

Managing social anxiety among undergraduate adult education and extra-mural studies students

An intervention study

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Abstract

Background/Objective: Anxiety is a significant problem affecting University students including undergraduate adult education and extra-mural studies students. This research evaluated the impact of a group rational-emotive behavioral education intervention (group rational-emotive behavioral education intervention [REBEI]) on social anxiety symptoms among undergraduate adult education and extra-mural studies students.

Method: Eighty six students participated in the study by belonging to either treatment group (n=43) or control group (n=43). A REBEI treatment program was developed by the researchers was used to implement the experiment and data was collected using a 22-item questionnaire on social anxiety. Analyzes of data were done using repeated measures ANOVA and paired *t*-test.

Results: Results showed that despite the social anxiety experienced before exposure to the intervention, the social anxiety symptoms of the undergraduate adult education and extra-mural studies students in the treatment group reduced significantly at post-treatment and follow-up compared to students in the control group.

Conclusion: REBEI demonstrated its clinical usefulness in treating undergraduate adult education and extra-mural studies students with social anxiety problem.

Abbreviations: REBEI = rational-emotive behavioral education intervention, SAS-A = social anxiety scale for adolescents.

Keywords: adult education and extra-mural studies, anxiety, group rational-emotive behavioral education intervention, social anxiety, undergraduate students

1. Introduction

Anxiety is an increasing problem affecting a lot of students, including those in the University.^[1] Anxiety is a cognitive cum affective reactions distinguished by physiological arousal and

apprehension with respect to a possibly unhelpful effect that is perceived by the individual as imminent.^[2] Consistent with the self-representational theory,^[3] social anxiety, in particular, arises whenever people are poised to make particular impressions on others but doubt that they will be successful in doing so. Social anxiety has become a widespread problem among young people especially students in sub-Saharan Africa.^[4]

While the prevalence of anxiety was found to be 53.85% among university students,^[5] lifetime occurrence of anxiety has been found to be greater than 28%.^[6] Researchers have also positioned the incidence of social anxiety in the range of 5% to 8%, placing it ahead of other types of anxiety disorders.^[7–9] In Nigeria, it was revealed that social anxiety is quite prevalent among undergraduate students.^[4,10] Interestingly, a study comparing the effect of psychotherapy and pharmacotherapy on social anxiety disorder found that psychological therapy has lesser adverse effects than pharmacotherapy.^[11] It is therefore considered a better intervention approach for the early management of social anxiety disorder.^[12–15] However, a substantial portion of psychologically anxious persons are not adequately treated.^[16]

Previous trials have been met with a dearth of control group or active comparison group required for making valid inference, heterogeneity in control conditions, inadequate sample sizes, use of diverse interventions with varying durations, unascertained differences among participants and even possible limitations in statistical power.^[11,15,17] This study is a randomized controlled trial of a group rational-emotive behavioral education intervention (group rational-emotive behavioral education intervention

