

Effect of a critical thinking intervention on stress management among undergraduates of adult education and extramural studies programs

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Abstract

Objective: The objective of this study was to examine the effect of a critical thinking intervention (CTI) on stress management among undergraduates of adult education and extramural studies programs.

Method: A total of 44 undergraduates were randomly sorted into experimental and waitlist control groups. We used the Perceived Stress Scale for data collection at the pre-test, post-test, and follow-up stages. We used unpaired *t* and paired *t*-tests to analyze the data collected. SPSS version 22.0 was used for the data analyses (SPSS Inc., Chicago, IL).

Results: It was shown that the CTI was effective in reducing the mean stress of the participants compared to the control group both in the post-test ($t[42] = -22.453, P < .001$) and follow-up periods ($t[42] = -34.292, P < .001$). There were statistically significant changes in the mean stress of participants in the experimental group from the pre-test to post-test phases ($t[23] = 26.30, P = .000, r = .08$), and from pre-test to follow-up ($t[23] = 37.10, P = .000, r = .30$). The mean stress of the participants in the experimental group from post-test to follow-up signified the sustained positive influence of the CTI on the mean stress ($t[23] = 2.41, P = .000, r = .46$) of the undergraduates.

Conclusion: This study adds to the literature by showing that a CTI is a valuable strategy for stress reduction in a university environment. Given that the CTI demonstrated the ability to reduce stress among undergraduates enrolled in adult education and extramural studies programs, we hope that similar interventions will be adopted to manage and prevent stress among students in other departments and disciplines.

Abbreviations: CTI = critical thinking intervention, PSS = perceived stress scale, *r* = correlation.

Keywords: critical thinking intervention, stress management, undergraduates

1. Introduction

Stress is a growing problem among undergraduates at many universities. It affects both their health and academic performance.^[1] Studies have shown that stress is highest for final-year students.^[2] Another study showed that third-year students exhibited a considerable difference in stress levels from both

first- and final-year students.^[2] It was recorded that high achievers were less stressed than low achievers.^[2] Studies also found that 97.7% of undergraduate students used Facebook as a tool for curbing stress.^[3] Studies on undergraduate medical students showed that 3.12% reported experiencing no stress, 55.6% reported mild to moderate stress, and 41.2% had

Editor: Massimo Tusconi.

The authors have no conflicts of interest to disclose.

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

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How to cite this article: Okide CC, Eseadi C, Ezenwaji IO, Ede MO, Igbo RO, Koledoye UL, Ekwealor NE, Osilike C, Okeke NM, Igwe NJ, Nwachukwu RU, Ukanga LP, Olajide MF, Onuorah AE, Ujah P, Ejionueme LK, Abiogu GC, Eskay M, Ugwuanyi CS. Effect of a critical thinking intervention on stress management among undergraduates of adult education and extramural studies programs. *Medicine* 2020;99:35(e21697).

Received: 9 March 2020 / Received in final form: 8 May 2020 / Accepted: 2 July 2020

<http://dx.doi.org/10.1097/MD.00000000000021697>

experienced severe stress.^[4] In a study on 300 students of a Nigerian university, 94.7% had experienced a high level of stress, while 5.3% had experienced a low level of stress.^[5] Another study in Nigeria found that 94.2% of undergraduate trainees were stressed; the major stressors identified were excessive academic workload (82.3%), inadequate holidays (76.4%), and insufficient time for recreation (76.2%).^[6] In this respect, the objective of this study was to examine the effect of a critical thinking intervention (CTI) on stress management among undergraduates of an adult education and extramural studies programs at Nigerian universities.

Critical thinking is the ability to evaluate information and experiences in an objective manner; it contributes to health by helping individuals be aware of and assess factors that control thoughts and behavior.^[7] A critical thinking intervention aims to inculcate a series of critical thinking skills relevant to solving personal and professional problems. Studies have revealed a significant relationship between critical thinking and stress, with the indication that as critical thinking improves, so does an individual's ability to handle stress.^[7] Studies further indicated that it is important for students to acquire critical thinking skills through the national education system.^[8] Thus, through a critical thinking intervention program, undergraduates of adult education and extramural studies programs can learn how to apply critical thinking skills in stressful situations while they are learning. Therefore, it was hypothesized that a critical thinking intervention would have a significant positive effect on stress management among undergraduates of adult education and extramural studies programs at Nigerian universities.

