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Effects of Biodanza on Stress, Depression, and Sleep Quality in University Students

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Abstract

Background: The existing literature shows dance to be an innovative and successful form of stress management. Previous research indicates that Biodanza is able to increase well-being and personal resources and prevent stress. However, Biodanza has not yet been empirically tested as a possible therapy for application outside the clinical context in young adults with perceived stress.

Objectives: This study aimed to determine the effectiveness of Biodanza in reducing symptoms of perceived stress and depression and in promoting sleep quality in young adults, comparing the changes with those observed in a control group.

Design: Randomized controlled trial.

Settings/Location: This study was carried out at the Faculty of Health Sciences of the University of Almería.

Subjects: One hundred and twenty-one university students with perceived stress were randomly placed into either a Biodanza group or a wait-list control group.

Intervention: Study participants attended Biodanza sessions for 90 min a week, over a period of 4 weeks.

Outcome measures: Depression, perceived stress, and sleep quality were assessed both before and after intervention.

Results: Ninety-five participants completed the program and were included in the statistical analysis. Significant differences in perceived stress [t (93) = 2.136; p = 0.015] and depression [t (93) = 2.738; p = 0.000] were observed after the Biodanza period. Pre/post analysis found that Biodanza also had a significant effect on depression (Cohen d = 1.88; $p < 0.05$) and perceived stress (Cohen d = 0.79; $p < 0.05$).

Conclusion: The Biodanza program is an effective stress management strategy for students. The results of this study showed Biodanza to have a positive effect on perceived stress and depression in young adults. This demonstrates how artistic, collaborative, and psychophysical interventions are an effective means of preventing and managing these problems in university students.

Keywords: therapeutic dance, Biodanza, perceived stress, depression, sleep quality, university students

Introduction

RECENT FIGURES REVEAL that many students in higher education report symptoms of mental disorders, which can negatively affect their physical, emotional, cognitive, and interpersonal functioning. Approximately 50% of students experience significant levels of stress, generalized anxiety, or depression.[1–4]

Psychiatric disorders are also common among university students in Spain, with a substantial portion of students screening positively for major depression. According to Balanza et al., 65.9% of college students are likely to have anxiety and/or depression, 55.7% suffer from some form of anxiety disorder, and 63.8% may suffer from clinical depression. In general, results among Spanish students are comparable to those observed in other countries.[5–7]

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The prevalence of test anxiety has been estimated to be as high as 35% among college students, and it has also been linked to lower academic performance. Common stressors in students' lives include the constant pressure to succeed, competition with peers, lack of free time, examinations, and having to manage the basic demands of everyday life. Moreover, certain personality traits such as perfectionism and shyness may be correlated with psychopathologies observed within the student population.[1,2,8–14]

Although proper sleep hygiene has proved to be important for mental health, complaints of sleep problems are extremely common among university students. Research has linked these issues to depression and anxiety in young adults. The sleep patterns of university students are often vastly different from those of others within the same age group. Therefore, it is important to address any irregularities when promoting health education activities.[2,15–17]

Perceived stress was the main reported cause of sleeping difficulties. Students suffering from low-quality sleep also reported more frequent use of drugs and alcohol.[13,16]

While the high prevalence of mental health problems among university students highlights a clear need for accessible treatment options, the majority of students with moderately severe to severe depression do not receive any psychiatric therapy. Downs and Eisenberg reported that low treatment rates are correlated with help-seeking behaviors among students, and only slightly over half of students with suicidal ideation receive therapy. According to the literature, the most common coping strategies used by students to manage stress and depression are exercising, spending time with family and friends, watching TV, and/or drinking alcohol.[2,12,18,19]

There is evidence that exercise and cognitive-, behavioral-, and mindfulness-based approaches are effective in reducing stress and depression among university students. However, in practice, medication is the form of treatment that is most often used.[14,20–23]