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The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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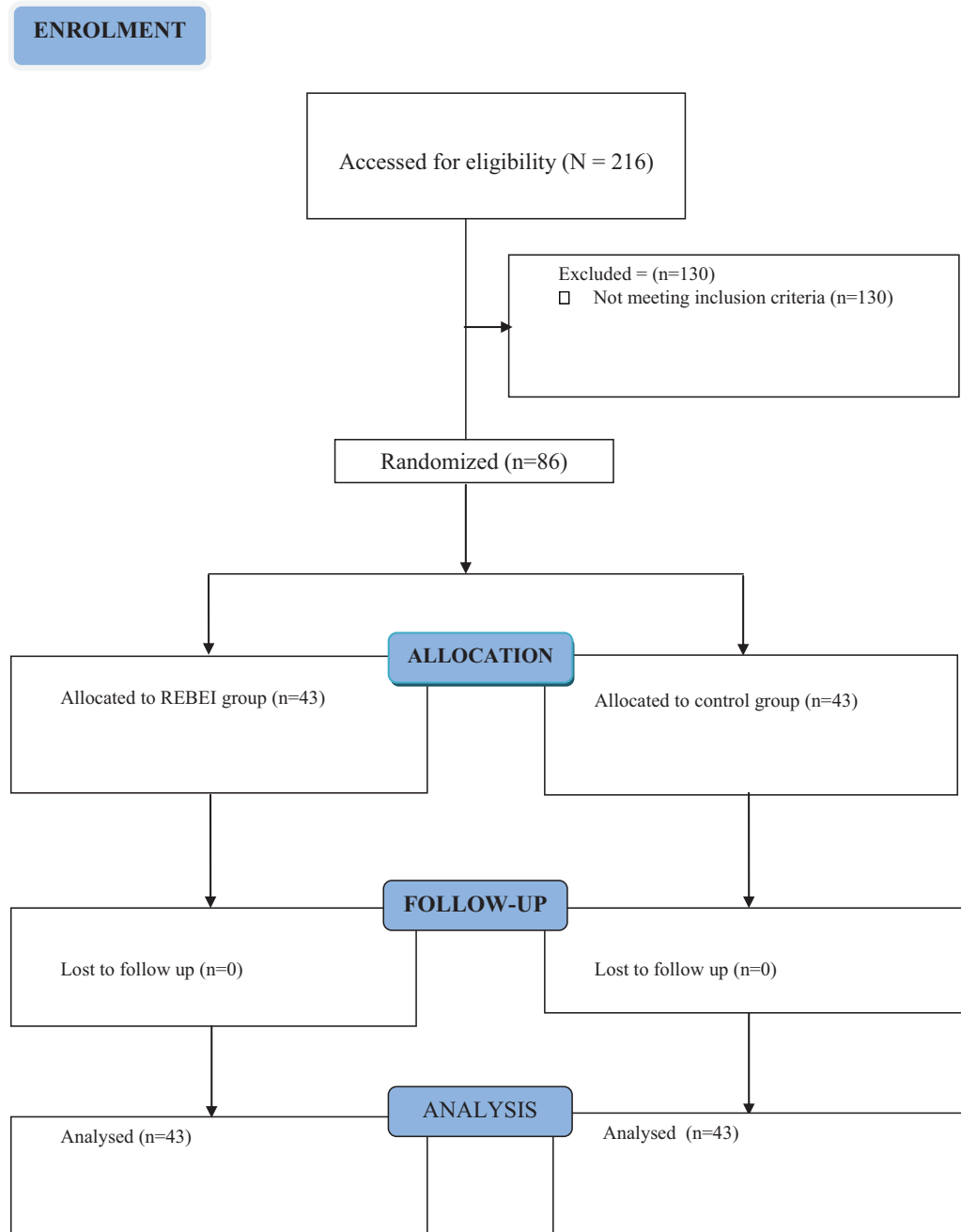


Figure 1. Participant flowchart.

[REBEI]) that sought to reduce social anxiety symptoms among undergraduate adult education and extra-mural studies students at selected Universities in Southeastern Nigeria.

2. Study rationale

Among Nigerian university students, findings on social anxiety prevalence seems to be similar to study findings from some other regions of the world.^[4] Recent research among Nigerian university students on social anxiety occurrence reported a lifetime incidence of 9.4% and a 12-month incidence of 8.5%.^[4]

Thus, there is a need to deliver early treatment to socially anxious university students in order to avert long-term disability.^[4] Social anxiety is a disorder that includes fear of meeting new people, social gatherings phobia, public speaking phobia, and social situation avoidance.^[18,19] Socially anxious individuals demonstrate awful performance in social situations and gatherings.^[20] The idea of this research was to examine the impact of group REBEI on social anxiety symptoms among undergraduate adult education and extra-mural studies students Nigeria. The study hypothesis is that group REBEI will significantly improve the social anxiety symptoms among undergraduate adult education and extra-mural studies students in Nigeria.

3. Method

3.1. Ethical consideration

The Education Faculty Committee on Research Ethics at the University of Nigeria approved this research. This research was carried out per the ethical philosophies of the Helsinki Declaration.^[21] Participants were informed that they were at liberty to withdraw their participation at any time and their informed consent was obtained in writing.

3.2. Study design

This research employed a randomized controlled trial (RCT) design.

3.3. Participants

Based on a target power of 0.73, alpha-level of 0.05 and assumed effect size of 0.89, a total sample of 86 students out of 216 undergraduate adult education and extra-mural studies students were chosen as study participants from selected Southeast Nigerian Universities. Therefore, 86 undergraduate adult education and extra-mural studies students participated in the study by belonging to the treatment (n=43) and control (n=43) groups respectively.

