

# SINGLE APPLICATION OF THE UNIFIED PROTOCOL IN UNIVERSITY STUDENTS OF THE BALEARIC ISLANDS: A PILOT STUDY

## APLICACIÓN INDIVIDUAL DEL PROTOCOLO UNIFICADO EN ESTUDIANTES UNIVERSITARIOS DE LAS ISLAS BALEARES: UN ESTUDIO PILOTO

JORGE SOCIAS-SOLER<sup>1,2</sup>, JORGE OSMA<sup>2,3</sup>, AND MIQUEL TORTELLA-FELIU<sup>1,2</sup>

Cómo referenciar este artículo/How to reference this article:

Socias-Soler, J., Osma, J., & Tortella-Feliu, M. (2022). Single application of the unified protocol in university students of the Balearic Islands: a pilot study [Aplicación individual del protocolo unificado en estudiantes universitarios de las Islas Baleares: un estudio piloto]. *Acción Psicológica*, 19(2), 115-128. <https://doi.org/10.5944/ap.19.2.37010>

### Abstract

Despite the proven evidence of the Unified Protocol (UP) for the transdiagnostic treatment of emotional disorders (ED), there is no study using the UP to treat ED in a Spanish clinical sample of university students. The objective of this study has been to determine the clinical utility of UP in this population. The project consisted of a pilot study of an open treatment outcome study without a control group, carried out in the psychological care service of the Univer-

sity of the Balearic Islands. UP was applied in individual face to face format to 17 participants with a diagnosis of ED. After the intervention, only two participants maintained their diagnosis. Except for one participant, all had a statistically significant reduction in depressive and anxious symptoms, with moderate-large effect sizes (Cohen's  $r = 0.48-0.62$ ). These results are encouraging and are consistent with the evidence to date. We believe that UP could be a clinically useful treatment alternative for university psychological services.

**Correspondence address [Dirección para correspondencia]:** Jorge Socias-Soler, University of the Balearic Islands (UIB), Spain; University of Zaragoza, Spain.

**Email:** [jordisociassoler@gmail.com](mailto:jordisociassoler@gmail.com)

**ORCID:** Jorge Socias-Soler (<https://orcid.org/0000-0002-6605-8825>), Jorge Osma (<https://orcid.org/0000-0002-7293-318X>), and Miquel Tortella-Feliu (<https://orcid.org/0000-0002-1280-9048>)

<sup>1</sup> University of the Balearic Islands (UIB), Spain.

<sup>2</sup> University of Zaragoza (Teruel, Spain)

<sup>3</sup> Instituto de Investigación Sanitaria de Aragón (Zaragoza, Spain).

**Acknowledgments:** Thanks to all participants who agree to collaborate in this research study. Funding: Funding for the study was provided by Gobierno de Aragón and FEDER 2014–2020 “Construyendo Europa desde Aragón” (Research team S31\_20D)

Recibido: 13 de julio de 2022.

Aceptado: 3 de noviembre de 2022.

**Keywords:** unified protocol; transdiagnostic; emotional disorders; university students.

## Resumen

Pese a la demostrada efectividad del Protocolo Unificado (PU) para el tratamiento transdiagnóstico de los trastornos emocionales (TE), no existe ningún estudio que haya aplicado el PU para tratar TE en una muestra clínica de universitarios. El objetivo de este estudio ha sido determinar la utilidad clínica del PU en esta población. Se trata de un estudio piloto de resultado de tratamiento abierto sin grupo control, realizado en el servicio de atención psicológica de la Universidad de las Islas Baleares. El PU se aplicó cara a cara e individualmente a 17 participantes con diagnósticos de TE. Tras la intervención, únicamente dos participantes mantuvieron algún el diagnóstico. Menos un participante, en todos se produjo una reducción estadísticamente significativa de la sintomatología depresiva y ansiosa, con tamaños del efecto moderados-grandes ( $r$  de Cohen = 0.48-0.62). Estos resultados son esperanzadores y concuerdan con la evidencia previa. El PU podría ser una alternativa útil clínicamente para los servicios psicológicos universitarios

**Keywords:** protocolo unificado; transdiagnóstico; trastornos emocionales; estudiantes universitarios.

## Introduction

Depressive and anxiety disorders, also called emotional disorders (EDs; Bullis et al., 2019), represent the most frequent psychiatric conditions, affecting nearly 2 million and 2.5 million people, respectively, in Spain, according to the World Health Organization (WHO, 2017). Current evidence has shown that most of these psychological problems usually appear between the ages of 15 and 24 (Auerbach et al., 2019). Many young people are in university at this age, which is considered a highly stressful context, because students have to adapt to a different environment and deal with changes in lifestyle (Auerbach et al., 2019), that can affect social relationships, academic and work performance and quality of life (Ribeiro et al.,

2018). All these factors can increase the risk of psychological distress and mental disorders (Bayram & Bilgel, 2008). In fact, a recent meta-analysis that includes 64 studies with 100,187 university students found that the prevalence for depression and anxiety symptoms was 33.6 % and 39.0 %, respectively (Li et al., 2022). In Spain, anxiety disorders (12.70 %-25.80 %) and mood disorders (18.10 %-28.80 %) are the most prevalent disorders among university students (Miranda-Mendizabal et al., 2019).

