

Effects of rational emotive occupational health therapy intervention on the perceptions of organizational climate and occupational risk management practices among electronics technology employees in Nigeria

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Abstract

Background: Improving employees' perception of organizational climate, and coaching them to remain steadfast when managing occupational risks associated with their job, might have an important effect on their psychosocial wellbeing and occupational health. This study examined the effects of a rational emotive occupational health therapy intervention program on the perceptions of organizational climate and occupational risk management practices.

Methods: The participants were 77 electronics technology employees in the south-east of Nigeria. The study used a pretest–posttest control group design.

Results: The rational emotive occupational health therapy intervention program significantly improved perceptions of the organizational climate for the people in the treatment group compared to those in the waitlist control group at post-intervention and follow-up assessments. Occupational risk management practices of the employees in the treatment group were also significantly better than those in the waitlist control group at the same 2 assessments.

Conclusions: Corporate application of a rational emotive behavior therapy as an occupational health therapy intervention program is essential for improving the perceptions of organizational climate and promoting the adoption of feasible occupational risk management strategies in the workplace.

Abbreviations: ANOVA = analysis of variance, ORMS = Occupational Risks Management Scale, POCS = Perceptions of Organizational Climate Scale, REBT = rational emotive behavior therapy.

Keywords: electronics technology employees, occupational risk management, organizational climate, rational emotive behavior therapy, rational emotive occupational health therapy

1. Introduction

Many of the 2.9 billion workers across the globe are exposed to a variety of risks when doing their job.^[1] Many of these workers also hold self-defeating and dysfunctional beliefs.^[2,3] Improving the organizational climate might contribute to employee's improved mental wellbeing, and better organizational performance.^[4] It might also help to mitigate the extent to which

employees would be amenable to occupational risk in the workplace. Occupational risk describes the possibility of a worker suffering from a particular work-related concern and/or occupational injury. In addition to factors in the workplace, occupational risks are associated with aspects of human nature such as individual behavior.^[5] Conversely, occupational risk management involves managing external (e.g., psychosocial) factors that could cause harm in the workplace, by the workers and/or organization adopting precautionary measures. By these means, the workers and organization can decide whether they have taken enough precautionary measures or would need to do more in order to prevent occupational illnesses. Thus, occupational risk management also relates to the process of setting up a system to manage the risk of ill health caused by work activities.^[6]

Proper management of occupational risks might help improve the organizational climate. The term “organizational climate” is used to describe the meanings people attach to interrelated bundles of experiences they have in the workplace.^[7] According to Kuppel,^[8] organizational climate is the shared perceptions and attitudes of the workers in the organization. The term also describes the conditions within an organization as viewed by its employees and is determined by the actions and values that organizational members have in common. It further includes widely held but unofficial beliefs, shared values, typical behaviors, behavioral patterns, and mission statements. The

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organizational climate can affect employees' job satisfaction and stress levels.^[9] Furthermore, according to Schneider et al,^[10] the organizational climate refers to employees' shared opinions or experiences of the policies, practices, and procedures of their workplace and the behaviors that are rewarded, supported, and expected there. In the present study, the organizational climate is described as a set of characteristics and conditions of the work environment as perceived directly or indirectly by the workers, and is assumed to be a crucial factor influencing employee attitude and behavior.

Several studies have indicated that organizational climate, manifested in a variety of human resource practices, is an important predictor of organizational success. For instance, Hansen and Wernerfelt^[11] found that organizational climate factors explain about twice as much variance in profit rates as economic factors. Denison^[12] showed that an organizational climate that encourages employee involvement and empowerment in decision-making predicts the financial success of the organization. There is a positive relationship between climates emphasizing creativity and innovation and the organization's profits,^[13] and service and performance climates predict customer satisfaction.^[14] Noordin et al^[15] found that employees perceived the organizational climate of their organization to be at a moderate level and did emphasize the need to improve the organizational climate. Similarly, manufacturing organizations that emphasized a positive organizational climate, specifically concern for employee wellbeing, flexibility, learning, and performance, showed more productivity than those that put less emphasis on these factors.^[16] Organizational climate can determine how an employee performs within an organization because the way people feel and the way they perform are strongly associated.^[15,17] A study by Umoh et al^[18] revealed a positive and significant relationship between organizational climate and corporate performance in the Nigerian work environment. Therefore, exposure to high occupational risks and a poor organizational climate can adversely affect a worker's wellbeing, manifesting as a range of effects from asymptomatic physiological and biochemical changes to symptoms of illness, diagnosed diseases, or even death.^[11] An organizational climate characterized by a lack of recognition, trust, cohesion, organizational support, and accountability, may lead to low productivity, low profitability, decreasing market share, and high employee turnover.^[18] To ameliorate these situations and promote sound occupational health, evidence-based therapeutic approaches may be directed at boosting employees' perceptions about the organizational climate and management of occupational risks by targeting their beliefs about the problems that could arise and those that led to their current occupational health concerns.

