

Effectiveness of cognitive behavioral therapy (CBT) in reducing burnout among teachers in Morocco

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Abstract. *Background and aim of the work:* Burnout is one of the significant problems to which teachers are exposed. Perhaps ignorance of its causes, symptoms, and prevention methods is one of the factors that has contributed to its spread among teachers. The purpose of the present study was to conduct a randomized controlled trial to evaluate the effectiveness of an eight-week cognitive-behavioral therapy (CBT) program in reducing burnout and improving psychological flexibility among Moroccan teachers. The technique used is group counseling. *Methods:* Our study sample consisted of 51 newly recruited teachers in Khemisset Province, Morocco. We assigned participants to the CBT group (N = 25) and the control group (N = 26) using random sampling techniques. Two instruments were used to collect data for the study. The Maslach Burnout Inventory (MBI) was used to measure burnout, while the Acceptance and Action Questionnaire – version 2 (AAQ-II) was used to measure psychological flexibility. The intervention consisted of an eight-week cognitive-behavioral therapy (CBT) program. Follow-up data were collected three months after the intervention. *Results:* The findings revealed a significant reduction in burnout levels and a significant increase in psychological flexibility at post-test and follow-up assessments following the CBT intervention. *Conclusions:* CBT allowed contract teachers to change their perception of the work environment and to better manage stressful situations and somatic complaints. (www.actabiomedica.it)

Key words: burnout, teachers, cognitive-behavioral therapy, the maslach burnout inventory (MBI), psychological flexibility

Introduction

Stress at work can lead to reduced job satisfaction and burnout. The teaching profession is the most stressful compared to other professions. Professional burnout mainly affects people professionally involved in the helping and high-commitment professions (1).

Stress is a normal response to upsetting or threatening events and becomes pathological when chronic (2). Chronic stress disrupts daily functioning and emotional balance, and is the origin of other psychiatric illnesses, such as anxiety and depression (2,3). It can

cause an individual to experience excessive anxiety, mental fatigue and burnout (4).

Burnout is commonly associated with social service professions, such as police, teachers, nurses, doctors, lawyers, and others who work with the public (5-6). The teaching profession is one with a high risk of stress (7-10). A Quebec study showed that the proportion of Quebec teachers declaring a high level of psychological disorders was twice as high (40%) as that reported in a sample of the general Quebec population (20%) (11). Among teachers, prolonged stress is the cause of leaving the teaching position (12). Burnout

among professionals such as teachers can result from excessive demands on energy, strength, and resources (13).

Burnout has three interrelated components: emotional exhaustion, depersonalization, and reduced personal accomplishment (13–15).

Emotional exhaustion is manifested by an alteration of emotions which can be exacerbated (aggressive reactions, irritability) or, on the contrary, diminished (loss of interest and pleasure). Depersonalization is the interpersonal dimension of burnout. It is the development of impersonal, detached, negative attitudes towards the people we care for (patients, users, etc.). In its third dimension, professional burnout is characterized by a loss of personal accomplishment, a devaluation of oneself, a feeling of ineffectiveness and of not being up to the job (16–17).

Severe burnout can also lead to physical conditions such as ulcers, chronic back pain and migraines. Workplace improvements can reduce the severity of burnout. Recent studies report a high prevalence of stress and depression among teachers, prompting more research on the subject with interventions to address this problem (18). Professional burnout among teachers has a significant impact on their health, productivity and functioning (19).

Professional burnout, or burnout, is a syndrome that has attracted the attention of many researchers and psychologists. In 1974, the psychoanalyst Herbert J. Freudenberger was one of the first researchers who initiated the first reflections on the subject (20).

He described the physical and psychological demotivation of the employees of a detoxification center (21). Freudenberger defined burnout as a state of fatigue faced of extreme demands on energy, capital, or strength. This state would lead him to become ineffective in achieving intentions and objectives (22).

