Characterize and Address Mental health Problems in University Students: the CAMPUS study

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Abstract

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Objective: This study aims to assess the effectiveness and implementability of DWM as a psychological strategy for effective mental health prevention and promotion, and for reducing psychological symptoms and distress and improving wellbeing in university students.

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University students frequently face mental health challenges due to academic pressures, lifestyle changes, and developmental factors. Digital interventions, such as Doing What Matters in Times of Stress (DWM), a psychosocial e-mental health intervention developed by the World Health Organization, offer scalable approaches to address these issues. This study aimed to support students' mental health and well-being at the University of Verona by implementing the DWM intervention.

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Registration: Open Sciences Framework: https://doi.org/10.17605/OSF.IO/KYV9F

Keywords: College students; Digital mental health; psychological well-being; mental health; university students; web-based intervention; implementation study

Introduction

Life at university provides important opportunities for personal growth; however, this developmental phase also coincides with the peak period of risk for the onset of mental disorders, including anxiety, depression, substance abuse, self-harm and suicidal behavior [1]. In addition, specific university lifestyle factors, including impaired sleep and academic and financial stress [2], are known to exacerbate psychological distress in students. In the World Mental Health Surveys, a set of large-scale cross-national community epidemiological surveys, the 12-month prevalence of any mental disorder among university students was around 20% [3]. In 2018, the World Health Organization (WHO) reported that approximately one-third of first-year university students from 19 universities (13,948 respondents) across eight countries (Australia, Belgium, Germany, Mexico, Northern Ireland, South Africa, Spain, and United States), screened positive for at least one common DSM-IV anxiety, mood, or substance disorder [4]. Similar results have been found in another international study conducted in 12 countries in Europe, Latin and North America, and Australia, with 48% of students presenting clinically relevant depressive symptoms [5]. Furthermore, due to the recent COVID-19 pandemic, an increase in the prevalence of mental health problems among university students has been reported, which may have exacerbated this pressing issue [6-8]. It was also found that students with mental disorders and psychological distress showed a dropout rate 2.5 times higher than that of matched controls [4]. As a result, university students have been identified as a vulnerable population group often experiencing significant barriers to accessing psychological treatment [4]. University psychological counselling services are not always available, and even when they are, they have limited impact due to their isolation from the general healthcare system, the heterogeneity of the interventions offered, and the difficulties in managing the growing demand [9].

Digital psychological interventions are emerging as a promising solution for supporting mental health among university students [10-12]. Recent systematic reviews and meta-analyses [10,12,13], confirm the potential of these interventions to address mental health challenges in this population. Digital interventions provide an effective alternative in overcoming the barriers and challenges that university students often face when seeking mental health assistance. Given the positive effects on psychological well-being demonstrated in numerous studies, the literature increasingly supports the development of evidence-based digital interventions tailored to improve psychological well-being among vulnerable groups like university students.

E-mental health solutions, including smartphone applications (apps), are a new type of tool that allows persons in need to access psychosocial support [14]. Their use could improve access to mental health support, as they are, in principle, widely available and inexpensive. Smartphone apps may be particularly appealing due to their anonymity, portability, and ease of access. Hence, the WHO has

developed several psychosocial e-mental health interventions, including Doing What Matters in Times of Stress (DWM) [15], a stress management guide which provides practical information and skills to help people cope with stressful situations based on the principles of Acceptance and Commitment Therapy (ACT). Evidence from randomized trials has demonstrated the effectiveness of DWM in various vulnerable populations, such as migrants or healthcare workers [16-18], making it particularly suitable for people exposed to a wide variety of adversities, helping them to deal with different types of problems and manage the stress that can result.

These data emerging from the international literature provide the framework for the CAMPUS study (Characterize and Address Mental health Problems in University Students), which is aimed at students at the University of Verona and has been created in response to the growing need to support the mental well-being of university students. The principal objectives of the study are to evaluate the effectiveness and implementability of DWM as a psychological strategy for effective mental health prevention and promotion, reducing psychological symptoms and distress, and improving well-being in university students. Secondary objectives of the project include assessing whether there are groups of students who could benefit most from the intervention and identifying factors associated with its implementability and effectiveness.

Methods

Study design

The project was activated during the 2023/2024 academic year: firstly, during the first academic semester from October 2023 to January 2024 and, subsequently, in the second semester, from March to June 2024. The DWM intervention was offered to students as a Teaching And Learning Centre (TALC) course, i.e., a 1-credit educational activity, and as a service provided by the University of Verona. During the study period, we conducted a prospective hybrid type-1 non-randomized follow-up study, as described by Curran and colleagues [16], with a pre-post design, where the first assessment (T1) was completed before gaining access to the DWM intervention, while the second assessment was conducted one week after the end of the intervention (T2). A detailed protocol for this study was registered in Open Sciences Framework (https://doi.org/10.17605/OSF.IO/KYV9F).

Target population

The study population consisted of students at the University of Verona, which enrolled 25.756 students during the considered academic year. Students were recruited through short announcements about the study in-class, and through flyers, emails, and other communication strategies.