2. Methods

A randomized controlled trial was conducted in line with the ethical principles of the WMA Declaration of Helsinki. The Faculty of Education Research Ethics Committee at the first author's institution approved the research. All students included in this study provided written informed consent. From a sample

of 350 undergraduates of adult education and extramural studies programs approached to take part in the study, a total of 44 were randomly sorted into experimental and waitlist control groups using computer-generated random numbers.^[9] An a priori statistical power of .72 with an effect size of .80 showed that a sample of 40 participants would be adequate for a two-tailed *t*-test analysis, as determined using G*power 3.1 (see Fig. 1).^[10] The participants' allocation to the experimental and control groups is shown in Figure 2. The inclusion criteria were high perceived stress as ascertained using the 10-item Perceived Stress Scale (PSS)^[11] and consent to participate. Participants received and completed the PSS at the pre-test, post-test, and follow-up stages. The PSS items (Cronbach's $\alpha = .734$) were rated on a scale ranging from 'never' to 'very often'.^[11]

The CTI for stress lasted for 6 weeks (2 hours, twice per week). A 4-week follow-up was performed three months after the intervention was concluded. The CTI encompassed strategies for building critical thinking skills that included Socratic questioning,^[12] generating, reasoning, analyzing, inferring, evaluating, and interpreting.^[13] Borun et al's 5-step framework (determine learning objectives; teach through questioning; practice before assessment; review, refine, and improve; and provide feedback and assessment of learning) for teaching critical thinking to students was adapted to help the researchers effectively guide the study participants towards thinking critically.^[14] Using these procedures, the participants were equipped with critical thinking skills that would enable them to deal with stress. We used unpaired *t*-tests to analyze the collected data. Blinding was performed using procedures described in previous randomized controlled trials.^[15,16] There were no cases of dropout or withdrawal, and no reports of adverse effects from the intervention. SPSS version 22.0 was used for all analyses (SPSS Inc., Chicago, IL).

3. Results

Table 1 shows that there was no significant difference in the number of male and female undergraduate students who

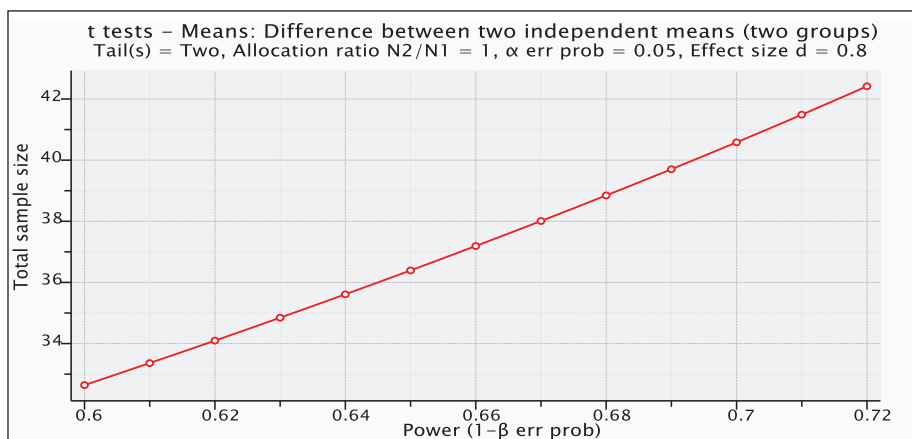


Figure 1. Sample size calculation with the aid of Gpower.