Many works have been interested in this syndrome, in particular those of Christina Maslach. They converge on a common point in the definition of Burnout: It is a state of professional exhaustion (at the same time emotional, physical and psychic) felt in the face of “emotionally” demanding work situations and a negative response to the pressures of the work (14–15, 23).

Considering the high levels of burnout experienced by teachers, many interventions that have been introduced to address these psychological issues among

teachers (24). Cognitive-behavioral therapy can help teachers understand the negative impact associated with their ways of coping with stress, and replace their negative, non-adaptive thought patterns with other adaptive, effective patterns that appear later in their behaviors. Cognitive-behavioral therapy has been shown to be effective in treating many psychological issues resulting from stress, such as anxiety, depression, post-traumatic stress disorder, etc. (25–26).

CBT seeks to challenge maladaptive cognitions and aims to change them positively to improve the emotional state (27–28). CBT attempts to uncover the events that explain negative feelings, thoughts, and behaviors, and gradually move away from those behaviors toward helpful realities that produce more positive results. CBT is effective for managing psychological health issues, including stress, anxiety, and depression (29). It is a therapeutic approach planned to help people determine the causes of their stress and acquire functional skills to validate coping mechanisms (30–31).

Since 2016, the Ministry of Education in Morocco began recruiting teachers under contracts. Contract teachers may experience increased stress and anxiety due to the uncertainty of their employment status. Research on the situation of newly recruited teachers in Morocco is needed to understand the prevalence and influencing factors of stress, anxiety and depression in relation to their professional status. Implementing psychological support programs can help address the challenges and promote the well-being of teachers.

Based on our bibliographic research, there is no study that has addressed the effectiveness of a cognitive-behavioral intervention in reducing the degree of psychological disorders resulting from the state of professional burnout in teachers, in the Moroccan environment. In this controlled trial, we implemented CBT to help teachers manage stress at work. We therefore suppose that participants' stress levels would significantly decrease after completing the CBT intervention program, and that minimized stress would be maintained throughout a three-months follow-up assessment.

This research aims to evaluate the effectiveness of an eight-week cognitive-behavioral therapy (CBT) in reducing teacher burnout by measuring the continuity

of the effect of the remediation program in reducing burnout three months after the end of its implementation and Measure the impact of cognitive behavioral therapy (CBT) on the psychological flexibility and improving psychological flexibility.

This study hopes to contribute to proposing appropriate solutions to reduce the degree of burnout among teachers in the Moroccan environment.

Participants and Methods

Participants

Our study sample consisted of 51 teachers among newly recruited teachers in the Khemisset Province in Morocco. The age of the teachers ranged from 28 to 47 years old. All participants teach in secondary school. The sample participating in the study consists of a group of teachers who recorded a high level of burnout on the Maslach Burnout Inventory, which

was previously distributed to a large sample of practicing teachers in the Khemisset Province in Morocco.

The study design

This study was conducted from the beginning of January until June 2022. We assigned participants to CBT group (N = 25) that will be subject to CBT and control group (N = 26) without CBT intervention. Both research groups (experimental and control) were composed of teachers with high scores on the burnout scale. We used a randomized, controlled trial, designed with pretest, post-test, and follow-up assessments. Two instruments were used to collect data for this study. The Maslach Burnout Inventory (MBI) was served to measure the burnout, while the Acceptance and Action Questionnaire - version 2 (AAQ-II), was used to measure psychological flexibility. The intervention consisted of an eight-week of cognitive-behavioral therapy (CBT). Follow-up data were collected after 3 months of intervention (Figure 1).