Data Collection and Study Procedures

Before enrollment, the students were informed online about the nature of the study and the intervention, and then they chose whether to participate. It was specified that they could withdraw from the study at any time and that the choice to participate, decline, or withdraw had no impact on their academic career. An online informed consent was electronically signed by all students who decided to participate. Participants registered on Moodle platform, an e-learning platform the University of Verona uses for its students. They had access to LimeSurvey, the software used in this study, to collect online pre- and post-intervention data. The pre- and post-intervention assessments consisted of the collection of ad-hoc sociodemographic information page (age, gender, living condition, characteristics of the course of study), and information on psychological condition, collected through four self-administered questionnaires assessing psychological distress as measured with the Kessler-10 (K-10) [19], depressive symptoms as measured with the nine-item Patient Health Questionnaire depression scale (PHQ-9) [20], anxiety symptoms with the seven-item Generalized Anxiety Disorder scale (GAD-7) [21], and psychological well-being with the WHO-5 Wellbeing Index (WHO-5) [22]. In addition, at post-intervention, the acceptability, appropriateness and feasibility of the intervention were assessed using the adapted versions of the Acceptability of Intervention Measure (AIM), the Intervention Appropriateness Measure (IAM), and the Feasibility of Intervention Measure (FIM) [23]. Students completed the pre-intervention assessment (T1) before gaining access to the DWM intervention, while the post-intervention assessment was completed after the end of the intervention (T2). The data collected through LimeSurvey were stored safely in a password-protected CSV file for further analysis. After completing the assessment at T1, participants were able to access the DWM intervention on Moodle platform. They received email reminders to complete the assessments. We kept track of every participant's activity using the intervention metadata. The research team was available to support technical issues, remote process monitoring, overcoming potential barriers, and referral to health services in case of need. The study has been reviewed and approved by the Institutional Review Board (IRB) of the University of Verona (registration number 2023-UNVRCLE-0362987).

Inclusion criteria

Considering that study participation was limited to students enrolled at the University of Verona, participants were 18 years or older. Students who electronically signed the informed consent before entering the study were enrolled. Only students attending the five DWM sessions were included in the evaluation. No exclusion criteria were applied.

Intervention: Doing What Matters in Times of Stress (DWM)

DWM is an illustrated stress management self-help guide for coping with stress, developed by the WHO. The guide aims to equip people with practical skills to help cope with stress. For this study, this self-help guide was adapted for digital delivery on Moodle. The DWM intervention consists of an e-book divided into five monographic chapters covering five acceptance- and mindfulness-based strategies for managing stress. The strategies are: grounding, unhooking, acting on your values, being kind and making room. The chapters include audio recordings with different practices and exercises designed to help identify barriers and facilitators to practicing and triggers that exacerbate stress responses. For our project, DWM has been adapted for digital delivery on Moodle platform. Participants registered on the Moodle platform were given access to written and recorded materials for each of the five core component skills and activities of DWM, and were asked to complete one chapter per week for a total of five weeks of intervention, as suggested by the DWM protocol.

Effectiveness measures

Psychological distress:

The K-10 is a ten-item self-report questionnaire to screen broadly for psychological distress experienced in the past 30 days. Its items are rated on a five-point Likert scale ranging from none of the time to all of the time. The K-10 has good psychometric properties and has strong discriminatory power to distinguish DSM-IV cases from non-cases [19].

Depression and anxiety symptoms:

The Patient Health Questionnaire - Anxiety and Depression Scale (PHQ-ADS) is a 16-item self-reported instrument that combines PHQ-9 and GAD-7 into a composite measure of depression and anxiety [24]. Respondents are asked how much each symptom has bothered them over the past 2 weeks, with response options of "not at all", "several days", "more than half the days", and "nearly every day", scored as 0, 1, 2, and 3. The scale can range from 0 to 27 in the case of PHQ-9 and from 0 to 21 in the case of GAD-7, with higher scores indicating higher levels of depression and anxiety symptoms.

Psychological wellbeing:

The WHO-5 is a 5-item questionnaire measuring current psychological wellbeing and quality of life, rather than psychopathology. Scores range from 0 to 25 and the scale has demonstrated sensitivity to change in wellbeing and is available in numerous languages [22].

All the measures were adapted to be fulfilled in LymeSurvey.

Implementability measures

Implementability measures include acceptability, appropriateness and feasibility. Quantitative data on participants' points of view on the implementability of DWM were gathered. For this purpose, adapted versions of the Acceptability of Intervention Measure (AIM), the Intervention Appropriateness Measure (IAM), and the Feasibility of Intervention Measure (FIM) [23] were administered during the T2 assessment. In particular, four items were selected: two for acceptability ("The 'Doing What Matters in Times of Stress' program has satisfied me" and "The program 'Doing What Matters in Times of Stress' has interested me"), one for appropriateness ("The 'Doing What Matters in Times of Stress' program seemed appropriate for my needs") and one for feasibility ("The program 'Doing What Matters in Times of Stress' seemed easy for me to use"). Scale values range from 1 to 5. Norms and cut-off scores for interpretation are not yet available; however, higher scores indicate greater acceptability, appropriateness, or feasibility [25].

Statistical analysis

Continuous variables were expressed as means and standard deviations, while categorical variables as absolute numbers and percentages. Continuous variables were also categorized, in the case of age, among the groups: up to 20, 21-23, 24-25, 26-30, and above 30. As for clinical variables: the presence of psychological distress was assessed through K-10 values of 16 or higher [19]; GAD-7 was categorized as follows: absent or minimal anxiety: 0-4, mild anxiety: 5-9, moderate anxiety: 10-14, severe anxiety: 15-21; PHQ-9 was grouped as: absence of depression: 0-4, subthreshold depression: 5-9, Mild major depression: 10-14, Moderate major depression: 15-19, Severe major depression: 20-27; finally, WHO-5 was grouped into low (1-8), medium (9-16) and high (17-25) levels of wellbeing.