The high prevalence and cost associated with EDs make it necessary to improve the efficiency of evidence-based psychological treatments (Tortella-Feliu, Baños et al., 2016). Having identified common underlying factors shared between the EDs, such as neuroticism, negative affectivity, perfectionism, or rumination (Bullis et al., 2019), clinical research on transdiagnostic approaches for psychological intervention has increased remarkably in recent years (Sauer-Zavala et al., 2017). In this line, Dr. David H. Barlow and his team have developed the Unified Protocol for transdiagnostic treatment of EDs (UP), a cognitive-behavioral evidence-based psychological treatment focused on improving emotional regulation strategies through 8 different modules (Barlow et al., 2018). To date, three systematic reviews, two of them meta-analysis, have shown efficacy results in anxiety and depression symptoms, specific EDs symptoms, affectivity, neuroticism, emotion regulation, and quality of life for the application of UP for the treatment of EDs in different ages, contexts and delivery formats, including single face to face or group formats, and online format (Carlucci et al., 2021; Cassiello-Robbins et al., 2020; Sakiris & Berle, 2019).

Despite the extensive evidence collected to date about the efficacy of the UP to treat EDs in adults, only four studies have been carried out specifically in university students at university context and all of them where focused on preventing EDs (Arrigoni et al., 2021; Bentley et al., 2018; Castro-Camacho et al., 2021; Sauer-Zavala et al., 2021). Due to the high prevalence of EDs in university students, it would be essential to develop and implement psychological interventions aimed at improving emotional regulation skills and tolerance to discomfort based on the scientific evidence. This could help mitigate possible present and future adverse effects on education (i.e., under-

performance and dropping out of university), job placement, mental health, and wellbeing in the community of university students (Worsley et al., 2020).

For all these reasons, and due the fact that there are no studies on the application of the UP in clinical samples of Spanish university students, the objectives of the present study are: (a) to determine the preliminary feasibility and clinical utility of the UP for the treatment of EDs in university students and (b) to determine the preliminary feasibility and clinical utility of the UP for the reduction of the interference and deterioration associated with EDs in the same population.

## Method

### *Participants*

The sample was made up of seventeen students (sixteen women and one man), all of them university students at the University of the Balearic Islands (UIB) (see table 1 for more details), aged between 18-28 years ( $M = 21.4$ ;  $ED = 2.58$ ) who presented clinical or subclinical symptoms of one or more EDs.

Only participants aged 18 years or older were included, who were students at UIB and who were fluent in the language in which therapy was performed (Catalan). The other inclusion criteria were to present a diagnosis of ED, which includes major depressive disorder, dysthymic disorder, panic disorder, agoraphobia, obsessive-compulsive disorder, generalized anxiety disorder, posttraumatic stress disorder, social anxiety disorder, hypochondria, and adjustment disorders, with a clinical or subclinical severity rating (CSR).

In the end, exclusion criteria were presenting other mental condition that would require to be prioritized for treatment, for example, severe mental disorder (bipolar disorder, schizophrenia, personality disorder or an organic mental disorder), suicide risk at the time of assessment, or substance use in the last three months (excluding cannabis, coffee, and / or nicotine).

In total, 31 students were evaluated, of which only 17 participants meet the inclusion criteria.

**Table 1.**

*Socio-demographic characteristics of the participants*

| Variable     | <i>n</i> | %    |
|--------------|----------|------|
| 1. Sex       |          |      |
| Men          | 1        | 5.9  |
| Women        | 16       | 94.1 |
| 2. Age range |          |      |
| 18-22        | 13       | 76.6 |
| 23-26        | 3        | 17.6 |
| +26          | 1        | 5.9  |
| 3. Studies   |          |      |
| Biochemistry | 3        | 17.6 |
| Biology      | 3        | 17.6 |
| Chemistry    | 2        | 11.8 |
| Pedagogy     | 2        | 11.8 |
| English      | 2        | 11.8 |
| Philology    |          |      |
| Hispanic     | 1        | 5.9  |
| Philology    |          |      |
| Psychology   | 1        | 5.9  |
| Physics      | 1        | 5.9  |
| Philosophy   | 1        | 5.9  |
| Law          | 1        | 5.9  |

### *Measures*

Anxiety and Related Disorders Interview Schedule for DSM-5, Adults, Current Diagnosis; ADIS-5 (Brown & Barlow, 2014). Is a structured interview for the diagnosis of anxiety, depressive, bipolar, and obsessive-compulsive disorders, related traumatic disorders, somatic symptomatology, and substance abuse. It allows the differential diagnosis between these disorders according to the DSM-5 criteria in adults and includes a brief screening of other disorders (eating behaviour disorders, psychotic and/or manic episodes, substance use, etc). The ADIS-5 allows the dimensional assessment of the clinical severity rating (CSR), using a Likert scale (0 = Never/Nothing, 8 = Constantly/Extremely hard) that reflects the degree of distress/interference associated with the particular diagnosis. The cut-off point is always 4, from which it is considered as a clinical score. Subclinical diagnoses are assigned when CSR scores are 3 or less. We still do not have data

on the psychometric properties of the ADIS-5, but the previous ADIS-IV version has good-to-excellent interrater reliability index for DSM-IV disorders (range of 0.67 to 0.86) except dysthymia (0.31). (Brown et al., 2001). For the present study we translated into Catalan the ADIS-5.

Patient Health Questionnaire-9-PHQ-9 (Kroenke et al., 2001). To assess symptoms of depression, the PHQ-9 Spanish adaptation, by Díez-Quevedo et al. (2001), was used. The PHQ-9 is used, in most cases, to support the diagnosis of depression, to assess its severity. It has 9 items that have to be assessed according to the frequency of symptoms during the last two weeks through a four-point Likert scale (0 = Never, 3 = Practically every day). It has also been used as a screening and monitoring measure of change. The most common cut-off point is 10 points, from which we can consider that moderate depression is presently using the linear scoring method. It is considered that, with this cut-off point, the sensitivity of the instrument is maximized (82 %) and the specificity is 84.70 % (Levis et al., 2019), and has an internal consistency index with a Cronbach's alpha of 0.86-0.89 (Kroenke et al., 2001).