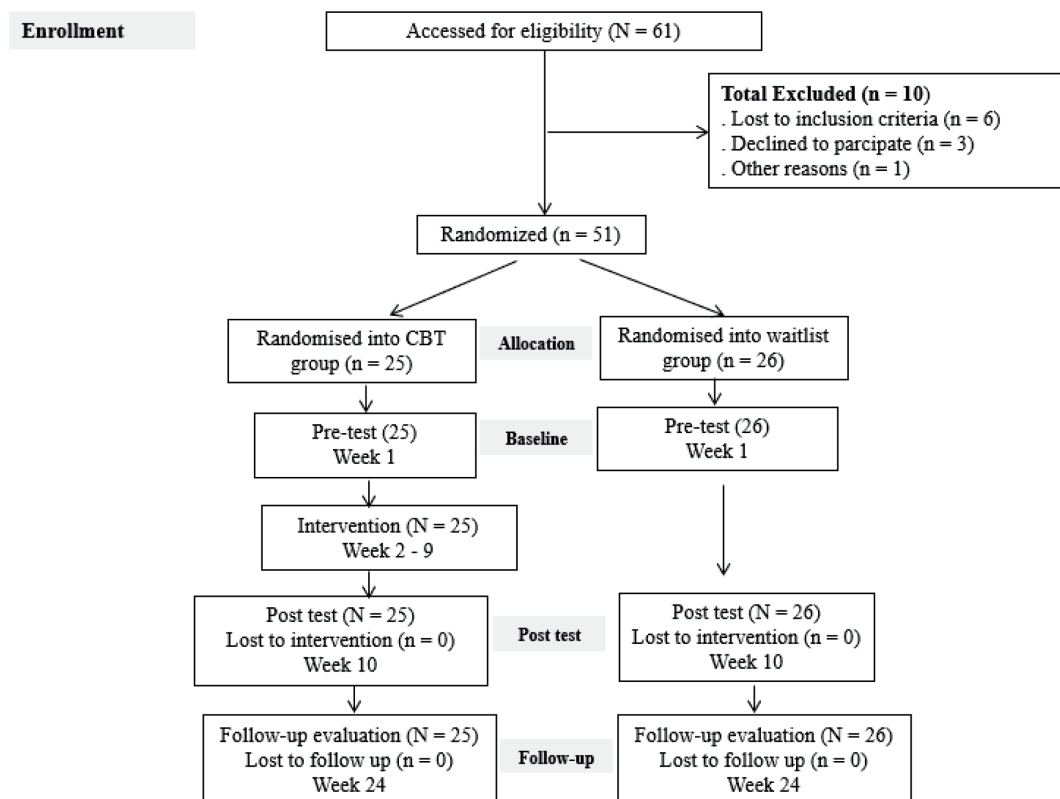


Figure 1: The study's progress.

Research tools

The Maslach Burnout Inventory Scale (MBI) was used, consisting of 22 burnout items (32). This scale is divided into three subscales: 9 items that assess emotional exhaustion (EE) in relation to work; 5 items that assess depersonalization (DP) or negative work attitudes; and 8 items that assess personal achievement (PA) or feelings of achievement or competence in one's own work.

The Acceptance and Action Questionnaire-II (AAQ-II) was used to assess psychological inflexibility through 7 items with a Likert response format from 1 (never true) to 7 (always true) (33).

Intervention

In collaboration with two psychologists, we developed a cognitive-behavioral remediation program to reduce the degree of professional burnout among contract teachers. Our cognitive-behavioral program is a set of behavioral, educational and psychological strategies to reduce the degree of professional burnout in participants in our research. Sixteen sessions were provided for this program at the rate of two sessions per week, i.e., approximately two months, and each session lasts between 90 and 120 minutes depending on the nature of each session.

Cognitive-behavioral remediation program

The program is based on a set of cognitive-behavioral therapeutic techniques, with the aim of increasing awareness of negative thoughts and trying to replace them with positive thoughts (Table 1).

- The general objective of the program
 - The program generally aims to reduce burnout among teachers, in order to improve their mental and physical health, leading to optimal professional performance.
- The specific objectives of the program
 1. Increase the perception, awareness and understanding of the issue of burnout (definition, causes, methods of prevention and treatment) among contract teachers.

