


Irrational career beliefs in agricultural education students, demographics, impacts, and rational career education intervention

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Abstract

Background: Studies have shown that a good number of students admitted into Agricultural Science Education program in Nigerian universities exhibit irrational career interest which affects their perceptions, feelings, and academic behaviors. This study, therefore, explored the effect of rational emotive career education on irrational career beliefs among students enrolled in agricultural education program in federal universities in Enugu state. Three null hypotheses guided the study.

Method: Of the population (N = 79 students) targeted for the study and who underwent a screening exercise, 61 students were recruited as participants/sample size for the study. Sequence allocation software was used to assign 31 students into experimental groups and 30 into waitlisted control group. Participants in the intervention group received a rational emotive career education program that lasted for 12 sessions while those in waitlisted group did not receive the intervention. The participants in both groups were assessed at three points (Time 1, Time 2, and Time 3) using rational and irrational belief scale. A repeated measure (ANOVA) and partial eta square statistical tools were used to analyze the data collected.

Result: This study result showed that rational emotive career education significantly reduced irrational career beliefs among students enrolled in Agricultural Science Education program exposed to intervention group compared to those in waitlisted control group. It also showed that there was time × group interaction for irrational career beliefs. The follow-up assessment indicated that the efficacy of rational emotive career education was sustained overtime.

Conclusion: This study concluded that rational emotive career education is beneficial in reducing irrational career beliefs of university students enrolled in Agricultural Science Education program. Recommendations were also made in line with the results.

Abbreviations: ΔR^2 = adjusted R^2 , χ^2 = chi-square, t-test, ABS-2-AV = Attitude and Belief Scale-2-Abbreviated Version, CES = Career and Engagement Scale, CI = confidence interval, degree of freedom, F = value from ANOVA test, JAMB = Joint Admission and Matriculation Board, mean (SD) = mean (standard deviation), REBT = rational emotive behavior therapy, RIBS = rational and irrational belief scale, Sig. = Significance, ULA = unconditional life acceptance, UOA = unconditional other-acceptance, USA = unconditional self-acceptance.

Keywords: Agricultural Science Education program, career, irrational career beliefs, rational emotive career education, university students

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1. Introduction

Career is an important aspect of an individual's life; therefore, career choices are consciously and deliberately made as this culminates into a long-term benefit for an individual. Irrational career beliefs are those thoughts or ideas that create barrier or impediment to the progress of one's career path. Irrational carrier beliefs could be harmful in most cases and if left untreated, may ultimately lead to dissatisfaction and low performance in a chosen career path.^[1] Many factors such as peer pressure, societal norms, and parents' perfectionism influence irrational career beliefs among students.^[2] Among many students in Nigeria, making proper career choices is always a difficult venture. Part of the reason for this is pressure on the Nigerian higher institutions today for admissions which is on consistent increase due to teaming population whose emphasis is education and to many of these institutions, there is no corresponding increase in facilities and structures to enable them absorb admission seekers.^[3,4] As a result, admission seekers opt for alternative career choices, often regarded as "the unpopular" ones.

Specifically, agricultural education is a program in which students can make their career choices. Career choices is expected to be consciously and deliberately made because its impact goes well into an individual's long-term reality but this fact may not be true among many students in Nigeria. In most cases, admission seekers opt for alternative unpopular career choices. This means that, the seemingly more prestigious and more popularly known career choices are substituted with available career choices. This pressure has led many youths into career paths they never planned to take or desired. The inability of career seeking individuals to get their preferred choice brings about dissatisfaction and further results in remarkable and identifiable negative attitudes such as inferiority complex or low self-evaluation^[5] leading to irrational career beliefs.

Irrational career beliefs are seen as those thoughts and feelings exhibited by an individual which hinder career decision-making due to their inauspicious consequences. If a student chooses agriculture as a career having mixed feelings and doubt about agriculture, such a person may be less intrinsically motivated and may not always be willing to invest time and energy into the career.^[6] The concept of irrational career beliefs is used in the context of this study because we evaluated irrational career beliefs based on negative impacts on career decisions, not that the beliefs are inherently bad. This suggests that irrational career beliefs are the misconception, poor interpretation, false assumptions, and erroneous expectation about career. Studies in the past have used several terms to express irrational career beliefs such as dysfunctional career thoughts,^[7] negative career thoughts and feelings,^[8] and negative career thoughts.^[9] All these represent mechanisms that show negative perception of career.