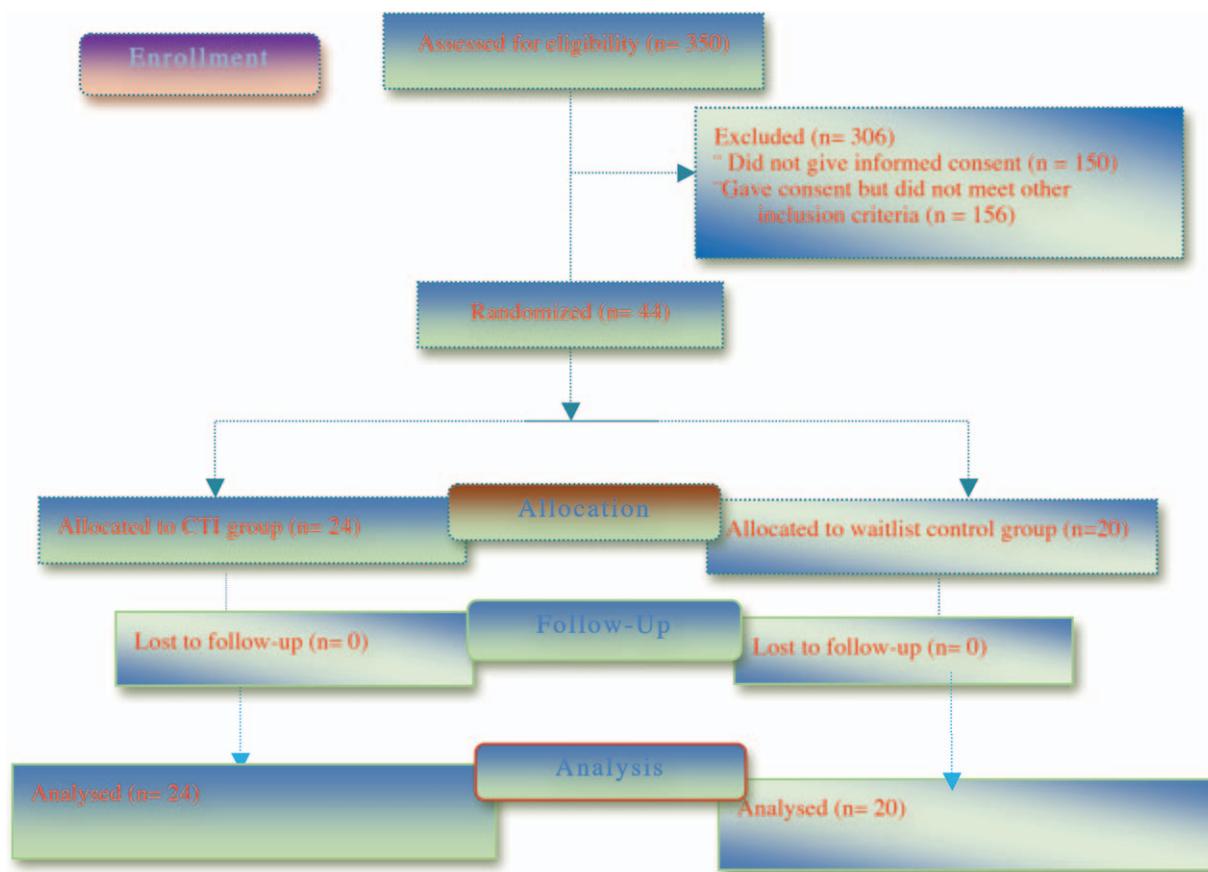


Figure 2. Enrollment/eligibility flowchart.

participated in the study ($P=.072$). However, there were significant differences in the age ($P=.000$) and tribe of the participants ($P=.020$).

The between-group analysis, as seen in Table 2, showed that the pre-test mean stress of the participants in the experimental group (34.67 ± 2.82) did not differ significantly from that of those in the control group (34.65 ± 2.64 , $t[42]=.020$, $P=.984$). The post-test showed that the mean stress of the participants in the experimental group (14.21 ± 2.79) differed significantly from that of those in the control group (32.40 ± 2.52 , $t[42]=-22.453$, $P<.001$). Similarly, the follow-up assessment showed that the mean stress rating of the participants in the experimental group (12.96 ± 1.85) differed significantly from that of those in the control group (32.10 ± 1.83 , $t[42]=-34.292$,

$P<.001$). This suggests that the CTI had a significant positive effect on stress management among undergraduates from adult education and extramural studies programs. Figure 3 further elucidates the significant mean change in stress across groups.