2. Train the experimental group in self-control through (self-monitoring, self-evaluation and self-sufficiency).
3. Train the members of the experimental group in the skill of improving the relationship with the members of the work by: organizing tasks, learning to delegate, using work as a support to improve the level of performance, promoting values, positivity and the status of the profession.
4. Train experimental group members to watch for negative thoughts and irrational beliefs that increase burnout.
5. Train the members of the experimental group in soothing the body and mind (learning relaxation, regulation of breathing, efficiency of the imagination, regulation of sleep and eating habits, suppression of negative thoughts).
6. Encourage contract teachers to practice and apply specific strategies to deal with the problems they face in the workplace, such as using breathing exercises when they feel anxious, tense or afraid.

Counseling method used

This program is based on the group counseling method. Group counseling is a form of psychotherapy that usually involves four to ten participants and one or two group therapists. During that time, the members of the group discuss the issues that are concerning them and offer each other support and feedback. Group work is very stimulating, it is an opportunity to work with people who share similar problems. They are making gradual progress together.

Statistical analysis

The current research used the following statistical methods: Factor analysis to verify the validity of the burnout scale and that of psychological flexibility. The t-test for independent samples to calculate the significance of the differences between the means of the experimental group and the control group. Paired-samples

Table 1. Details of the cognitive behavioral therapy program sessions.

Session number	Technique used	Session objective	Session duration
1	Conversation and Discussion	Introduction and construction of the therapeutic relationship	120 mins
2	Conversation and Discussion	Definition of burnout and its causes	90 mins
3	Conversation and Discussion	Knowledge of prevention and treatment methods	90 mins
4	Conference	Determination of the present cognitive behavioral therapy program	120 mins
5	Conversation and Discussion	Identification of professional pressures experienced by participants	120 mins
6	Self-observations of thoughts	Self-observation of thoughts by explaining the relationship between emotion, thought and behavior.	120 mins
7	Beck's List of Cognitively Distorted Thoughts	Identification of the most important cognitive distortions	120 mins
8	Review of realistic situations experienced by members of the intervention group	Identification of sources of anxiety and stress and acquisition of assertiveness skills	120 mins
9	Observational learning	The breathing method and regulation	90 mins
10	Imagination and meditation	Meditate and take a mental journey rather than focusing on the situation	120 mins
11	Role play	Perform relaxation and calming sessions as part of role-playing	120 mins
12	Task scheduler	Training to Distribute Tasks and Delegate	120 mins
13	Internal dialogue	Improve the language of internal dialogue and self-perception	120 mins
14	Socratic dialogue	Recognize automatic thoughts	90 mins
15	Homework	Identify self-strengths and weaknesses, discuss and comment	90 mins
16	Conversation and Discussion	Evaluate the sessions of the program by the beneficiaries. Conclusion of the sessions, instructions and directives	120 mins

t-test to calculate the significance of differences between pretest, posttest, and follow-up means.

Results

Sociodemographic data

Our sample is composed of 51 contract teachers from Khemisset Province in Morocco, randomly

divided into two groups. The experimental group (25 teachers) with an average age of 37.76 years \pm 5.7 years (range 29–47 years). The control group (26 teachers) with an average age of 35.15 \pm 4.6 years (range 28–47 years). The average seniority is 11.15 years (\pm 3.664) for the control group against 13.76 (\pm 4.081) for the experimental group. Depending on the academic level, all teachers have a license; 32% have a Master's degree for the experimental group against 30.8% in the control group (Table 2).

Burnout assessment

Emotional exhaustion (EE) is the key element of the burnout syndrome, it is measured through nine items (for example, I feel emotionally exhausted by my work), 63.4% of teachers experienced a moderate to severe level. Depersonalization is the second component of the burnout syndrome, it is measured through five items (for example, I feel less enthusiastic about my work), 58.1% of teachers experienced a moderate to severe level. Accomplishment is the third dimension of the burnout syndrome, measured by eight items (for

example, I learned a lot of interesting things during my work), 13.9% of teachers experienced a low level of achievement.

