The impact of mental health, affectivity, emotional intelligence, empathy and coping skills in Occupational Therapy students
El impacto de la salud mental, la afectividad, la inteligencia emocional, la empatía y las habilidades de afrontamiento en estudiantes de Terapia Ocupacional

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Abstract. Background: Students attending university have to adjust to a new learning context and are under psychological distress. The aim of the study was to assess the mental health, affective status, emotions, emotional intelligence, empathy and coping skills of undergraduate students of occupational therapy. Methods: A sample of 130 first-to-fourth-year students enrolled in an occupational therapy degree course, to whom we administered an "ad hoc" questionnaire, the Symptom CheckList-90-Revised (SCL-90-R), the Positive and Negative Affect Schedule (PANAS), the Trait Meta-Mood Scale (TMMS-24), the Interpersonal Reactivity Index (IRI), the Difficulties in Emotion Regulation Scale (DERS) and Brief COPE questionnaire. Results: We found low scores in psychological disorders, positive affect (general and over the last week), presence of pleasant emotions, good emotional intelligence, high scores in empathy and a good coping style and adaptive strategies. However, we found a high level of students without emotion regulation skills. Additionally, our results show interesting relationships between gender, year group, chronic illness and doing sport, where female undergraduates, third-year students and those with a chronic illness had worse mental health and psychological distress. Conclusion: Preventive measures are needed in higher education to minimize mental health and maladaptive emotions and to achieve the highest possible level of psycho- emotional well-being.
Key words: mental health, affect, emotional intelligence, empathy, occupational therapy

Resumen. Antecedentes: Los estudiantes que asisten a la universidad tienen que adaptarse a un nuevo contexto de aprendizaje y sufren distrés y malestar psicológico. El objetivo del estudio es evaluar la salud mental, la afectividad, las emociones, la inteligencia emocional, la empatía y las habilidades de afrontamiento de universitarios de Terapia Ocupacional. Métodos: 130 estudiantes de primero a cuarto año matriculados en el Grado de Terapia Ocupacional, a quienes se les administró un cuestionario "ad hoc", la lista de síntomas (SCL-90-R), la escala de Afecto Positivo y Negativo (PANAS), la escala Meta-Estado de Ánimo (TMMS-24), el Índice de Reactividad Interpersonal (IRI), la Escala de Dificultades en la Regulación Emocional (DERS) y el Inventario Breve de Afrontamiento (COPE). Resultados: Encontramos puntuaciones bajas en trastornos psicológicos, afecto positivo (generalmente y última semana). Existen emociones placenteras, buena inteligencia emocional, puntuaciones altas en empatía y buen estilo de afrontamiento y estrategias adaptativas. Sin embargo, encontramos un alto nivel de estudiantes sin habilidades de regulación emocional. Además, nuestros resultados muestran relaciones interesantes entre el género, el grupo de edad, la presencia de enfermedad crónica y la práctica de deporte, donde las estudiantes de grado, estudiantes de tercer año y aquellas con una enfermedad crónica tenían peor salud mental y malestar psicológico. Conclusión: Se necesitan medidas preventivas entre los estudiantes de educación superior para proteger la salud mental y las emociones desadaptativas y para lograr el mayor nivel posible de bienestar psicoemocional.
Palabras clave: salud mental, afecto, inteligencia emocional, empatía, terapia ocupacional

Introduction

Academic life in higher education imposes many challenges with a negative impact on academic achievement, health and satisfaction. For instance, questions about activity during the academic year such as motivation, attend class regularly, combining work and study, participation of international exchange, financial assistance (Cox Méndez, 2017; Fernández-Rodríguez et al., 2019; Langa-Rosado, 2019; Martínez-Lorca et al., 2023[1]). In fact, this is considered one of the life cycle stages with the greatest levels of anxiety, with high levels of psychological distress compared with the general population and lower levels of psychological well-being in university students (Morales-Rodríguez et al., 2020), as well as anxiety, stress, fear and low psychological well-being, which can cause anxiety disorders (one of the most common pathologies) (Dias Lopes et al., 2020; Dilber, et al., 2016; Tang et al., 2018).

Many mental health problems are found in university students across the world and in different degrees (medicine, nursing, social sciences, dentistry and pharmacy) (Freene et al., 2022; Martínez-Lorca et al., 2023[1]). Students on occupational therapy degree courses also present anxiety, depression and stress, (Webber et al., 2021) and are exposed to many of the same potential stressors as those in other health professional degrees.

According to Aguado (2014; 2015) and Morales-Rodríguez et al. (2020), emotions and affectivity are key constructs related to psychological well-being and satisfaction with life. In many cases, however, university students present difficulties in emotions and their emotion regulation skills (Hervás and Jódar, 2008). Early identification, prevention and interventions for psychological distress should be included amongst the concerns and competences of universities and might reduce the serious consequences (Balaji et al., 2019; Fernández-Rodríguez et al., 2019; Tang et al., 2018). To establish proper education and professional training in students from different academic fields

(e.g., medical students, nursing, occupational therapy, engineering or arts students), it is important to achieve their optimal well-being and quality of life during the years of training (Balaji et al., 2019; Fernández-Rodríguez et al., 2019; Dilber et al., 2016), as this is an indicator of their level of adjustment and adaptation.

Morales-Rodríguez et al. (2020) highlight the importance of developing systemic competencies that include inter- and intra-personal psychological resources, such as emotional intelligence, emotional regulation self-esteem, self-concept, social skills, social responsibility, socially responsible attitudes, problem solving and learning style preferences, suitable levels of empathy, emotional intelligence and emotion regulation.

This is related to the emergence of the concept of emotional intelligence (EI), coined by Salovey & Mayer (1990), who defined EI as the capacity to identify one's own feelings and those of others, and to focus attention and thought, attending to the information provided by emotions. EI is a significant predictor of a person's social and personal functioning, and, thus, emotionally intelligent individuals are not only more able to perceive, understand and manage their own emotions, but are also better able to extrapolate this perception, understanding and management of emotions to the emotions of others (Merchán-Clavellino et al., 2019; Morales-Rodríguez et al., 2020). EI is essential in healthcare professionals, in general and occupational therapists, in particular (Gribble et al. 2019). High EI scores among occupational therapy students positively correlated with their performance during clinical placements (Andonian, 2013; Zeidne-Handler, 2009). When EI is combined with appropriate knowledge, clinical reasoning skills, professional behaviour, and ethical values, students of occupational therapy are able to become competent professionals (Polonio-López et a., 2019).