Besides being a physical activity, dance also incorporates emotional, cognitive, and cultural aspects involving social interaction, sensory stimulation, motor coordination, and music. Some studies[24–31] use "dance therapy" (or "dance intervention") to refer to rhythmic and patterned body movements that are performed to music, while other authors define dance movement therapy as a process that improves one's emotional, social, cognitive, and physical integration.[20,32] Nevertheless, given their similarity, Koch et al.[33] analyze both forms of treatment within the same review. Although these therapies are yet to be thoroughly studied, and nonmotor symptoms have often been neglected in favor of motor symptoms, empirical evidence suggests that they may help to decrease the symptoms of depression and anxiety and improve quality of life, well-being, mood, affect, and body image. As a result, some findings promote dance as an innovative and successful treatment for stress and depression that may help maximize the effects of usual treatments.[20,24–33]

According to Toro,[34] Biodanza is a "human integration system of organic renewal, affective re-education, and of relearning of Life's original functions" (p. 39). In contrast to dance and dance movement therapy, Biodanza involves leading "vivencias" through music, singing, movements, and group interactions. Sessions are always performed as a group, combining different motor, sensory, and emotional exercises.[34]

Prior research[35–38] indicates that Biodanza helps reduce the pain and impact of fibromyalgia by reducing stress, enhancing social skills, and increasing sleep quality and overall well-being. However, Biodanza is yet to be empirically tested as a possible treatment for perceived stress in young adults.

Based on the limited literature regarding Biodanza and other related interventions, including dance and dance movement therapy, it was hypothesized that undertaking a Biodanza program over the academic term would benefit students in the intervention group by improving or avoiding the worsening of sleep quality, stress, and depression levels. The hypothesis also predicted that these indicators would worsen in students who did not receive treatment. Biodanza participants were predicted to show improved levels of stress, depression, and sleep quality after treatment, in comparison with the control group. This study aims to examine the effects of a 1-month Biodanza program on stress, depression, and sleep quality over the academic term, using a sample of university students with perceived stress and comparing these changes with those observed in the control group.

Materials and Methods

Participants

Volunteers were recruited from among students with perceived stress attending the University of Almería, using advertisements placed around the campus and displayed on the university's website. Respondents were invited to participate in a randomized clinical trial evaluating Biodanza in comparison with a wait-list control group; participants were informed that they could be allocated to either one of these two groups.

Inclusion criteria stipulated that participants must be at least 18 years old and a university student with self-reported psychological distress. Participants in the intervention group were required to attend four sessions. Exclusion criteria included psychiatric illness and serious physical disability or limitations.

Sample size determination was carried out based on previous studies.[27,32,37] This generated a sample size of at least 60 participants per group, with an estimated dropout rate of 30%.

The recruitment was finished once 130 people had responded to the advertisements. Selected participants completed baseline questionnaires before randomization to avoid any anticipatory effects. After completing the initial pretest, those who met the inclusion criteria ($n = 121$) were randomly assigned to a Biodanza ($n = 60$) or wait-list control group ($n = 61$).

After randomization, 52 participants in the intervention group commenced the program, with 8 people unable to start the intervention due to work or other commitments. In addition, nine people failed to attend any session, and one of them did not complete the posttest questionnaires properly. In addition, seven participants in the control group were excluded after the posttest due to incomplete questionnaires (Fig. 1).

The study enabled subjects in the control group to participate in the Biodanza sessions after the follow-up period.