Table 3 shows the t-test statistics of differences in all Maslach Burnout Inventory subscales between the CBT group and control group at baseline data (Time 1). There was no significant difference in the mean scores of the CBT and the Control participants in the subscales of Emotional exhaustion (EE), Depersonalization and Accomplishment. After the intervention, there were significant variations in the means scores of the CBT participants in the subscales of burnout (Table 3).

Table 2. Participants' sociodemographic data.

	CG N = 26		IG N = 25	
Age	35,15	4,636	37,76	5,710
Gender				
Man	17	65,4%	13	52,0%
Woman	9	34,6%	12	48,0%
Seniority	11,15	3,664	13,76	4,081
Academic level				
License	18	69,2%	17	68,0%
Master	8	30,8%	8	32,0%

Abbreviations: CG: Control Group. IG: Intervention Group.

Assessment of psychological flexibility

Lower scores indicate greater psychological flexibility. In the experimental group, psychological flexibility improved significantly. While in the control group no significant change was observed (Table 3).

Conclusions

After the intervention, there were significant variations in the means scores of the CBT participants in the subscales of burnout. This result indicates a positive

Table 3. T-test results of the two groups (experimental and control) at pre-test, post-test and follow-up.

	CG N = 26		P	IG N = 25		P
AQQ-II Flexibility	30,62	2,624		31,97	3,571	
Post-intervention	30,11	2,033	0,85	26,68	1,875	< 0,01
3-month follow-up	28,54	2,158	0,57	27,32	2,112	0,38
MBI Emotional exhaustion	29,78	2,835		28,48	2,104	
Post-intervention	30,28	2,153	0,79	24,98	2,196	< 0,01
3-month follow-up	30,08	2,205	0,69	25,73	2,103	0,29
MBI Depersonalization	7,69	2,768		9,00	2,372	
Post-intervention	7,19	2,049	0,52	7,00	2,141	< 0,01
3-month follow-up	6,39	2,297	0,61	6,50	2,492	0,22
MBI Personal accomplishment	31,08	6,883		29,56	5,678	
Post-intervention	30,32	6,327	0,33	34,56	5,349	< 0,01
3-month follow-up	30,62	5,024	0,34	33,06	5,683	0,56

Abbreviations: CG: Control Group. IG: Intervention Group. SD: Standard Deviation.

effect of our intervention on the well-being of contract teachers. This well-being lasts three months after the intervention since the scores do not change between post-treatment and follow-up. The scores do not vary significantly for the control group.

Teacher stress and burnout can have a negative impact on their ability to complete their tasks and their productivity. This is an important issue given the link between stress and burnout and anxiety and depression (24).

Several interventions have been designed to address teacher stress and burnout, although most of these have had limited success (34).

Mindfulness is a state of mindfulness and clairvoyant presence, devoid of any judgment to what is happening in the present moment. This technique falls under the category of Cognitive-Behavioural Therapies (CBT) and has been used to reduce stress and symptoms of exhaustion. It can play a vital role in promoting teachers' psychological well-being and emotional health. Mindfulness has also shown its effectiveness in other professionals, such as nurses. It has reduced stress and exhaustion in them.

Mindfulness-based interventions require time to practice and learn, something that makes them difficult for teachers to access, especially during school time.

Online or computer-based interventions can be more accessible and flexible for teachers. For example, the SMART (Stress Management and Resiliency Training) intervention had a positive impact on teacher stress and burnout (35). However, SMART consists of 12 modules, requiring considerable time to complete.

Cognitive Behavioral Therapy (CBT) posits that dysfunctional thoughts and beliefs are the primary drivers of distress. This approach reported significant improvements on emotional exhaustion, depersonalization and reduced personal accomplishment.