Additionally, empathy, as the ability to respond to others, understand their emotions and what they are thinking, and comprehend their intentions and feel what they feel, is a key factor in university students, as it contributes to the enhancement of social skills and prosocial behaviour (Morales-Rodríguez et al., 2020; Serrada-Tejeda et al., 2022). In many cases, university students have shown a decline in empathy scores as a result of the need to cope with new responsibilities and excessive workload in the new academic year (Serrada-Tejeda et al., 2022). However, in occupational therapy, empathy is a key element to be considered during the intervention process in order to provide the support and understanding required to face the difficulties that may arise because of difficulties in occupational performance. For this reason, the implementation of a formative process on empathy skills may positively affect students' empathy levels (Serrada-Tejeda et al., 2022).

Another important recourse in university students' lives is physical activity. Engagement in physical activity or sport improves self-esteem, self-concept, social skills, emotional manage and body image, and reduces the risk of premature death and chronic disease (Acebes-Sánchez et al., 2019; Grasdalsmoen et al., 2020; López et al., 2021). The World Health Organization (WHO) established the importance of regular physical activity and published its Global Recommendations on Physical Activity for Health in 2010. This action plan aimed to provide a system-based framework of effective and practical policy actions in order to increase physical activity at all levels. In this line, students and staff from 13 health disciplines (including occupational therapy) at an Australian university were invited to participate in an educational intervention on physical activity promotion, with significant results in awareness of the importance of physical activity. Nonetheless 12 months later no change was found in the amount of physical activity undertaken (Freene et al., 2022).

Thus, good emotional development, proper empathy, intrapersonal resources, doing sport and solid social skills may help individuals develop positive physical and psychological health, feel less psychosocial stress, achieve better academic performance, attainment and success, and develop greater life satisfaction, among other elements (Morales-Rodríguez, 2020). However, these intrapersonal resources are not always developed in university students, as they are affected by diverse variables, such as gender and age (Serrada-Tejeda et al., 2022; Quince et al., 2016; Martínez-Lorca et al., 2023[1]), type of degree course (Balaji et al., 2019; Fernández-Rodríguez et al., 2019), engagement in physical activity or sport (Acebes-Sánchez et al., 2019; Grasdalsmoen et al., 2020; López et al., 2021; Martínez-Lorca et al., 2023[1]), free-time satisfaction (Misra & McKean, 2000), socioeconomic status (Balaji et al., 2019) and type of family (Balaji et al., 2019), etc.

The main objective of the present study was to assess the mental health, affectivity and emotions, emotional intelligence, empathy and coping skills of undergraduate students studying for a degree in occupational therapy, using an explorative approach in a cross-sectional study. We expected to find the following results: 1) levels of mental health, including anxiety or stress; 2) different intrapersonal resources in emotional intelligence, regulation emotional, empathy and coping skills; and 3) different types of relationships between variables such as gender, year of study, doing sport and chronic disease.

Besides, a further aim of this study was to determine whether the statistically significant differences found in the variables under analysis are maintained or disappear when students that had suffered stress or anxiety were dropped from the sample. We thus hypothesised that many of the differences would disappear when students with anxiety or stress were eliminated from the overall sample, which could underline the significant impact of anxiety and stress as mediating variables.

Methodology

Participants

The target population comprised undergraduates enrolled in an occupational therapy degree across different

year groups (from first to fourth) at the University of Castilla-La Mancha on its Talavera de la Reina campus (n=130) (see Table 1).

Table 1
Socio-demographic, health and academic data

Socio-demographic data	N (%)
Age (median, SD)	20.93 (2.64)
	Range (18-31)
Gender (n, %)	
Male	12 (9.2)
Female	118 (90.8)
Course (n, %)	
First	55 (42.3)
Second	30 (23.1)
Third	12 (9.2)
Fourth	33 (25.4)
Place of birth (n, %)	
Castilla-La Mancha	67 (51.5)
Andalucía	17 (13.1)
Extremadura	11 (8.5)
Madrid	7 (5.4)
Castilla y León	6 (4.6)
Others	16 (12.3)
Foreign country	6 (4.6)
Health data	**N (%)**
Health (n, %)	
Good	125 (96.2)
Bad	5 (3.8)
Chronic disease (n, %)	
Yes	17 (13.1)
No	113 (86.9)
Which? (n, %)	
Coeliac disease	4 (3.1)
Asthma	2 (1.5)
Allergy	1 (0.8)
Headaches	1 (0.8)
Diabetes	1 (0.8)
Colon irritable	1 (0.8)
Atopic dermatitis	1 (0.8)
Hiatus hernia	1 (0.8)
Fibromyalgia	1 (0.8)
Dyslexia	1 (0.8)
Thalassemia	1 (0.8)
Anxiety (n, %)	
Yes	88 (67.7)
No	42 (32.3)
Medication for anxiety (n, %)	
Yes	11 (8.5)
No	119 (91.5)
Are you going to psychologist? (n, %)	
Yes	18 (13.8)
No	112 (86.2)
Academic data	**N (%)**
Do you like your degree? (n, %)	
Yes	122 (93.8)
No	8 (6.2)
Was it the correct option? (n, %)	
Yes	119 (91.5)
No	11 (8.5)
Was it your first option? (n, %)	
Yes	66 (50.8)
No	64 (49.2)
Do you go to classes frequently? (n, %)	
Yes	127 (97.7)
No	3 (2.3)
Have you studied abroad? (n, %)	
Yes	18 (13.8)
No	112 (86.2)
Would you like to study abroad? (n, %)	
Yes	75 (57.7)
No	55 (42.3)
Grant (n, %)	
Yes	83 (63.8)
No	47 (36.2)
Did you go to internship? (n, %)	
Yes	66 (50.8)
No	64 (49.2)
Work+study (n, %)	
Yes	24 (18.5)
No	106 (81.5)
Do you do any sport? (n, %)	
Yes	48 (36.9)
No	82 (61.3)

Instruments

We collected background demographic information on gender, age, degree, year of study, grants, work activity and internships during the academic year, motivation in studies, regularity in class, and sports. Besides, we asked about level of anxiety of stress with this question: Have you had any episode of stress or anxiety? with two answers (yes or no). We also measured emotions during the academic year, which were scored on a 10-point Likert scale for different emotions (fear, anger, guilt, disgust, sadness, surprise, curiosity, admiration, security and joy) designed by Aguado (2014; 2015).