These irrational career beliefs have been identified among university students of agricultural education program. It has been reported in the past studies^[10,11] that a considerable number of Nigerian University students have demonstrated dysfunctional career beliefs in pursuit of their studies. In Nigeria, it is common to hear students enrolled in agricultural education programs make such comments like "I would not be respected in the society because of my career"; "my opportunities in this career for economic stability are few and unreliable"; "I deserve a more prestigious career"; "I won't be as successful as I should if I remain in agricultural education"; "I don't feel confident being publicly called an agricultural education student"; "If not because of my inability to score higher in Joint Admission and

Matriculation Board (JAMB), I could have been in medicine or pharmacy instead of agricultural education". Most of the students who make such comments are not happy in their given courses. Some of them take JAMB examinations repeatedly in order to change courses. When this fails, they end up remaining in the program with low academic performance, and thus become a source of concern for their academic departments. The pressure to get admission has led many youths into career paths they never planned for or desired and the failure of these individuals to have their preferred choices had become the bedrock for career dissatisfaction and some negative attitudes such as inferiority or low self-evaluation.^[5] This can also be associated with irrational career beliefs.

Relating irrational career beliefs to negative beliefs about self and the world of work could result to career disbeliefs and indecisions. Consider a hypothetical case where a student of agricultural education is cognitively distorted from accepting basic requirements during the first year. This could impede the expected academic performance as well as reduce the possibility of making a realistic career decision. Therefore, how negative beliefs relate to irrational beliefs is obvious in that the existence of dysfunctional beliefs can largely affect personality factors responsible for career decision-making process. We argue that many cognitive and affective mechanisms mediate the detrimental effects of negative thoughts.

Irrational beliefs which often stem from misinformation, preconceived notions, and poor or lack of information are nonpragmatic or unrealistic.^[12] Belief system has influence on behavior and these thoughts could affect feelings, motivation, interest, skill acquisition, career decision, stress level, and career development.^[2,9,13] Irrational beliefs are often a product of poor information, misinformation, or preconceived notions. The term irrational may also be regarded as an aberration from reality and can be termed untrue. Irrational beliefs fall into four major categories: demandingness beliefs, which are rigid beliefs regarding how things should be done; catastrophizing beliefs, which are extreme evaluation of negative outcomes; frustration intolerance, which are extreme negative evaluations of adverse events; and self-downing beliefs, which are extreme evaluations of one's self.^[14] In other words, demandingness beliefs refer to rigid thinking regarding how things should be performed, and catastrophizing beliefs means extreme evaluation of outcomes negatively. On the other hand, frustration intolerance denotes extreme negative evaluations of adverse events, and self-downing beliefs means extreme evaluations of one's self. Each of these categories of irrational beliefs is negative in nature^[15] and results in erroneous cognitive, behavioral, and emotional responses.

Research has shown that beliefs can often impact behavior, feelings, motivation, interest, skill acquisition, career decision, stress level, and career development.^[2,9,13] Hyland et al^[14] opine that irrational beliefs are predicted to generate dysfunctional outcomes. Irrational beliefs are therefore erroneous and unfruitful thought patterns formed as a result of diverse experiences or limited information which oftentimes are not according to logic or empirical facts. Worthwhile beliefs are important as they guide life endeavors but sometimes people may have irrational beliefs.

These irrational beliefs are opposed to rational philosophies which state that people can choose to have unconditional self-acceptance (USA), unconditional other-acceptance (UOA), and unconditional life acceptance (ULA). Irrational beliefs exist in daily life; however, they are also obtainable in the world of career.^[12] Hyland et al^[14] also argue that irrational beliefs are

predicted to generate dysfunctional outcomes especially as they exist in daily life and may be obtainable in the world of career. Irrational carrier beliefs could often be harmful, and if not treated, ultimately lead to dissatisfaction or less than optimal performance in a chosen career path.^[11] The existence of irrational beliefs, especially at the early period of professional development, is the reason for the term “irrational career beliefs”.^[12]

It is necessary to note that career holds long-term prospects for an individual’s future, and so, it is important to identify and resolve issues that could pose an impediment to progress in one’s chosen career path especially at the early stage of a student’s career training or education.

Review of literature revealed that career education is an effective means of identifying and handling irrational career beliefs among students to assist them towards making realistic career decisions.^[16,17] Career education has been crucial in addressing career indecision issues and dysfunctional career beliefs such as “*I won’t be appreciated if I choose this career*”, “*I would not have as much opportunities if I choose this career*”, “*This career doesn’t suit my personality*”, “*This career is for smarter people*”, “*This career is for the never-do-wells*”, etc. Each of these comments is associated with irrational career beliefs which have been identified to have adverse effect on career decisions, acquisition of new skills, career problem solving abilities, in addition to hampering career progress.^[2,18] In this light, little empirical research has been conducted on irrational career beliefs^[19] especially in Nigeria. Given the growing career indecision and occupational maladjustment which irrational career beliefs have caused in most developing countries, past literature has blamed it on limited psycho-educational interventions that can combat negative ideological beliefs about life including the world of work.^[20,21] Hence there is a serious need for researchers in the field of vocation counseling, entrepreneurship, and occupational psychology to engage in research that can promote realistic career beliefs among students in their early careers.^[11]

Researchers in different studies have explored and recommended reduction of career indecision caused by irrational beliefs and associated negative impacts on carrier paths of individuals using cognitive behavioral approaches.^[11,17,18,22]

Cognitive behavioral approaches refer to psychotherapeutic treatment that helps individuals understand the thoughts and feelings that influence their behaviors. In administering a given cognitive behavioral approach, people learn how to identify and change destructive or disturbing thought patterns that have a negative influence on their behaviors and emotions.^[23] One of the cognitive behavioral therapy is Rational Emotive Behavior Therapy (REBT).