Procedures and interventions

Before inclusion in the study, participants were provided with detailed information regarding their right to withdraw at any time and the voluntary nature of their participation; all subjects provided their written informed consent. This study was conducted with full institutional human research ethics
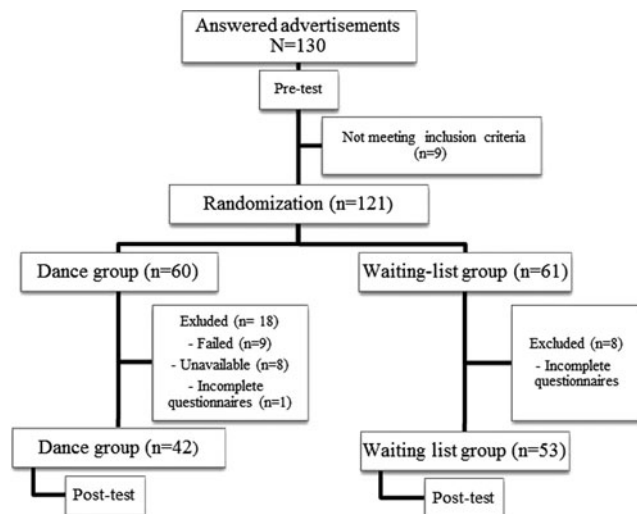
FIG. 1. Flow of subjects.

approval from the University of Almería, in accordance with the ethical guidelines of the Declaration of Helsinki.

The intervention group received four Biodanza sessions once a week, over the course of 1 month. These sessions were led by an experienced facilitator trained at a school endorsed by the International Biocentric Foundation (IBF).[39]

Each session lasted 90 min. At the beginning of every Biodanza session, participants were encouraged to talk about themselves or their experiences. Afterward, they had a 10-min warm-up period with music and low-intensity movements in the welcome round, followed by 40 min of more active movements, including walking, dancing, or exercising, and finishing up with a 10-min final celebration round. At the end of each session, participants were asked to share their experiences. Each session allowed a maximum of 15 participants. The dance movements were based on natural human movements such as walking, jumping, or stretching; expressions involving ''link rituals'' such as shaking hands, hugging, or stroking; and archetypical gestures, which are original gestures of human expression belonging to different cultures.[34]

Participants in the wait-list control group were asked to continue their lives as normal during this period (close to final examinations in June), avoiding any other closely related activities such as other supportive group programs, dance classes, or physical activity with music. In addition, during the posttest, control group subjects were asked about any activities they had engaged in over the last month to exclude them from the study.

The questionnaires were completed online. Participants in the intervention group completed a survey before their first session (pretest) and 1 week after their fourth session (posttest). Subjects in the control group completed pre- and posttests during the same week as participants in the Biodanza group. As a result, subjects in both groups were at the same pre-examination phase of the academic term and therefore shared a common stressor.

Measures

The online survey included the Pittsburgh Sleep Quality Index (PSQI), Perceived Stress Scale (PSS), and Center for Epidemiologic Studies Depression Scale (CES-D). During the pretest, participants were asked to provide demographic information and describe their exercise habits over the past month.

A Spanish version of the PSQI was used. This questionnaire differentiates between ''poor'' and ''good'' quality of sleep. It includes 19 items divided into seven different areas: subjective sleep quality, sleep onset latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction over the past month. Scoring is based on a Likert scale of 0–3, with a score of 3 reflecting the negative extreme. A global score greater than 5 (from a total range of 0–21) is indicative of a poor-quality sleeper, whereas a score of 5 or less is indicative of a good-quality sleeper. The internal consistency coefficient of the PSQI, as estimated by Cronbach's alpha, is 0.73.[40]

The PSS includes questions intended to evaluate the current level of stress experienced by the subject. It is a brief scale, consisting of only 14 items to measure how unpredictable, uncontrollable, and overloaded individuals perceive their current life circumstances to be. Moreover, because the PSS assesses general beliefs about perceived stress without providing subjects with a list of specific life events, scores are not biased by event content or by differential recall of past life experiences. Scores range from 0 to 56, with higher scores indicating a greater level of perceived stress. The European Spanish version of the PSS (14 items) demonstrated adequate reliability (internal consistency, $\alpha = 0.81$; test–retest, $r = 0.73$), validity, and sensitivity.[41]