Additionally, the following questionnaires were administered:

The **Symptom CheckList-90-Revised (SCL-90-R)** by Derogatis (1975) is a self-report instrument containing 90 items and is designed to measure nine current psychiatric symptoms, as well as psychological distress. The SCL-90-R subscales assess the following psychiatric symptoms: Somatization, Obsessive Compulsive Disorder, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism. The tool also includes three global indexes of psychopathology: the Global Severity Index (GSI), which is the sum of all 9 subscales; the Positive Symptoms Total (PST), which is the total number of items with positive responses; and the Positive Symptom Distress Index (PSDI), which we computed to assess the severity of overall psychological distress. Each item has the following five response categories: 0 = not at all, 1= a little bit, 2 = moderately, 3 = quite a bit, 4 = extremely. Although this instrument was designed in the 1970s, it is still useful to understand psychiatric disorder. The Cronbach's alpha ranges from 0.70 to 0.80 (Derogatis, 1975).

The **Positive and Negative Affect Schedule (PANAS)** (Watson et al., 1988). The PANAS has been shown to be a valid, reliable tool to independently measure the presence and level of positive and negative affect in clinical and healthy population and in adolescents, adults and older adults. It comprises 20 items, of which 10 items evaluate positive affect and 10 measure negative affect. The items consist of different words that describe feelings and emotions. The respondent is asked to indicate to what extent they generally experience these emotions and the extent to which they felt them in the last week, on a five-point scale, where 1 is "very slightly or not at all" and 5 is "extremely". We administered the Spanish version by Robles and Páez (2003), which has shown good psychometric properties, with a Cronbach's alpha from 0.86 to 0.90 for positive affect, and from 0.84 to 0.87 for negative affect.

The **Trait Meta-Mood Scale (TMMS-24)** (Fernández-Berrocal, et al., 2004; original version by Salovey et al., 1995). This consists of 24 items across three subscales evaluating emotional intelligence, that is, the meta-knowledge of the skills with which individuals deal with emotional states, on three subscales: attention, clarity and repair. The attention subscale refers to an individual's ability to perceive, attend or observe, and think about their own feelings

and moods. Clarity measures the understanding and discrimination of individuals' own emotional states, while repair assess a person's beliefs about their ability to regulate affect and emotions. The overall scale comprises 24 items, 8 per factor, which are rated on a 5-point scale (1= strongly agree; 5= strongly disagree). It has good psychometric properties with an adequate Cronbach's Alpha (attention α = 0.86), (clarity α = 0.90) and (repair α = 0.85).

The **Difficulties in Emotion Regulation Scale (DERS)** (Hervás & Jódar, 2008; original version by Gratz & Roemer, 2004). The DERS is a 36-item self-report questionnaire measuring clinically significant aspects of emotion regulation. The items are grouped into six subscales: awareness (6 items), clarity (5 items), impulse (6 items), goals (5 items), non-acceptance (6 items), and strategies (8 items). The items are scored on a 5-point Likert scale (1: almost never, 5: almost always). Subscales and total scores are obtained as the sum of the corresponding items, with higher scores indicating greater difficulties in emotion regulation. The DERS has good psychometric properties with a Cronbach's Alfa of α=.91 where awareness (α=.73), clarity (α=.23), impulse (α=.74), goals (α=.70), non-acceptance (α=.89), and strategies (α=.79).

The Interpersonal Reactivity Index (IRI) (Mestre et al., 2004; original version by Davis, 1983) is one of the most widely used self-report tools to measure empathy. The scale comprises 28 items distributed across four seven-item subscales that measure two concepts of empathy. The cognitive component dimensions are perspective taking (PT) and fantasy (FS), while the affective component consists of the subscales of empathy concern (EC) and personal distress (PD). It uses a 5-point Likert-type scale (1= does not describe me well; 5= describes me well), scored from 1 to 5, according to the degree to which the individual feels the statement describes them. The IRI has good psychometric properties with a Cronbach's Alpha of .78 and by dimensions: perspective taking (.58), fantasy (.60), empathy concern (.42) and personal distress (.45).

Brief COPE questionnaire (Morán et al., 2010; original version by Carver, 1997). The Brief COPE comprises 28 items divided into 14 subscales, of which seven represent an effective coping style: active coping (initiating direct actions, increasing efforts to eliminate or reduce stressors), planning (thinking about how to cope with the stressor, planning action strategies, steps and efforts), instrumental or social support (getting help or advice from competent individuals that know what to do), use of emotional support (getting sympathetic emotional support, understanding), positive reframing (looking for the positive and favourable aspects of the problem and trying to improve or grow from the situation), acceptance (accepting the facts, the reality of what is happening), and humour (joking about the stressor or laughing about and mocking the stressful situations). The other seven scales correspond to an ineffective coping style: self-distraction (concentrating on other projects, distracting oneself with other activities to avoid focusing on the stressor), venting (increased

awareness of one's own emotional distress, tendency to express or offload such feelings), behavioural disengagement (reducing effort to cope with the stressor, even giving up trying to achieve goals that interfere with the stressor), denial (denying the reality of the stressor), religion (tendency to turn to religion in times of stress), substance use (consuming alcohol or other substances to feel good or help deal with the stressor), and, finally, self-blame (criticizing and blaming oneself for events). The items are framed in terms of actions or thoughts used as coping mechanisms, with each scored on a 4-point scale (0= I haven't been doing this at all; 1= a little bit; 2= a medium amount; 3= I've been doing this a lot), according to the frequency with which the respondent engages in an action or has a thought. The Cronbach's alpha for the scale was .77 and by subscales: active coping (.57), planning (.55), instrumental or social support (.65), use of emotional support (.73), positive reframing (.71), acceptance (.21), humour (.77), self-distraction (.57), venting (.32), behavioural disengagement (.65), denial (.63), religion (.84), substance use (.88), and, finally, self-blame (.63).

Procedure

This research was conducted by means of a descriptive, epidemiological, cross-sectional study. Teaching staff at the Faculty of Health Sciences and the Faculty of Social Sciences were informed by email of the aim of the study and their permission was requested to administer the tests in paper-based format. They were not trained. Before applying the tests, participants were informed of the objective, procedure, anonymous nature and ethical guarantees of the study and their informed consent to participate was requested. Filling out the questionnaires took between 15 and 20 minutes at the beginning and/or end of the classes in which professors delivered and collected the questionnaires. Data collection was conducted from 4th November to 25th November 2019. Non-probability quota sampling was used (aged 18 or over, enrolled in a university degree course, years 1 to 4 and being in class on the day of data collection). Our study received ethical approval and was supervised by the Research Ethics Commission of the Talavera de la Reina Integrated Health Service Management in Talavera de la Reina, Toledo, Spain (31/2018).