REBT, propounded by Ellis^[24] has its root in the rational emotive theory which proposes that rational and irrational beliefs are the key predictors of psychological outcomes. To Ellis, man has a tendency to live rationally as well as irrationally.^[22] REBT is centered on identifying and altering irrational thought patterns which influence cognitive and behavioral interpretations.^[22,25] REBT has had a wide range of application over the years for reducing irrational thoughts and feelings that have unhelpful effects on various aspects of an individual’s career. Irrational career beliefs have adverse effects on individual’s attitude towards a career.^[17] Therefore, REBT counselors are expected to use cognitive and behavioral skills in helping students to decrease negative thoughts which pose as cognitive and emotional barriers that interfere with career decision-making

and successful career development.^[17] Irrational beliefs could be addressed through cognitive disputation – such as providing facts that such beliefs cannot be justified by any known proof, logical disputing of over generalized and illogical beliefs, which implies giving thoughtful and wholesome views about events and pragmatic disputing.^[12] Considerable empirical studies have shown that REBT is quite effective in individuals and groups.^[11,12,17] Given the effectiveness of REBT, the researchers crafted rational emotive career education.

Rational emotive career education is therefore a program that integrates the skills in identifying and handling irrational beliefs with skillful training and development of individuals in work-related experiences and decisions. This manual was adapted from an REBT career program manual.^[11] This program manual was adapted to help participants identify, challenge, and alter irrational career beliefs interfering with career and career decision-making among agricultural education students. Theoretically, the significance of REBT is far reaching in that without REBT-practitioners in the field of career counseling and occupational psychology, maladjustment in the world of work, career conflict, and career self-efficacy disbeliefs will continue to destroy early career youths in developing nations like Nigeria. Studying the relevance of the belief system of students about career decision-making process may be difficult without taking cognizance of the theory of irrational versus rational beliefs as proposed by Ellis.^[26] Recently, Ogbuanya et al^[11] stated that irrational career beliefs of students in vocational education including those in agricultural education program can only be studied using rational career counseling intervention. REBT principle is very significant as it helps students in all fields of study to rationally confront cognitive and behavioral factors responsible for irrational career beliefs.^[27,28]

Thus far, the roles of psychological interventions for decreasing irrational career beliefs which are responsible for career indecisions and poor career engagement have not been explored within the context of Nigerian university students especially those enrolled in Agriculture Science Education. There are a few studies, for example, Ref. 11 that have been undertaken in the Nigerian context, involving university students enrolled in Agriculture Science Education.

The purpose of this study is to determine the effects of rational emotive career education program on irrational career beliefs among students enrolled in Agricultural Science Education program in universities in Enugu state. Based on this, we hypothesized that:

- (1) there will be a significant difference between mean ratings of participants in the treatment group and those in the wait-listed control group at pretest and posttest,
- (2) there will be a significant difference between mean ratings of participants in the treatment group and those in the wait-listed control group at posttest and follow-up assessment, and
- (3) there will be significant time × group interaction effect for reduction of irrational career beliefs of participants in the treatment group and wait-listed control group.

The third hypothesis was formulated to test if time of assessments could interfere with the groups where participants belonged. If a decline occurs or lines are not parallel, then this is interpreted as the interaction between time and group. Technically, all this interaction says is that the experimental and waitlist control group lines at Time 1, Time 2, and Time 3 could be parallel or not.

2. Method

2.1. Ethical adherence and approval

Institutional-based review board of the research approved this study. The participants completed a written informed consent letter. Also, we followed the ethical considerations of human participants as enshrined in American Psychological Association.

2.2. Measures

Two instruments namely Attitude and Belief Scale-2-Abbreviated Version (ABS-2-AV) and Career and Engagement Scale (CES) were used to assess the students.

2.2.1. Attitude and belief Scale-2-Abbreviated version (ABS-2-AV). The ABS-2-AV is a 24-item measure of rational and irrational beliefs processes adopted from Hyland et al.^[14] Each item was scored on a five-point Likert scale consisting of *strongly disagree*, *disagree*, *undecided/neutral*, *agree*, and *strongly agreed*, with values 1–5 assigned for scoring respectively. The researchers found a good internal consistency (Cronbach's alpha) of 0.77 for ABS-2-AV.