One therapeutic modality which has been successfully used in assisting employees within an organization setting is rational emotive behavior therapy (REBT), developed by Albert Ellis in 1955. One of the propositions of rational emotive behavior therapy is that self-defeating perceptions and/or beliefs result in unhealthy negative emotions.^[19] Therefore, rational emotive behavior therapists aim to help clients cope with emotional upsets, attain self-realization, and experience healthy emotional and behavioral wellbeing.^[20] To achieve these therapeutic goals, rational emotive behavior therapists often employ techniques such as disputation, homework tasks, discussion, and role-play.^[21] In this regard, Morris^[22] proposed a rational emotive paradigm for assisting employees within an organizational setting that would emphasize the goals of the organization,

management and staff effectiveness training, and employee and family assistance programs. Miller and Yeager^[23] also argued for corporate application of rational emotive behavior therapy for managing change in an organizational setting. REBT is considered a powerful tool for turning a traumatic job termination into an enlightening career transition for employees.^[24] Nieuwenhuijsen et al's^[3] results support the application of rational emotive behavior therapy for reducing irrational beliefs in employees with disorders of adjustment. Several other studies support the use of rational emotive behavior therapy as a tool for helping clients effect a change in behavior and thinking styles^[25,26] and its wider application in the workplace.^[27-31] In the present study, the rational emotive occupational health therapy intervention program is a rational emotive behavioral health counseling intervention delivered by smartphone, WhatsApp chat application, and e-mail. The authors theorized that cognitive barriers may interfere with employees' perceptions of organizational climate and their willingness to fully engage in occupational risk management practices being adopted in their workplace. Therefore, rational emotive occupational health therapy intervention program may be useful for enhancing perceptions of organizational climate and promoting occupational risk management practices by training employees to become their own self-coach. The goals of therapy include but not limited to facilitating enhanced functioning on the job.^[32]

Given that the effectiveness of rational emotive occupational health therapy intervention program as a health counseling intervention in the work environment is being tested here, it is worth noting that in a study by Kurioka et al^[33] health counseling by e-mail was used in the workplace. The authors reported that the proportion of mental health issues successfully treated via e-mail counseling was significantly higher than for other counseling methods. It is, therefore, possible that a rational emotive occupational health therapy intervention program delivered as an e-counseling intervention-cum-employees' assistance program could help electronics technology employees in a Nigerian work setting to reduce their occupational risks and improve their perceptions of the organizational climate. This goal seems attainable, given that cognitive-oriented theorists regard the term "climate" as an individual perception and cognitive representation of the work environment.^[34] Moreover, rational emotive behavior therapists aim to dispute irrational beliefs and/or perceptions to enhance rational ones. Electronics technology employees could be taught rational self-talk and beliefs about the organizational climate and be helped to assume a positive attitude towards occupational risks by restructuring the irrational beliefs involved in their perceptions and behaviors. Rational beliefs are known to have a positive effect on clients' behavior and emotion, whereas irrational beliefs play a critical role in causing emotional distress and self-defeating behaviors.^[35-37] Irrational beliefs are seen as rigid, illogical, and unreasonable cognitions which people often hold.^[37]

In Nigeria, electronics technology employees are staff in public or private corporations, or self-employed electronics engineers. Most electronics technology engineers work in industries such as research and development, engineering services, manufacturing, telecommunications, and the state and federal government parastatals.^[38] Employment of electronics technology engineers is projected to show little or no change between 2014 and 2024; job growth for this category of workers will occur largely in engineering services firms, with more companies expected to cut costs by contracting their engineering services rather than directly employing engineers. They will also be in demand to develop

sophisticated consumer electronics.^[39] However, just as in other parts of the world, electronics engineers employed in the Nigerian work environment are faced with complex challenges which may be due in part to high occupational risks and poor organizational climate in their workplaces. Thomas et al^[40] found a risk of brain tumor mortality among men with jobs in electricals and electronics. Therefore, improving electronics technology employees' perception of the organizational climate, and coaching them to remain steadfast when managing occupational risks associated with their job, by using a rational emotive occupational health therapy intervention program, might have an important effect on their psychosocial wellbeing and occupational health, and ultimately the economic growth of their corporations. Eseadi et al^[35] emphasized that Nigerian therapists can make use of the REBT program to assist their clients because it is cost-effective. Indeed, a cost-benefit study by Klarreich et al^[41] showed that rational emotive behavior therapy applied as an in-house employee assistance program saved a corporation at least \$2.74 for each dollar spent. Sava et al^[42] carried out cost-effectiveness and cost-utility analyses of cognitive therapy, REBT, and pharmacotherapy for major depressive disorder in a randomized clinical trial with 170 Romanian participants. Each intervention was offered for 14 weeks, plus 3 booster sessions; because of their lower costs, both of the psychotherapies (cognitive therapy and REBT) were more cost-effective and had better cost-utility outcomes than pharmacotherapy.