Generalized Anxiety Disorder-7 Scale, GAD-7 (Spitzer, 2006). To obtain a general indicator of the presence of anxious symptomatology, the Spanish adaptation of this scale has been used (García-Campayo et al., 2010). It is one of the most widely used self-applied scales for the detection or screening of various EDs. It consists of 7 items on a scale of 0 to 3 (0 = Never, 3 = Almost every day), in which the person assesses the frequency they have presented each symptom described during the last two weeks. The most common cut-off points to consider the clinical severity of the presence of anxiety symptoms is 10 points (García-Campayo et al., 2010). For the Spanish version mentioned, it has an internal consistency index with a Cronbach's alpha of 0.93, and the established cut-off point has a sensitivity of 86.8 % and a specificity of 93.4 % (García-Campayo et al., 2010).

The Work and Social Adjustment Scale (WSAS; Mundt et al., 2002). The Spanish version has been used (Echezarraga et al., 2019). It is a scale used to obtain a measure of functional adaptation that consists of 5 items that assess an individual's ability to perform daily activities, including work, household management, social inter-

action (family and friends), and social and private leisure activities. Each of the 5 items is rated on a 9-point scale from 0 (not a problem at all) to 8 (very severely affected), so that total scores range from 0 to 40, with high scores denoting higher levels of disability. It presents an acceptable internal consistency (Cronbach's alpha between 0.79 and 0.94) and a positive correlation with the severity of depressive symptoms in depressed individuals, as well as with obsessive-compulsive symptoms.

Barrier's assessment to participate in the emotional disturbance treatment program (ad hoc). In order to find out if this new program at UIB is feasible, the psychologist asked the participants some questions in order to understand what barriers they found regarding aspects such as: to obtain information about the emotional disturbance treatment program conducted at UIB (Did you receive enough information about the emotional disturbance treatment program when you asked for?); to contact Attention Point for the University Community (APUC) (Did you have difficulties contacting APUC?); to contact the psychologist (Did you have difficulties contacting the psychologist?); schedule sessions (Did you have difficulties regarding assessment or treatment sessions schedule?) , and comprehension of the program's content (What do you think about the comprehension of the program's content?).

## *Procedure*

The participants in this study were university students at UIB who attended, throughout the 2020-2021 academic year, the emotional disturbance treatment program that was announced on the university website promoted by the APUC. Students contacted by email with the program and then the psychologist of the program followed the communication by email or telephone calls. The process of assessing participants and establishing the diagnosis was carried out using the screening self-reports and the ADIS-5 diagnostic interview mentioned. The evaluation was applied in two consecutive weeks through two face-to-face sessions of 50 minutes each one at the psychologist office at APUC. A total number of 31 students contacted the program and were evaluated, but only 17 met the inclusion criteria. Those who meet the inclusion criteria and accepted to start the intervention signed the informed con-

sent, in which they were informed that their data could be used in the present study. After that, the UP was applied individually for approximately 17 sessions, carried out once a week.

All treatment sessions were carried out at the same office of the APUC and all had a 50-minute duration. All sessions were carried out by the same therapist, a Master's student trained in UP, supervised by an expert UP therapist. The UP training consisted in a 24-hour workshop about the transdiagnostic approach and the characteristics of the UP (Level I training), and also received 34 hours of supervision (Level II training) by the same UP expert therapist.

One week after the intervention, the participants were evaluated again in a final session using the same instruments as in the initial assessment process. It was also eval-

uated if the patients maintained their main or secondary diagnoses using the ADIS-5 diagnostic interview, including the dimensional assessment of discomfort and the interference of symptoms included within it. All procedures of this research study were approved by the UIB.

### *Intervention program*

For the present study we used the most recent edition of the UP (Barlow et al., 2018). The application order was the same for all participants and included the same modules applied over 16 sessions:

### *Data analysis*

Statistical analyses were performed with the SPSS 21.0 (SPSS 21.0; IBM, 2012). To assess whether the application of the protocol was tied by significant reductions in

**Table 2.**

*Modules of the intervention program*

| <b>Title</b>  | <b>Sessions</b> | <b>Contents</b>   |
|---|-----------------|---|
| Module 1. Setting goals and maintaining motivation          | 1               | - Decisional balance about starting treatment and the role of motivation.<br>- Establish treatment goals in the short, medium and long term.  |
| Module 2. Understanding your emotions                       | 2               | - Functionality of emotions.<br>- The three components of emotions.<br>- Identify and understand the short-term and long-term consequences of our emotional experiences using the ARC model.  |
| Module 3. Mindful emotional awareness                       | 3               | - Help participants to develop a non-judgmental, present-focused approach to their emotional experiences.   |
| Module 4. Cognitive flexibility                             | 3               | - Identify thinking errors and intrusive thoughts.<br>- Practice thought's flexibility by using reappraisal of maladaptive and automatic appraisals.  |
| Module 5. Countering emotional behaviours                   | 1               | - Explain and identify the different types of emotional behaviours and the role of avoidance.<br>- Understand the role of emotional behaviours in maintaining the emotional distress.<br>- What to do instead of emotional behaviours: describing opposite or alternative behaviours. |
| Module 6. Understanding and confronting physical sensations | 2               | - The importance to copying emotional distress through emotional exposures.<br>- Gradual exposure to physical sensations that generate intense discomfort.  |
| Module 7. Emotion exposures                                 | 3               | - Gradual exposure to intense emotions.   |
| Module 8. Moving up from here                               | 1               | - Assessment of progress and goals of treatment.<br>- Relapse prevention.<br>- New goals and objectives.  |

depression and anxiety, in addition to changes in the degree of functional impairment of the participants, the Wilcoxon signed-rank test was performed by comparing non-parametric means for the mentioned continuous variables. Cohen's  $r$  test (Cohen, 1988) was used to calculate the effect size, where values from 0,30 are considered medium effect sizes and from 0,50 are considered large, together with the Common Language (CL) effect size statistic (McGraw & Wong, 1992).