2.2.2. Career and engagement scale (CES). The CES consisted of a 10-item test scale adapted from the career engagement scale by Hirschi et al.^[29] This was used to measure positive pro-active career behaviors and was prepared on a 5-point Likert scale of *almost never*, *occasionally*, *moderately*, *quite often* and *very often*. In this study, the Cronbach alpha statistical analysis was conducted in this study area and the internal consistency was 0.83. Higher scores indicated positive career attitudes/behaviors which had a relationship with rational beliefs while lower scores indicated negative career attitudes which had a relationship with irrational beliefs. The scores range from 10 to 50 with ≤ 24 indicating negative career attitudes while scores above 24 indicated positive career attitude.

2.3. Participants and procedure

The study population was 79 Agricultural Science Education students in University of Nigeria, Nsukka, who were invited orally to be assessed for eligibility immediately after their lectures. Of the total number, a total of 61 participants met the study inclusion criteria. The inclusion criteria procedure consisted of (1) completion of participants' consent form, (2) participants' consent to be available throughout the study period, and (3) presence of irrational career beliefs and poor career engagement. The presence of irrational career beliefs and poor career engagement were determined from the measures of ABS and CES. The same measures were used to ascertain the baseline data of the problem. On the other hand, the exclusion criteria were cases of illness and/or inability of participants to meet the aforementioned criteria. Eligible participants were randomly assigned to one of two groups: the treatment group (30 participants) and the waitlist control group (31 participants) by means of simple randomization – see Figure 1.

The simple randomization process involved the participants picking cards. Each of the cards had either a "TG" or "WCG" inscription on it. The "TG" stood for treatment group and "WCG" for waitlist control group – see Figure 1. The inscriptions on the cards were made based on a computer-generated random list, using Sequence Allocation software. Attendance to group sessions of the rational emotive career education program was

scheduled at an agreed time with the participants via online media (WhatsApp) to ensure full participation and commitment at student's convenience. Introductory aspects of the intervention were also carried out online with the consent of the participants and for convenience due to the varying year levels and activities of the participants. Intervention sessions for the treatment group at later stages were organized on-site in a classroom, while the waitlist control group was discharged. A twelve-session intervention program was implemented for participants in the treatment group for 12 weeks, facilitated by counselors.

Sessions 1 and 2 were to develop group cohesiveness and to expose participants to the objective and purpose of the research, scheduling, and role expectations. Sessions 3–6 focused on identification of irrational career beliefs, establishing the link between negative career thoughts and career decision-making, disputing negative career thoughts and replacing them with functional ones. Sessions 7–10 was based on building and strengthening of functional career thoughts, preparing participants for the task of becoming their own future career guides, and development of problem-solving skills for dealing with career related concerns. Sessions 11 and 12 focused on finding out how individual participants have put the skills learned into use in making career-related decisions and choice, to obtain posttest data, and to assist participants to develop cognitive hardiness skills against relapse. An external observer was actively involved during the treatment sessions. The observer recorded the rate of participation for each participant in terms of time. The observer ensured that the therapists fully implemented the treatment manual. Participants in the experimental and waitlist control groups completed ABS-2-AV and CES posttest. Follow-up assessment was performed 3 months later for treatment group participants. The posttest was administered, supervised, and retrieved by the researchers. Given that some of the participants were waitlisted, they were scheduled to begin the REBT program immediately after the follow-up. At the end of the treatment and follow-up assessment, emails and text messages were sent to waitlisted participants to meet at the Agricultural Science Education department. At this point, the waitlisted participants were informed of the objective of the study, the time frame, and importance of the treatment sessions. Of course, as a comparison group, they were evaluated before receiving the treatment. The same treatment was implemented for them by the same REBT counselor. Notably, there was no dropout probably because of the incentives given to participants in treatment group and comparison group.

2.4. Intervention

An REBT career program manual was used.^[11] This program manual was adopted to help participants identify, challenge, and alter irrational career beliefs interfering with career and career decision-making among agricultural education students. In the first session, the rational emotive career counselors established a coaching relationship/rapport with participants; the counselor explains key concepts in the study and acquaints the participants with the irrational beliefs about their career as presented in the ABS-2-AV. The rational emotive career counselors and the participants together explored the thoughts and the manner in which it influences career development. The cognitive disputational technique of REBT using the ABCDE model was used to identify experiences that may lead to dysfunctional thoughts and counter such using more logical and contradictory evidence in the