In the case of clinical outcomes, a Wilcoxon matched-pairs signed-rank test was performed to compare baseline and post-treatment distributions. The clinical outcomes at T2 were regressed on age, gender, year of attendance (first 3 years, years 4-6 or graduand, overtime student), dwelling (house owned, house for rent, other), living situation (parents, flatmates, alone, other), controlling for the values of the scale at T1 and the area of study. The Seemingly Unrelated Regression (SUR) model [26] was implemented to perform a global test on all the predictors of interest and, in case of statistical significance, a joint test for each variable; only in case of statistical significance of such tests the P-values from the independent regressions on each clinical outcome were considered.

The implementability outcomes were dichotomized as: 5 ("Completely agree") vs 1-4. The

implementability outcomes were regressed with logistic regressions on the clinical outcomes at baseline, and the same predictors were used for the previously described regressions on clinical outcomes. Four logistic regressions were performed simultaneously; in particular, a seemingly unrelated estimation [27] model was implemented to perform a global test on all the predictors of interest and, in case of statistical significance, a joint test for the sociodemographic and the clinical variables separately and finally, in case of further statistical significance, for each variable; only in case of statistical significance of such tests the P-values from the independent logistic regressions were considered.

Multiple imputations were adopted to address the issue of missing data in all the variables included in the models mentioned above by using the 'ice' Stata routine [28,29]. To avoid out-of-range imputed values, the implementability measures (being single-item scores) to impute were considered as ordered categorical variables. At the same time, a lower bound of 18 was set for age. The number of imputed samples was determined by following the rule of thumb suggested by White et al. [30], that is: 'at least equal to the percentage of incomplete cases'. We rounded such number to the nearest multiple of 10 above.

Statistical analyses were implemented with the software Stata 18 [31].

Results

Sociodemographic and clinical characteristics at baseline

The number of students at the University of Verona who expressed interest in the course was 2,296, 1,498 of whom were included in the analyses because they attended all the DWM sessions and completed the questionnaires at T1 and T2. The participant flow diagram provides a detailed outline of drop-out numbers and reasons for exclusion from analysis at each study stage (Figure 1). Most of the students recruited were women (76.7%), with an average age of 23.5 years. Almost half were studying Medicine and Surgery or Economics, and a significant proportion were living with their families (67.9%), while only 18.4% were living with flatmates (Table 1).

As reported in Table 2 and Figure 2, at baseline (T1), participants, on average, showed mild levels of psychological distress, anxiety, and depressive symptoms, coupled with medium to low levels of psychological well-being.

Figure 1. Diagram detailing participant flowchart

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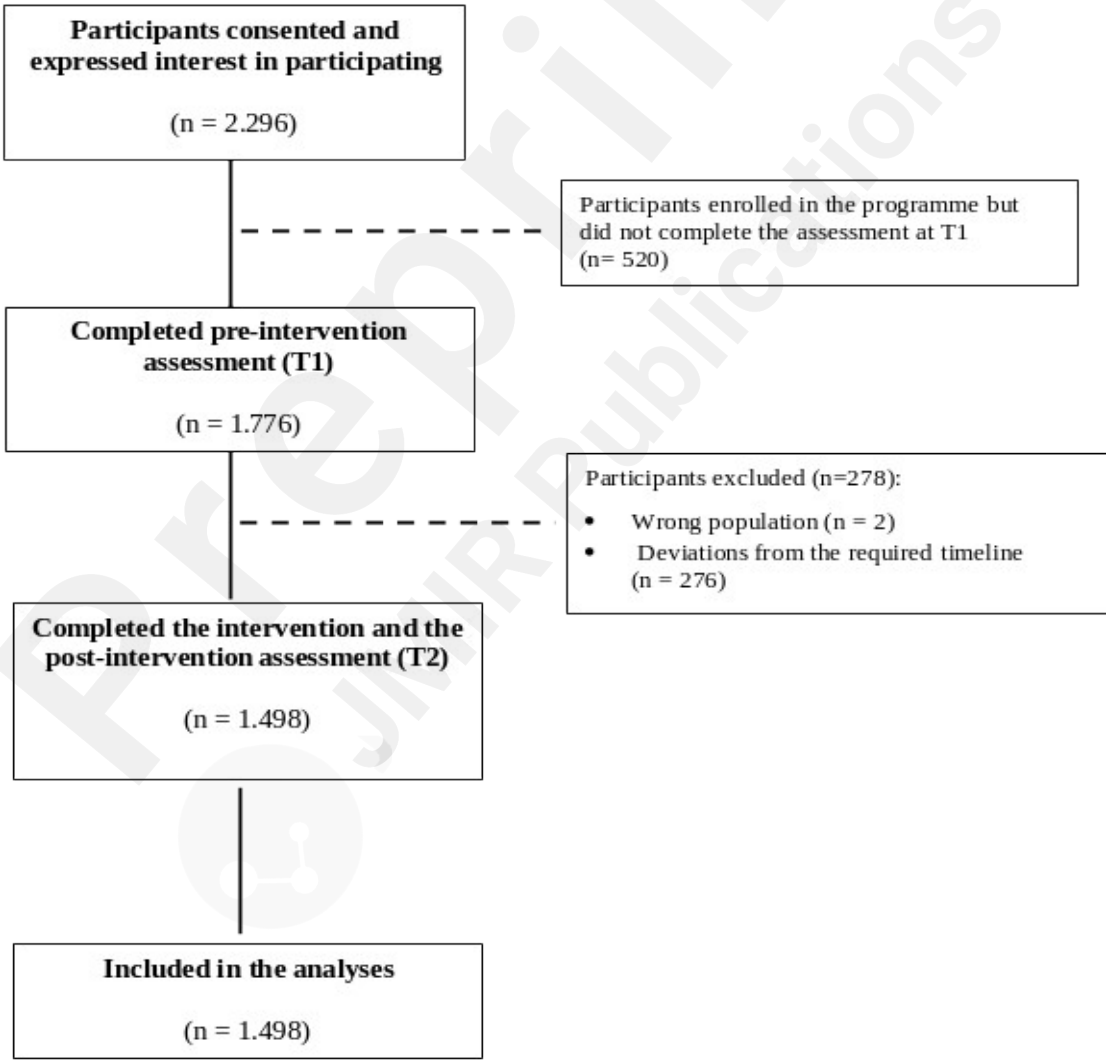