Despite the potential benefits and cost-effectiveness of an REBT intervention in the work environment, it is yet to be determined whether an REBT program can help electronics technology employees in Nigeria reduce their occupational risks and improve their perceptions of their organizational climate. The main objective of this study was therefore to examine the effects of a rational emotive occupational health therapy intervention program on perceptions of organizational climate and occupational risk management practices in a sample of electronics technology employees in Nigeria. With this objective, it was hypothesized that a rational emotive occupational health therapy intervention program would significantly improve electronics technology employees' perceptions of their organizational climate compared with those in a waitlist control group; and that occupational risk management practices of electronics technology employees in the treatment group would also improve significantly compared with those in the waitlist control group.

2. Methods

2.1. Ethical approval

This study was approved by the Faculty of Vocational and Technical Education, University of Nigeria, Nsukka (No.: VTE/ERA/0022),

and followed the Ethical Principles of Psychologists and Code of Conduct established by the American Psychological Association.^[43]

2.2. Design

The study used a pretest-posttest control group design.

2.3. Participants

The study participants were 77 electronics technology employees from 35 engineering services firms in southeast Nigeria (see Table 1). Two-step informed consent was obtained from all participants: before screening and before participating in the treatment program. The latter was only required for participants meeting inclusion criteria. For each procedure, those who decided to participate were asked to complete a written consent form.

2.4. Procedure

The researchers visited 48 engineering services firms in the southeast of Nigeria between March and July, 2015, to notify them about, and explain the rational emotive occupational health therapy intervention program. A total of 212 electronics technology employees volunteered to be screened for eligibility. Before screening, the researchers explained the objectives of the study to the electronics technology employees working at each firm visited. The volunteers were asked to supply their mobile phone numbers and e-mail addresses to the researchers. The 77 participants were chosen at random after the researchers assessed their levels of risk and perceptions of organizational climate using self-report questionnaires.

Eligible participants were enrolled and randomized into a treatment group and a waitlist control group by the researchers and 3 assistants. A simple randomization procedure was used in which the participants were asked to pick 1 envelope from a container. Each of the envelopes contained pressure-sensitive paper labeled with either a "T" (for treatment group) or "WC" for waitlist control. The random assignment produced a total of 39 participants for the rational emotive occupational health therapy intervention group and 38 for the waitlist control condition (see Fig. 1).

In addition to providing written informed consent to participate in the study, volunteers had to meet inclusion and exclusion criteria. The inclusion criteria were possession of a smartphone and ability to use the WhatsApp application; having a valid e-mail address; having a minimum of a bachelor's degree in electronics engineering; being readily available to join the group chat at the scheduled time; and scoring within set benchmark values for very low perception of organizational climate (\bar{x} = 1.00–2.49 on a 4-point scale) and very high exposure

Table 1
Demographic characteristics of participants.

Characteristic	Dimension	Treatment group, n = 39	Waitlist control group, n = 38	χ^2	Significance
Gender	Male	33 (84.6%)	31 (81.6%)	0.126	0.769
	Female	6 (15.4%)	7 (18.4%)		
Age, years	M ± SD	36.38 ± 8.50	35.45 ± 8.22	4.26	0.799
	Range	25–52	25–52		
Work status	Full-time	30 (76.9%)	28 (73.7%)	0.109	0.796
	Part-time	9 (23.1%)	10 (26.3%)		
Highest degree	BSc	26 (68.4%)	28 (73.7%)	0.256	0.801
	Masters	12 (31.6%)	10 (26.3%)		

χ^2 = Chi-square, M = mean, n = total number of participants, SD = standard deviation.

