COVID-19 pandemic has brought a new normality, a scenario where different circumstances trigger emotions such as concern about returning to face-to-face classes, to which higher education students adapt. The objective was to identify how emotional intelligence and coping with stress explain students' concern about returning to face-to-face classes post COVID-19.

Methods: This was an explanatory and cross-sectional study. The sample by intention was 588 students from the Faculty of Health Sciences. The Rotterdam Emotional Intelligence Scale (REIS), the Stress Coping Questionnaire (CAE), and the ACAD-COVID-19 scale were used. For data collection, the instruments were digitized. Bivariate analysis with Chi-square and multivariate logistic regression was performed.

Results: The mean age of the participants was 19.72 years; most were single and without children (96.9% and 96.8%, respectively). 74.3% did not work, 80.8% were from the first years of study, and 52.7% belonged to nursing school. About 94.2% of participants indicated having adequate emotional intelligence, 91.3% expressed coping with adequate stress, and 67.2% indicated serious concern about returning to face-to-face classes. An association was found between gender (p=0.042), age (p=0.002), year of study (p=0.027), emotional intelligence (p=0.001), and coping with stress (p=0.001) with concern for return to face-to-face classes. Emotional intelligence identified as adequate (OR: 2.580; IC95%: 1.117–5.960) and coping with stress identified as adequate (OR: 2.008; IC95%: 1.018–3.960) are more likely to express serious concern about the return to face-to-face classes after the COVID-19 pandemic.

Conclusion: According to the results, the need to safeguard the psychological aspects of students is highlighted, especially emotional intelligence, as well as to improve coping with stress so that they can better manage concerns about returning to face-to-face classes. The educational authorities should implement strategies to improve these aspects in order to ensure the adequate return to face-to-face classes in new scenarios.

Keywords: emotional intelligence, coping, psychological stress, expression of concern, health science students

Introduction

The COVID-19 pandemic has generated changes in the lives of most people, as well as the processes in institutions. Despite global efforts, it is not fully controlled and may continue for some time. Many activities have returned to normal pre-pandemic in this scenario, including the university education sector. The closure of higher educational institutions, as well as the return to face-to-face classes, produce different levels of impact on students and teachers, whether of a psychological or social nature, and it is not the only factor that is taken into account when the opening of the study centers, where the authorities evaluate the capacity to respond to possible outbreaks.[1]

In Peru, the country that has reported the highest per capita deaths worldwide, which is why the confinement was prolonged, the Ministry of Education ordered the complete return to face-to-face classes as of March 2022 since students

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need to interact with teachers and classmates to achieve a process of socialization adapting, in some cases, to the hybrid education modality, where learning teaching strategies are combined with laboratories and practices, among others.[2–4] The different approaches to professional careers make it necessary to analyze the return to face-to-face classes, whether face-to-face or blended, since there are professional careers that can achieve competencies using theoretical teaching and in virtual modality, however, there are others, such as Health Sciences, who need to use laboratories and have practices in the area of action of the profession.[5]

The return to face-to-face classes and any other change to which the human being is exposed can generate different psychological reactions, including stress. Since Hans Se-lye in the year 1950, who described the concept of stress as a process related to responding to a stressor linked to biological, physiological, and psychosomatic aspects, other authors have emerged who maintain that stress is linked to cognitive processes. Since then, studying the factors and effects of stress has been carried out in different areas to manage the pressures of daily life.[6] Stress occurs when the person under pressure perceives that a situation exceeds their resources, putting their health and personal well-being at risk.[7] Stress is the adaptive and daily response that produces a reaction that makes it easier to face challenges or situations perceived as threatening or dangerous, adapting to the demands of the environment.[8] Stressors of an academic nature are considered excessive pressure that has consequences on health and psychological well-being.[9]

People use their emotional intelligence to apply different coping strategies when faced with the stress produced by different situations. Emotional intelligence is conceptualized as a subset of social intelligence. This includes the ability to monitor one's and others' feelings and emotions, distinguish, and use that information to direct thoughts and actions.[10] It is considered an essential social competence in any profession, even more so in health sciences, whose professionals must interact in situations of crisis, pain, suffering, and death, which require adequate, agile, empathetic, and proactive coping.[11] It is also a set of skills that enable people to adequately manage their emotions and interpersonal relationships when faced with stressful situations.[12]