Data analysis

The data analysis was conducted using the IBM® SPSS® Statistics 22.0 computer program. For the statistical analysis, we first checked whether the variables to be statistically analysed followed a normal distribution, using the K-S test for normality. The sample does not follow a normal distribution of data, as indicated by the analysis of the Kolmogorov-Smirnov test of normality in which all the variables evaluated present a probability of less than or equal to 0.05. Therefore, for the analysis of the data, the non-parametric Mann-Whitney test was performed, which is the non-parametric test parallel to the t-test for independent samples. We also ran the Kruskal-Wallis test, the non-parametric

test parallel to the analysis of variance. A confidence level of .05 was set for all statistical analyses. In addition, descriptive and frequency distribution (mainly means and standard deviations) and Chi-square independence tests were used.

Results

Descriptive statistics in measures of instruments and emotions

Table 2 shows the descriptive statistics for each of the scales used in this work, and for the emotions experienced by the students in their university environment.

Table 2.
Descriptive statistics in measures of instruments

SCL-90-R	M (SD)	Min	Max
GSI	.98 (.66)	0	3.21
PST	42.6 (19.11)	0	89
PSDI	1.93 (.53)	0	3.38
Somatization	1.04 (.79)	0	3.25
Obsessive compulsive	1.37 (.79)	0	3.90
Interpersonal sensitivity	.94 (.78)	0	3.11
Depression	1.18 (0.84)	0	3.3
Anxiety	1.20 (0.94)	0	7
Hostility	.73 (.66)	0	3.50
Phobic anxiety	.59 (.72)	0	4
Paranoid ideation	.86 (.90)	0	5
Psychoticism	.62 (.79)	0	5
PANAS	M (SD)	Min	Max
Positive last week	28.63 (6.68)	13	47
Negative last week	21.71 (7.65)	10	42
Positive usually	30.83 (5.62)	14	42
Negative usually	19 (6.29)	10	41
EMOTIONS IN THE UNIVERSITY SITUATION	M (SD)	Min	Max
Fear	3.96 (2.66)	0	10
Anger	3.16 (2.69)	0	10
Guilt	1.78 (2.36)	0	10
Disgust	.92 (1.87)	0	10
Sadness	2.48 (2.42)	0	10
Surprise	4.91 (2.61)	0	10
Curiosity	7.68 (1.98)	0	10
Admiration	5.9 (2.36)	0	10
Security	7.24 (2.5)	0	10
Joy	7.61 (2.15)	0	10
TMMS-24	M (SD)	Min	Max
Attention	25.43 (6.8)	8	40
Clarity	24.36 (7.09)	10	40
Repair	26.09 (6.89)	10	40
DERS	M (SD)	Min	Max
Awareness	17.20 (4.25)	7	30
Impulse	14.40 (2.65)	8	26
Non-acceptance	13.74 (6.13)	7	35
Goals	14.72 (4.95)	5	29
Clarity	11.27 (3.80)	5	23
Strategies	14.68 (5.48)	7	35
Total	86.09 (18.47)	49	152
IRI	M (SD)	Min	Max
Perspective taking	24.40 (4.02)	15	34
Fantasy	23.54 (5.19)	12	35
Empathic concern	27.62 (3.81)	19	35
Personal distress	16.57 (4.62)	7	28
Total	92.30 (10.87)	59	126
COPE	M (SD)	Min	Max
Confrontation	4.79 (1.26)	0	6
Planning	4.03 (1.41)	0	6
Social support	4.12 (1.44)	0	6
Emotional support	4.3 (1.53)	0	6
Positive reinterpretation	3.89 (1.62)	0	6
Acceptance	4.43 (1.28)	0	6
Humor	3.27 (2.02)	0	6
Self-distraction	4.03 (1.56)	0	6
Venting	3.03 (1.44)	0	6
Behavioral disengagement	1.32 (1.39)	0	6
Negation	1.83 (1.72)	0	6
Religious	.99 (1.57)	0	6
Substance use	.60 (1.17)	0	6
Self-blame	3.17 (1.57)	0	6

Relationships between anxiety and the main study variables

Table 3 shows the statistically significant differences between the variables of having suffered stress or anxiety and most of the main study variables.

Table 3.
Significant differences in anxiety or stress in measures of instruments

	ANXIETY or STRESS			
	Yes (N= 88)	No (N= 42)	Z	p
SCL-90-R				
GSI	76.06	43.34	-4.625	≤0.001
PST	47.13	33.09	-4.082	≤0.001
PSDI	2.05	1.67	-4.012	≤0.001
Somatization	76.14	43.21	-4.665	≤0.001
Obsessive compulsive	73.68	48.37	-3.586	≤0.001
Interpersonal sensitivity	71.37	53.20	-2.576	≤0.010
Depression	75.44	44.67	-4.360	≤0.001
Anxiety	75.18	45.21	-4.249	≤0.001
Hostility	72.63	50.57	-3.144	≤0.002
Phobic anxiety	72.57	50.70	-3.126	≤0.002
Paranoid ideation	71.83	52.24	-2.788	≤0.005
Psychoticism	73.55	48.64	-3.546	≤0.001
PANAS				
Positive last week	27.92	30.14	-1.975	≤0.025
Negative last week	74.26	47.15	-3.841	≤0.001
Positive usually				
Negative usually	70.31 50.77		-2.803	≤0.005
EMOTIONS IN THE UNIVERSITY SITUATION				
Fear	70.48	55.06	-2.198	≤0.028
Anger				
Guilt				
Disgust				
Sadness	71.13	52.30	-2.727	≤0.006
Surprise				
Curiosity	69.51	55.67	-2.005	≤0.045
Admiration				
Security				
Joy				
TMMS-24				
Attention	26.55	23.07	-2.284	≤0.005
Clarity				
Repair				
DERS				
Awareness				
Impulse				
Non-acceptance				
Goals				
Clarity				
Strategies	72.87	48.69	-3.452	≤0.001
Total	69.44	55.80	-1.492	≤0.05
IRI				
Perspective taking				
Fantasy				
Empathic concern	28.43	25.95	-3.683	≤0.001
Personal distress				
Total	94.18	88.40	-2.997	≤0.004
COPE				
Confrontation				
Planning				
Social support				
Emotional support				
Positive reinterpretation				
Acceptance				
Humor				
Self-distraction				
Venting				
Behavioral disengagement				
Negation	69.01	55.26	-2.015	≤0.044
Religious				
Substance use				
Self-blame				

Relationships between sex and the main study variables

Table 4 reveals significant differences between sex and the different variables measured by the instruments used in this study. In general, the female participants showed statistically significant differences in many of the items with higher mean ranges compared to their male counterparts.

