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The Effect of Rational-Emotive Behavior Therapy on Physics Teachers' Stress Management in Nigeria

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Abstract: This study investigated how rational-emotive behavior therapy (REBT) helped secondary school physics teachers manage work-related stress. There are 86 secondary school physics teachers participated in this study using a randomised control trial group design as the study population. An appropriately validated and trial-tested job stress questionnaire was used to gather data for the study (α=.84). Prior to receiving a 12-week REBT intervention treatment, the participants underwent a pretest. After the intervention ended, the subjects underwent a posttest and were also given a follow-up test two months later. Data generated for this research was analysed analysis of variance (specifically repeated analysis of variance). The outcome of the research revealed that the work stress of the physics teachers exposed to REBT was reduced significantly more than those of the control group. Implications: The research implication is that the work stress of physics teachers can be better managed using the REBT program. The study contributes to advancing the therapeutic space and concern that REBT treatment can be applied.
Keywords: mental health; physics teachers; rational-emotive behavior therapy; secondary school; work stress

Introduction

In Nigerian schools, teachers are more likely to experience mental health issues because of the stressful circumstances in their workplace. The people most likely to have a big impact on their students are teachers because they constantly relate with these students (Aluh et al., 2018; Asa & Lasebikan, 2016). The stress levels of teachers have been found to range from moderate to high (Silva et al., 2021). According to Asa and Lasebikan (2016), stress affected up to 72.2% of teachers. For teachers in Nigeria, 20% of the population is said to be affected by mental health problems (Aluh et al., 2018). In Poland, teachers reported having levels of depression, anxiety, and stress symptoms that ranged from moderately to seriously severe in 18.1%, 22.4%, and 51.7% of cases (Pi, 2022). A study of Malaysian educators revealed voice dysfunction, stress, and musculoskeletal problems (Tai et al., 2019). The lack of regular breaks, competition for promotions, and a lack of physical activity frequently lead to high levels of stress

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among Chinese teachers (Li & Kou, 2018). Biernat et al. (2022) advocated for enriching programs and mental health interventions for school staff.

The intervention program of rational-emotive behavior therapy (REBT) concentrates on helping clients overcome dysfunctional beliefs and develop reasonable thinking. The most noticeable feature of REBT is that the degree of emphasis placed on both rational and irrational thoughts can affect feelings and behavior (Jones & Turner, 2022). While rational views are flexible, non-extreme, and consistent with reality; irrational beliefs are inflexible, extreme, and illogical (Jones & Turner, 2022). REBT mainly focuses on the present moment in order to help clients comprehend how unhealthy thoughts and ideas cause emotional suffering, which ultimately results in harmful actions and behaviors that contradict their current life goals (Junaedi et al., 2022). Negative thoughts and behaviors can be changed and replaced with more positive and effective conduct once they have been identified and acknowledged, allowing clients to create more fulfilling personal and professional connections (Junaedi et al., 2022). REBT, therefore, involves identifying self-defeating thinking patterns, confronting their irrationality, and replacing them with more positive, rational beliefs (Junaedi et al., 2022). The basic assumption of REBT is an immediate resolution of any unhappy situation or condition (Sari et al., 2022). The efficacy of REBT in treating mental health issues in students and teachers has been examined in a number of research.

In testing the efficacy of REBT, Igwe et al. (2022) found that REBT intervention considerably decreased occupational stress among university lecturers. It was also found that the work stress of science educators drastically reduced after exposure to rational-emotive behavior program (Ugwuanyi et al., 2021). Similarly, Ugwoke et al. (2017) found that teachers' stress reduced significantly after receiving rational health education health intervention. In the same vein, the REBT program significantly led to a reduction in stress (Onuigbo et al., 2018). The reduction of perceived stress, the symptoms of stress, and the overall stress scores of instructors were all significantly lowered by rational-emotive behavior therapy (Obiweluozo et al., 2021).