The within-group analysis, seen in Table 3, revealed significant positive changes in the mean stress of participants in the experimental group from the pre-test to post-test stages ($t[23]=26.30$, $P=.000$, $r=.08$), and pre-test to follow-up stages ($t[23]=37.10$, $P=.000$, $r=.30$). The mean stress of participants in the experimental group from post-test to follow-up further demonstrated the sustained positive influence of the CTI on mean stress ($t[23]=2.41$, $P=.000$, $r=.46$) among undergraduates in the experimental group.

Table 1
Demographic characteristics of the participants.

Demographics characteristics		Experimental	Control	N (%)	χ^2	P
Gender	Male	10	14	24 (54.55)	1.653	.072
	Female	8	12	20 (45.45)		
Age	≤20	6	4	10 (22.73)	18.845	.000
	20 to 30	14	15	29 (65.91)		
	≥30	4	1	5 (11.36)		
Ethnicity	Igbo	15	12	27 (61.36)	9.563	.020
	Hausa	4	3	9 (20.45)		
	Yoruba	5	5	10 (22.73)		

Table 2

Results of independent samples t-test for the difference in mean stress of the experimental and control groups' participants at pretest, posttest and follow-up.

Group	Assessment	n	Mean	SD	df	t	Sig.	Hedges' g
Experimental	Pretest	24	34.67	2.82	42	.020	.984	
Control	Pretest	20	34.65	2.64	42			
Experimental	Posttest	24	14.21	2.79	42	-22.453	.000	6.81
Control	Posttest	20	32.40	2.52	42			
Experimental	Follow-up	24	12.96	1.85	42	-34.292	.000	10.39
Control	Follow-up	20	32.10	1.83	42			

4. Discussion

The purpose of this study was to examine the effect of a critical thinking intervention on stress management among undergraduates of adult education and extramural studies programs. The findings showed that at the pre-test assessment stage, a high level of stress was found among the study participants in both the treatment and control groups. However, after the intervention program, it was shown that the critical thinking intervention was significantly effective in reducing stress among the participants. Taking into consideration the evidence that critical thinking intervention is significantly effective in reducing students' stress, we would like to emphasize that previous research has supported the fact that as critical thinking increases, individuals' ability to deal with stress often increases as well.^[7]

Although one previous study reported an insignificant relationship between critical thinking and stress coping strategies,

the investigators did acknowledge that this outcome could have been due to the nature of the questionnaire utilized and, perhaps, the respondents' erroneous estimation of their critical thinking skills and stress coping strategies.^[8] Thus, there should be an objective estimation of students' skills in any given category such as application, analysis, synthesis, and evaluation, which require the kind of higher-order thinking that characterizes critical thought.^[17] Also, interventions for improving critical thinking skills should help students develop an understanding of how to make consistent observations by having them work through demanding examples and develop a checklist based on their own collective judgment.^[18] Interventions for improving critical thinking and stress management may benefit midwifery students, as it has been observed that up to 73% of them experienced stress during the program, with academic and psychosocial problems being among the main sources of stress.^[19]