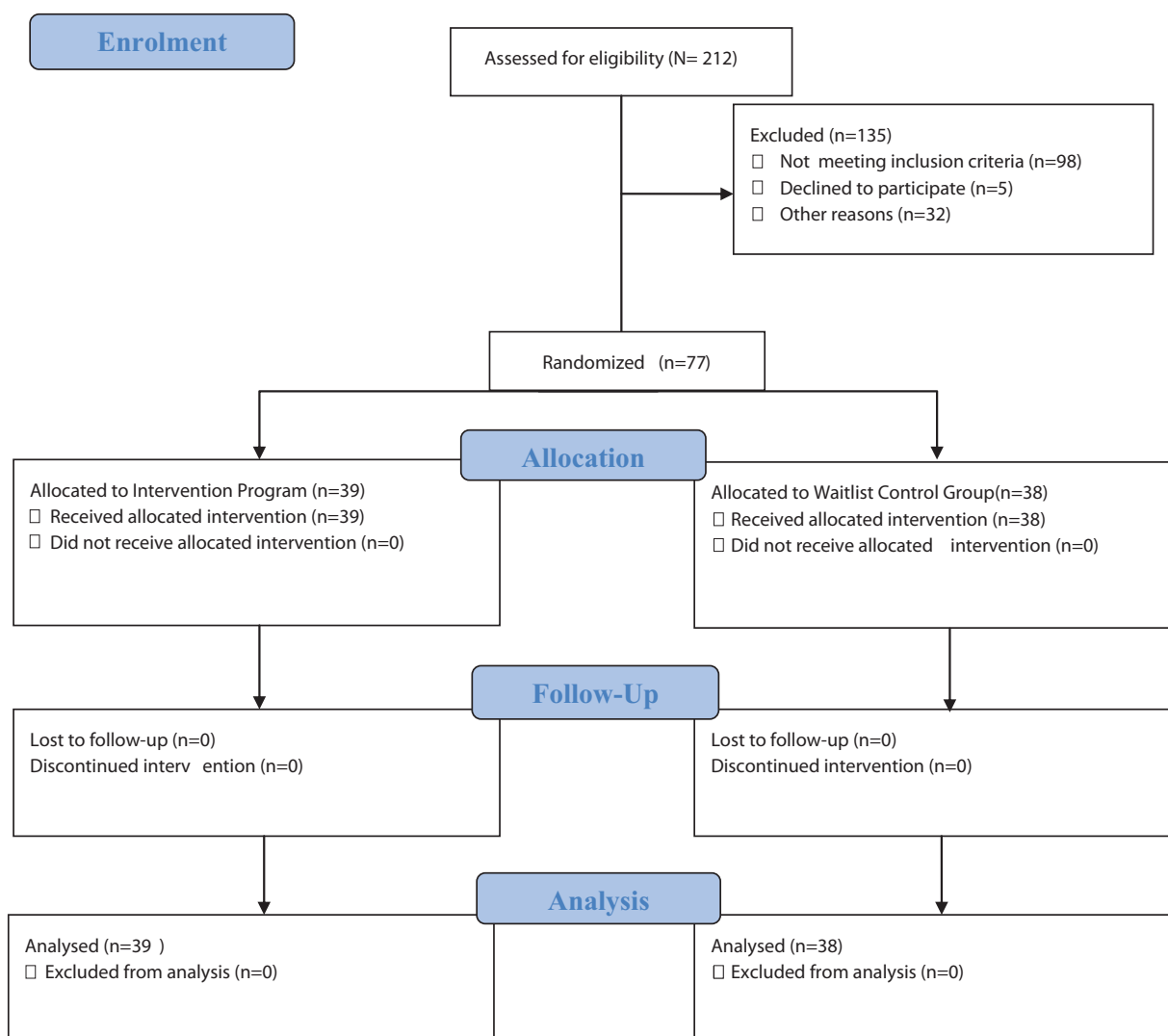


Figure 1. Participant eligibility criteria.

to occupational risks ($\bar{x}=3.50-5.00$ on a 5-point scale). Participants were excluded if they did not meet all the inclusion criteria. A total of 39 eligible participants were added to a WhatsApp chat group created by 2 of the researchers, who had expertise in electronics education and computer education. The rational emotive occupational health therapy intervention was delivered and moderated by 2 of the present authors. The group meetings were scheduled twice a week for 12 consecutive weeks. Two follow-up meetings, a week apart, were conducted at each of 3 additional time points (3, 6, and 12 months after the final session). Sessions lasting 90 minutes each were held between 11.30 am and 1.00 pm per meeting. The researchers ensured that the participants actively attended the sessions by sending reminder message to them a day to the scheduled time, and a second reminder was sent 10 minutes before the start of each meeting, and sometimes the researchers gave a phone call to encourage participants that did not reply the messages. Prior to the start of the intervention program, the researchers also assured the participants that their treatment records would be handled in ways that maintain privacy and confidentiality and in accordance with sound clinical practice. Given the nature of the intervention program, the researchers ensured that the participants readily

understood the importance of confidentiality and the rights and responsibilities of group members with regard to the risks of privacy and limits of confidentiality of information provided via electronic means. These steps provided individual participants the opportunity to make informed decisions on self-disclosure in the course of the intervention program. The assessment questionnaires were e-mailed to the participants, who were asked to complete and return them within 2 days of receipt.

The treatment group was compared to a waitlist control group of 38 electronics technology employees. Participants who were waitlisted were scheduled to begin the rational emotive occupational health therapy intervention program immediately after the final follow-up. The participants in both groups completed the questionnaires at 4 time points: at baseline, and after 3, 6, and 12 months. The questionnaires were returned directly to the researchers by e-mail after each assessment. Two of the researchers who delivered the intervention are REBT practitioners.

2.5. Measures

2.5.1. Perceptions of organizational climate scale (POCS).

This is a 25-item questionnaire addressing how the employees personally viewed the different aspects of their work environment.