For individual change measures, we used the number of participants free of diagnosis at the end of the intervention, the percentage of symptomatic reduction, and the number of participants who were above or below the cut-off points in the screening instruments. For the latter, the corrected McNeman test was used to determine if there was, concerning the pre-treatment condition, a statistically significant reduction in the number of participants who reported depressive and anxious symptoms, or socio-occupational involvement and discomfort, below the cut-off point in their respective screening instruments.

## Results

### *Pre-intervention clinical characterization*

As indicated in Table 2, the most frequent main diagnosis was generalized anxiety disorder, followed by social anxiety disorder and major depressive disorder. One of the

participants did not meet clinical severity for any ED but presented subclinical manifestations of major depressive disorder. Over two-thirds of the participants with a diagnosis had a comorbid psychological disorder, with major depressive disorder being the most common as a secondary diagnosis, present in more than half of these cases.

### *Feasibility and adherence*

All participants studying at UIB contacted the APUC thanks to the campaign advertising the emotional disturbance treatment program. The UP was implemented in 17 individual face-to-face sessions (Mean= 16.8, range 12-18) and 100% of participants included in the program finished the treatment intervention. No difficulties to contact the APUC or the psychologist were mentioned, neither related to schedule difficulties or comprehension of the program's content.

### *Clinical usefulness*

#### *Diagnostic criteria improvements*

After the application of the treatment, all participants no longer met the criteria for their main diagnosis and for a comorbid diagnosis, except two, one who still met the criteria for his main diagnosis and another who still met the criteria for his secondary diagnosis. In both cases, they met the criteria for social anxiety disorder.

**Table 3.**

*Pre-treatment and post-treatment frequencies of the different diagnoses for the total sample N=17*

|                        | Pre-treatment $n$ (%) | Post-treatment $n$ (%) |
|------------------------|-----------------------|------------------------|
| 1. Main Diagnosis      |                       |                        |
| None                   | 1 (5.90)              | 16 (94.11)             |
| GAD                    | 11 (65.70)            | 0                      |
| MDD                    | 2 (11.80)             | 0                      |
| SAD                    | 3 (17.60)             | 1 (5.88)               |
| 2. Secondary diagnosis |                       |                        |
| None                   | 5 (29.41)             | 16 (100.00)            |
| MDD                    | 10 (58.80)            | 0                      |
| SAD                    | 2 (11.80)             | 1 (11.80)              |

*Note.* None = does not meet clinical criteria for any diagnosis; GAD = Generalized Anxiety Disorder; MDD = Major Depressive Disorder; SAD = Social Anxiety Disorder

### *Reduction of anxious and depressive symptoms and interference and subjective discomfort associated with emotional problems*

As can be seen in Table 3, the intervention resulted in a statistically significant reduction in scores on all continuous dependent variables with moderate-large effect size, as indicated by the values of both the Cohen's *r* (range 0.48-0.62) and the CL statistic. In the latter case, the probability that a participant, once individual differences are controlled, presents lower pre-treatment scores than at the end of the intervention, is 99 % for depressive symptomatology and 88 % for anxiety. For the measures of adjustment, interference, and subjective discomfort caused by the present psychopathology, the probabilities range between 92 % and 99 %.

Regarding symptom reduction, after treatment, there is a notable and statistically significant reduction, compared to the pre-treatment condition, in the number of participants who reported depressive and anxious symptoms above the cut-off point in their respective screening assessment instruments, as can be seen in Table 4. Even so,

in both measures, two participants continue to present scores above the clinical cut-off point.

In regard to work and social adjustment, in the pre-treatment assessment, four participants showed severe functional impairment, of which two continued presenting moderate functional impairment and two did not present clinical impairment at the end of the intervention. Of the remaining thirteen, eleven presented moderate involvement before the intervention, of which three of them did not reach the cut-off point of the non-clinical population at post-treatment.

Regarding the levels of discomfort and interference perceived by the patient, evaluated with the ADIS-5 interview, the main and secondary diagnosis presented a statistically significant reduction in the number of participants above the cut-off point (*n*=4) after the intervention. As expected, in the pre-treatment condition, all participants passed the cut-off point and, therefore, met diagnostic criteria. All of them except for one who scored lower on the discomfort scale, but who was included in the sample for presenting relevant subclinical levels on one of the disorders, as mentioned before. After treatment, four of the participants exceeded the cut-off point for perceived discomfort of the main diagnosis and one for perceived interfer-