The results of a 10-week REBT program showed that craftsmen in the treatment group had a significant decline in mean burnout (Okereke et al., 2022). The study found that adult learners who took part in the school-based REBT program experienced much less burnout over time compared to those who did not (Ukamaka et al., 2021). In a population of teachers, stress symptoms reduced significantly after they had received rational-emotive occupational health coaching (Okeke et al., 2021). In a similar study, levels of stress among adult learners significantly decreased after being exposed to rational-emotive behavior intervention (Koledoye et al., 2021). Lecturers' work stress was significantly impacted by the REBT program (Ene et al., 2021). Ede et al. (2020) found that stress management among parents of children with autism spectrum disorders significantly improved after exposure to REBT program. Teachers' stress was shown to be greatly reduced by a rational-emotive health program (Obiagu et al., 2021). According to Ogba et al. (2020), REBT significantly reduced subjective feelings and outward manifestations of stress at work. This information demonstrates that there exist studies on the impact of REBT in the literature. However, it is clear that none of these studies involved secondary school physics teachers as participants, which left a void in the literature and made this study necessary. The purpose of this research is therefore to investigate whether REBT will have a substantial impact on how secondary school physics teachers manage their work stress.

Method

Design of the Study

The randomized controlled trial experimental design was applied. The goal of the design was to evaluate and compare the outcomes after the individual had received the treatment. This study design was used by Abiogu et al. (2020), Ede et al. (2020), Nwokeoma et al. (2019), Onyishi et al. (2020), Okide et al. (2020), Ugwu et al. (2021), Ugwuanyi, Okeke and Agboeze (2020), Ugwuanyi, Okeke et al. (2020), Ugwuanyi, Gana et al. (2020), Uguwanyi et al. (2020), Ugwuanyi (2023) in carrying out similar studies.

Measures

Srivastava and Singh's (1984) occupational stress index (OSI) was employed for data collection. The OSI is a 46-item scale that assesses the level of daily stress that an employee is under. There are five possible outcomes for the OSI: 5, 4, 3, 2, virtually false, and 1, which indicates that the statement is positively untrue. To determine how stressed employees are at work, we add up the ratings for all the assertions. Only the participants who had OSI scores from 116-161 were selected for the treatment sessions. The internal consistency dependability of the items was evaluated to be 0.75 using the Cronbach alpha method.

Participants and Procedure

A total of 86 secondary school physics teachers were randomly selected for the study from secondary schools in Southeast states, Nigeria. The participants were asked to indicate interest in their participation in the research intervention program. The following eligibility standards were used to assess these participants' eligibility: (1). Must be employed as a teacher at a secondary school in SE states Nigeria (2). Following the OSI baseline examination, there must be signs of stress. As a result, the participants were randomly assigned to the control group (43) and the REBT group (43).

Before the intervention program began, a publication asked for participation declarations in an advertisement for the program. So, through that means, 165 secondary school teachers indicated their willingness to participate in the program. The researchers then went one step further by administering the OSI to those who agreed to take part in the selection process eligibility. The study was open to everyone with an OSI score of 116 or higher. In other words, based on a 116 criterion score, participants were selected using OSI. The screening process resulted in 86 individuals who met the inclusion or eligibility standards. The subjects who had been picked to gather the study's second baseline data were then given the PSS. The approval for the conduct of this research was granted by the Faculty of Education, University of Nigeria. Participants had to complete informed consent forms before the treatment began.

The participants were then assigned to the intervention and control groups using a simple randomization technique. The objectives of the study and the methodology used to achieve them were thoroughly explained to both groups. The initial interaction's goals included familiarization and setting up a conducive arena for the implementation of the intervention. Participants were given access to data bundles as a form of reinforcement and to ensure that they participated sincerely. The meeting was planned for 4-5 pm on Tuesday and Thursday for 12 weeks. During this period, participants in the experimental group received the REBT intervention program, while those in the control group received normal counseling. By using routine care, clients have the ability to customize their care. After the treatment was over, the

instrument was administered to the participants as a post-treatment test. To assess the extent of retention of the impact of the intervention on the participants, a follow-up measurement using the OSI was conducted eight weeks after the termination of the intervention.

Treatment Program

According to Muoz et al. (2007), the foundation of cognitive-behavioral therapies is the interaction of thoughts, behaviors, and feelings. Since both stress and depression are mental health conditions, this intervention program manual was adjusted for this study on stress even though it was originally created to treat depression. Thus, the stress reduction approaches that were shown in this study to be successful in treating depression can also be utilized to reduce stress. This approach highlights the relevance of identifying the thoughts and behaviors that influence employment experience, allowing the adolescent to learn emotional self-control, in order to deal with stress-related feelings. This manual divides the therapy sessions into three modules, each of which comprises four sessions.