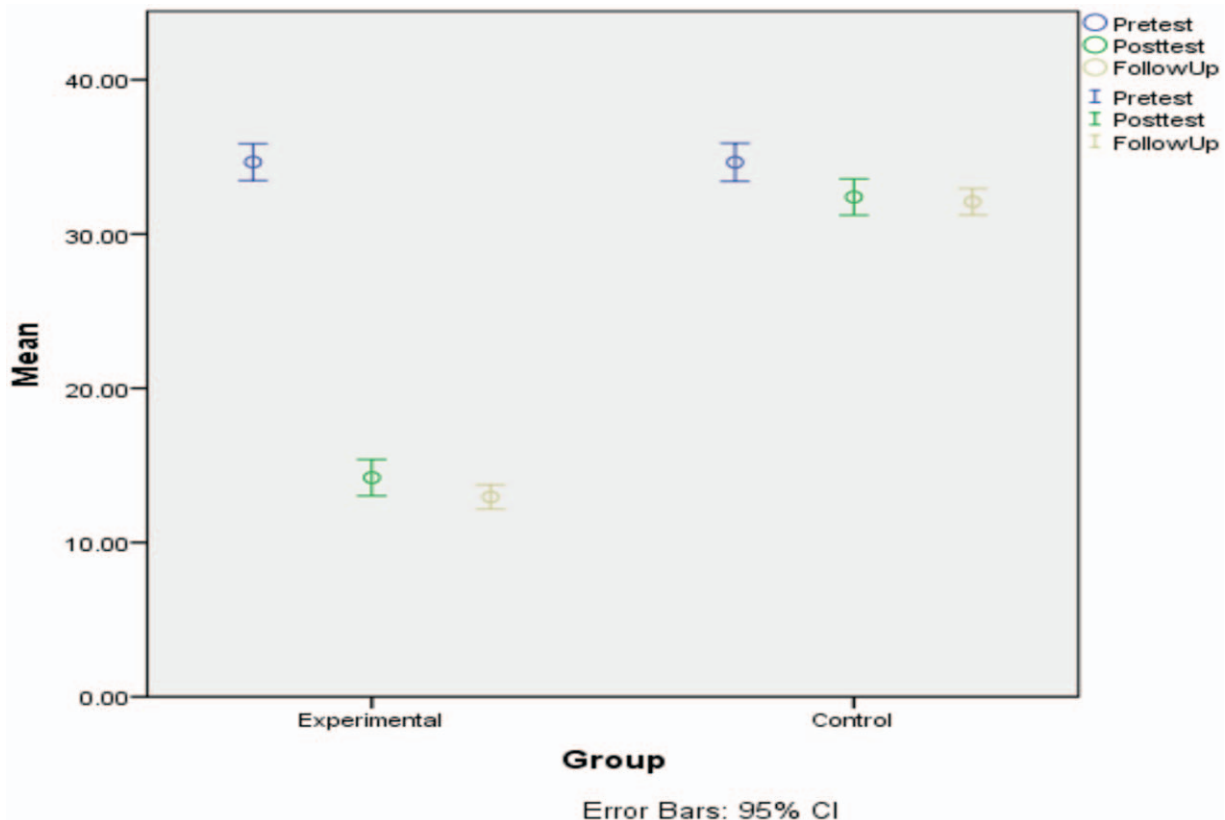


Figure 3. Significant mean change in stress across the groups.

Table 3**Paired *t* test for the difference in the mean stress of the experimental group participants at pretest, posttest and follow-up.**

		Paired Differences			<i>t</i>	df	Sig.	<i>r</i> (P value)
		Mean ± SD	SE M	95% CI				
Pair 1	Pretest – Posttest	20.46 ± 3.81	0.78	18.85, 22.07	26.30	23	.000	.08 (.71)
Pair 2	Pretest – Follow-up	21.71 ± 2.87	0.59	20.49, 22.92	37.10	23	.000	.30 (.15)
Pair 3	Posttest – Follow-up	1.25 ± 2.54	0.52	.18, 2.32	2.41	23	.024	.46 (.02)

More so, critical thinking interventions for stress management should equally involve medical students, as positive outcomes; positive student feedback; improved psychological health; improved physiological and immunologic health markers; improved quality of life, spirituality, and empathy; improved psychological states of mind; increased awareness about stress, its effects, and its management; and an improved ability to cope effectively and positively with stress have all been observed.^[20]

This study has added to the literature by showing that CTI is a valuable strategy for stress reduction in a university environment. One of the aims of the CTI approach is to decrease erroneous thinking and increase rational thinking through the inculcation of relevant critical thinking skills. The outcome of this study has implications for school counseling and philosophically oriented interventions in the future. There is a need for school counselors to collaborate with philosophy educators to develop other therapeutic frameworks based on the CTI approach to help undergraduate students deal with academic stress. Given that CTI demonstrated a significant outcome in reducing stress among undergraduates of adult education and extramural studies programs, we hope that similar interventions will be adopted to manage and prevent stress among students in other departments and disciplines.

Even though this study demonstrated a significant effect by a CTI on stress reduction, its limitations have to be acknowledged. The participants resided in Southeast and South-South Nigeria; therefore, the results cannot be generalized to all undergraduates of adult education and extramural studies programs in other parts of the country. In addition, our sample size was small, which could affect the generalizability of our findings. A larger number of participants should be utilized in future CTI studies.