When individuals with anxiety are eliminated from the sample, many of these differences disappear, although new differences in COPE scale appear.

Table 4.
Significant differences between sex in different samples in measures of instruments

	SEX (total sample)				SEX (sample without anxiety)			
	Males (N= 12)	Females (N= 118)	Z	p	Males (N= 8)	Females (N= 34)	Z	p
SCL-90-R								
GSI								
PST								
PSDI								
Somatization								
Obsessive compulsive								
Interpersonal sensitivity								
Depression								
Anxiety	41.21	67.96	-2.349	≤0.019				
Hostility								
Phobic anxiety	46	67.48	-1.902	≤0.05				
Paranoid ideation								
Psychoticism								
PANAS								
Positive last week								
Negative last week								
Positive usually								
Negative usually								
EMOTIONS								
Fear	36.25	68.47	-2.842	≤0.004				
Anger								
Guilt								
Disgust								
Sadness	45.79	66.97	-1.901	≤0.05				
Surprise								
Curiosity								
Admiration								
Security								
Joy								
TMMS-24								
Attention	22.16	25.76	-2.035	≤0.030				
Clarity								
Repair								
DERS								
Awareness								
Impulse								
Non-acceptance								
Goals								
Clarity								
Strategies								
Total								
IRI								
Perspective taking								
Fantasy								
Empathic concern	24.16	27.98	-3.439	≤0.001				
Personal distress								
Total	82.95	93.28	-3.316	≤0.001	80.75	90.20	-2.231	≤0.026
COPE								
Confrontation	38.63	67.18	-2.655	≤0.008	12.38	23.65	-2.453	≤0.014
Planning					13.63	23.35	-2.075	≤0.038
Social support								
Emotional support	44	66.62	-2.061	≤0.039				
Positive reinterpretation					11.75	23.79	-2.592	≤0.010
Acceptance								
Humor					29.44	19.63	-2.067	≤0.039
Self-distraction								
Venting								
Behavioral disengagement								
Negation								
Religious								
Substance use					28.38	19.88	-2.361	≤0.018
Self-blame								

Relationships between year group and the main study variables

Comparing the students by year group (from first to fourth), Table 5 reflects the number of statistically significant differences for each variable. When the students reporting episodes of anxiety and stress are excluded, all the statistically significant differences disappear.

Table 5.
Significant differences between courses in different samples in measures of instruments

	COURSES (total sample)				H	*p*
	First (N= 55)	Second (N= 30)	Third (N= 12)	Fourth (N= 33)		
SCL-90-R						
GSI	79.47	52.33	62.96	55.18	13.714	≤0.001
PST	48.70	37.06	42.16	37.60	3.679	≤0.014
PSDI	2.07	1.81	1.93	1.80	2.603	≤0.05
Somatizacion						
Obssesive compulsive	79.67	50.02	61.38	57.45	14.537	≤0.002
Interpersonal sensitivy	78.65	52.87	62.38	56.20	12.220	≤0.007
Depression	80.74	50	58.67	56.68	16.306	≤0.001
Anxiety	74.10	55.52	64.33	60.67		
Hostility	75.65	58.62	82.92	48.52	14.469	≤0.002
Phobic anxiety	73.82	66.77	63.63	51.17	7.679	≤0.05
Paranoid ideation	77.21	64.90	59.38	48.76	12.293	≤0.006
Psychoticism						
PANAS						
Positive last week						
Negative last week	71.25	47.32	78.04	67.88	9.762	≤0.021
Positive usually	57.65	63.68	92.25	64.22	8.682	≤0.034
Negative usually						
EMOTIONS						
Fear						
Anger						
Guilt						
Disgust	67.50	57.95	102.75	55.48	22.772	≤0.001
Sadness						
Surprise						
Curiosity						
Admiration	54.06	63.22	83.33	78.59	12.119	≤0.007
Security	56.94	61.23	60.21	84.19	11.774	≤0.008
Joy						
TMMS-24						
Attention						
Clarity	21.47	24.60	28.75	27.39	7.590	≤0.001
Repair	23.96	26.70	29.25	27.93	3.662	≤0.014
DERS						
Awareness						
Impulse						
Non-acceptance						
Goals	77.34	51.09	68.04	55.56	12.224	≤0.007
Clarity						
Strategies	74.66	52.72	79.63	54.36	11.370	≤0.010
Total	76.66	54.91	64.92	54.45	10.098	≤0.018
IRI						
Perspective taking						
Fantasy						
Empathic concern						
Personal distress						
Total						
COPE						
Confrontation						
Planning						
Social support						
Emotional support						
Positive reinterpretation						
Acceptance						
Humor	56.81	67.67	89	65.66	8.047	≤0.045
Self-distraction						
Venting						
Behavioral disengagement	63.50	50.43	64.58	78.94	9.980	≤0.020
Negation						
Religious						
Substance use						
Self-blame						

Relationships between the presence of chronic disease and the main study variables

Table 6 shows the impact on the study variables of having a chronic disease, and how this impact does not disappear when the students reporting anxiety or stress are excluded from the sample.