**Table 4**

*Wilcoxon signed rank test for pre-treatment and posttreatment comparison of depressive symptoms, anxiety, work and social adjustment, and values of discomfort and interference for the main diagnosis (n = 17) and secondary diagnosis (n = 12).*

|               | Pre-treatment |     | Post-treatment |     | W    | SPR   | MD [CI 95%]         | Z     | s.d.  | r    | CL    |
|---------------|---------------|-----|----------------|-----|------|-------|---------------------|-------|-------|------|-------|
|               | M (s.d.)      | Mdn | M (s.d.)       | Mdn |      |       |                     |       |       |      |       |
| PHQ-9         | 12.53(3.76)   | 13  | 5.71(3.08)     | 5   | 1.5* | 151.5 | 2.53 [1.58-3.48]    | -3.55 | 21.12 | 0.61 | 0.990 |
| GAD-7         | 10.82(4.00)   | 12  | 6.41(3.36)     | 5   | 13*  | 123   | 6.19 [5.24-7.14]    | -2.84 | 19.34 | 0.48 | 0.880 |
| WSAS          | 15.82(6.00)   | 15  | 8.00(5.87)     | 8   | 5*   | 131   | 13.62 [12.67-14.57] | -3.26 | 19.34 | 0.56 | 0.920 |
| Discomfort 1  | 5.41(1.42)    | 5   | 2.53(1.12)     | 3   | 0*   | 120   | 2.73 [1.78-3.68]    | -3.41 | 17.61 | 0.58 | 0.998 |
| Interference1 | 6.12(1.17)    | 6   | 2.18(1.07)     | 2   | 0*   | 153   | 6.12 [5.17-7.07]    | -3.62 | 21.12 | 0.62 | 0.999 |
| Discomfort 2  | 5.00(1.28)    | 4.5 | 2.00(1.54)     | 2   | 1*   | 65    | 5.45 [4.50-6.40]    | -2.85 | 11.25 | 0.58 | 0.988 |
| Interference  | 5.42(1.16)    | 5   | 1.50(1.68)     | 1   | 0*   | 66    | 5.91 [4.96-6.86]    | -2.93 | 11.25 | 0.60 | 0.998 |

*Note.* **M** = mean; **s.d.** = standard deviation; **Mdn** = median; **W** = Wilcoxon Signed-Rank Test; **SPR** = Sum Positive Ranges; **MD** = Mean Difference; **r** = Cohen's *r* test; **CL** = common language effect size statistic; \* = statistically significant difference between the conditions; **PHQ-9** = Patient Health Questionnaire-9; **GAD-7** = Scale for Generalized Anxiety Disorder - 7; **WSAS** = Work and Social Adjustment Scale; Discomfort 1 = Level of subjective discomfort associated with the main diagnosis according to the ADIS-5 interview; Discomfort 2 = Level of subjective discomfort associated with the secondary diagnosis according to the ADIS-5 interview; Interference 1 = Interference level associated with the main diagnosis according to the ADIS-5 interview; Interference 2 = Level of interference associated with the secondary diagnosis according to the ADIS-5 interview.

**Table 5.**

Comparison between pre-treatment and post-treatment of the number of participants ( $n = 17$ ) with scores above the cut-off points on the screening scales for depressive symptomatology, anxiety, the level of socio-occupational involvement and the discomfort and interference caused by the alteration object of primary and secondary diagnosis ( $n=12$ ).

|                | Pre-treatment | Post-treatment | McNeman corrected $\chi^2(1)$ |
|----------------|---------------|----------------|-------------------------------|
| PHQ-9          | 14 (82.40%)   | 2 (11.80%)     | 10.10 *                       |
| GAD-7          | 11 (64.70%)   | 2 (11.80%)     | 5.82 *                        |
| WSAS           | 15 (88.20%)   | 5 (29.40%)     | 8.10 *                        |
| Discomfort 1   | 16 (94.11%)   | 4 (23.53%)     | 10.10 *                       |
| Interference1  | 17 (100.00%)  | 1 (5.88%)      | 14.06 *                       |
| Discomfort 2   | 12 (70.58%)   | 2 (11.80%)     | 8.10 *                        |
| Interference 2 | 12 (70.58%)   | 2 (11.80%)     | 8.10*                         |

Note. **Discomfort 1** = Level of subjective discomfort associated with the main diagnosis according to the ADIS-5 interview; **Interference 1** = Interference level associated with the main diagnosis according to the ADIS-5 interview; **Discomfort 2** = Level of subjective discomfort associated with the secondary diagnosis according to the ADIS-5 interview; **Interference 2** = Level of interference associated with the secondary diagnosis according to the ADIS-5 interview; **WSAS** = Work and Social Adjustment Scale; \* = statistically significant difference between the conditions.

ence from it. Regarding the secondary diagnosis, two participants maintained clinical levels of post-treatment discomfort and interference, but only one of them fulfilled the rest of the conditions to maintain the secondary diagnosis.

Finally, as can be seen in Table 5, the percentages of symptomatic reduction ranged between 30.48 % and 70.17 % for all the different variables. These percentages

have presented a high variability for the anxiety and the work and social adjustment scale. Compared to the main diagnosis, the highest percentages of symptom reduction have been for discomfort and interference associated with the secondary diagnosis.

**Table 6.**

Comparison between the pre-treatment and post-treatment scores of the patients ( $n = 17$ ) and the percentage of associated symptom reduction for depressive symptomatology, anxiety, the level of socio-occupational involvement and the discomfort and interference caused by the alteration object of the main and secondary diagnosis. ( $n=12$ ).

|                | Pre-treatment | Post-treatment | % Symptom reduction |
|----------------|---------------|----------------|---------------------|
|                | M (s.d.)      | M (s.d.)       | M (s.d.)            |
| PHQ-9          | 12.53 (3.76)  | 5.71 (3.08)    | 52.63% (25.60)      |
| GAD-7          | 10.82 (4.00)  | 6.41 (3.36)    | 30.48% (55.44)      |
| WSAS           | 15.82 (6.00)  | 8.00 (5.87)    | 43.10% (41.09)      |
| Discomfort 1   | 5.41 (1.42)   | 2.53 (1.12)    | 51.21% (24.62)      |
| Interference1  | 6.12 (1.17)   | 2.18 (1.07)    | 62.86% (21.14)      |
| Discomfort 2   | 5.00 (1.28)   | 2.00 (1.54)    | 56.31% (38.21)      |
| Interference 2 | 5.42 (1.16)   | 1.50 (1.68)    | 70.17% (32.25)      |

Note. **M** = mean; **s.d.** = standard deviation; **Discomfort 1** = Level of subjective discomfort associated with the main diagnosis according to the ADIS-5 interview; **Interference 1** = Interference level associated with the main diagnosis according to the ADIS-5 interview; **Discomfort 2** = Level of subjective discomfort associated with the secondary diagnosis according to the ADIS-5 interview; **Interference 2** = Level of interference associated with the secondary diagnosis according to the ADIS-5 interview; **WSAS** = Work and Social Adjustment Scale.