5. Conclusion

This study added to the literature by showing that a critical thinking intervention is a valuable strategy for stress management in a university environment. The CTI demonstrated a significant effect on stress management among undergraduates of adult education and extramural studies programs. Therefore, we hope that similar interventions will be adopted as a way to manage the stress experienced by students in other departments and disciplines.

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References

- [1] Al-Dubai SA, Al-Naggar RA, Alshagga MA, et al. Stress and coping strategies of students in a medical faculty in Malaysia. *Malays J Med Sci* 2011;18:57–64.
- [2] Sajid A, Ahmad T, Khalid T. Stress in medical undergraduates; its association with academic performance. *Bangladesh J Med Sci* 2015;14:135–41.
- [3] Zhang R. The stress-buffering effect of self-disclosure on Facebook: an examination of stressful life events, social support, and mental health among college students. *Comput Hum Behav* 2017;75:527–37.
- [4] Solanky P, Desai B, Kavishwar A, et al. Study of psychological stress among undergraduate medical students of government medical college. *Surat Int J Med Sci Public Health* 2012;1:38–42.
- [5] Oduwaiye RO, Yahaya LA, Amadi EC, et al. Stress level and academic performance of university students in Kwara State, Nigeria. *MAJOHE* 2017;9:103–12.
- [6] Oku AO, Owoaje ET, Oku OO, et al. Prevalence of stress, stressors and coping strategies among medical students in a Nigerian medical school. *Afr J Med Health Sci* 2015;14:29–34.
- [7] Mahal R, Chawla A, Kanwar V. Critical thinking as a correlate of stress management among rural adolescent girls. *Adv Res J Soc Sci* 2015;6:32–5.
- [8] Najafianzadeh M, Khorsandi M, Abadi AM. Critical thinking skills and their association with stress coping strategies in the students of Arak University of Medical Sciences, Iran, Stride. *Dev Med Educ* 2014;11:387–93.
- [9] Saghaei M. Random allocation software for parallel group randomized trials. *BMC Med Res Methodol* 2004;4:26.
- [10] Faul F, Erdfelder E, Buchner A, et al. Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behav Res Methods* 2009;41:1149–60.
- [11] Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav* 1983;24:385–96.
- [12] Sahamid H. Developing critical thinking through socratic questioning: an action research study. *IJELS* 2016;4:62–72.
- [13] Noel L, Pierre S, Watson J. Critical thinking, decision making and mindfulness. *Fischler College of Education Student Articles* 2017;16. Available at: https://nsuworks.nova.edu/fse_stuarticles/16 [access date April 20, 2019]
- [14] Duron R, Limbach B, Waugh W. Critical thinking framework for any discipline. *IJTLHE* 2006;17:160–6.
- [15] Ugwoke SC, Eseadi C, Igbokwe CC, et al. Effects of a rational-emotive health education intervention on stress management and irrational beliefs among technical college teachers in Southeast Nigeria. *Medicine (Baltimore)* 2017;96:e7658.
- [16] Ugwoke SC, Eseadi C, Onuigbo LN, et al. A rational-emotive stress management intervention for reducing job burnout and dysfunctional distress among special education teachers. *Medicine (Baltimore)* 2018;97:e0475.
- [17] Bissell AN, Lemons PP. A new method for assessing critical thinking in the classroom. *BioScience* 2006;56:66–72.
- [18] Perkins DN, Swartz RJ, Costa AL, Bellanca JL, Fogarty R. The nine basics of teaching thinking. If minds matter: A foreword to the future Illinois: Vol. 2 Skyline Publishing Palatine; 1992;53–69.
- [19] Adiele D, Chamisa JA, Gundani GPM, et al. Association of academic stress, anxiety and depression with social-demographic among medical students. *Int J Soc Sci Stud* 2018;6:27–32.
- [20] Saiful M, Yusoff B, Esa AR. Azcarate MALV. Stress management for medical students: a systematic review. *Social Sciences and Humanities: Applications and Theories* 2011;IntechOpen,