Table 6.
Significant differences between chronic disease in different samples in measures of instruments and emotions

	CHRONIC DISEASE (total sample)				CHRONIC DISEASE (sample without anxiety)			
	Yes (N= 17)	No (N= 113)	Z	p	Yes (N= 7)	No (N= 35)	Z	p
SCL-90-R								
GSI								
PST								
PSDI								
Somatization								
Obsessive compulsive								
Interpersonal sensitivity								
Depression								
Anxiety								
Hostility	83.79	62.75	-2.163	≤0.031	31.64	19.47	-2.436	≤0.015
Phobic anxiety								
Paranoid ideation								
Psychoticism								
PANAS								
Positive last week	31.41	28.22	-2.127	≤0.044	34.42	29.28	-2.100	≤0.035
Negative last week								
Positive usually	81.12	61.35	-2.069	≤0.039	33.50	18.43	-3.040	≤0.002
Negative usually								
EMOTIONS								
Fear								
Anger								
Guilt								
Disgust					30.43	19.71	-2.732	≤0.006
Sadness								
Surprise								
Curiosity								
Admiration								
Security								
Joy								
TMMS-24								
Attention								
Clarity								
Repair								
DERS								
Awareness								
Impulse								
Non-acceptance								
Goals								
Clarity								
Strategies								
Total								
IRI								
Perspective taking								
Fantasy								
Empathic concern								
Personal distress	14.47	16.89	-2.212	≤0.037	13.42	16.28	-1.910	≤0.042
Total								
COPE								
Confrontation								
Planning								
Social support								
Emotional support								
Positive reinterpretation								
Acceptance								
Humor								
Self-distraction								
Venting								
Behavioral disengagement								
Negation								
Religious								
Substance use								
Self-blame								

Relationships between sport and the main study variables

In Table 7, we can see statistically significant differences between sport and the study variables. In the same line, when the students reporting episodes of anxiety and stress are excluded, some of the statistically significant differences are maintained and other statistically significant differences appear.

Table 7.
Significant differences between do sport in different samples in measures of instruments

	SPORT (total sample)				SPORT (sample without anxiety)			
	Yes (N= 48)	No (N= 82)	Z	p	Yes (N= 16)	No (N= 26)	Z	p
SCL-90-R								
GSI								
PST					26.43	37.19	-2.018	≤0.025
PSDI								
Somatization								
Obsessive compulsive								
Interpersonal sensitivity								
Depression								
Anxiety								
Hostility								
Phobic anxiety					16.41	24.63	-2.163	≤0.030
Paranoid ideation								
Psychoticism								
PANAS								
Positive last week	30.72	27.41	-2.772	≤0.007	31.93	29.03	-1.750	≤0.045
Negative last week								
Positive usually					25.56	18.08	-1.956	≤0.05
Negative usually								
EMOTIONS								
Fear								
Anger								
Guilt								
Disgust								
Sadness								
Surprise								
Curiosity								
Admiration								
Security								
Joy								
TMMS-24								
Attention								
Clarity								
Repair	27.87	25.04	-2.383	≤0.019	29.81	25.96	-1.885	≤0.033
DERS								
Awareness								
Impulse								
Non-acceptance								
Goals								
Clarity					9.68	11.61	-1.989	≤0.028
Strategies								
Total								
IRI								
Perspective taking								
Fantasy					21.18	24	-2.018	≤0.026
Empathic concern								
Personal distress								
Total								
COPE								
Confrontation								
Planning								
Social support								
Emotional support								
Positive reinterpretation								
Acceptance	74.47	58.52	-2.422	≤0.015				
Humor					28.03	17.48	-2.750	≤0.006
Self-distraction								
Venting								
Behavioral disengagement								
Negation								
Religious								
Substance use								
Self-blame					26.63	18.35	-2.189	≤0.029

Discussion

University students are a distinct population group in a critical transitional period, where the management of different emotions, emotional intelligence and coping capacity are key resources they need to develop to deal with mental health problems and psychological distress. The present study provides important evidence in this regard.

The sociodemographic data are in line with our expectations, considering the mean age of the sample and the proportion of female participants, which are similar to those in other studies (Fernández-Rodríguez et al., 2019; Zeppegno et al., 2014). The place of origin shows that most of the students are from the Autonomous Community of

Castilla-La Mancha, although the sample includes students from other parts of Spain, suggesting the open nature and mobility of students from other areas.

The undergraduates' health status was good only 13.1% presented chronic diseases, with coeliac disease and asthma being the most prevalent (Mullins et al., 2017). However, 67.7% reported having experienced anxiety or stress, which is consistent with other studies, where approximately 50% of university students experienced significant levels of anxiety (Morales-Rodríguez et al., 2020; Webber et al., 2021). Of our undergraduates, 13.8% were receiving psychological support and 8.5% were taking psychotropic medication (mainly anxiolytics), being higher than Zeppegno et al. (2014) in Italian second-year university students.

Questions about **activity during the academic year** showed that most of the undergraduates like, or find motivation in, the degree course they are studying and consider they made the right choice (Ministerio de Educación, Innovación y Universidades, 2019), despite it not having been the first option for 49.2%. Additionally, the majority of students attend class regularly, which contrasts with other studies that report high levels of absenteeism (Cox Méndez, 2017). As regards combining work and study, 18.5% carried out regular work activity during the academic year, a higher level than in the work by Fernández-Rodríguez et al. (2019). The participation of international exchange students was very limited, which is in line with the results of Fernández-Rodríguez et al. (2019). As regards financial assistance, more than half the students in our study had a grant, which safeguards the possibility of university study among lower socioeconomic status families (Langa-Rosado, 2019). Additionally, many of them were on placements, because the sample included third- and fourth-year students. Finally, few students do sport or engage in physical activity (only 36.9%), although other authors have found a significant number of university students do physical exercise for fitness, health and enjoy (León et al., 2020). It is important for universities to reach agreements with gyms in their location and other sports facilities, to implement activities to promote sport as a preventive measure and to improve personal well-being (León et al., 2020) because educational interventions to encourage physical activity in students of health disciplines (including occupational therapy) yield notable results in the awareness of the importance of physical activity (Freene et al., 2022) and in individual's physical functioning, psychological benefits, and a good quality of life.

The mean scores in the measures used show, for the psychopathology screening tool SCL-90, low scores for all dimensions, which is similar to the findings of Tang et al. (2018) with university students. The scores were only high in the subscales of depression, coinciding with Tang et al. (2018). It appears that symptoms of depression, according to these authors, may be the most common mental health symptoms among university population (Tang et al., 2018). The different indicators showed high scores in the Positive

Symptom Distress Index (PSDI), which assesses whether the respondent tends to exaggerate or attenuate their symptoms, such that feigning attitudes can be detected.

The level of psychopathological disorder and the severity of psychological distress in our participants, as evaluated on each of the overall measures of the SCL-90-R, are not high, with scores generally being situated around low values. Thus, it appears our undergraduates do no present a high level of psychopathology (Dilber et al., 2016). Nonetheless, other works have found high rates of psychiatric and psychopathological problems among university students (Tang et al., 2018; Zeppegno, et al., 2014).