## Discussion

As indicated in Table 2, the most frequent main diagnosis concerning the objectives of the study, the application of the UP in the population of university students of the UIB has shown encouraging preliminary outcomes about its feasibility and clinical usefulness for the reduction of the symptomatology of EDs and the reduction of the interference and associated deterioration, showing statistically significant differences with moderate-large effect sizes.

All 17 participants who started the UP intervention finished the treatment, showing a 100 % adherence rate. In addition, no barriers were detected regarding different feasibility aspects, such as difficulties contacting the managers of the program (APUC), the psychologist, the schedule, or difficulties with the comprehension of the program's content. From these data, it seems that the UP could be easily implemented at health university services to treat university students with EDs, such as the one at UIB.

Of the 16 participants with an initial clinical ED diagnosis, only two maintained a primary or secondary post-treatment diagnosis, who also maintained depressive and anxious scores above the cut-off point in their respective assessment instruments. Of these two, one showed significant reductions in the main and comorbid disorders, as well as in discomfort and associated interference, fulfilling criteria only for its secondary diagnosis, social anxiety disorder. One of the reasons this participant maintains his secondary diagnosis could be that he had a triple diagnosis (generalized anxiety disorder, major depressive disorder and social anxiety disorder), and more sessions of exposure to social situations would have been necessary after the end of the modules. The other participant, who met criteria for his main diagnosis, presented a worsening of symptoms compared to the pre-treatment condition. During the final modules of the intervention, this participant suffered an accumulation of stressful personal situations that could partly explain the deterioration. The remaining participants all showed a significant reduction in symptomatology on their comorbid diagnoses.

The preliminary results obtained are consistent with current evidence on the efficacy of UP in an individual format (Carlucci et al., 2021; Cassiello-Robbins et al., 2020; Sakiris & Berle, 2019), showing a significant reduction in the severity of anxious-depressive symptoms. Regarding the interference in daily functioning, the UP intervention also shown significant improvements in terms of the quality of life perceived by participants, being consistent with current evidence (Osma et al., 2021; Sakiris & Berle, 2019). Finally, the percentage of patients free of diagnosis after the intervention was very high compared to previous results (e.g., Carlucci et al., 2021).

Regarding this last point, the higher percentage of patients free of diagnosis could be due to various reasons. One of them has to do with the sample, compounded of younger people than those included in the reference studies and, therefore, with less chronification of the alterations. On the other hand, all participants had mild to moderate levels of anxious-depressive symptomatology.

It is worth mentioning that five participants did not reach the cut-off point of the non-clinical population on the work and social adjustment scale. Two of them were the participants who maintained a primary or secondary diagnosis together with clinical depressive and anxious scores. A possible explanation for the remaining three could be that these participants continued to present academic difficulties despite the improvement in their symptoms. In any case, the results show that the UP could be clinically useful in reducing the interference of EDs in university students.

This study has some limitations. In the first place, it uses a very small sample, which cannot be representative of the university population, and it is very homogeneous in terms of sex, with only one male participating. Second, there were no follow-up evaluations at three or six months, as recommended. Third, the study does not have a control group and, therefore, does not have randomization for assigning patients to the different groups. In any case, pilot studies like this one have a low budget that allow a bigger investment for future research if the results are promising. Fourth, a validated instrument about the satisfaction and opinion of the program received by participants should be used instead of an ad hoc interview. Five, the evaluation

and the intervention were carried out by a novel therapist. Future investigations should include more therapists and should include inter-judge agreement, given the importance of the diagnosis in the analysis of the results. Despite these limitations, this is the first study conducted in a university context in Spain using the UP to treat a clinical sample of EDs, and the results obtained can encourage researchers and clinicians working in this specific context to further investigate the efficacy and cost-effectiveness of the UP. Future research carried out in a university context must include controlled studies and post-treatment follow-ups to assess the extent of the improvement over time. On the other hand, since the application of UP in group format has already been proved to be effective, showing significant improvement in the main diagnoses and comorbid symptomatology in EDs (e.g., Osma et al., 2021), future studies must include this intervention format in university settings. The application of the UP in group format would allow the sample to be increased and cover a greater number of patients, and it is also a good cost-benefit option for public settings (Peris-Baquero et al., 2022).

The evidence obtained to date on the effectiveness of transdiagnostic approaches opens an important debate on the efficiency of psychological interventions, at a time when the incidence of disorders such as depression and anxiety is only increasing. It is, therefore, necessary to have psychological interventions that, at the lowest possible cost, can cover the largest number of people and disorders while maintaining their effectiveness, with transdiagnostic therapies such as UP being an important approach to consider.

For all these reasons, the UP, in individual format and especially in a group format, is an option to be considered by public institutions in healthcare contexts (Martínez-Borba et al., 2022; Osma et al., 2021) and community or social care (e.g., Osma et al., 2022). In the present study, the UP is presented as well as an alternative to consider for its application in the psychological care service of a University context such as the UIB.