The measure of coping with daily life situations is not limited solely to intellectual capacity but goes further to emotional capacity to understand one's emotions and those of others. Emotional intelligence research is conducted along five dimensions: intrapersonal, interpersonal, stress management, adaptability, and general mood. This approach allows us to know a person's daily functioning in a specific context.[11] In recent research, a key role is attributed to emotional intelligence in the teaching-learning process, both for mental health and professional practice, since stress in students in these areas occurs at high levels, and emotional intelligence can be considered a buffer against stress and exhaustion of students.[13]

Some ways to deal with stress are understanding and accepting emotions, developing the ability to control impulsive behavior, and adjusting emotional responses using situationally appropriate emotion management strategies to meet the demands of individual goals and situations.[14] The term used is coping. It refers to a set of cognitive and behavioral strategies to cope with the internal and external demands of an individual's relationship with their environment. These strategies are related to mental health because, in addition to improving mental health and reducing suffering, they can reduce the effects of adversity.[15] Lazarus and Folkman distinguished two coping styles: problem-focused or problem-solving and emotion-focused or emotionally balanced.[16]

The return to face-to-face classes represents a challenge for many students, which takes on special significance in the context of the COVID-19 pandemic since students face various specific situations that are stressful.[17] In the same way, high parental expectations, peer pressure, lack of free time, financial problems, disharmony in relationships, and aspirations for higher education are some of the factors that generate stress in students.[18] This scenario, at a time like the return to face-to-face classes after the COVID-19 pandemic, contributes to generating anxiety and fear, feelings and emotions that are observed in students, since all changes produce different forms of reaction and each person is different from the cope with these changes.

Once the critical period of the COVID-19 pandemic has ended, it is appropriate to know the consequences that the COVID-19 pandemic has left in the academic field and that could be affecting the return to face-to-face classes. For this reason, the present study poses the research question "Are there some variables, such as emotional intelligence and coping with stress, that would explain the concern about returning to face-to-face classes post COVID-19 in university Health Science students?

The importance of the study lies in evidencing the perception of the students who passed the pandemic and return to face-to-face classes, since it is necessary to know this evidence to be delivered to the academic authorities in order to serve as an input to generate guidelines. In the literature there are countless studies on emotional intelligence and coping with stress, but in various circumstances, not necessarily related to the concern about returning to school after COVID-19. We are not exempt from a new epidemic and knowing how students react will make it possible to generate policies or strategies to deal with a subsequent similar scenario.

Therefore, the objective of this study is identify whether there are any variables, such as emotional intelligence and coping with stress, that would explain the concern about returning to face-to-face classes post COVID-19 among Health Sciences university students.

Materials and Methods

Study Design and Participants

It is an analytical and cross-sectional study. 588 students enrolled in the 2022-I academic semester participated in the study, belonging to the Faculty of Health Sciences (human medicine, nursing, human nutrition, and psychology, from a private university in Lima-East, at the time of data collection data, and have started face-to-face classes. The sampling was non-probabilistic, by the intention of the researchers. As inclusion criteria, health sciences students who at the time of data collection have returned to face-to-face classes were considered. Students who continue to have classes only in the virtual modality up to the date of data collection were excluded.

Procedure and Data Collection Instruments

The Rotterdam Emotional Intelligence Scale (REIS) was used to evaluate the emotional intelligence variable. This scale was adapted to Spanish and validated by Teruel, Salavera, Usán, and Antoñanzas in 2019. The reliability with Cronbach's alpha reached 0.866 for the total scale. It is a Likert scale with 28 items of 5 points ranging from 1 (totally disagree) to 5 (totally agree). It has 4 factors: self-focused emotional appraisal, other-focused emotion appraisal, self-focused emotion regulation, and other-focused emotion regulation.[19] The cut-off points for the REIS questionnaire scores were: inadequate emotional intelligence. 1–70, adequate emotional intelligence 71–140 points.

The stress coping variable was evaluated with the Stress Coping Questionnaire (CAE) by Sandín and Chorot, 2003. This questionnaire has been developed and validated in Spain, and from exploratory and confirmatory studies, it has shown an adequate factorial structure, identifying reliability with Cronbach's alpha of 0.75.[20,21] It is made up of 42 items divided into seven subscales: Search for Social Support (SSS), Open emotional expression of aggressiveness and irritability (OEE), Religion (RLG), Focus on solving the problem (FSP), Avoidance (AA), Negative Self-Focusing (NSF) and Positive Reappraisal (PR). The cut-off points for the CAE questionnaire scores were: inadequate coping with stress. 1–105, adequate emotional intelligence 106–210 points.