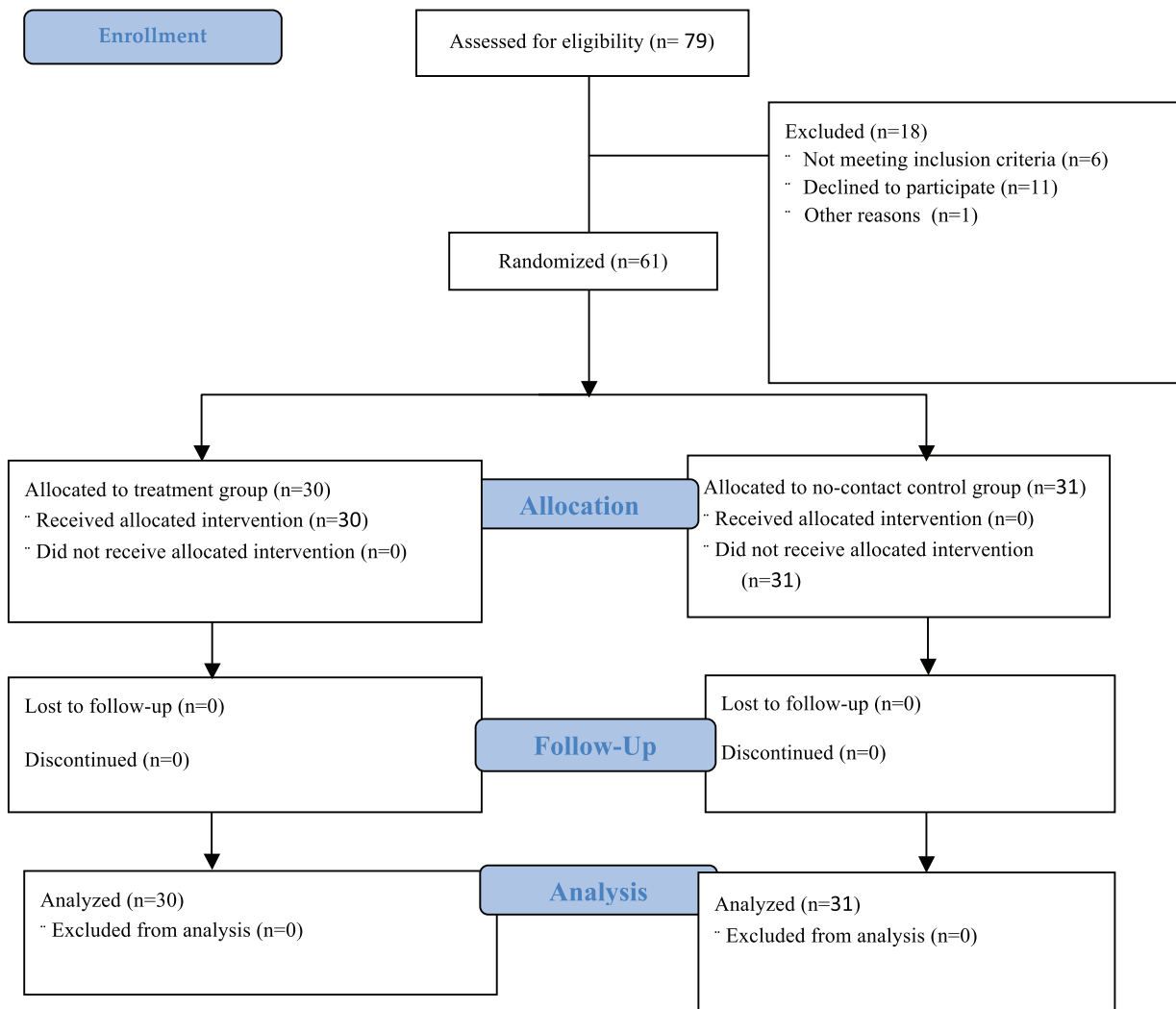


Figure 1. Participants' eligibility flow chart.

form of questioning to achieve a more logical and flexible thought pattern.^[17,30] Imaginal disputation was also involved, requiring participants to use imagery to examine the experiences or circumstances which has led to negative feelings and dysfunctional thoughts.^[31] According to Ellis,^[30] the best way to handle dysfunctional thoughts is by replacing the former with new positive thoughts, and this can be achieved through effective disputation and cognitive reconstruction. These positive thoughts will improve self-acceptance which can also be translated into career acceptance.^[31] With the REBT program manual, the participants were further exposed to cognitive restructuring exercises – this technique has been shown to be effective in disputing negative career thoughts of students.^[32] Based on the recommendation in the program manual, the rational emotive career counselors also adopted the cognitive career counseling approach^[33] to effectively mitigate the cognitive barriers associated with career thoughts of the participants. The intervention activities were implemented through group facilitation and application of REBT techniques (such as homework assignments, role-playing exercises, skills training, and meditation) to dispute participants' negative career thoughts. Despite

the progress recorded in the intervention, we noted some barriers during the intervention program such as late responses during the online sessions, poor network services, students holiday break, the inability of all participants to be online at the scheduled time, and varying timetables for the various academic levels of participants which made it difficult for time scheduling.

2.5. Study design and data analysis

A randomized control trial of pretest–posttest control design was adopted for this study.