## References

- Arrigoni, F., Marchena-Consejero, E., & Navarro-Guzmán, J. (2021). Aplicación y evaluación de la eficacia del Protocolo Unificado transdiagnóstico con estudiantes universitarios españoles [Application and Evaluation of the Efficacy of the Unified Transdiagnostic Protocol with Spanish College Students]. *Revista Costarricense de Psicología*, 40(2), 149–169. <https://doi.org/10.22544/rcps.v40i02.05>
- Auerbach, R., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demeyttenaere, K., Ebert, D., Green, J., Murray, E., Nock, M., Pinderamaker, S., Sampson, N., Stein, D., Vilagut, G., Zaslavsky, A., & Kessler, R. (2019). Student Project: Prevalence and Distribution of Mental Disorders. *Journal of Abnormal Psychology*, 127(7), 623–638. <https://doi.org/10.1037/abn0000362>
- Barlow, D. H., Farchione, T. J., Sauer-Zavala, S., Murray Latin, H., Ellard, K., Bullis, J., Bentley, K., Boettcher, H. y Cassiello-Robbins, C. (2018). *Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: Therapist Guide* (2ª ed.). Oxford University Press.
- Barnett, P., Arundell, L. L., Saunders, R., Matthews, H., & Pilling, S. (2021). The Efficacy of Psychological Interventions for the Prevention and Treatment of Mental Health Disorders in University Students: A Systematic Review and Meta-analysis. *Journal of Affective Disorders*, 280, 381–406. <https://doi.org/10.1016/j.jad.2020.10.060>
- Bayram, N., & Bilgel, N. (2008). The Prevalence and Socio-Demographic Correlations of Depression, Anxiety and Stress among a Group of University Students. *Social Psychiatry and Psychiatric Epidemiology*, 43(8), 667–672. <https://doi.org/10.1007/s00127-008-0345-x>

- Bentley, K. H., Boettcher, H., Bullis, J. R., Carl, J. R., Conklin, L. R., Sauer-Zavala, S., Pierre-Louis, C., Farchione, T. J., & Barlow, D. H. (2018). Development of a Single-Session, Transdiagnostic Preventive Intervention for Young Adults at Risk for Emotional Disorders. *Behavior Modification*, 42(5), 781–805. <https://doi.org/10.1177/0145445517734354>
- Brown, T. A. & Barlow, D. H. (2014). *Anxiety and Related Disorders Interview Schedule for DSM-5 (ADIS-5), Adult & Lifetime Version, Client Interview Schedule*. Oxford University Press.
- Brown, T. A., Campbell, L. A., Lehman, C. L., Grisham, J. R., & Mancill, R. B. (2001). Current and Lifetime Comorbidity of the DSM-IV Anxiety and Mood Disorders in a Large Clinical Sample. *Journal of Abnormal Psychology*, 110(4), 585–599. <https://doi.org/10.1037//0021-843x.110.4.585>
- Bullis, J. R., Boettcher, H., Sauer-Zavala, S., Farchione, T. J., & Barlow, D. H. (2019). What is an Emotional Disorder? A Transdiagnostic Mechanistic Definition with Implications for Assessment, Treatment, and Prevention. *Clinical Psychology: Science and Practice*, 26(2), 1–19. <https://doi.org/10.1111/cpsp.12278>
- Carlucci, L., Saggino, A., & Balsamo, M. (2021). On the Efficacy of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: A Systematic Review and Meta-analysis. *Clinical Psychology Review*, 87, Article 101999. <https://doi.org/10.1016/j.cpr.2021.101999>
- Cassiello-Robbins, C., Southward, M. W., Tirpak, J. W., & Sauer-Zavala, S. (2020). A Systematic Review of Unified Protocol applications with Adult Populations: Facilitating Widespread Dissemination via Adaptability. *Clinical Psychology Review*, 78, Article 101852. <https://doi.org/10.1016/j.cpr.2020.101852>
- Castro-Camacho, L., Díaz, M. M., & Barbosa, S. (2021). Effect of a Group Prevention Program Based on the Unified Protocol for College Students in Colombia: A Quasi-experimental Study. *Journal of Behavioral and Cognitive Therapy*, 32, 111–123. <https://doi.org/10.1016/j.jbct.2021.04.001>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Lawrence.
- Diez-Quevedo, C., Rangil, T., Sanchez-Planell, L., Kroenke, K., & Spitzer, R. L. (2001). Validation and Utility of the Patient Health Questionnaire in Diagnosing Mental Disorders in 1003 General Hospital Spanish Inpatients. *Psychosomatic Medicine*, 63(4), 679–686. <https://doi.org/10.1097/00006842-200107000-00021>
- Echezarraga, A., Calvete, E., & Las Hayas, C. (2019). Validation of the Spanish version of the Work and Social Adjustment Scale in a Sample of Individuals With Bipolar Disorder. *Journal of Psychosocial Nursing and Mental Health Services*, 57(5), 44–51. <https://doi.org/10.3928/02793695-20181128-02>
- García-Campayo, J., Zamorano, E., Ruiz, M. A., Pardo, A., Pérez-Páramo, M., López-Gómez, V., Freire, O., & Rejas, J. (2010). Cultural Adaptation into Spanish of the Generalized Anxiety Disorder-7 (GAD-7) Scale as a Screening Tool. *Health and Quality of Life Outcomes*, 8(8), 1–11. <https://doi.org/10.1186/1477-7525-8-8>
- IBM Corp. Released. (2012). *IBM SPSS Statistics for Windows (Version 21.0)* [software computer]. IBM.
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9.pdf. *Journal of General Internal Medicine*, 16(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Levis, B., Benedetti, A., & Thombs, B. D. (2019). Accuracy of Patient Health Questionnaire-9 (PHQ-9) for Screening to Detect Major Depression: Individual Participant data Meta-analysis. *The BMJ*, 365, Article 11476. <https://doi.org/10.1136/bmj.11476>