In recent decades, the study of affectivity, emotions and their regulation, empathic and emotional intelligence and their potential impact on the daily life in university populations has generated much interest. Our undergraduates' affective states, measured using the PANAS, revealed the presence of positive affect both as a general occurrence and over the last week, with this positive affect indicating that university students feel excited, alert, and active. Similar results have been found in other studies with university samples (Merchán-Clavellino et al., 2019).

As regards the ten basic emotions analysed, our results show that the highest-scoring emotions were the pleasant ones of curiosity, joy, security and admiration, with a lower presence of unpleasant emotion. This finding suggests the students are emotionally prepared for academic life, with sufficient resources of interest, motivation and control to deal with study and curricular content. Furthermore, they present improved well-being and personal satisfaction (Aguado, 2014; 2015).

The levels of emotional intelligence measured by TMMS-24 show that our undergraduates are able to process emotional information because they have high scores in the ability to identify their own emotions and those of others and know how to express them (emotional attention). They can also understand emotions (emotional clarity), and are able to manage emotions (emotional repair or regulation). This is consistent with other studies on Spanish university students (Gribble et al. 2019; Merchán-Clavellino et al., 2019; Morales-Rodríguez et al., 2020).

As regards emotion regulation, assessed using the DERS, our participants showed difficulties in emotion regulation skills across all the multidimensional aspects of the scale because they had higher scores in awareness, goals, impulse, clarity, strategies and total score. These results are similar to those in other studies with young population (Hallion et al., 2018).

Our students' capacity for empathy, measured using the IRI, revealed high scores in all subscales of this scale and in the total score, which is consistent with previous studies (Quince et al., 2016; Serrada-Tejeda et al., 2022). In occupational therapy undergraduates, empathy is a key element since being able to understand the psychological point of view of the other person, putting themselves in the place of others and showing consideration for their feelings and concerns and are all important capacities in the implementation

of a formative process on empathic skills that could have positively affected students' empathy levels (Serrada-Tejeda et al., 2022).

The results for coping capacity, measured on the COPE questionnaire, reveal the existence of a good coping style and adaptive strategies, with particularly high mean scores found on the subscales of confrontation, acceptance, planning, self-distraction, humour, emotional and social support. Similar findings were reported by Demiral Yilmaz et al (2020) with a predominance of adaptive coping strategies in various university samples, suggesting that good coping strategies help reduce suffering, stress, emotional distress, etc.

With regard to the relationships between variables, our findings suggest the importance of anxiety and stress in undergraduates, as reported for students from different parts of the world and for students enrolled on different types of degree (Balaji et al., 2019; Dias Lopes et al., 2020; Martínez-Lorca et al., 2023[1,2]; Morales-Rodríguez et al., 2020; Zeppegno et al., 2014). Our data confirm that students reporting episodes of anxiety or stress exhibited worse psychopathological prognosis in all the indicators and subscales of the SCL-90-R, with the presence of negative affect as a general occurrence and over the last week. They present a maladaptive emotional status, characterised by fear and sadness. However, they showed curiosity, and they present negative affect. They exhibit greater attention to emotions (Guil et al., 2021), have difficulties in total emotion regulation (Hallion et al., 2018), and present fewer effective coping strategies because they used negation. Empathy, however, was higher among students with anxiety or stress, such that, as suggested (Pittelkow et al., 2021), there exists hypersensitivity to the emotional signals of others, excessive empathic functioning, with over-attribution of others' mental states and a greater sense of alertness among students with anxiety.

Thus, our results show that anxiety has an impact on all the variables under analysis. These findings can be used to design appropriate and systematic interventions and programmes to help students at risk of anxiety. Robust support and increased psychological assessment and monitoring among students must be given serious attention to avoid higher prevalence rates of anxiety in the future (Sanchis-Soler et al., 2022).

As regards sex, the women score worse in anxiety and phobic anxiety in the SCL-90-R compared to their male counterparts, so these gender differences in psychological status might mean that female students, when faced with rapid changes, are more likely to focus on feelings of psychopathological distress and psychological symptoms (Martínez-Lorca et al., 2023[2]; Tang et al., 2018).

Additionally, the women's emotional universe is characterised by a greater presence of the emotions of fear and sadness. Previous works have also reported that female university students present greater levels of fear and sadness (Almalki et al., 2019).

Regarding emotional intelligence in our data, the women focus more on their emotional state compared to their male counterparts, which is consistent with the findings of Acebes-Sánchez et al (2019) and more specifically among students on occupational therapy degree courses (Polonio-López et al., 2019) where the women exhibited a greater focus on their emotions and have the ability to perceive and express feelings appropriately. However, other works using the TMMS-24 (Merchán-Clavellino et al., 2019) found no gender differences in the dimensions of emotional intelligence.

The female undergraduates, however, have a strong empathic capacity, measured on the IRI total score and its empathic concern subscale. This is in line with the findings of other national and international works, which also report greater empathic disposition in women (Mestre et al., 2004; Quince et al., 2016) and also among women studying occupational therapy (Serrada-Tejeda et al., 2022).

Similarly, the females in our study are distinguished by their solid, active and effective coping strategies, as assessed on the COPE tool, showing use of confrontation and emotional support (Balaji et al., 2019).

All of these statistically significant differences in the sex variable disappeared when we excluded the students who reported anxiety or stress. However, the differences are maintained in the IRI total score and coping strategies of confrontation subscales and new statistically significant differences appeared in the COPE subscales in females (planning and positive reinterpretation) and in males (humour and substance use). Thus, the female undergraduates, compared with their male peers, continue to show an excellent empathic response and an adequate coping capacity of confrontation, with other positive coping strategies appearing, in contrast males had a substance use which is similar in other studies (Rodríguez-Sáez et al. 2021).

The **first year of university** is a stressor due to factors such as the changes and adjustments in academic life, new friendships and leaving the family home, in some cases, which correlated with worse indicators of health, anxiety, mental health, emotion regulation, emotions, and emotional intelligence compared with their more experienced counterparts (Dilber et al., 2016; Webber et al., 2021).