The effect of rational emotive career education on irrational career beliefs among students enrolled in Agricultural Science Education program was established statistically using repeated measures 2-way analysis of variance (ANOVA). Partial eta square and adjusted R^2 values were used to report the effect size of the intervention on irrational career beliefs among students enrolled in Agricultural Science Education program. Confidence intervals for the intervention at various times were reported accordingly. The assumption of the sphericity of the test statistic was tested using Mauchly test of sphericity which was not

Table 1
Demographic characteristics of the participants across treatment and waitlist control groups.

Demographics	Treatment %	Control %	χ^2	<i>P</i>
Gender				
Male	13 (43.3)	12 (38.7)	0.135	0.714
Female	17 (56.7)	19 (61.3)		
Age				
16–20	17 (56.7)	19 (61.3)	0.135	0.797
21–24	13 (43.3)	12 (38.7)		
Year of study				
1st year	10 (33.3)	8 (25.8)	1.366	0.714
2nd year	8 (26.7)	11 (35.5)		
3rd year	8 (26.7)	6 (19.4)		
4th year	4 (13.3)	6 (19.4)		
Mode of entry				
Direct entry	9 (30.0)	11 (35.5)	0.208	0.648
Joint Admission Matriculation Board (JAMB)	21 (70.0)	20 (64.5)		
No. of JAMB attempted				
One	8 (26.7)	12 (38.7)	2.957	0.565
Two	7 (23.3)	9 (29.0)		
Three	9 (30.0)	4 (12.9)		
Four	4 (13.3)	4 (12.9)		
Five and above	2 (6.7)	2 (6.5)		
Family type				
Strict	7 (23.3)	6 (17.4)	0.186	0.911
Democratic	15 (50.0)	17 (54.8)		
Protective	8 (26.7)	8 (25.8)		
Socio-economic background				
Below average	9 (30.0)	6 (19.4)	1.389	0.499
Average	15 (50.0)	20 (64.5)		
Above average	6 (20.0)	5 (16.1)		
Parental occupation				
Civil service	12 (40.0)	17 (54.8)	1.346	0.246
Business/Trading	18 (60.0)	14 (45.2)		

% = percentage, JAMB = Joint Admission and Matriculation Board, *P* = probability value, χ^2 = Chi-square.

significant (Mauchly $W=0.761$, $P=0.623$), implying that the assumption was not violated. It further indicates that the variances of the differences between all combinations of the related measures are equal. The analysis was done using Statistical Package for Social Sciences (SPSS) version 18.0. The impact of irrational beliefs of students on their career engagement was established using simple linear regression analysis. There was no missing data during data analysis.

3. Results

3.1. Demographic questionnaire

The demographic questionnaire solicited information about participants. Table 1 shows that there is no significant difference in the demographic characteristics (gender, age, year of study, mode of admission, number of JAMB exam attempts, family type, socioeconomic background, and parental occupation) of the experimental group and the wait-list control group, $X^2=0.135$, $P=0.714$; $X^2=0.135$, $P=0.797$; $X^2=1.366$, $P=0.714$; $X^2=0.208$, $P=0.648$; $X^2=2.957$, $P=0.565$; $X^2=0.186$, $P=0.911$; $X^2=1.389$, $P=0.499$; $X^2=1.346$, $P=0.246$.

Table 2 reveals that there was no significant difference between the experiment and control groups in initial irrational career beliefs among students enrolled in Agricultural Science Education program as measured by ABS-2-AV, $F(1,67)=.973$, $P=0.856$, $\eta^2=.014$, $\Delta R^2=.016$. At the posttreatment and follow-up

measures, the effect of rational emotive career education on irrational career beliefs among students enrolled in Agricultural Science education program was shown to be effective, $F(1,67)=143.087$, $P=0.000$, $\eta^2=.762$, $\Delta R^2=.851$ and $F(1,67)=165.824$, $P=0.000$, $\eta^2=.813$, $\Delta R^2=.901$. The results also showed that there was a significant interaction effect of time and group on irrational career beliefs among students enrolled in Agricultural Science Education program, $F(2,63)=5.643$, $P=0.041$, $\eta^2=.286$, $\Delta R^2=.341$. Figure 2 shows the graph of the interaction effect of time and group. The direction of waitlisted control line going down at Time 2 is an indication that there is a decline at the second assessment which is different from the experimental group. This is the interaction between group and time and does show that the lines are not parallel.

Table 3 shows that the correlation coefficients between irrational beliefs of students and their career engagement is -0.702 with a coefficient of determination of 0.49 . This indicates that there was a high negative relationship between irrational beliefs of students and their career engagement. Besides, the coefficient of determination of 0.49 implies that 49% variation in the career engagement of students can be as a result of their irrational beliefs. Furthermore, the analysis showed that irrational belief has a significant impact on the career engagement of the students, $F(1, 68)=384.031$, $P=0.000$. Table 4 also shows that career indecisiveness of agricultural education students is attributed to irrational beliefs.

Table 2
Summary of rational emotive career education program.