Table 1. Sociodemographic characteristics (N=1498)

Gender	**N (%)**
Female	1149
Male	(76.70)
Other	347 (23.16)
	2 (0.13)
Age	**N (%)**
Mean (SD)	23.50 (5.74)
Range	18-64
≤20	305 (20.36)
21-23	769 (51.34)
24-25	153 (10.21)
26-30	105 (7.01)
>30	118 (7.88)
Missing	48 (3.20)
Area of study	**N (%)**
Economics	329 (21.96)
Education, Philosophy and Social Work	198 (13.22)
Law	105 (7.01)
Literature, arts and communication	109 (7.28)
studies	127 (8.48)
Foreign Languages and Literatures	350 (23.36)
Medicine and Surgery	190 (12.68)
Sciences and Engineering	82 (5.47)
Sport Science	8 (0.53)
Missing	
Year of attendance	**N (%)**
First	296 (19.76)
Second	453 (30.24)
Third	582 (38.85)
Fourth	72 (4.81)
Fifth	63 (4.21)
Sixth	9 (0,60)
Graduand	4 (0.27)
Overtime student	17 (1.13)

Missing	2 (0.13)
Dwelling	**N (%)**
House owned	1036
House for rent	(69.16)
Other	417 (27.84)
	32 (2.14)
Missing	
	13 (0.87)
Living with whom	**N (%)**
Parents	1017
Flatmates	(67.89)
Partner	276 (18.42)
Partner and children	93 (6.21)
Alone	46 (3.07)
Other	50 (3.34)
	14 (0.93)
Missing	
	2 (0.13)

Effectiveness of DWM

After completing the DWM intervention (T2), we observed significant improvements across all measured outcomes, with a reduction in psychological symptoms, anxiety, and depressive symptoms and an increase in general psychological well-being. The mean score for psychological distress (K-10) decreased from 22.41 (SD = 6.54) at baseline to 19.86 (SD = 5.96) at post-intervention, indicating a significant reduction in distress levels (*P*<.0001). At T1, 86% of participants showed signs of psychological distress, which decreased to 74% at T2. Mean anxiety scores (GAD-7) decreased from 8.27 (SD = 4.31) at baseline to 6.57 (SD = 3.76) at post-intervention (*P*<0001). The proportion of students with moderate or severe anxiety dropped from 34.7% at T1 to 20.6% at T2. Depression scores (PHQ-9) also improved, with a mean score reduction from 8.28 (SD = 7.73) at baseline to 6.75 (SD = 4.37) at post-intervention (*P*<.0001). The proportion of students with mild to severe depression dropped from 34.3% to 20.8%. The mean score for psychological well-being (WHO-5) increased from 11.73 (SD = 4.65) at T1 to 13.26 (SD = 4.68) at T2 (*P*<.0001), reflecting a significant enhancement in students' well-being. The percentage of students reporting high well-being increased from 17% at T1 to 26% at T2.

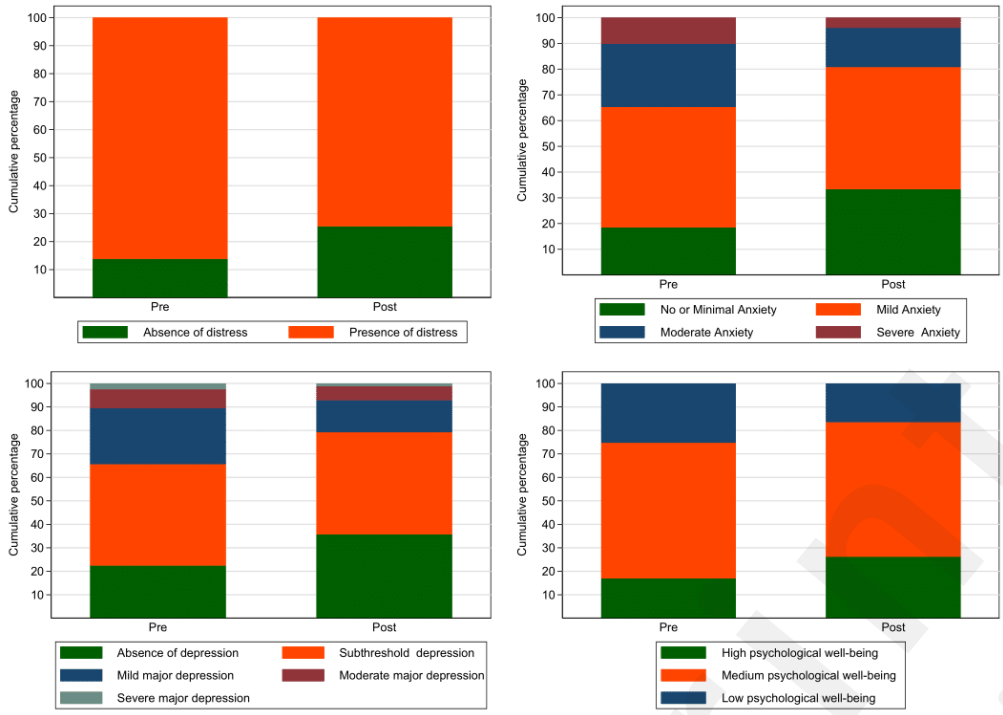
Table 2. Clinical variables (N=1498)