The items of the POCS were developed by the authors for the present study from the literature regarding a number of dysfunctional beliefs that people often hold,^[37,44] and with regard to the inductive measures and categorization of organizational climate by Koys and De Cotiis.^[45,46] The POCS was designed on a 4-point scale (“strongly agree” to “strongly disagree”). Participants whose mean score was 1.00 to 2.49 were considered to have a very low opinion of the organizational climate, whereas those who scored 2.50 to 4.00 were considered to have a high opinion of it. Cronbach’s coefficient of reliability for the POCS was 0.76 α across the 77 participants.

2.5.2. Occupational risks management scale (ORMS). This is a 60-item questionnaire with 2 subscales—level of susceptibility to occupational risks (30 items), and perceived occupational risk management practices (30 items)—developed by the present authors and based on the literature.^[47–53] The ORMS focused on employees’ susceptibility to occupational risks in their workplace and their perception of management practices required for reducing occupational risks in an electronics work environment. The first subscale of the ORMS was designed on a 5-point scale (very low risk to very high risk) based on categorization by the British Standards Institution.^[54] The second subscale was designed on a 5-point scale of “strongly disagree” to “strongly agree.” In the first subscale, participants whose mean score was 1.00 to 3.49 were considered to be exposed to very low risk, whereas those who scored 3.50 to 5.00 were considered to be exposed to very high risk. In the second subscale, a mean score of 1.00 to 3.49 was considered to reflect a poor knowledge of occupational risk management practices, whereas those who scored 3.50 to 5.00 were considered to have good knowledge of occupational risk management practices. Data from all 77 participants revealed reliability coefficients of 0.81 α for the ORMS overall, 0.80 α for its first subscale, and 0.82 α for its second subscale.

2.6. Intervention

2.6.1. Rational emotive occupational health therapy intervention program. The rational emotive occupational health therapy intervention program is a health counseling intervention delivered by Smartphone, WhatsApp, and e-mail. The first session of the program began with an introduction, familiarization, goal setting, and confidentiality rules by the therapists and group members. The intervention manual contained the therapeutic techniques for employee assistance including cognitive, affective, and emotive techniques, relaxation training, and cognitive training skills which were helpful to the researchers in the occupational risk management intervention and for improving participants’ perception of organizational climate. During therapy, the researchers ensured that individual participants readily understood the “ABCDE” mnemonic of REBT theory (Activating event, Beliefs, Consequences, Disputing, and Effective new philosophy) so that they could affect changes in their behavior and thinking styles.

The researchers used the ABCDE model to explain to the participants the connection between activating events in the workplace, beliefs about that event, and the emotional and behavioral consequences that occur due to their beliefs. This procedure was implemented as indicated by REBT practitioners.^[55] An activating event (A) is a situation, person, or occurrence a person encounters; a person’s belief (B) is that which they develop because of their encounter with the activating event. This belief will bring about a consequence (C) for the person,

which can be either adaptive and appropriate or disturbed and inappropriate. In order to accomplish the main goal of REBT, which is to remove the disturbing beliefs that one develops, Ellis developed the cognitive technique of disputing (D).^[55,56] Disputing involves debating and challenging one’s self-defeating beliefs, explaining why the belief is illogical, and correcting the belief to form a more logical one. Ellis^[56] suggested that the best way to dispute an irrational belief is through realistic, logical, and practical schemes. When individual participants question and challenge their self-defeating beliefs, it is expected that they come up with an effective new philosophy (E). To practice the disputing technique, participants were given the following tasks to do at home: write down coping statements and read them aloud several times per day; practice techniques while standing in front of a mirror to examine body language; be skeptical about those thoughts that produce upsetting emotions; ask yourself questions such as, “what ‘should’ or ‘must’ did I say to myself?” – find it and strongly dispute it; use a voice recorder to state irrational beliefs about organizational climate; figure out several disputes for the irrational beliefs and strongly present them in the same recording; and get feedback from others you trust by practicing the coping statements with them.

Participants were also taught how to practice relaxation techniques on their own without the therapists being there, through written instructions emailed to them. Aderman and Tecklenburg^[57] indicated that relaxation training significantly improves the personal adjustment of employees and their perceptions of the organizational climate. In addition, the treatment session covered rational identification of risks and risk assessment method; rational assessment of risk in relation to various aspects including degree of occupational risk; identification of control measures to eliminate risk in various electronics work activities; group discussion on how to implement simulated workplace activities in risk assessment; validation of control measures; issues on practice and processes; assignments related to risk management; therapy session review and feedback. Other homework assignments included: personally identifying and reporting electronics work hazards and risks; identifying health and safety risks as an electronics engineer; assessing and classifying the risks; suggesting control measures intended to eliminate or reduce the risk that could potentially arise during the conduct of work activities, and, where appropriate, initiating further consultation processes with others involved and more experienced in electronics engineering; carry out review processes; and engagement in practice and processes learnt as a result of therapy. Homework assignments were given to individual participants at the end of each meeting to enable them to practice the skills they had learnt. Participants were required to submit completed tasks by e-mail.