3.4. Eligibility criteria

The criteria for being part of the study entail that aspiring participant should be undergraduate adult education and extra-mural studies student, aspiring participants must show high symptoms of social anxiety (which was determined using the social anxiety scale for adolescents [SAS-A]). Participants were asked to make available their WhatsApp phone number and email address for correspondences. Those who could not attain the mentioned criteria were not included in the study.

3.5. Experimental procedure

A total number of 216 undergraduate adult education students were approached by the researchers with the intention to ascertain their social anxiety symptoms using the SAS-A (Time 1), and 86 students met the criteria for high symptoms of social anxiety. Using Random Allocation Software,^[22] eligible participants were apportioned to the REBEI and no-contact control groups at a ratio of 1:1. Participants also completed a questionnaire on demographic characteristics which sought to ascertain their age, ethnic background and gender. The treatment group was exposed to a 12-week REBEI program. Each session lasted about 60 minutes. The intervention was administered by the researchers. After that, the 2 groups completed the SAS-A as post-treatment assessment (Time 2). Three months after the intervention, the 2 groups completed the SAS-A at the termination of a 2-week follow-up encounter (Time 3). Transportation fare and refreshments costing \$2.00 each person were made available to those in the REBEI program at the conclusion of Time 3 as an incentive. The no-contact control group received refreshments at the conclusion of Time 3 as an incentive.

We used a REBEI manual to implement this experiment which enabled the researchers to apply rational-emotive techniques including behavioral, cognitive and emotive techniques.^[23,24]

The manual divides the intervention based on weekly activities. Every week, behavioral homework tasks were jointly created for the students in order to strengthen the content of each session and were appraised accordingly. Participants completed a Self-Help Form^[25,26] which helped them in critically appraising their maladaptive thoughts. Students in different small groups of 7 to 8 members were assisted to methodically tackle their anxiety triggers and build up helpful beliefs, behaviors, and emotions. The students were encouraged to set individual goals in regard to confronting their anxiety triggers. The students in each group were engaged in a rational discussion about their peculiar challenges in respect of social anxiety. The students were exposed to role-plays and in-group exercises to enable them to overcome their anxiety triggers. The study manual incorporated some strategies which helped to motivate the students to consent to work towards achieving the goals as well as tasks of the intervention.

3.6. Measurement tool

Social Anxiety Scale for Adolescents (SAS-A): Data were collected with the SAS-A.^[27] This assessment tool is composed of 3 primary subscales. The first subscale reveals fear of negative evaluations from peers (FNE) with the remaining 2 subscales revealing social avoidance and distress, one of which is specific to new social situations or unfamiliar peers (SAD-New) and the other reveals generalized social inhibition (SAD-General). The subscales have 8, 6, and 4 items respectively. Generally, SAS-A consists of 22 items (four are filler items), ranging from 1 (not at all) to 5 (all the time). The total score is obtained by adding up the ratings for the 18 anxiety items and can range from 18 to 90. In this study, a benchmark score of 50 is used for the total score to determine “clinically significant” social anxiety. The SAS-A is a valid and reliable measure for social anxiety with Cronbach’s alpha internal consistency coefficients of 0.83 (FNE), 0.67 (SAD-New), 0.41 (SAD-General), and 0.85 (SAS-A total).^[28–31]

3.7. Data analysis

A within and between-subject repeated measures analysis of variance (ANOVA) and the paired-samples *t*-test analyzes were conducted. The effect size of REBEI intervention was determined with partial eta squared. A post-hoc analysis by times of measure and group with Bonferroni correction was carried out.

4. Results

Table 1 show that the participants were made up of 54 female and 32 male undergraduate adult education and extra-mural studies students. Their mean age is 22.14 years for the REBEI group and 22.53 years for the no-contact control group. The majority of the participants were second-year followed by first-year students. Thirty two (32; 37.2%) students in the REBEI group and 31 (36.0%) in the no-contact control group were enrolled in sandwich programme while others were regular students (See Table 1).

Table 2 reflects the effect of group REBEI on social anxiety symptoms among undergraduate adult education and extra-mural studies students. At Time 1 (baseline), the social anxiety score of the REBEI group were not statistically different ($M \pm SD = 67.14 \pm 2.88$; $CI = 66.25–68.02$) from those in the control

Table 1
Demographic characteristics of the participants.