In evaluating the variable concern about the return to face-to-face classes, the ACAD-COVID-19 scale was used, which measures the perception of students about the academic impact that the coronavirus has generated. This is part of a context in which measures implemented by the government could affect their professional future. The scale was created by Mejía et al. It was validated for the context of return to school. The reliability with Cronbach's alpha = 0.889 and all its items received a favorable evaluation by the experts (Aiken's $V > 0.70$).[22] It has a single factor and is made up of seven items, with five response alternatives (strongly disagree, disagree, indifferent, agree, and strongly agree). The cut-off points for the ACAD-COVID questionnaire scores were: low concern about going back to school 6–17 points and high concern about going back to school 18–30 points.

For data collection, coordination was made with the dean of the Faculty of Health Sciences and the directors of the professional schools, who authorized us to coordinate with those responsible for the research axis and later with the teachers. The instruments were digitized in the Google Forms form, whose link was provided to the students through the tutor teachers. The study met the requirements of confidentiality, respect, and justice, requesting informed consent before data collection. The study was approved by the ethics committee of the Universidad Peruana Unión approved under resolution number 2022-CE-FCS - UPeU-021.

Data Analysis

Descriptive statistics with summary and dispersion measures were used for data analysis. Bivariate analysis with Chi-square was performed to find associated factors. Likewise, multivariate logistic regression was used. A significant level of 0.05 was considered for these analyses. Statistical analyses were performed with R program version 4.0.2 (R Foundation for Statistical Computing, Vienna, Austria; http://www.r-project.org) and the IBM SPSS statistical program version 24 (SPSS Inc., Chicago, IL, USA).

Results

Descriptive Analysis

The studied sample corresponded to 588 students, of which 77.6% were women, and 22.4% were men. The average age is 19.72 years. 96.9% are single, 96.8% do not have children, 74.3% do not work, and 25.7% do work parallel to their studies. Most respondents correspond to the first years of studies (1st-3rd), with 80.8%, and 52.7% of the participants correspond to nursing school. 94.2% showed adequate emotional intelligence. 91.3% show adequate coping with stress—81.2% show high concern about returning to face-to-face classes (Table 1).

Bivariate Analysis

In the bivariate analysis, 69.3% of the female sex rated their concern about returning to face-to-face classes post COVID-19 as high, and 30.7% perceived their concern as low. The analysis allowed us to see a significant association with a p-value of 0.042. In relation to age, those under 21 years of age are the ones who perceive their concern to return to face-to-face classes as high with 70%, this relationship was significant. Regarding the years of study, 69.3% of students in lower courses perceive the concern about returning to post-pandemic face-to-face classes as high, and those who perceive it as low represent 30.7%, with an association between variables with a p-value of 0.027 (Table 2).

Concerning emotional intelligence, 69.1% of the students whose assessment was adequate emotional intelligence reported serious concern about returning to face-to-face classes to post COVID-19, and 30.9% have a low concern. In the

Table 1 General Characteristics of the Students

		N°=588	%
Gender	Female	456	77.6
	Male	132	22.4
Age	Me± SD	19.72	3122
Marital Status	Married	16	2.7
	Co-habitant	2	0.3
	Single	570	96.9
With children	No	569	96.8
	Yes	19	3.2
Work	No	437	74.3
	Yes	151	25.7
Year of studies	Lower (1st-3rd)	475	80.8
	Superiors (4th-5th)	113	19.2
Professional school	Nursing	310	52.7
	Medicine	155	26.4
	Human Nutrition	51	8.7
	Psychology	72	12.2
Emotional intelligence	Inadequate	34	5.8
	Adequate	554	94.2
Coping with stress	Inadequate	51	8.7
	Adequate	537	91.3
Concern about the return to school	Low	193	32.8
	High	395	67.2

Table 2 Bivariate Analysis of the General Characteristics and Concern About the Return to Face-to-Face Classes Post COVID-19