	T1		T2		P-value
K10_TOT	**N**	**%**	**N**	**%**	
Absence of psychological distress	208	13.8	382	25.5	**<.0001***
Presence of psychological distress	1290	9	1116	0	

Mean (SD)	22.41 (6.54)	86.11	19.86 (5.96)	74.50	
GAD7_TOT	**N**	**%**	**N**	**%**	
Absent or Minimal Anxiety	277	18.49	500	33.38	
Mild Anxiety	701	46.80	228	47.46	
Moderate Anxiety	368	24.57	59	15.22	**<.0001***
Severe Anxiety	152	10.15		3.94	
Mean (SD)	8.27 (4.31)		6.57 (3.76)		
PHQ9_TOT	**N**	**%**	**N**	**%**	
Absence of depression	337	22.50	535	35.71	
Subthreshold depression	647	43.19	652	43.52	
Mild major depression	356	23.77	205	13.68	**<.0001***
Moderate major depression	121	8.02	89	5.94	
Severe major depression	37	2.47	17	1.13	
Mean (SD)	8.28 (4.73)		6.75 (4.37)		
WHO5_TOT	**N**	**%**	**N**	**%**	
Low psychological well-being (1-8)	378	25.23	246	16.42	
Medium psychological well-being (9-16)	865	57.74	859	57.34	
High psychological well-being (17-25)	255	17.02	393	26.23	**<.0001***
Mean (SD)	11.73 (4.65)		13.26 (4.68)		

* Wilcoxon matched-pairs signed-rank test

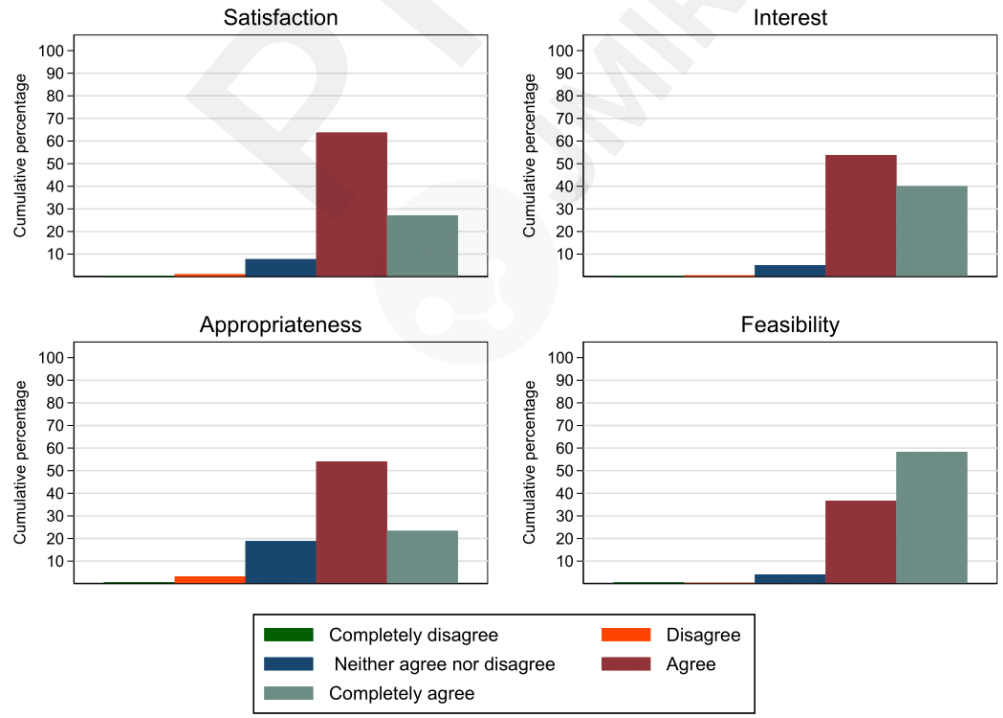
Figure 2. Clinical Outcomes Pre- and Post-DWM Intervention



Implementability of DWM

In relation to the implementability outcomes, 90% of participants either agreed or completely agreed that the DWM program satisfied them, 77.4% felt that the program was appropriate for their needs and 95% agreed or completely agreed that the program was easy to use, highlighting its practicality for students (Figure 3 and Table 1 in the Appendix).