Characteristic	REBEI group, <i>N</i> (%)	No-contact group, <i>N</i> (%)	χ^2	Significance
Gender				
Male	17 (19.8%)	15 (17.4%)	.199	.824
Female	26 (30.2%)	28 (32.6%)		
Age ^a	22.14 ± 2.98	22.53 ± 3.02	-.611	.543*
Year of study				
First yr	12 (14.0%)	7 (8.1%)	2.594	.458
Second yr	18 (20.9%)	17 (19.8%)		
Third yr	7 (8.1%)	9 (10.5%)		
Final yr	6 (11.4%)	10 (11.6%)		
Mode of study				
Sandwich	32 (37.2%)	31 (36.0%)	.059	.808
Regular	11 (12.8%)	12 (14.0%)		

^a Mean age (SD) of participants in years. χ^2 = Chi-Squared.

* *t* = test results for age.

REBEI = rational emotive behaviour education intervention.

group ($M \pm SD = 67.93 \pm 3.00$; $CI = 67.01 - 68.85$); $f(185) = 1.560$, $P = .215$, $\eta_p^2 = .018$. Results show there was a significant main effect of treatment on social anxiety score of the REBEI group at Time 2 ($M \pm SD = 31.23 \pm 7.46$; $CI = 28.94 - 33.53$) in comparison with the control condition ($M \pm SD = 67.86 \pm 5.74$; $CI = 66.09 - 69.63$), $f(185) = 615.180$, $P < .001$, $\eta_p^2 = .886$. This shows that the group REBEI caused a significant reduction in social anxiety score of undergraduate adult education and extra-mural studies students. Also, a significant decrease in social anxiety score was recorded at follow-up evaluation (Time 3) for participants in the treatment group ($M \pm SD = 31.00 \pm 7.49$; $CI = 28.70 - 33.31$), as against the control group participants,

($M \pm SD = 66.60 \pm 5.56$; $CI = 64.89 - 68.32$), $f(185) = 626.512$, $P < .001$, $\eta_p^2 = .882$. All these are substantiations are in support of the theorized effect of group REBEI on social anxiety among undergraduate adult education and extra-mural studies students.

The paired-samples *t*-test analyzes carried out in Table 3 revealed that social anxiety scores significantly varied with time in the REBEI group when Time 1 and Time 2 data were paired, $t(42) = 29.544$, $P < .001$. When Time 2 and Time 3 data were paired, participants' social anxiety scores were not significantly different, $t(42) = .419$, $P = .678$. On the other hand, social anxiety scores did not significantly differ over time in the no-contact control group when Time 1 and Time 2 data were paired,

Table 2
Results on the effects of group REBEI on social anxiety as measured by SAS-A.

Time	SAS-A Subscale	Group	N	M	SD	95% CI	<i>P</i>	η_p^2
Time 1	FNE	Treatment	43	30.05	1.48	29.59–30.50	.571	.004
		Control	43	29.86	1.55	29.38–30.34		
	SAD-New	Treatment	43	22.30	1.52	21.83–22.77	.164	.023
		Control	43	22.79	1.70	22.27–23.31		
	SAD-General	Treatment	43	14.79	1.30	14.39–15.19	.061	.041
		Control	43	16.28	1.08	14.95–15.61		
OVERALL	Treatment	43	67.14	2.88	66.25–68.02	.215	.018	
	Control	43	67.93	3.00	67.01–68.85			
Time 2	FNE	Treatment	43	13.28	3.76	12.12–14.44	<.001	.845
		Control	43	29.72	3.35	28.69–30.75		
	SAD-New	Treatment	43	11.19	2.46	10.43–11.94	<.001	.849
		Control	43	22.81	2.50	22.04–23.58		
	SAD-General	Treatment	43	6.77	2.02	6.15–7.39	<.001	.858
		Control	43	15.33	1.46	14.88–15.77		
OVERALL	Treatment	43	31.23	7.46	28.94–33.53	<.001	.886	
	Control	43	67.86	5.74	66.09–69.63			
Time 3	FNE	Treatment	43	13.65	4.10	12.39–14.91	<.001	.830
		Control	43	29.47	3.06	28.52–30.41		
	SAD-New	Treatment	43	10.47	3.19	9.48–11.45	<.001	.828
		Control	43	22.67	2.38	21.94–23.41		
	SAD-General	Treatment	43	6.88	1.55	6.41–7.36	<.001	.809
		Control	43	14.47	2.13	13.81–15.12		
OVERALL	Treatment	43	31.00	7.49	28.70–33.31	<.001	.882	
	Control	43	66.60	5.56	64.89–68.32			

η_p^2 = effect size, CI = confidence interval, FNE = fear of negative evaluations, M = mean, N = number of participants, SAD-General = social avoidance and distress (generalized), SAD-New = social avoidance and distress (new), SAS-A = social anxiety scale for adolescents, SD = standard deviation.