Objectives	Time frame	Intervention sessions	Session goals	Intervention activities	Technique
Familiarization and understanding of concepts	Weeks 1–2	Sessions 1–2 Introduction	- To develop group cohesiveness. - To expose participants to the objective and purpose of the exercise, scheduling, and role expectations.	Building a coaching relationship with participants through coach-directed interactions. Explanation of study concepts and objectives.	Relationship technique Questioning and direct teaching.
-Identification and exposition of irrational career beliefs -Establishing the link between negative career thoughts and career decision-making. - Disputing negative career thoughts and constructing	Weeks 3–6	Sessions 3–6	- To assist participants in gaining better insights on the relationship between career decision problems and negative thinking. - To cognitively restructure participants' negative career thoughts to adaptive and helpful thoughts. - To cognitively restructure participants negative career thoughts to adaptive ones through group members' collaborative learning.	Items from the ABS-2-AV are examined and handled based on the REBT model. Interactions between thoughts, emotions, behaviors, and career are established.	Direct coaching Cognitive disputation and Cognitive restructuring Home assignments.
- Building and strengthening of functional career thoughts - Preparing participants for the task of becoming own future career guide. - Development of problem-solving skills for dealing with career-related concerns.	Weeks 7–10	Sessions 7–10	- To assist participants to develop resilient skills related to career decision-making - To assist participants in gaining career-related self-acceptance. - To assist participants to develop and use self-help skills and cognitive disputing methods for overcoming career-related concerns.	- Use of examples and imaginary scenarios to establish a more acceptable and functional thought pattern - Teaching rational career emotive education - Teaching participants on how to identify pragmatic problems related to career thoughts.	Reframing Use of humor Cognitive rehearsal Self-acceptance exercises.
Progress assessment	Week 11–12	Sessions 11–12	- To find out how individual participants have put the skills learned into use in making career-related decisions and choice. - To obtain posttest data - To assist participants to develop cognitive hardiness skills against relapse.	Teaching rational self-report assessment technique.	Questioning Thought monitoring assignments Relapses prevention.
Follow-up	After 3 months		- To acquire follow-up data through follow-up evaluation.	Coach-directed interactions on the effectiveness of skills learnt. Evaluation and acquisition follow-up data	Self-report assessment. Interpersonal learning technique.

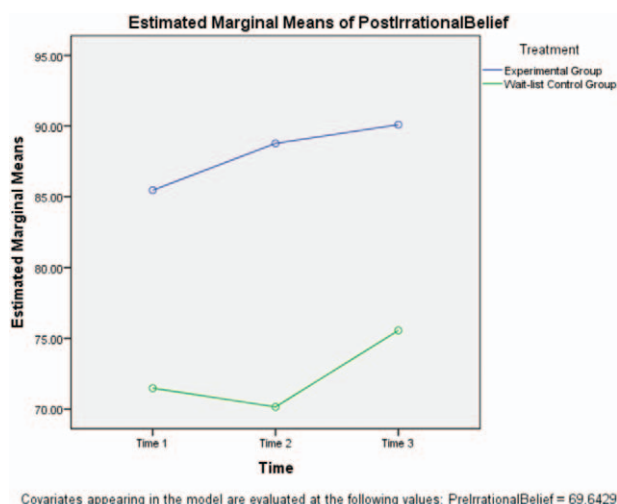


Figure 2. Graph of Time×Group interaction effect on irrational beliefs of students.

4. Discussion

The finding of this study reveals that there was no significant difference between the experimental and control groups in initial irrational career beliefs among students enrolled in Agricultural Science Education program. At the posttreatment and follow-up measures, the effect of rational emotive career education on irrational career beliefs among students enrolled in agricultural education program showed that there was a significant interaction effect of time and group on irrational career beliefs among students enrolled in Agricultural Science Education program. This finding agrees with Ogbuanya et al [17] who found that REBT is effective in the reduction of negative career thoughts of students in Technical Colleges in Nigeria and could have a prolonged effect when followed up. The findings of Lim et al [34] also showed that cognitive behavioral therapy is effective in the development of positive and more functional career attitudes in nursing students in Korea, further supporting the findings of this study since REBT is a cognitive behavioral-based intervention. This goes further to indicate that the effectiveness of REBT on career attitudes goes beyond just Agricultural Education students in Nigeria to also students in other disciplines

Table 3

Repeated measures analysis of variance (ANOVA) showing the effects of rational emotive career education on irrational career beliefs among students enrolled in agricultural education program.

Time	Measures	Group	Mean (SD)	F	P	η^2	ΔR^2	95% CI
1 Pre-treatment	ABS-2-AV	Treatment	75.94 (12.44)	0.973	.856	.014		
		Control	76.02 (22.32)					
2 Post-treatment	ABS-2-AV	Treatment	32.81 (5.74)	143.087	.000	.762		
		Control	74.03 (8.89)					
3 Follow-up	ABS-2-AV	Treatment	30.17 (6.35)	165.824	.000	.813		
		Control	73.16 (12.16)					

ΔR^2 = adjusted R^2 , η^2 = effect size, ABS-2-AV = Attitude and Belief Scale-2-Abbreviated Version, CI = confidence interval, Mean (SD) = mean (standard deviation), P = probability value.

in other parts of the world. It is therefore important to target clients' career-related irrational beliefs with the aim of modifying such beliefs to rational ones that would promote effective career decision-making.