Prior to the start of a new therapy session, each participant was tasked with the responsibility of providing progress feedback to the researchers. They were also asked to share experiences with group members, including the extent to which they applied previously learned skills and techniques to the management of occupation risks, their perception of the organizational climate, and whether they found the techniques helpful for their present and future concerns. Summary of the intervention program is presented in Table 2.

2.7. Data analysis

A repeated measures analysis of variance (ANOVA) was used to examine the effects of the intervention program. Partial eta

Table 2
Summary of the rational emotive occupational health therapy intervention program.

Duration	Session	Activities
Weeks 1–2	Sessions 1–4	Clinical conceptualization and baseline assessment of the participants' perceptions of organizational climate and occupational risks management practices. Introduction, familiarization, stating and explaining confidentiality rules, and goal setting by the therapists and group members. These activities helped the researchers in setting the therapeutic tone, building a therapeutic relationship with study participants, scheduling, and discussion of limitations of confidentiality. Statement of general purpose of the intervention program, discussion of the treatment program expectations, group member's roles and responsibilities, and the basic rules of the rational emotive occupational health therapy. Developing a problems list with particular reference to the measures of perception of organizational climate and occupational risk management practices. Participants are given homework assignments.
Weeks 3–6	Sessions 5–12	The therapists and group members approached each problem from the list based on the rational emotive occupational health therapy procedure, the counseling process, and the techniques described in the intervention program. Focus on strengthening and improving participants' perceptions of organizational climate and occupational risks management practices based on the techniques described in the intervention program. Participants are given homework tasks at the end of each session.
Weeks 7–10	Sessions 13–20	Further application of the treatment modalities and techniques in constructing rational beliefs and maintaining awareness of self-acceptance regarding perceptions of organizational climate and occupational risks management practices. Encouraging the participants to see the connection between current workplace challenges and their belief systems, occupational behavior, and wellbeing; and also appreciate the need to adopt the rational emotive approach in this respect. Participants are also given homework assignments at the end of each session.
Weeks 11–12	Sessions 21–24	Further preparation of participants for the task of becoming their own future occupational health self-coach with regard to management of occupational risks, and perception of organizational climate. Working toward developing problem-solving cum rational life skills required for a positive perception of organizational climate and adopting and maintaining feasible occupational risk management practices in the workplace Encouraging group members to state what they benefitted during the intervention program and also give overall assessment of the intervention program. Focus on preventing relapse and evaluation of participants' level of commitment during the intervention program based on contribution to group discussion and completion of homework assignments. Participants are given homework assignments at the end of sessions preceding posttest assessment. Conducting posttest assessment.
Follow-up		Conducting 2-weekly follow-up at 3, 6, and 12 months and assessment.

squared (η_p^2) was reported as a measure of the effect size for this design. The Mann–Whitney U test (U) was also conducted to compare changes across the treatment and waitlist control groups. To test for differences in categorical data representing characteristics of the participants (e.g., gender, age, and work status), the researchers employed Chi-square (χ^2) statistic. Screening for missing values and violation of assumptions was done using SPSS 20 (IBM Corp., Armonk, NY).

3. Results

Table 1 shows that the mean age of the treatment group was 36.38 ± 8.50 years, whereas that of the control group was 35.45 ± 8.22 years ($\chi^2 = 4.26$, $P = .769$). A total of 77 people participated in the study. Based on gender, the treatment group comprised 33 (42.3%) men and 6 (7.7%) women, whereas the waitlist control group comprised 31 (40.8%) men and 7 (9.2%) women. From the analysis of results, it can be seen that no significant gender difference was observed in the evaluation for the intervention among the participants, $\chi^2 = .126$, $P = .769$. Of those in the treatment group, 26 (34.2%) had a Bachelor of Science (BSc) degree (BSc), and 12 (15.8%) had a master's degree or above; in the waitlist control group, 28 participants (36.9%) had a BSc and 10 (13.1%) had a master's degree or above ($\chi^2 = .256$, $P = .801$). In the treatment group, 30 participants (38.5%) were working on a full-time basis and 9 (11.5%) worked part-time, whereas in the waitlist control group, 28 (36.9%) were working full-time and 10 (13.1%) part-time ($\chi^2 = .109$, $P = .796$) (see Table 1).

Table 3 shows the study outcomes for the participants in the treatment and waitlist control group over the 4 assessment periods. There were no baseline differences in POCS scores (occupational risk) between participants in the 2 groups ($U = 678.50$, $P = .140$). Similarly, there were no differences in ORMS scores (perceptions of organizational climate) at baseline between the 2 groups ($U = 684.50$, $P = .528$) (see Table 3).