Sessions 1-4: Details on how participants' thoughts impact how they view their work are provided in this module. The first session of this module establishes the structure and objective of the subsequent sessions. The time, day, rules for the therapy, and level of confidentiality were all clearly stated. The participants in this module are made aware of the limitations and scope of confidentiality because this can affect the character and quality of the therapeutic relationship. At the start of the first session, there was a talk about occupational stress—what it is and how people experience it. At this session, the therapist also discussed the first module's objective, which is to assist participants in understanding how their beliefs impact how they see their work. The three sessions that followed concentrated on various types of cognitive errors and dysfunctional thoughts related to stress at work. In order to handle their work stress, the participants were also taught how to refute and change these dysfunctional beliefs and cognitive mistakes. To identify cognitive errors between sessions, some exercises are employed. In order to lessen the symptoms of work stress, the participants were also exposed to approaches for boosting optimistic ideas and lowering harmful or dysfunctional negative thoughts.

Sessions 5-8: During sessions 5-8, participants were able to link signs of work stress with having a good time. It was emphasized how a person's job could make it challenging for them to engage in enjoyable hobbies, worsening their stress symptoms. These sessions included discussion of fun activities and observations of participation barriers. The participants also had experiences that helped them choose particular goals for lowering working stress. Participants received guidance on how to create attainable goals during sessions, and those skills were put into action. The main goals of sessions 5-8 were to give participants greater control over their lives and teach them how to recognize decisions that will provide them more freedom and opportunity. The therapist offered tips to the participants on how to make objectives that are achievable and engage in activities that will enhance their job experiences.

Sessions 9-12: This workshop introduced the participants to the influence of their relationships on their work experiences by describing social support and how it helps people overcome obstacles. Thanks to these seminars, the participants were able to discover and grow their social support networks. The final sessions incorporate themes from the earlier modules. The therapist discussed with the participants how their actions, relationships, and interactions are affected by their thinking. During the final session, a review of the therapy process was done with the participants in order to pinpoint strengths and achievements.

Data Analysis

Using SPSS version 25, the statistical analysis was done. Utilizing analysis of variance of repeated measures type.

Result

Table 1

Work stress mean scores of physics teachers

		Pretest		Posttest		Follow-up	
Treatment	n	Mean	SD	Mean	SD	Mean	SD
Experimental	43	143.34	13.45	60.43	6.18	58.67	6.67
Control	43	142.45	12.67	123.65	15.43	128.49	14.69

According to Table 1, the mean work stress levels of the physics teachers in the intervention group and non-intervention groups were similar at pretest (M = 143.34, SD = 13.45), and (M = 60.43, SD = 6.18). However, the physics teachers in the experimental group had lower mean work stress at the posttest and follow-up measurements (M = 60.43, SD = 6.18; M = 58.67, SD = 6.67) than the physics teachers in the control group (M = 123.65, SD = 15.433; M = 128.49, SD = 14.69).

Table 2

rm-ANOVA output for the of effect of the treatment

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Tests of Within-subjects effect						
Time	Sphericity Assumed	371187.566	2	185593.783	229.492	.000
Time * Treatment	Sphericity Assumed	123561.327	2	61780.663	745.605	.000
Error (Time)	Sphericity Assumed	137481.767	170	808.716		
Tests of Between-subjects effect						
Intercept		3864479.352	1	3864479.352	27872.884	.000
Treatment		239708.096	1	239708.096	1728.915	.000
Error		11646.311	84	138.647		

Table 2 demonstrates a significant between-subjects impact of F (1, 84) = 27872.884, p = .000 and a significant within-subjects effect of F (2, 170) = 229.492, p = .000. Table 3 shows the pairwise comparison test results for the effect of time of measurement. A significant interaction between time and therapy (see Figure 1) was also found, F (2, 170) = 745.605, p = .000, according to the results. This suggests that REBT intervention reduced the work stress of physics teachers significantly in the Nigerian context. Figure 1 and Table 3 further illustrate these significant results.