The CES-D is a self-report inventory containing 20 items scored by respondents to indicate the frequency of symptoms over the previous week. It employs a scale of 0 (less than a day), 1 (1–2 days), 2 (2–3 days), and 3 (5–7 days). The CES-D includes a wide spectrum of noted symptoms, which makes it useful for assessing levels of distress in addition to depression. A score of 16 or higher indicates the likely presence of distress. Epidemiologic research in Spain has demonstrated the validity and reliability (internal consistency, $\alpha = 0.85$) of the CES-D (range = 0–60).[42]

Data analysis

SPSS version 20.0 was used for statistical analysis. Key baseline demographic variables and pretest measures were compared between groups using independent t-tests for continuous data and chi-squared tests for categorical data. To answer the hypotheses, t-tests were used for paired or independent samples when appropriate. Within-group comparisons were carried out to explore the effects of a 1-month Biodanza program, as per the study objectives. Between-group analysis was used to compare these changes with those observed in the control group.

A p-value of $p < 0.05$ was considered significant in all tests.

Cohen's d reflects the standardized between-group or within-group difference, with values of 0.2, 0.5, and 0.8 denoting small, medium, and large effect sizes, respectively.[43–45]

Results

The study involved participants ($n = 95$) ranging from 18 to 45 years old ($M = 22.07$; SD = 4.71), most of whom were women (74.7%). The majority of participants in the sample had not been diagnosed with any mental disorder (92.6%) and considered studying their main source of stress (76.8%).

TABLE 1. SOCIODEMOGRAPHIC DATA OF STUDENTS

| | Groups | | | | |
	TG n = 95 Mean ± SD/n (%)	WG n = 53 Mean ± SD/n (%)	BG n = 42 Mean ± SD/n (%)	χ^2	p
Age (years)	22.33 ± 4.12	21.77 ± 4.53	22.45 ± 4.96	−0.264[a]	0.792
Sex					
Male	24 (25.3%)	14 (26.4%)	10 (23.8%)	0.084	0.772
Female	71 (74.7%)	39 (73.6%)	32 (76.2%)		
Exercise days/week					
0	3 (3.2%)	3 (5.7%)	0 (0.0%)	4.432	0.729
1	23 (24.2%)	13 (24.5%)	10 (23.8%)		
2	20 (21.1%)	11 (20.8%)	9 (21.4%)		
3	21 (22.1%)	11 (20.8%)	10 (23.8%)		
4	19 (20.0%)	11 (20.8%)	8 (19.0%)		
5	5 (5.3%)	2 (3.8%)	3 (7.1%)		
6	3 (3.2%)	2 (3.8%)	1 (2.4%)		
7	1 (1.1%)	0 (0.0%)	1 (2.4%)		
Mental disorder					
No	88 (92.6%)	51 (96.2%)	37 (88.1%)	2.270	0.132
Yes	7 (7.4%)	2 (3.8%)	5 (11.9%)		
Source of stress					
Studies	73 (76.8%)	38 (71.7%)	35 (83.3%)	2.830	0.587
Family	7 (7.4%)	4 (7.5%)	3 (7.1%)		
None	5 (5.3%)	4 (7.5%)	1 (2.4%)		
Health	1 (1.1%)	1 (1.9%)	0 (0.0%)		
Work	9 (9.5%)	6 (11.3%)	3 (7.1%)		
Use complementary techniques					
No	91 (95.8%)	50 (94.3%)	41 (97.6%)	0.625	0.429
Yes	4 (4.2%)	3 (5.7%)	1 (2.4%)		
Use dance					
No	87 (91.6%)	51 (96.2%)	36 (85.7%)	3.358	0.067
Yes	8 (8.4%)	2 (3.8%)	6 (14.3%)		

[a]t-student.

BG, Biodanza group; SD, standard deviation; TG, total group; WG, waiting-list control group.

Most participants (87.4%) exercised between once and four times a week, and the majority had not previously used any complementary therapy (95.8%) or dance (91.6%) to control stress. Although there did not appear to be any statistically significant differences between groups in the use of dance, a higher percentage of dance use was observed in the intervention group (Table 1).