Another technique REBT (Rational Emotive Behavior Therapy), similar to CBT, has also demonstrated positive effects on stress and burnout, among special educators and in the health sector (36).

Other studies have combined a CBT intervention with yoga in teachers. These interventions have been shown to be effective in reducing burnout (37-38), they combine the benefits of mind-body interventions.

This study examined the effects of the group counseling method, where 16-session CBT were used, in reducing burnout and improving psychological flexibility among Moroccan teachers.

Quantitative results showed that group psychological counseling improved teachers' positive emotions and allowed teachers to change their perception of the work environment and to better manage stressful situations and somatic complaints. Group psychological counseling ensures a reliable and supportive environment for individuals to express their feelings and contributes to the development of teachers' mental health by improving positive feelings such as optimism, self-respect and well-being. The results of the qualitative analysis demonstrated that contract teachers achieved personal and professional gains in this process.

In the end, it can be concluded that cognitive behavioral therapy (CBT) contributes to reducing the level of burnout and increases psychological flexibility, which makes the teachers adopt positive thinking skills and psychological resilience in the face of work pressures.

Stress and burnout in the teaching profession are widespread, and intervention to reduce these problems deserves attention at both policy and practice levels. Several interventions have been used to alleviate teacher stress and burnout, although there are some gaps, particularly with regard to time constraints. Teachers' busy schedules make time-consuming interventions difficult to undertake or can even add to teacher stress.

Our intervention did not require the physical presence of teachers, some sessions were done remotely. These are the kind of interventions specifically designed to reduce teacher stress and burnout, since they have no time constraints and are cost effective, independent of geographic location and easily scalable. The virtual nature of such programs can offset the need for teachers to be physically present at a specific time.

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interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

Ethical Consideration: The procedures followed were in accordance with the ethical standards of the competent commission for human experimentation and the principles of the Declaration of Helsinki. Authorization was granted by the ethics committee of the Doctoral Studies Center of the Faculty of Sciences in Kenitra and the provincial delegation of the Minister of Health and Social Protection (Protocol 2021-11, as of 15 November 2021) to continue the study. Informed consent was obtained from the study participants, and their data were kept confidential.