Figure 3. Implementability of the DWM Intervention



Factors associated with clinical and implementability outcomes

Given a percentage of observations with missing value of 4.81%, only ten imputations were performed.

Regression analyses revealed no significant differences in clinical response to the intervention based on sociodemographic factors, baseline mental health status, or type of area of study (P=.426; see Table 2 in the Appendix for results of each regression).

In the case of implementability outcomes, the fact that both non-binary students (gender: other) chose the “completely agree” option to all item questions made their inclusion in the logistic regression model impossible due to the issue of quasi-separation. The items of interest were globally statistically significant (*P*<.0001). Both sociodemographic (*P*=.015) and clinical (*P*<.0001) variables overcame the significance threshold.

Looking at single predictors, gender (*P*=.013) and WHO-5 (*P*<.0001) turned out to be statistically significant. In contrast, looking at single regressions, in both cases, significance was found for the acceptability and the appropriateness outcomes. In particular, for satisfaction, odds ratios for, respectively, female gender and WHO-5, were: 1.506 (*P*=.009) and 1.107 (*P*<.001) for satisfaction, 1.625 (*P*=.001) and 1.044 (*P*=.008) for interest, and 1.466 (*P*=.024) and 1.085 (*P*<.001) for appropriateness. Such results highlight that being female and having a higher WHO score at baseline corresponded to a significantly higher probability of “completely agreeing” with the acceptability and appropriateness of items.

Figure 1 in the Appendix shows, for such items, the probability of choosing the “completely agree” option for each WHO score, with its confidence interval, for males and females separately, in case all the other variables were kept equal.

Discussion

This study evaluated the effectiveness and implementability of WHO's "Doing What Matters in Times of Stress" (DWM) intervention as a digital strategy for mental health promotion and prevention to reduce psychological symptoms and distress among university students. The findings support DWM's beneficial impact as an applicable intervention to enhance psychological well-being in this population. Particularly noteworthy is the consistent improvement in well-being, measured by the WHO-5, with significant reductions in distress, depression, and anxiety, regardless of students' demographics or baseline mental health. Our results are in line with the evidence from the literature, which has highlighted the effectiveness of digital mental health interventions, particularly web-based online/computer-delivered interventions, in decreasing depression, anxiety, stress, and eating

disorder symptoms in the student population [12]. Delivered digitally, DWM addresses common barriers such as stigma, time constraints, and accessibility, which often discourage students from seeking in-person mental health support. University students have reported that digital mental health services are convenient and easy to use [32], and have helped them to overcome issues of scheduling conflicts, waitlist, inaccessibility, and added expenses [33]; additionally, they allow individuals to avoid the stigmatization of seeking mental health care by giving them a sense of ownership with their respective issues and facilitating help-seeking behaviors [33]. DWM is founded as a promising tool that can help overcome all these structural and psychological barriers. This is also demonstrated by the fact that most students reported satisfaction with the proposed intervention and considered it appropriate and easy to use, indicating that DWM has strong implementation ability [13].

The study also highlights that no sociodemographic or clinical characteristic at baseline predicted a different response to DWM. Regression analysis showed no significant differences in outcome based on sociodemographic factors, initial mental health status, or field of study, suggesting DWM’s equal effectiveness across diverse groups, such as age, gender, and academic discipline. This universality is significant, as it confirms DWM's suitability as a comprehensive mental health strategy, effective across a wide-reaching population without needing customization. In line with prior studies on digital interventions [10, 12], these results suggest DWM's effectiveness for diverse populations due to its accessibility and adaptability to individual needs, suggesting DWM’s scalability as a valuable tool for universities in inclusively addressing the mental health needs of all students.

In university settings, where students face various stressors and may not access specialized support, a broad, generalizable approach like DWM can meet the mental health needs of the entire student body, fostering resilience and well-being across all demographics. The feasibility of DWM as part of a universal mental health strategy for higher education is particularly strong, offering an inclusive academic environment that supports the psychological resilience of all students. Unlike interventions requiring adaptation for specific subgroups, DWM demonstrates benefits for all students, regardless of initial levels of psychological distress. This universality is a significant strength, as university students experience a broad range of mental health challenges, though not all may seek or qualify for specialized support [13].

These findings suggest several avenues for future research. First, future research should explore the effectiveness of DWM within this specific population through randomized trials, which could yield more robust, population-specific evidence and targeted results. Moreover, further efforts could explore the mechanisms by which DWM reduces distress and enhances well-being, examining

components like grounding exercises or value-driven actions to pinpoint elements that most benefit student outcomes. Second, implementing DWM within a broader digital mental health framework, including mobile applications and virtual support communities, could broaden its impact by catering to diverse student mental health needs.

Finally, this study's results have particular relevance for low-income settings, where university students face significant barriers to mental health support but frequently have internet access. Digital interventions like DWM, being low-cost, scalable, and remotely accessible, offer a promising approach to closing mental health service gaps in these settings [12]. The adaptability of DWM to different demographic and psychological profiles highlights its suitability across various cultural and socioeconomic backgrounds. In low-resource settings, where mental health infrastructure is limited, DWM could play a crucial role in promoting well-being, reducing distress, and supporting academic success. This aligns with global health priorities advocating accessible, evidence-based digital solutions for mental health, particularly in underserved populations. The widespread availability of smartphones and internet among young people in low-income countries makes DWM an ideal candidate for integration into university programs, potentially fostering resilience and reducing disparities in mental health. Future research could focus on implementing and culturally adapting DWM in these settings, investigating factors such as digital literacy, internet stability, and local perceptions of digital mental health to optimize its impact further.