According to the PSQI suggested cutoff, the pretest found 48 participants (40.0%) to be poor-quality sleepers. The CES-D cutoffs found that 69 participants (72.6%) reported symptoms of depression at the beginning of the study, with a mean score of greater than 16.

The correlations between variables indicated that participants were more likely to experience lower sleep quality when they also reported high stress ($r = 0.315$; $p < 0.01$) or depression ($r = 0.386$; $p < 0.01$). Those reporting depressive symptoms were more likely to report stress ($r = 0.677$; $p < 0.01$) (Table 2).

Group comparisons

At baseline, no significant differences were found between the Biodanza and wait-list control groups (Table 1).

No significant differences between groups were observed in stress, depression, or sleep quality at the pretest. After the Biodanza period, however, there were significant differences between groups in perceived stress [t (93) = 2.136; $p = 0.035$; Cohen's $d = 0.44$] and depression [t (93) = 2.738; $p = 0.007$; Cohen's $d = 0.56$]. Conversely, no significant differences in sleep quality were observed [t (93) = 0.432; $p = 0.666$; Cohen's $d = 0.09$]. Nevertheless, there were some posttest differences in the subscale ''subjective sleep quality'' from the PSQI [t (93) = 2.311; $p = 0.023$; Cohen's $d = 0.48$] (Table 3).

TABLE 2. CORRELATIONS BETWEEN VARIABLES AT BASELINE ($N = 95$)

	PSS	CES-D	PSQI
PSS	1.000	0.544**	0.266**
CES-D	0.544**	1.000	0.394**
PSQI	0.266**	0.394**	1.000

**$p < 0.01$ (two tailed).

CES-D, Center for Epidemiologic Studies Depression Scale; PSQI, Pittsburgh Sleep Quality Index; PSS, Perceived Stress Scale.

TABLE 3. BETWEEN-GROUP EFFECTS

| | Groups | | | | |
	TG (n = 95) Mean ± SD	WG (n = 53) Mean ± SD	BG (n = 42) Mean ± SD	t	p
Pretest					
PSS	25.34 ± 8.10	25.26 ± 7.52	25.43 ± 8.87	−0.098	0.922
CES-D	21.74 ± 11.48	19.81 ± 10.12	24.17 ± 12.71	−1.811	0.074
PSQI	5.99 ± 2.93	5.58 ± 2.59	6.50 ± 3.28	−1.520	0.132
Subjective quality	1.18 ± 0.63	1.09 ± 0.59	1.28 ± 0.67	0.152	0.152
Latency	1.43 ± 1.00	1.38 ± 0.94	1.50 ± 1.08	−0.588	0.558
Duration	0.46 ± 0.85	0.36 ± 0.83	0.59 ± 0.85	−1.357	0.178
Efficiency	0.57 ± 0.83	0.45 ± 0.69	0.71 ± 0.97	−1.473	0.145
Disturbances	1.13 ± 0.53	1.09 ± 0.56	1.17 ± 0.49	−0.658	0.512
Medication	0.10 ± 0.39	0.13 ± 0.44	0.07 ± 0.34	0.734	0.465
Dysfunction	1.11 ± 0.78	1.07 ± 0.78	1.17 ± 0.79	−0.561	0.576
Posttest					
PSS	23.59 ± 10.13	25.53 ± 9.21	21.14 ± 10.79	2.136	0.035
CES-D	15.29 ± 9.55	17.60 ± 9.84	12.38 ± 8.40	2.738	0.007
PSQI	5.77 ± 2.98	5.89 ± 3.20	5.62 ± 2.72	.432	0.666
Subjective quality	1.17 ± 0.65	1.30 ± 0.57	1.00 ± 0.69	2.311	0.023
Latency	1.19 ± 0.97	1.15 ± 1.08	1.24 ± 0.82	−0.447	0.656
Duration	0.51 ± 0.85	0.53 ± 0.95	0.50 ± 0.71	0.161	0.873
Efficiency	0.47 ± 0.78	0.45 ± 0.84	0.50 ± 0.70	−0.290	0.772
Disturbances	1.04 ± 0.48	1.00 ± 0.52	1.09 ± 0.43	−0.956	0.341
Medication	0.18 ± 0.50	0.18 ± 0.55	0.17 ± 0.43	0.210	0.834
Dysfunction	1.20 ± 0.79	1.26 ± 0.85	1.12 ± 0.70	0.884	0.379