Variables		Concern About Returning to Face-to-Face Classes Post COVID-19						p-value
		Low		High		Total		
		n=193	%	n=395	%	n=588	%	
Gender	Female	140	30.7%	316	69.3%	456	100%	0.042*
	Male	53	40.2%	79	59.8%	132	100%	
Age	> 22 years	47	46.1%	55	53.9%	102	100%	0.002*
	< 21 years	146	30.0%	340	70.0%	486	100%	
Marital Status	Single	186	32.6%	384	67.4%	570	100%	0.578
	Married/Co-habitant	7	38.9%	11	61.1%	18	100%	
With children	No	186	32.7%	383	67.3%	569	100%	0.705
	Yes	7	36.8%	12	63.2%	19	100%	
Works	No	134	30.7%	303	69.3%	437	100%	0.058
	Yes	59	39.1%	92	60.9%	151	100%	
Year of studies	Lower (1st-3rd)	146	30.7%	329	69.3%	475	100%	0.027*
	Superiors (4th-5th)	47	41.6%	66	58.4%	113	100%	
Professional school	Nursing	111	35.8%	199	64.2%	310	100%	0.138
	Medicine	42	27.1%	113	72.9%	155	100%	
	Human Nutrition	13	25.5%	38	74.5%	51	100%	
	Psychology	27	37.5%	45	62.5%	72	100%	
Emotional intelligence	Inappropriate	22	64.7%	12	35.3%	34	100%	0.001*
	Appropriate	171	30.9%	383	69.1%	554	100%	
Coping with stress	Inappropriate	29	56.9%	22	43.1%	51	100%	0.001*
	Appropriate	164	30.5%	373	69.5%	537	100%	

Note: *p<0.05, statistically significant.

same way, when analyzing coping with stress, the results revealed that of the students whose evaluation determined that they have adequate coping with stress, 69.5% report high concern about returning to face-to-face classes to post COVID-19, while those whom 30.5% perceive concern as low. A significant association between the variables is observed for both variables, with a p-value of 0.001 (Table 2).

Multivariate Analysis

Through a multivariate logistic regression analysis, it was shown that students who show emotional intelligence identified as adequate (OR: 2.580; IC95%: 1.117–5.960) and present coping with stress identified as adequate (OR: 2.008; IC95%: 1.018–3.960) are more likely to express serious concern for the return to face-to-face classes post-COVID-19 (Table 3).

Discussion

The return to face-to-face classes for university students is a critical issue; since the pandemic has not yet ended, a new normality has been entered to which students must adapt in all areas. Above all, in the emotional and psychological aspects, several studies show that healthy students obtain high scores for emotional distress, bad mood, emotional intelligence, stress, depression, and anxiety.[23,24] This study aimed to identify how emotional intelligence and coping with stress explain students' concern about returning to face-to-face classes post COVID-19.

In a study carried out on Peruvian students in the field of emotional intelligence, it was found that health sciences students had 47% emotional intelligence, corresponding to the average, and regarding intrapersonal intelligence, they identified 43% classified as very low.[25] These results differ from ours; the majority stated they had adequate emotional intelligence. Emotional intelligence is a necessary element for all health sciences professionals and is especially important in the face of a traumatic event such as returning to face-to-face classes after having been in a period of confinement and with virtual education.

Table 3 Predictive Model of Concern About Returning to Face-to-Face Classes Post COVID-19

		OR	CI 95%		Sig.
			LL	UL	
Gender	Female	1	(Reference)		
	Male	0.797	0.523	1.215	0.292
Age	22 years and over	1	(Reference)		
	Up to 21 years	0.542	0.337	0.873	0.012*
Year of studies	1st-3rd	1	(Reference)		
	4th-5th	0.869	0.544	1.388	0.558
Coping with stress	Inappropriate	1	(Reference)		
	Appropriate	2.008	1.018	3.960	0.044*
Emotional intelligence	Inappropriate	1	(Reference)		
	Appropriate	2.580	1.117	5.960	0.027*

Note: *p<0.05, statistically significant.
Abbreviations: OR, Odds ratio; CI, Confidence interval; LL, lower limit; UL, Upper limit.

In China, a study with hospital personnel revealed that the scores of emotional intelligence, evaluation, and expression of own emotions, management of own emotions, use of own emotions, and recognition of emotions of other hospital personnel were positively correlated.[26] A similar situation was also found in China, where students' emotional intelligence influences their clinical performance.[27] In a study with medical residents during the pandemic, researchers found that emotional intelligence partially protects against burnout and the well-being of residents during their residency.[28] Our study revealed that the variable emotional intelligence was associated with the variable concern about returning to face-to-face classes. It is noteworthy that, having demonstrated adequate emotional intelligence, students generally have a high level of concern about returning to face-to-face classes post COVID-19.

In Ecuador, a study was carried out on patient-students who would return to face-to-face classes. The results showed that the emotional intelligence score is medium, as well as the return to school. The analysis of the return to school had a dimension of threat elements, assessing risks of the pandemic in physical, emotional and affective health, as well as risks in the academic aspect.[29] The results found in the present study differ, since adequate emotional intelligence was found, however, concern about the return to face-to-face classes is high. Possibly there are external variables not addressed in this study that could be generating these differences.