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References

- Gómez-García R, Alonso-Sangregorio M, Llamazares-Sánchez ML. Burnout in social workers and socio-demographic factors. *Journal of Social Work*. 2020;20(4): 463-482. doi.org/10.1177/1468017319837886
- Seo JS, Wei J, Qin L, Kim Y, Yan Z, Greengard P. Cellular and molecular basis for stress-induced depression. *Molecular psychiatry*. 2017;22(10):1440-1447. doi: 10.1038/mp.2016.118
- Silva NR, BOLSONI-SILVA AT, Loureiro SR. Burnout syndrome and depression in elementary school teachers: A correlational study. *Revista Brasileira de Educação*. 2018; 23(74): 1-18. doi.org/10.1590/S1413-24782018230048
- Reddy LA, Espelage D, McMahon SD, et al. Violence against teachers: case studies from the APA task force. *Int J School Educ Psychol*. 2013;1(4):231-245. doi: 10.1080/21683603.2013.837019
- Ferradás MdM, Freire C, García-Bértoa A, Núñez JC, Rodríguez S. Teacher Profiles of Psychological Capital and Their Relationship with Burnout. *Sustainability*. 2019; 11(18):5096. doi.org/10.3390/su11185096.
- Leiter MP, Maslach C. Nurse turnover: the mediating role of burnout. *J Nurs Manag*. Apr 2009;17(3):331-9. doi: 10.1111/j.1365-2834.2009.01004.x.
- Cheng H, Fan Y, Lau H. An integrative review on job burnout among teachers in China: implications for human resource management. *Int J Hum Resource Manag*. 2023;34(3): 529-561. doi: 10.1080/09585192.2022.2078991.
- Puertas Molero P, Zurita Ortega, Ubago Jiménez JL, González Valero G. Influence of emotional intelligence and burnout syndrome on teachers' well-being: a systematic review. *Soc Sci*. 2019;8(6):185. doi: 10.3390/socsci8060185.
- Ozamiz-Etxebarria N, Idoiaga Mondragon N, Bueno-Notivol J, Pérez-Moreno M, Santabárbara J. Prevalence of anxiety, depression, and stress among teachers during the COVID-19 pandemic: a rapid systematic review with meta-analysis. *Brain Sci*. 2021;11(9):1172. doi: 10.3390/brainsci11091172.
- Ratanasiripong P, Ratanasiripong N.T, Nungdanjark W, Thongthamarat Y, Toyama S. Mental health and burn-out among teachers in Thailand. *J Health Res*. 2021;36(3): 404-416. doi: 10.1108/JHR-05-2020-0181.
- Agyapong B, Wei Y, da Luz Dias R, Agyapong VIO. Burnout and Associated Psychological Problems Among Teachers and the Impact of the Wellness4Teachers Supportive Text Messaging Program: Protocol for a Cross-sectional and Program Evaluation Study. *JMIR Res Protoc* 2022;11(7):e37934 doi: 10.2196/37934
- Räsänen K, Pietarinen J, Pyhältö K, Soini T, Väisänen P. Why leave the teaching profession? A longitudinal approach to the prevalence and persistence of teacher turnover intentions. *Soc Psychol Educ*. 2020;23(4):837-859. doi: 10.1007/s11218-020-09567-x.
- Chakravorty A, Singh P. Correlates of burnout among Indian primary school teachers. *Int J Organ Anal*. 2022;30(2):589-605. doi: 10.1108/IJOA-09-2020-2420.
- Lubbadeh T. Job burnout: a general literature review. *Int Rev Manag Mark*. 2020;10(3):7-15. doi: 10.32479/irmm.9398.
- Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry*. 2016;15(2):103-111. doi: 10.1002/wps.20311.
- Knox M, Willard-Grace R, Huang B, Grumbach K. Maslach burnout inventory and a self-defined, single-item burnout measure produce different clinician and staff burnout estimates. *J Gen Intern Med*. 2018;33(8):1344-1351. doi: 10.1007/s11606-018-4507-6.
- Skaalvik EM, Skaalvik S. Teacher burnout: relations between dimensions of burnout, perceived school context, job satisfaction and motivation for teaching. A longitudinal study. *Teach Teach*. 2020;26(7-8):602-616. doi: 10.1080/13540602.2021.1913404.
- Desouky D, Allam H. Occupational stress, anxiety and depression among Egyptian teachers. *J Epidemiol Glob Health*. 2017;7(3):191-198. doi: 10.1016/j.jegh.2017.06.002.
- Besse R, Howard K, Gonzalez S, Howard J. Major depressive disorder and public school teachers: evaluating occupational and health predictors and outcomes. *J Appl Biobehav Res*. 2015;20(2):71-83. doi: 10.1111/jabr.12043.
- Heinemann LV, Heinemann T. Burnout research: emergence and scientific investigation of a contested diagnosis. *Sage Open*. 2017;7(1):1-12. doi: 10.1177/2158244017697154.
- Johnson J, Hall LH, Berzins K, Baker J, Melling K, Thompson C. Mental healthcare staff well-being and burnout: a narrative review of trends, causes, implications, and recommendations for future interventions. *Int J Ment Health Nurs*. 2018;27(1):20-32. doi: 10.1111/inm.12416.