Limitations

It is important to acknowledge that the present study has some limitations. Although large, the recruited sample may only partially represent the broader university student population. Students who volunteered to participate and completed the five DWM sessions may have been more motivated to engage with the intervention or more inclined to benefit from mental health resources, which could introduce a selection bias. Additionally, this study did not include a control group, which limits the ability to draw definitive conclusions about the absolute efficacy of the intervention in this specific population group; furthermore, the lack of randomization may have affected the internal validity of the findings. Moreover, the reliance on self-reported measures may introduce biases, and the follow-up period may need to be longer to assess long-term effects. Finally, the timing of the intervention may have coincided with other academic stressors, influencing participants' mental health independently. Despite these limitations, the lack of differentiation in the effectiveness of the intervention across sociodemographic and clinical variables suggests that the findings can still be generalized to a wider student audience.

Conclusions

In conclusion, our findings suggest that the DWM intervention positively impacted students' mental health by effectively reducing psychological symptoms and enhancing overall well-being. The high levels of acceptability, appropriateness, and feasibility observed in our study show that the student population well-received the program, indicating its potential for broader implementation. The DWM intervention is a comprehensive and adaptable approach to mental health promotion, effectively catering to diverse individual needs.

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Authors' Contributions

MN, GT and GM coordinated the data collection. FT analyzed the data. MN wrote the manuscript with feedback from GT, GM, FT and CB. CB supervised the project. All authors contributed substantially to the design and conceptualization of the study, reviewed the paper, and approved the final version of the manuscript. The project received funding by Ministero dell'Università e della Ricerca, Italy.

Conflicts of Interest

None declared.

Abbreviations

ACT: Acceptance and commitment therapy
AIM: Acceptability of intervention measure
CAMPUS: Characterize and Address Mental health Problems in University Students
COVID-19: COronaVIrus Disease 19
DWM: Doing What Matters in Times of Stress
FIM: Feasibility of intervention measure
GAD-7: Generalized Anxiety Disorder 7-item
IAM: Intervention appropriateness measure
IRB: Institutional review board
K-10: Kessler 10-item
PHQ-9: Patient Health Questionnaire 9-item
PHQ-ADS: Patient Health Questionnaire Anxiety and Depression Scale

SUR: Seemingly unrelated regression
WHO: World Health Organization
WHO-5: World Health Organization- Five Well-Being Index

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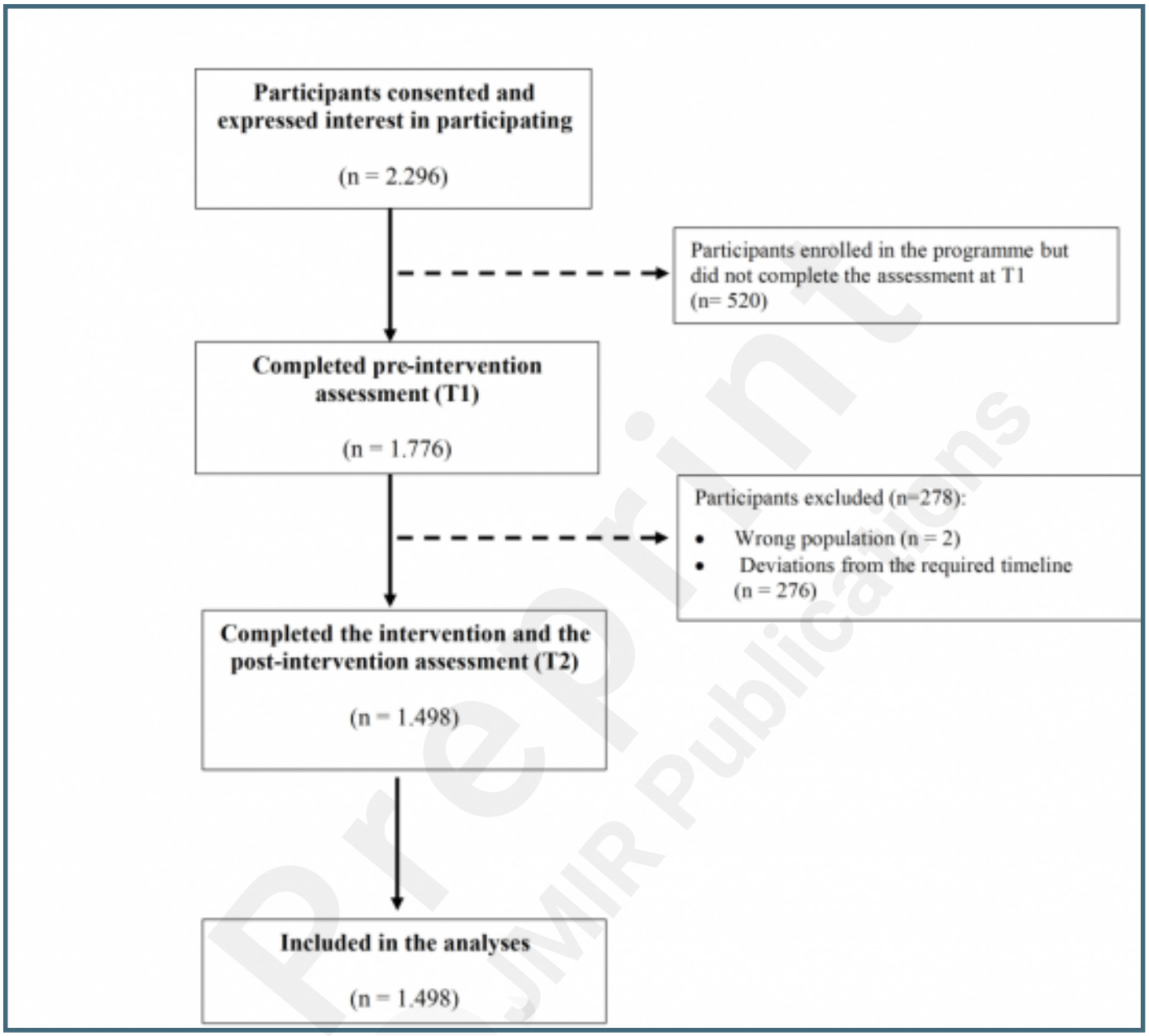
Supplementary Files