Table 3**Paired-samples *t*-test results on the effects of group REBEI on social anxiety as measured by SAS-A.**

	Mean	SD	Std. error mean	t	df	Significant
Pair 1						
Pretest-treatment	67.14	2.88	.43844	29.544	42	.001
Posttest-treatment	31.23	7.46	1.13723			
Pair 2						
Posttest-treatment	31.23	7.46	1.13723	.419	42	.678
Follow-up-treatment	31.00	7.49	1.14216			
Pair 3						
Pretest-control	67.93	2.99	.45676	.069	42	.945
Posttest-control	67.86	5.74	.87577			
Pair 4						
Posttest-control	67.86	5.74	.87577	1.074	42	.289
Follow-up-Control	66.60	5.56	.84786			

SD = standard deviation.

Table 4**Post-hoc tests with Bonferroni-Holm corrections for *P* values.**

	(J) Time	Mean difference (I-J)	Std. error	Significance ^b	95% CI for difference
1	2	17.988*	.788	<.001	16.063–19.914
	3	18.733*	.770	<.001	16.852–20.613
2	1	–17.988*	.788	<.001	–19.914–16.063
	3	.744	.647	.760	–.837–2.325
3	1	–18.733*	.770	<.001	–20.613–16.852
	2	–.744	.647	.760	–2.325–.837

Based on estimated marginal means.

*The mean difference is significant at the .05 level.

^bAdjustment for multiple comparisons: Bonferroni-Holm.

$t(42) = .069$, $P = .945$, as well as when Time 2 and Time 3 data were paired, $t(42) = 1.074$, $P = .289$.

A look at Table 4 reveals the post hoc analysis carried out with Bonferroni. The outcome of the analyzes portrayed that anxiety scores varied considerably over time. The post hoc outcome found that the variations in the REBEI group score for social anxiety between Time 1 and Time 2 and Time 1 and Time 3 were statistically significant (all P values $< .001$). On the other hand, this was not the same for the control group. Once more, the difference in social anxiety score among the 2 groups for Time 2 and Time 3 comparison according was not significant ($P = .760$), showing that the mean decrease in the social anxiety score after the exposure to group REBEI was sustained.

5. Discussion

The study aimed to evaluate the effect of group REBEI on social anxiety among undergraduate adult education and extra-mural studies students in Southeast Nigerian Universities. There was no significant pretreatment variation in social anxiety scores of the REBEI group and no-contact control group. The study established that a group REBEI had significant positive effects on social anxiety management among undergraduate adult education and extra-mural studies students in the treatment group as against those in the control group after the intervention and at follow-up. Earlier studies demonstrated the success of rational behavioral intervention in assisting individuals to manage anxiety symptoms^[32–36] and other related dysfunctional

attitudes and behaviors.^[37–41] In fact, the status of REBT in different cultural milieu and its growing relevance to modern-day living indicate that it is dynamic and of increasing importance.^[24] Therefore, large-scale group REBEI is needed to tackle social anxiety symptoms among Nigerian undergraduate students of adult education and extra-mural studies program.

One drawback of this research is that it only made use of a self-report scale for data collection. Though this quantitative data collection technique is widely used, it is very much predisposed to reporting bias. Other qualitative methods are advised for subsequent studies. In the same spirit, choosing an undergraduate sample restricts the study applicability to the wider population. More research is needed to approve its extension to postgraduate religion education students. Third, the study did not account for the specific interaction effect of the treatment condition with possible intervening variables such as student's monthly allowance and marital status among others. Having said all these, it is recommended that group REBEI be extended to benefit students of other academic disciplines who are suffering from social anxiety disorders.

6. Conclusion

This research investigated the effect of a group REBEI on social anxiety among undergraduate adult education and extra-mural studies students. The result has it that group REBEI is effective in reducing the symptoms of social anxiety among the students. Therefore, group REBEI demonstrated its clinical usefulness in

treating undergraduate adult education and extra-mural studies students with social anxiety problem.

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