Pre/post comparisons

The within-group comparison of the control group found no significant differences. However, results from the Biodanza group found statistically significant differences in depression [t (41) = 6.026; p = 0.000], perceived stress [t (41) = 2.549; p = 0.015], and subjective sleep quality [t (41) = 2.218; p = 0.032]. The effect size in the Biodanza group was medium for stress (Cohen's d = 0.79), large for depression (Cohen's d = 1.88), and small for total sleep quality score

TABLE 4. WITHIN-GROUP EFFECTS (PRE/POST ANALYSIS)

| | Paired differences | | 95% CI of the difference | | | |
	Mean	SD	Lower	Upper	t	p
WG						
PSS	−0.26	8.84	−2.70038	2.17207	−0.218	0.829
CES-D	2.20	8.29	−0.07844	4.49353	1.938	0.058
PSQI	−0.30	3.13	−1.16609	0.56231	−0.701	0.486
Subjective quality	−0.20755	0.79320	−0.42618	0.01109	−1.905	0.062
Latency	0.22642	1.08560	−0.07281	0.52564	1.518	0.135
Duration	−0.16981	0.99491	−0.44404	0.10442	−1.243	0.220
Efficiency	0.00000	0.96077	−0.26482	0.26482	0.000	1.000
Disturbances	0.09434	0.65821	−0.08708	0.27576	1.043	0.302
Medication	−0.05660	0.66260	−0.23924	0.12603	−0.622	0.537
Dysfunction	−0.18868	0.96190	−0.45381	0.07645	−1.428	0.159
BG						
PSS	4.28	10.89	0.89065	7.68078	2.549	0.015
CES-D	11.78	12.67	7.83585	15.73558	6.026	0.000
PSQI	0.88	4.02	−0.37350	2.13540	1.418	0.164
Subjective quality	0.28571	0.83478	0.02558	0.54585	2.218	0.032
Latency	0.26190	1.30775	−0.14562	0.66943	1.298	0.202
Duration	0.09524	0.90553	−0.18694	0.37742	0.682	0.499
Efficiency	0.21429	1.29795	−0.19018	0.61875	1.070	0.291
Disturbances	0.07143	0.55843	−0.10259	0.24545	0.829	0.412
Medication	−0.09524	0.37020	−0.21060	0.02013	−1.667	0.103
Dysfunction	0.04762	0.96151	−0.25201	0.34725	0.321	0.750

CI, confidence interval.

(Cohen's $d = 0.44$). In the control group, negative small effect sizes were observed for stress (Cohen's $d = -0.06$) and sleep quality (Cohen's $d = -0.19$) (Table 4).

Discussion

This is the first randomized controlled trial to explore a Biodanza program as a possible therapeutic treatment for university students with perceived stress. In this study, statistical analysis demonstrated that Biodanza has a significant effect on stress and depression when compared with control conditions.

The hypothesis was partially supported, as the intervention group showed significant short-term reduction of stress and depression, but no changes in sleep quality. Furthermore, at posttest, the intervention group showed lower stress and depression levels when compared to the wait-list control group.

Participants in the Biodanza group reported a significant reduction in stress at posttest in comparison with the wait-list control group. Results from the intervention group also saw statistically significant differences pre- and post-intervention. No statistically significant differences were observed in the wait-list control group, which showed a slight worsening of stress levels.