For the POCS data, a repeated measures ANOVA revealed a significant treatment \times time interaction for perceptions of organizational climate ($F(1,76) = 185.9$, $P = .000$, $\eta_p^2 = .712$). The Mann–Whitney U test was also performed to examine changes within each group over time. Post-intervention results revealed significant increases from Time 1 to Time 2 in perceptions of organizational climate ($U = 76.50$, $P = .000$) for the treatment group, whereas the waitlist control group showed no significant change in score over the same period. Follow-up tests revealed a significant increase in perceptions of organizational climate after 6 months ($F(1,76) = 236.17$, $P = .000$, $\eta_p^2 = .759$) and 12 months ($F(1,76) = 238.8$, $P = .000$, $\eta_p^2 = .761$) in the treatment group but not in the waitlist control group (see Table 3).

For the ORMS data, a repeated measures ANOVA revealed a significant treatment \times time interaction for occupational risks ($F(1,76) = 156.06$, $P = .000$, $\eta_p^2 = .675$). Post-intervention results revealed a significant improvement between Time 1 and Time 2 in occupational risk management practices ($U = 78.77$, $P = .000$) for the treatment group, whereas the waitlist control group showed no significant change over the same period. Follow-up tests revealed a significant improvement in occupational risk management practices (i.e., a significant decrease in occupational risk)

Table 3

Repeated measures ANOVA showing effect of rational emotive occupational health therapy intervention on perceptions of organizational climate and occupational risk management practices of the electronics employees by treatment and time.

Outcomes	Treatment group, N=39				Waitlist control group, N=38				Observed power
	Time 1 M±SD	Time 2 M±SD	Time 3 M±SD	Time 4 M±SD	Time 1 M±SD	Time 2 M±SD	Time 3 M±SD	Time 4 M±SD	
POCS	29.72±8.22	-	-	-	30.89±7.88	-	-	-	1.00
	-	63.66±6.09	-	-	-	32.07±13.1	-	-	
	-	-	65.29±6.80	-	-	-	32.19±11.6	-	
	-	-	-	69.33±8.00	-	-	-	31.87±12.8	
ORMS	50.29±6.10	-	-	-	51.21±6.68	-	-	-	1.00
	-	108.10±13.6	-	-	-	53.85±23.4	-	-	
	-	-	109.07±12.3	-	-	-	54.00±19.7	-	
	-	-	-	110.94±12.6	-	-	-	54.14±19.8	

ORMS=occupational risks management scale (ORMS), POCS=perceptions of organizational climate scale, SD = standard deviation, Time 1=pretest; Time 2=posttest assessment; Time 3=follow-up assessment; Time 4=follow-up assessment.

after 6 months ($F(1, 76) = 217.89, P = .000, \eta_p^2 = .744$) and 12 months ($F(1, 76) = 226.59, P = .000, \eta_p^2 = .751$) for the treatment group but not for the waitlist control group (see Table 3).

As can be seen in Fig. 2, the treatment program significantly improved electronics technology employees' perceptions of organizational climate in the treatment group but not in the waitlist control group.

Figure 3 showed that occupational risk management practices of electronics technology employees improved significantly in the treatment group but not in the waitlist control group.

4. Discussion

The main objective of this study was to examine the effects of a rational emotive occupational health therapy intervention program on perceptions of organizational climate and occupational risk management practices in a sample of electronics technology employees in Nigeria. Our findings revealed that the rational emotive occupational health therapy intervention program significantly improved perceptions of organizational climate for the employees in the treatment group at post-treatment and follow-up assessments, whereas no effect was observed in the waitlist control group at the same time points. The present findings support the idea that rational emotive behavior counselors can help clients fulfill their potential, and experience good behavioral health.^[20] The findings further supports Morris,^[22] who proposed a rational emotive paradigm

for assisting employees within an organizational setting, and Miller and Yeager,^[23] who suggested a corporate application of rational emotive behavior therapy for managing change in an organization. The present results are also in line with those of Nieuwenhuijsen et al,^[3] which support the application of REBT for reducing irrational beliefs in employees with adjustment problems. Thus, it is possible that a change in self-defeating beliefs about the organizational climate can lead to a corresponding reduction in occupational distress among electronics technology employees.

The present results also show that the occupational risk management practices of the electronics employees in the rational emotive occupational health therapy intervention group were significantly better than those in the waitlist control group at the post-treatment and follow-up periods. The finding supports Arnetz et al^[4] who stated that a focus on the psychosocial work environment and organizational efficiency could contribute to lower employee stress, and better organizational performance. Our findings are in tune with those of previous studies that support the use of rational emotive behavior therapy as a tool for helping clients effect a behavioral change, as well as its wider application in the workplace.^[25-31] Our findings also supports the idea that rational emotive behavior therapy is a powerful tool for turning a negative job experience into a positive career transition.^[24] To that end, the use of rational emotive behavior

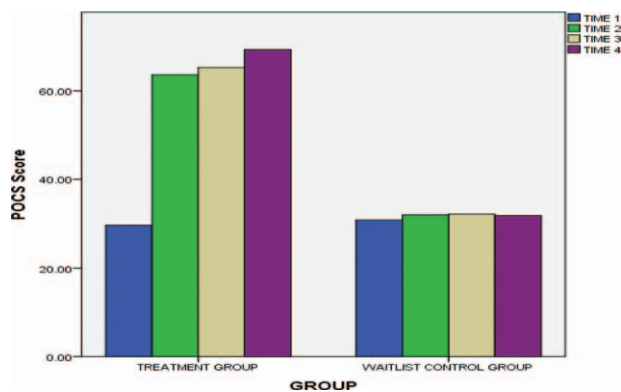


Figure 2. Effect of rational emotive behavior occupational health therapy intervention program on electronics technology employees' perceptions of organizational climate.