In a study on academic stress associated with the pandemic, it was identified that stress was high, on a scale of 1 to 10, the majority of students valued 8 points. The authors identified that the students are capable of handling stress, however, it increased, which may affect the academic trajectory.[30] In our study, coping with stress was assessed, finding that the participants have a coping with stress classified as adequate. The problem has arisen in countries where the pandemic forced the closure of educational institutions, generating different scenarios.

By the other hand, students at a Spanish university experienced stress and used avoidant coping strategies.[31] In general, stress levels in health sciences students are always high, as in the study carried out on Peruvian students, where they identified high (31%) and intermediate (44.4%) stress levels.[32] In the same way, in the capital of the same country, in 2020, the researchers found high levels of perceived stress with 48.3%.[33] In Chile, in nursing students, a significant increase in perceived stress levels between first and fourth year was found for numerous stressful life events.[34] An international study found the degree of stress and the type of stressors and coping styles used by Nursing students differs by country of origin. The year of the study predicted global stress, while advanced age predicted global coping in nursing students.[35] The present study reveals that students face stressors, and coping with stress in them is adequate in such a way that they face academic and family stressors. However, it does not protect them from worrying about returning to face-to-face classes post COVID-19.

In different cities of Peru, a study was carried out on the academic repercussions of COVID-19, where they identified that women had a higher frequency of perception of academic repercussions. There was no statistically significant

evidence of academic impacts based on students' age, major, or place of residence. Important fears and concerns were also found in the students regarding some premises of the possible repercussions that they would have.[36] Additionally, students consider that the virtual modality is limited in terms of interactions with the teacher, teamwork, peer participation, class participation, and the ability to ask questions; even with these limitations, they prefer the virtual modality during the pandemic but prefer face-to-face learning when COVID-19 is not a problem.[37] The concern is present since the virus has not been eliminated, so the population must still follow preventive measures at all levels and in educational institutions. In this scenario, it is essential to develop a sound communication system at the governmental and local levels, extending to the university academic environment.

Implications

Peru, like the rest of the countries, is at constant risk of facing a new pandemic, or some other health emergency, that puts the development of face-to-face classes at risk. As found in this study, it is necessary for educational authorities to work on emotional aspects of students such as emotional intelligence and coping with stress. Thus, there will be a better management of the concern for the return to face-to-face classes. The study has another implication to highlight, since future health professionals have an important service role before society, caring for and restoring health. To do this, they must individually know and manage the emotional aspects that contribute to a healthy adaptation to health emergency and post-emergency scenarios such as the COVID-19 post-pandemic. Finally, a better knowledge about students' perception of returning to face-to-face classes post-COVID-19 will allow the educational authorities to identify improvement strategies about teaching-learning process in the new scenarios.

Limitations

This study had some limitations. First, the study variables were measured through a self-administered questionnaire that the person completing it can easily exaggerate or minimize. Second, the students belong to a single institution; therefore, the interpretation of the results must be taken with care, and it is recommended that future studies consider different institutions, that is, a multicenter study. In the same way, a mixed-focus study would broaden the picture by reaching out to the students to listen to their perceptions. Ask why students, having emotional intelligence and coping with stress marked as adequate, have a high level of concern about returning to face-to-face classes post COVID-19? Possibly other factors would be very convenient to explore.

As mentioned in a previous section, there are no studies in Peru of the exact nature. Given the health situation, we consider it necessary to carry out further studies that broaden the knowledge of the problem that serves as input to develop strategies to mitigate the impact of the pandemic.

Thus, it becomes vital that Health Sciences students, given the characteristics of the study regimen, need to adapt, using their emotional intelligence properly and applying stress coping strategies.

Conclusion

Emotional intelligence identified as adequate, and coping with stress identified as adequate, are more likely to express serious concern about returning to face-to-face classes post COVID-19. According to the results, the need to safeguard psychological aspects of students is highlighted, especially emotional intelligence, as well as to improve coping with stress, so that they can better manage concerns about returning to face-to-face classes. The educational authorities should implement strategies to improve these aspects in order to ensure the adequate return to face-to-face classes in new scenarios.

Data Sharing Statement

The original data used to support the findings of this study are available from the corresponding authors upon request.

Ethical Statement

All procedures were performed in accordance with the 1964 Helsinki declaration and its later amendments.

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Disclosure

The authors report no conflicts of interest in this work.

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