- Li, W., Zhao, Z., Chen, D., Peng, Y., & Lu, Z. (2022). Prevalence and Associated Factors of Depression and Anxiety Symptoms Among College Students: A Systematic Review and Meta-Analysis. *The Journal of Child Psychology and Psychiatry*, 63, 1222–1230. <https://doi.org/10.1111/jcpp.13606>
- Martínez-Borba, V., Osma, J., Crespo-Delgado, E., Andreu-Pejo, L., & Monferrer-Serrano, A. (2022). Prevention of Emotional Disorders and Symptoms Under Health Conditions: A Pilot Study using the Unified Protocol in a Fertility Unit. *Annals of Psychology/Anales de Psicología*, 38, 25–35. <https://doi.org/10.6018/analesps.462331>
- McGraw, K. O., & Wong, S. P. (1992). A Common Language Effect Size Statistic. *Psychological Bulletin*, 111(2), 361–365. <https://doi.org/10.1037/0033-2909.111.2.361>
- Miranda-Mendizabal, A., Castellví, P., Parés-Badell, O., Alayo, I., Almenara, J., Alonso, I., Blasco, M. J., Cebrià, A., Gabilondo, A., Gili, M., Lagares, C., Piqueras, J. A., Rodríguez-Jiménez, T., Rodríguez-Marín, J., Roca, M., Soto-Sanz, V., Vilagut, G., & Alonso, J. (2019). Gender Differences in Suicidal Behavior in Adolescents and Young Adults: Systematic Review and Meta-analysis of Longitudinal Studies. *International Journal of Public Health*, 64(2), 265–283. <https://doi.org/10.1007/s00038-018-1196-1>
- Mundt, J. C., Marks, I. M., Shear, M. K., & Greist, J. H. (2002). The Work and Social Adjustment Scale: A Simple Measure of Impairment in Functioning. *British Journal of Psychiatry*, 180, 461–464. <https://doi.org/10.1192/bjp.180.5.461>
- Osma, J., Quilez-Orden, A., Ferreres-Galán, V., Meseguer, M. C., & Ariza, S. (2022). Feasibility and clinical usefulness of the Unified Protocol in women survivors of violence. *Journal of Child and Family Studies*. <https://doi.org/10.1007/s10826-022-02226-z>
- Osma, J., Peris-Baquero, O., Suso-Ribera, C., Farchione, T.J., & Barlow, D. H. (2021). Effectiveness of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Group Format in Spain: Results from a Randomized Controlled Trial with 6-Months Follow-up. *Psychotherapy Research*, 16, 1–14. <https://doi.org/10.1080/10503307.2021.1939190>
- Peris-Baquero, Ó., Moreno, J. D., & Osma, J. (2022). Long-term Cost-effectiveness of Group Unified Protocol in the Spanish Public Mental Health system. *Current Psychology*. <https://doi.org/10.1007/s12144-022-03365-8>
- Sakiris, N., & Berle, D. (2019). A Systematic Review and Meta-analysis of the Unified Protocol as a Transdiagnostic Emotion Regulation based Intervention. *Clinical Psychology Review*, 72, Article 101751. <https://doi.org/10.1016/j.cpr.2019.101751>
- Sauer-Zavala, S., Gutner, C. A., Farchione, T. J., Boettcher, H. T., Bullis, J. R., & Barlow, D. H. (2017). Current Definitions of “Transdiagnostic” in Treatment Development: A Search for Consensus. *Behavior Therapy*, 48(1), 128–138. <https://doi.org/10.1016/j.beth.2016.09.004>
- Sauer-Zavala, S., Tirpak, J. W., Eustis, E. H., Woods, B. K., & Russell, K. (2021). Unified Protocol for the Transdiagnostic Prevention of Emotional Disorders: Evaluation of a Brief, Online Course for College Freshmen. *Behavior Therapy*, 52(1), 64–76. <https://doi.org/10.1016/j.beth.2020.01.010>
- Spitzer, R.L., Kroenke, K., Williams, J.W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Tortella-Feliu, M., Baños, R. M., Barrantes, N., Botella, C., Fernández-Aranda, F., García-Campayo, J., García-Palacios, A., Hervás, G., Jiménez-Murcia, S., Montorio, I., Soler, J., Quero, S., Valiente, C.,

& Vázquez, C. (2016). Retos en la investigación psicológica en salud mental [The Challenge of Psychological Research on Mental Health]. *Clínica y Salud*, 27, 37–43. <https://doi.org/10.1016/j.clysa.2016.02.001>

Tortella-Feliu, M., Vázquez, C., Valiente, C., Quero, S., Soler, J., Montorio, I., Jiménez-Murcia, S., Hervás, G., García-Palacios, A., García-Campayo, J., Fernández-Aranda, F., Botella, C., Barrantes, N., & Baños, R. M. (2016). Retos en el desarrollo de intervenciones psicológicas y la práctica asistencial en salud [Challenges in the Development of Psychological Interventions and Care Practice in Mental Health]. *Clínica y Salud*, 27, 65–71. <https://doi.org/10.1016/j.clysa.2016.03.002>

World Health Organization. (2017). *Depression and Other Common Mental disorders: Global health Estimates*. Author.

Worsley, J., Pennington, A., & Corcoran, R. (2020). What Interventions Improve College and University Students' Mental Health and Wellbeing? A Review of Review-Level Evidence. <https://whatworkswellbeing.org/wp-content/uploads/2020/03/Student-mental-health-full-review.pdf>