In line with the outcome of the present study, earlier REBT-based studies^[35,36] had supported the application of REBT in counseling students with negative career beliefs. This can mitigate the maladaptive perceptions that adversely influence people's career decisions.^[35] Past empirical evidence has demonstrated that rational-emotive approaches are recommended in clarifying and disputing negative perception that could hinder maximal career functioning of students.^[37] The intervention assists students with career-related irrational beliefs become more aware of the role of belief systems on feelings, behaviors, and physiological responses when they are faced with challenging situations in the university while attempting to achieve their goals. This is crucial as students in Nigeria are confused over how to cope with the future, what to do, and where to start. To reiterate, previous studies suggested that students with career-related problems can be assisted^[38] using rational-emotive techniques to surmount irrational beliefs.^[39] In addition, the present study corroborates previous studies that showed the effectiveness of REBT principles and techniques in alleviating the career-related problems,^[20,21,40–42] decrease career decision-making anxiety,^[28] and change and defeat irrational career beliefs.^[43,44] Career education as adopted in this study has been found to be effective in building positive career behaviors and tendencies, thereby enhancing career engagement and development. This is in line with the findings of Talib et al^[45] which indicate that career education module significantly enhanced career planning ability, self-efficacy, and career maturity among college students in Malaysia. Furthermore, Peng and Herr^[46] found career education to be effective in altering career beliefs and improving career decision making among business college students in Taiwan. The study established a relationship between

career beliefs and career performance as seen also in this study. In addition, career education courses were used as intervention which yielded a positive impact, thus leading to the replacement of dysfunctional thoughts with more functional and career friendly ones among Agricultural Education students. Previous studies also showed that having rational career beliefs can enable students to successfully solve career-related concerns.^[47,48] Like this study, other studies in the past also confirmed the efficacy of cognitive-behavioral techniques in improving accurate thoughts and decisions.^[15,49–50]

Implications of all this for professional practice is that REBT techniques should be adequately utilized by its practitioners in school settings. Doing this will drastically reduce the irrational career assumptions and perception causing unemployment after graduation. Also, school counselors and similar professionals are encouraged to review the principles and techniques of REBT before and during practice. This will help them advance their REBT practices.

4.1. Limitations

As with quantitative studies, the current study acknowledges some limitations and these include:

- (1) The inability to use career irrational belief scale which specifically measures the construct. However, this did not affect the findings of the study as the belief scale was used to assess the outcome of the treatment.
- (2) Instead of sampling students across other fields of study, only students enrolled in Agricultural Science Education program participated in this study, and this means that the findings cannot be generalized to all the students in Nigeria or elsewhere.
- (3) This study did not consider possible mediators and moderators which would have been anchored on demographic information of the participants for both groups.

Table 4

Regression analysis of the impact of irrational beliefs on students' career engagement.

Model	R	R ²	Adjusted R ²	Std. error of the estimate		
1	-.702*	.49	.47	8.69528		
Model	Sum of squares	Df	Mean square	F	Sig.	
1	Regression	29035.751	1	29035.751	384.031	.000†
	Residual	5141.335	68	75.608		
	Total	34177.086	69			

* Dependent variable: post career engagement.

† Predictors: (constant), post irrational belief.

Thus, some of the potential variables could have influenced the outcome of the study.

- (4) The number of students who participated in our study were very small, although the proportion of students that enroll in the Agricultural Science Education program annually is always very small. In that case, we had no option than to use the small sample.
- (5) The study did not make use of any qualitative method of gathering data. It may have been useful to employ other qualitative measures in order to uncover other factors responsible for the irrational career beliefs among students. Hence, it is suggested that subsequent studies consider these limitations when addressing issues of this kind especially students with irrational career beliefs.

4.2. Conclusion and recommendations

This study examined the rational emotive career education on irrational career beliefs among Agricultural Education students in University of Nigeria, Nsukka. The results show a reduction of irrational career beliefs among the students and an improvement in positive career attitudes which was measured by the career engagement scale. The study also shows a consistency of impact over time as seen in the follow-up results.

Based on the findings of the study, the following are recommended:

1. The adoption of rational emotive career education as a part of the student orientation program for freshers in Agricultural Science Education and subsequent follow-up sessions for students in other academic years or levels, to sustain the effectiveness of the procedure.
2. The incorporation of rational emotive career programs by the association of Agric Education Teachers Association of Nigeria (AVTEN) in their workshops, seminars, and conferences as a means of equipping agricultural education practitioners in various institutions in Nigeria.

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