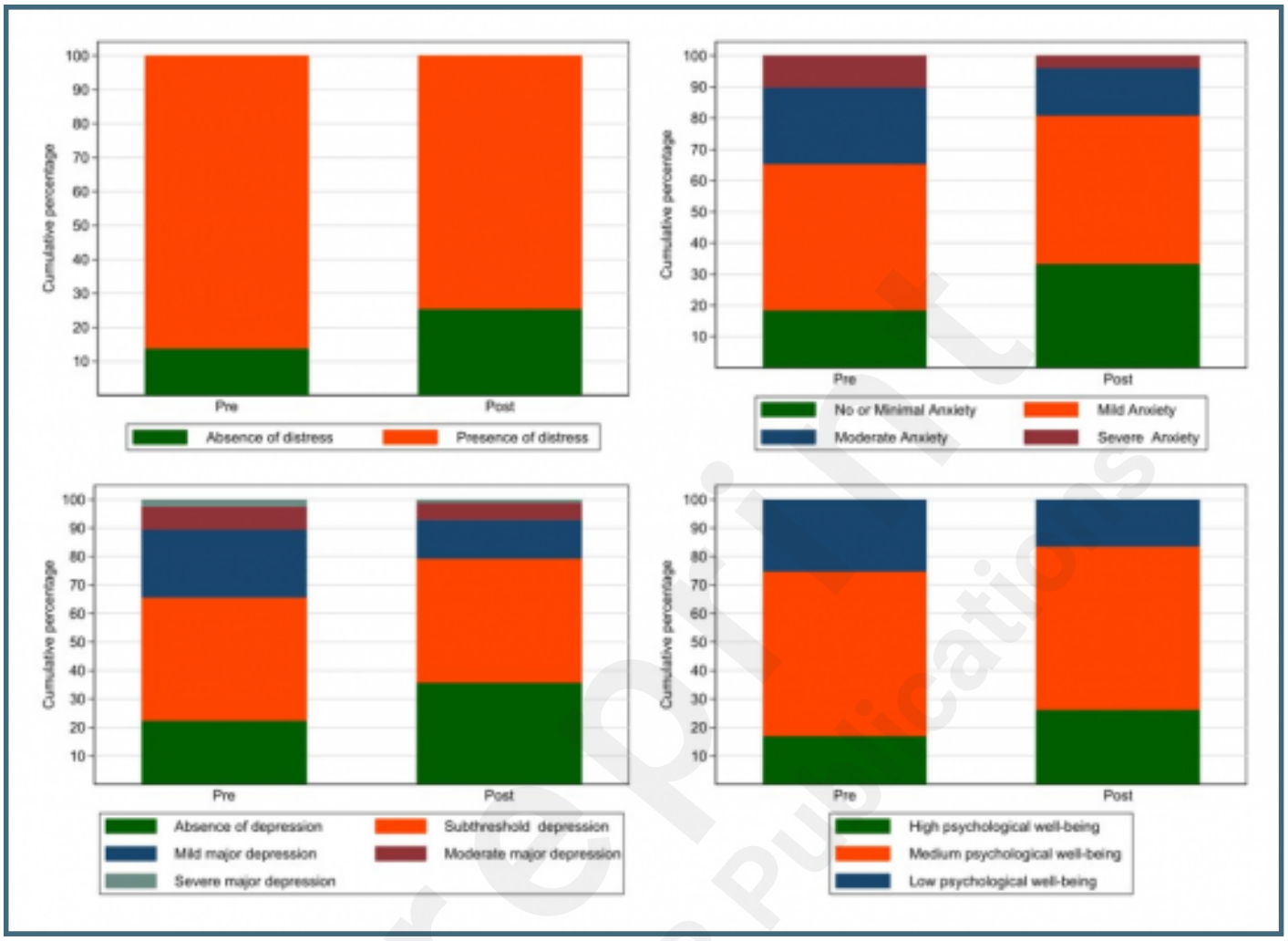
Untitled.
URL: http://asset.jmir.pub/assets/f5eb5ad8878753bb29045920fe3b4829.doc

Figures

Diagram detailing participant flowchart.



Clinical outcomes pre- and post-DWM intervention.



Implementability of the DWM intervention.