22. Fernandes Fontes F, Herbert J. Freudenberger and the making of burnout as a psychopathological syndrome. *Memorandum: Memória E História Em Psicologia*. 2020;37:1-20. doi: 10.35699/1676-1669.2020.19144.
23. Maslach C. Stress, burnout, and workaholism. In: American Psychological Association. 1986;53-75. doi: 10.1037/10056-004.
24. Agyapong B, Obuobi-Donkor G, Burbach L, Wei Y. Stress, burnout, anxiety and depression among teachers: a scoping review. *Int J Environ Res Public Health*. 2022;19(17):10706. doi: 10.3390/ijerph191710706.
25. Gallego J, Aguilar J, Cangas A, Rosado A, Langer A. Effect of mind/body interventions on levels of anxiety, stress and depression among future primary school teachers: a controlled study. *Rev Psicodidact*. 2016;21(1): 87-101. doi: 10.1387/RevPsicodidact.13256.
26. Jones DR, Lehman BJ, Noriega A, Dinnel DL. The effects of a short-term mindfulness meditation intervention on coping flexibility. *Anxiety Stress Coping*. 2019;32(4):347-361. doi: 10.1080/10615806.2019.1596672.
27. Ali KK, Basavarjappa B, Nik MM. Effectiveness of cognitive behavioral therapy on depression among high school students. *J Appl Res*. 2013;3(2):147-158.
28. Orji MG, Yakubu GN. Effective stress management and employee productivity in the Nigerian public institutions: a study of the National Gallery of Arts, Abuja, Nigeria. *Budapest Int Res Crit Inst*. 2020;3(2):1303-1315. doi: 10.33258/birci.v3i2.975.
29. Ogba FN, Ede MO, Onyishi CN, Agu PU, Ikechukwu-Ilomuanya AB, Igbo JN, et al. Effectiveness of music therapy with relaxation technique on stress management as measured by perceived stress scale. *Medicine*. 2019;98(15) doi: 10.1097/MD.00000000000015107.
30. Dobson KS, Dozois DJ. Historical and philosophical bases of the cognitive-behavioral therapies. In: *Handbook of Cognitive-Behavioral Therapies*. 2019;3-31.
31. Ruotsalainen JH, Verbeek JH, Marine A, Serra C. Preventing occupational stress in healthcare workers. *Cochrane Database Syst Rev*. 2015 Apr 7;2015(4) doi: 10.1002/14651858.CD002892.pub5.
32. De Beer LT, Bianchi R. Confirmatory factor analysis of the Maslach burnout inventory. *Eur J Psychol Assess*. 2019;35(2):217-224. doi: 10.1027/1015-5759/a000392.
33. Bond FW, Hayes SC, Baer RA, et al. Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: a revised measure of psychological inflexibility and experiential avoidance. *Behav Ther*. 2011 Dec;42(4):676-88. doi: 10.1016/j.beth.2011.03.007.
34. Klingbeil DA, Renshaw TL. Mindfulness-based interventions for teachers: a meta-analysis of the emerging evidence base. *School Psychol Q*. 2018;33(4):501-511. doi: 10.1037/spq0000291.
35. Chesak SS, Khalsa TK, Bhagra A, Jenkins SM, Bauer BA, Sood A. Stress management and resiliency training for public school teachers and staff: a novel intervention to enhance resilience and positively impact student interactions. *Complement Ther Clin Pract*. 2019;37:32-38. doi: 10.1016/j.ctcp.2019.08.001.
36. Igbokwe UL, Nwokenna EN, Eseadi C, et al. Intervention for burnout among English education undergraduates: implications for curriculum innovation. *Medicine*. 2019; 98(26) doi: 10.1097/MD.00000000000016219.
37. Akanaeme IN, Ekwealor FN, Ifeluni CN, et al. Managing job stress among teachers of children with autism spectrum disorders: a randomized controlled trial of cognitive behavioral therapy with yoga. *Medicine (Baltimore)*. 2021 Nov 19;100(46) doi: 10.1097/MD.00000000000027312.
38. Dike IC, Onyishi CN, Adimora DE, et al. Yoga complemented cognitive behavioral therapy on job burnout among teachers of children with autism spectrum disorders. *Medicine (Baltimore)*. 2021 Jun 4;100(22) doi: 10.1097/MD.00000000000025801.

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