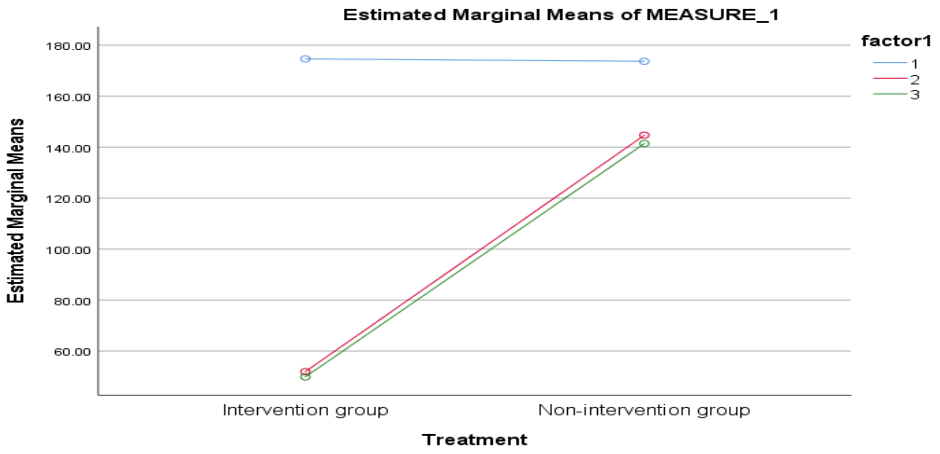

Figure 1: Interaction plot for treatment and time of measure

Table 3

Pairwise comparison test for the significant effect of time

(I) Time	(J) Time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
1	2	75.848*	1.546	.000	72.071	79.625
	3	78.520*	1.672	.000	74.435	82.604
2	1	-75.848*	1.546	.000	-79.625	-72.071
	3	2.672*	.789	.003	.744	4.600
3	1	-78.520*	1.672	.000	-82.604	-74.435
	2	-2.672*	.789	.003	-4.600	-.744

Discussion

In this study, secondary school physics teachers' use of REBT as an intervention strategy to reduce workplace stress was examined. It was discovered that after exposing secondary school physics teachers to REBT intervention, their levels of work stress considerably decreased. This result supported the expectation that REBT will significantly reduce secondary school physics teachers' work stress. It was not surprising because numerous other related studies have demonstrated the value of REBT for the treatment of mental health issues. In its truest form, REBT assists individuals by questioning problematic thought patterns, promoting a logical approach to solving issues, and substituting outdated, life-depleting ideas for more modern, beneficial ones. Buttressing this finding, It was also found that the work stress of science educators drastically reduced after exposure to rational-emotive occupational health program (Ugwuanyi et al., 2021). Similarly, Ugwoke et al. (2017) found that teachers' stress reduced significantly after receiving rational health education health intervention. In the same vein, the REBT program significantly led to a reduction in stress (Onuigbo et al., 2018). The use of rational-emotive behavior therapy significantly reduced stress among clients (Obiweluozo et al., 2021). The lecturers' work stress was significantly impacted by rational-emotive occupation health coaching (Ene et al., 2021). Ede et al. (2020) found that an aspect of REBT had a

significant impact on parenting stress management among parents of children with autism spectrum disorders. Teachers' stress was found to be greatly reduced by rational-emotive health education (Obiagu et al., 2021). According to Ogba et al. (2020), REOHC significantly reduced their subjective feelings and outward manifestations of stress at work. REBT program showed that craftsmen in the treatment group had a significant decline in mean burnout (Okereke et al., 2022). The study found that adult learners who took part in the school-based REBT program experienced much less burnout over time compared to those who did not (Ukamaka et al., 2021). In a population of teachers, stress symptoms reduced significantly after they had received REOC (Okeke et al., 2021). In a similar study, levels of stress among adult learners significantly decreased after being exposed to rational-emotive cognitive behavioral coaching intervention (Koledoye et al., 2021).

The field of teacher mental health has benefited greatly from this research. Practically speaking, this research has shown that by employing REBT intervention, teachers may efficiently control their work stress. When instructors are able to properly manage their work stress, this has a significant positive impact on their productivity. The REBT theory which contends that dysfunctional thoughts should be identified, challenged for being irrational, and replaced with healthier, more productive logical beliefs, has been theoretically strengthened by this research. Finally, this study has policy ramifications since it suggests that a REBT intervention should be used to manage the work stress of secondary school physics teachers. The few sample size employed for the study could have hampered the findings. The rigorousness of the intervention prevented the researcher from using a large sample size. In addition, the generalizability of this research may be constrained by the lack of analysis of the potential moderating factors such as ethnicity, location of school, and religion among others. In light of the aforementioned limitations, it is advised that future researchers replicate this work.

Conclusions

The management of occupational stress among secondary school physics teachers responded favorably to rational-emotive behavior therapy. This empirical finding has already been supported by other researchers using different subjects but with comparable mental health issues. It is clear from this that secondary school physics instructors can benefit from using REBT intervention to help them manage their work stress. The research suggests that the post primary school management board should plan an adequate policy structure for the management of work stress among teachers using REBT based on this premise.

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