In fact, our data reveal numerous statistically significant differences on the GSI, PST, and PSDI and many of the subscales of questionnaire SCL-90-R were significantly higher in first-year students in comparison with second, third and fourth-year students. However, it is interesting to note that after the first-year students, it is the third-year students that score highest, compared to those in the fourth and second year, with the latter being those that score lowest. Thus, it seems that students present higher levels of current psychiatric symptoms and stress during their first year, possibly associated with factors in the process of adjustment to university life (Dilber et al., 2016). As for the third-year students, their high scores may be due to the imminence of their placement modules (Polonio-Lopez et al., 2021; Webber et al., 2021). What our results do show is that the second-year students have the fewest stress and psychiatric

and/or psychopathological difficulties.

Affectivity was also found to be poorer in the first and third-year students, who presented higher negative affect over the last week. Negative affect is a general dimension of anguish and dissatisfaction. This is of concern, as the consequences of negative affect may be linked to mental illness, causing poorer academic performance, thus compromising an individual's professional future or even causing a lack of engagement and discontent with their chosen degree course (Dias Lopes et al., 2020).

As regards their emotional universe, we found on the one hand, that the third-year students exhibited the highest levels of disgust, followed by those in the first year, and on the other, that the third-year undergraduates felt admiration and security. This is an interesting finding since we found the presence of disgust, although high levels of emotional maturity were also found, with the appearance of important emotions for emotion regulation, showing students to be more adaptive and better suited to the demands of university, such as admiration and security among students nearer to completing their degree course (Aguado, 2014; 2015).

The emotional intelligence scores show that older students in later year groups exhibit greater capacity to understand emotional states and regulate and repair emotional states correctly, blocking negative moods and prolonging positive moods. First-year students appear unable to understand their own emotions or discriminate them from those of others, nor are they able to repair emotion. As suggested by other studies, the ability to understand and regulate emotions depends on age (Gribble et al, 2019; Polonio-López et al., 2019).

Additionally, first-year students and third-year students, compared with their counterparts, appear to have more difficulties in certain elements of emotion regulation, such as goals (difficulties engaging in goal-directed behaviours when distressed), strategies (limited access to effective emotional regulation strategies) and in the total DERS score. Thus, student age is associated with the DERS score. Guzmán-González et al. (2014), however, do not report this relationship.

As regards coping skills, the third and fourth-year students are able to implement humour strategies and behavioural disengagement strategies (Balaji et al., 2019). Hence, it would seems of interest, given the lack of coping strategies revealed by our results, that students should be trained in better coping strategies.

After excluding the students with anxiety or stress from the sample, all of these statistically significant differences disappeared. Thus, it may be said that the presence of episodes of anxiety or stress is related to the impact in different academic years (Mullins et al., 2017).

In light of the above, we can conclude that the first and third years at university are a factor in stress, mental health and emotional difficulties. University authorities should monitor and design interventions for these students in order to avoid high rates of anxiety, psychological distress and

dropout and help them in the process of managing and coping with their emotions, thus promoting their psychological well-being and social functioning.

Chronic disease is a global health concern and is frequently associated with mental health comorbidities and is an indicator of levels of anxiety, emotional difficulties and poor mental health (Martínez-Lorca et al., 2023[2]; Mullins et al., 2017; Wierenga et al., 2017).). The students with a chronic disease diagnosis presented worse scores in the SCL-90-R subscales hostility. They also had a lower capacity for empathy with a personal distress score. However, the students with chronic disease also presented greater positive affect both in the last week and generally. This interesting finding suggests that university students with a chronic illness optimize, promote and maintain optimal affective functioning and emotional balance, which is an adaptive strategy in the presence of aversive stressors (Wierenga et al., 2017). This should be analysed in greater depth in future research. However, all these associations did not disappear when students with anxiety or stress were excluded from the sample. Moreover, a statistically significant difference emerges related to the emotion of disgust. Thus, it may be said that the presence of episodes of anxiety or stress does not affect the comorbidity between greater emotional difficulties and poor mental health (Mullins et al., 2017) because having a chronic disease is, in itself, a dysfunctional or problematic factor (Wierenga et al., 2017).

Finally, **doing sport and engaging in physical activity** provide a range of benefits, including physical fitness, mental health, psychological impacts, emotional intelligence, self-esteem, body image and the reduced risk of premature death and chronic diseases (Acebes-Sánchez et al., 2019; Grasdalsmoen et al., 2020; López et al., 2021; Sanchis-Soler et al., 2022). Our data show that students that engage in sport present positive affect in the last week, emotional repair and strategies of acceptance. Other studies have reported similar findings (Acebes-Sánchez et al., 2019; López et al., 2021; Martínez-Lorca et al., 2023[1]; Webber et al., 2021), where high levels of physical activity are associated with better control of the ability to repair emotions. All these association did not disappear when students with anxiety or stress were excluded from the sample. Additionally, other statistically significant differences appeared in some of the SCL-90-R subscales, in generally felt positive affect and in some subscales of DERS, IRI and COPE. Thus, it may be said that the presence of episodes of anxiety or stress does not affect the relationship between greater engagement in sports and emotional difficulties and poor mental health (Mullins et al., 2017). Hence, doing sport is, in itself, a positive and adaptive activity. Thus, it is important that university institutions promote engagement in physical activity and sports as a measure of self-care, and as a way to provide health and psychological benefits and avoid a sedentary lifestyle, possibly integrating physical exercise into the university environment.

Conclusion

Our results indicate the need for preventive measures in students of higher education to minimise anxiety, stress, mental health, maladaptive emotions and feelings and help maintain necessary levels of emotional intelligence, emotion regulation, empathy, coping skills and well-being among occupational therapy students during this stage of academic development, particularly in young students. To this end, it is suggested that educational institutions adopt effective health policies and implement empirically effective emotional education programmes across the curriculum, spanning the period from entry to higher education to entry into the labour market (Balaji et al., 2019; Dias Lopes et al., 2020; Dilber et al., 2016; Freene et al., 2022; Fernández-Rodríguez et al., 2019; Martínez-Lorca et al., 2023). This would increase their subjective well-being, emotional response, health status and academic adaptation, achieving greater personal satisfaction and, consequently, a more successful professional future.

Our work also has some **limitations**. One of these is the cross-sectional nature of the study, which does not allow us to establish any causal relationships. Future research should focus on analysing this relationship through longitudinal studies. Furthermore, our sample comprises only Spanish students of occupational therapy, which may have affected its representativeness and sample size. It might therefore be worth extending the sample to other universities and students to broaden the sample. Besides, we assessed anxiety with a subjective question, future studies should introduce validated and objective instruments. Finally, the majority of our participants were female, which hinders the generalisation of our results in light of a gender bias.

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