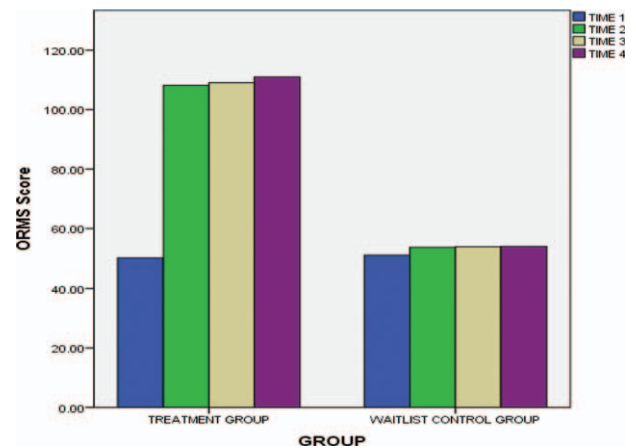


Figure 3. Effect of rational emotive behavior occupational health therapy intervention program on occupational risk management practices of electronics technology employees.

therapy can be extended to promote rational emotive approaches and rational leadership in the Nigerian work environment and in other countries. There are abundant opportunities for the application of rational emotive behavior therapy within workplaces. We therefore urge occupational health professionals, organizational psychologists, and ergonomists with adequate background and training in REBT theory to guide workers towards a meaningful assessment of occupational risks and the rational identification of feasible control measures based on the principles and practice of rational emotive behavior therapy.

Furthermore, the number of women appeared to be much smaller than the number of men that participated in this study and some might consider this as a limitation. However, the gender was statistically taken into account in the evaluation of participants for the intervention program, and no significant difference was observed between men and women. This is an indication that REBT-based interventions take cognizance of the role of gender right from the onset of the therapeutic relationship, as opposed to the idea that REBT often ignore factors such as the role played by the gender.^[58,59] Thus, a rational emotive occupational health therapy intervention program may be considered a gender sensitive cum gender transformative therapeutic program that can be used for assisting employee in the Nigerian work setting and those in other countries.

4.1. Limitations and suggestion for further studies

One limitation of the study was that the study population included only electronics technology employees in engineering services firms in south-east Nigeria. Future studies should include electronics technology employees from different types of organizations, to determine whether the findings are generalizable. Furthermore, the objectives and assessments examined here were limited to those related to the content of the rational emotive occupational health therapy intervention program, and the program's effectiveness was assessed using only quantitative data. Future studies should examine the opinions of electronics technology employees, as this would allow in-depth investigation of individual determinants. In addition, data were collected from individuals who volunteered to participate in the study, which could limit generalization of the findings. Although follow-up assessments were performed, the long-term benefits of the program were not fully considered. Studies that include long-term follow-up of about 24 months or more to evaluate the sustainability of the effects should be conducted in future. In future studies, REBT practitioners should also take necessary and adequate steps to ensure that workplace clients exposed to the rational emotive occupational health therapy intervention program are adequately aware of the limitations of confidentiality peculiar to this electronically-aided therapy as well as other limits of confidentiality in the use of technology in therapeutic encounter. According to McClanahan,^[60] if a group therapist can provide informed consent about confidentiality, educate group members about confidentiality, and make the discussion of confidentiality an ongoing process, the possibility of breaches of confidentiality among group members will lessen, thereby providing the therapist an invaluable opportunity to uphold the ethical principles of clinical practice upon which confidentiality is based.

5. Conclusions

This study contributes to the existing literature by documenting how a rational emotive occupational health therapy intervention

significantly improved electronics technology employees' perceptions of organizational climate and occupational risk management practices. This indicates that an REBT-based occupational health therapy program delivered as an e-counseling intervention-cum-employees' assistance program is helpful in the Nigerian work environment for reducing occupational risks and improving perceptions of the organizational climate. REBT-based occupational health therapists working with industrial organizations in other countries are encouraged to expand their focus to include assisting employees with poor perceptions of organizational climate and those at very high risk of occupational hazards. Electronics engineers should be introduced to the potential benefits of psychological interventions such as rational emotive behavior therapy. Those exposed to very high occupational risks and poor perceptions of the organizational climate should be given the opportunity to benefit from an employee assistance program based on the principles and practice of rational emotive behavior therapy. Occupational health physicians are urged to explore the usefulness of rational emotive behavior therapy approach in the field of occupational health and safety.

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