These outcomes are consistent with prior research indicating the positive effect of dance on anxiety and emotions in college students.[30,31] Dance movement therapy on stress in patients with cancer[43] and tango on people with self-reported depression,[27] showed a small between-group effect size. Bräuninger[32] demonstrated a small between-group effect size of dance movement therapy on anxiety in people with stress. These results are smaller than those obtained by Pylvänäinen et al.[20] using this therapy on depressed adults with anxiety (a large between-group effect size), although their within-group effect size was considered medium.

Carbonell-Baeza et al.[35] did not find Biodanza to have a significant impact on anxiety in patients with fibromyalgia. Conversely, Stück et al.[38] showed positive effects on the self-regulatory aspects of stress reduction in healthy people following a very similar program.

Although Biodanza participants did not see a significant posttest reduction in their total PSQI score when compared with the control group, favorable changes were observed in the intervention group, while a slight worsening was reported in the control group. Furthermore, the subscale "subjective sleep quality" showed a significant improvement in the intervention group. Despite the fact that participants in this group did not show significant improvement in sleep quality after the therapy, the near-medium effect size suggests that a larger sample may in fact reveal further differences.

Studies measuring the effects of dance programs on improved sleep quality are limited. However, data similar to those of the current study were obtained using dance movement therapy in patients with cancer.[43]

The Biodanza group showed significant positive reductions in CES-D scores after intervention when compared with the control group, obtaining a medium effect size between groups. Moreover, in the pre/post test, statistically significant differences were found in the Biodanza group. The effect size on depression was considerably larger in the intervention group than the overall effect size reported for antidepressants in other studies.[20]

The findings of this study are similar to those observed when using tango therapy in people with self-reported depression[26] and dance therapy with depressed adult patients.[17] These results are also consistent with those reached using dance movement therapy in patients with cancer, as shown by Ho et al.,[43] or those obtained by Bräuninger[32] in people with stress. However, both studies obtained a smaller effects size. These and other studies[20,32,43] demonstrate that dance movement therapy may reduce emotional distress by improving emotion-oriented coping strategies, the ability to interpret emotions, self-confidence, and affect. On the contrary, another study[35] using Biodanza did not show significant improvements in the depression levels of fibromyalgia patients.

Furthermore, it should be noted that the control group showed no statistically significant changes to levels of depression. One possibility is that the prospect of free lessons afterward may have influenced the responses of the group, or participants' moods may have been influenced by seasonal changes, a factor noted in several studies.[46,47]

The present study's limitations include those common to online surveys and self-reporting scales. Other possible limitations include the treatment expectations of participants in the intervention group. In addition, recruiting participants for dance therapy may have influenced the female-dominated gender makeup of the study, as women are generally more interested in dance activities. Finally, the higher tendency of subjects in the Biodanza group to have used dance therapy previously may have led to the treatment having a greater impact on this group.

Conclusions

The present study found that, when compared with a wait-list control group, Biodanza was a superior stress management strategy in a sample of university students taken during the academic term. These findings demonstrate the positive effects of Biodanza on self-reported stress in young adults. Furthermore, outcomes indicate that a brief Biodanza program was correlated with decreased levels of depression in university students during the academic term. On the contrary, the program did not result in significant improvements in sleep quality over the observed period of time.

In conclusion, a short-term Biodanza program may improve levels of stress and depression and may prevent anticipated worsening of sleep quality throughout the academic term. Biodanza is an effective method of managing depression and stress, and it may be an attractive, affordable option of first-line therapy for depression and stress management, a finding that is relevant for both health professionals and students. These results support the use of artistic, collaborative, and psychophysical interventions in the prevention and management of academic stress and depression in university students.

Future research is needed to incorporate multiple measurements that were not covered in this study, including physical fitness, cognitive functioning, academic performance, and drug use. Long-term treatment and follow-up are needed to fully understand the potential benefits of Biodanza over a period of time.

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