

EFFECTIVENESS OF CAREER DEVELOPMENT AND COGNITIVE REFRAME THERAPY ON IRRATIONAL CAREER THOUGHTS AMONG SECONDARY SCHOOL STUDENTS IN OGUN STATE

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Abstract

Choosing a professional career is an important step that influences the aspirations of students. Students sometimes are unable to make a decision about the career they wish to pursue later in life. Career practitioners in Nigeria have observed that most secondary school leavers in Nigeria often make poor career decisions due to unrealistic vocational aspirations. Despite vast research on adolescents' career problems, irrational career thought remain largely understudied within the field of vocational psychology in Nigeria. This study examined the effectiveness of Career Development (CD) and Cognitive Reframe (CR) therapy in reducing irrational career thoughts of secondary school students. A sample of 96 Senior Secondary School one students with irrational career thoughts were purposively selected from three randomly selected Senior Secondary Schools in Ogun State Nigeria. There were two treatment conditions (CD and CR) that lasted for seven weeks. Career Thought Inventory ($\alpha = 0.86$) was use to collect data. Data were analyzed using Analysis of Covariance. There was a significant main effect of treatment on dysfunctional career thoughts of secondary school students. CD and CR were found to be effective in reducing irrational career thoughts of secondary school students. Implications of these on career development in Nigeria were discussed.

Keywords: Career development therapy, Cognitive reframes, Irrational career thoughts, Secondary school students, Nigeria.

Introduction

Making the right career choice that would keep adolescents relevant in the scheme of things in an emerging economy like Nigeria could be daunting and difficult. Nigerian adolescents in secondary schools are often preoccupied with so many thoughts of future career prospects. This, more often than not, often predispose these adolescents to irrational thoughts. Such irrational thoughts could be debilitating to the society and psychological well-being of adolescents. Transition from secondary school to workplace, college or university is a critical path through which every adolescent must pass through (Cassie, 2005). However, it is not uncommon to aver that many of these adolescents are left unguarded while transiting from college to workplace. Most often, parents, teachers, and friends have encouraged secondary school students to proceed to the university while a good number of secondary school students may end up attending universities without knowing why or what they intend to study. For many, this is an important time for career-related matters that will be beneficial to them. As they face the need to choose an academic major, as well as to develop career goals for the future, career problems often become a developmental phase they must pass through in making proper career choices for life.

Several studies have been conducted on adjustment difficulties adolescents face in relation to career and planning. (Hiebert, Collins & Robinson 2001; Magnusson & Bernes, 2001; Pyne & Bernes, 2002; Pyne, Bernes, Magnusson & Poulsen, 2002; Bardick, Bernes, Magnussson & Witko, 2004). Adolescents have received a lot of attention because it is at this stage of life that individuals first begin to prepare and eventually train themselves for a future career in order to become independent adults.

Career development process should start at an early age. Learning about different careers early could enable students have a better understanding of types of jobs they would want to explore in the future. Career process may start formally as early as primary school and could continue throughout secondary school because of many uncertainties especially in an unstable economy like ours. Career uncertainty among secondary school students remains a constant challenge in the entire globe. According to Rosenbaum (2001), in a national survey in the United State of America, nearly all high school seniors (95%) plan to attend college. A study indicated that approximately 20 per cent of students who attend four year college are undecided as freshmen (Hayes, 1997). This transition from secondary school to university may be extremely difficult for many students, leaving them with unanswered questions and confusion when it comes to choosing a career. Adolescents in Nigeria are

not exempted from this career dilemma. The foregoing problem has led to several studies in career development among adolescents in secondary schools by some researchers over the years in Nigeria (Adeyemo, 1996, 1998, 1999; Kuti, 1979; Osakinle & Adegoroye, 2008; Salami, 1997, 2000). Writing on the dilemma faced by young adults, Schneider and Stevenson (1999) were of the opinion that career development is an important aspect of adolescent life. They reasoned that though adolescents were more than ever motivated, nevertheless, they appeared directionless. It can be reasoned that young people have high ambitions. They are naturally motivated and develop some great quest for good education. With all these, adolescents might have difficulties in developing coherent plans for achieving these goals. Career guidance and academic counselling can therefore, provide students with the necessary tools to set career goals, and give them an understanding of the education and skills needed to meet their goals.

Career decidedness is a dynamic and interactive problem space that has been the subject of research in Nigeria over the years (Adeyemo, 1996, 1998, 1999; Kuti, 1979; Salami, 1997, 2001a, 2001b, 2003, 2004, 2005; Salami & Onyeacho, 1998). Further studies showed that most secondary school leavers in Nigeria make poor career decisions because of their unrealistic vocational aspirations. It is reported that students select occupations mainly because of the salaries, positions, glamour and prestige attached to them (Salami, 1997). For instance, adolescents prefer medicine, engineering, law, banking, architecture, and pharmacy as professions they intend to enter into after graduating from secondary school without adequate knowledge of what it takes to succeed and achieve in those occupations (Salami, 2000). It is therefore important that secondary school counsellors help adolescents make satisfying educational and occupational decisions.

In a developing country like Nigeria, career counselling is needed as a vital tool for developing youths. The choice of a career especially among diverse options is usually a difficult task among adolescents. There is need to guide adolescents in planning for careers and making life fulfilling decisions. Again, the school system has been seen to be responsible for assisting adolescents in making competent career decisions that are appropriate to their abilities, attitudes, interests and other personality characteristics. School administrators must strive to assist students through adequate career counselling, providing guidance in career selection by qualified career counsellors in schools to help students overcome irrational career thoughts.

Sampson, Peterson, Lenz, Reardon and Saunders (1996) were the first scholars to identify irrational career thoughts as a component of career decision making process. Sampson et al. (1996) sought to enhance career decision-making among students by helping them reduce the impact of irrational career thinking on their career decisions, themselves, options, and decision-making abilities. These could contribute to indecision, anxiety and depression, which may in turn hinder proper career development and later life adjustment (e.g. inability to get a gainful employment after graduation may alter the ability to move from being a dependent adolescent to an independent adult.).

Irrational career thought according to Sampson et al (1996) is a perceptual way of viewing oneself in a manner that inhibits career problem-solving and decision-making. Researchers have found irrational career thoughts to be a strong indicator of career indecision (Osborn, 1998; Saunders, Peterson, Reardon, & Sampson, 2000). According to Saunders et al (2000) this accounts for 61 per cent of the variance in career indecision. Research has brought to the fore the presence of irrational career beliefs and thoughts in adolescence. This phenomenon has been labeled by various professionals in the past as myths (Dorn & Welch, 1985), self-defeating assumptions (Dryden, 1979), dysfunctional career beliefs (Krumboltz, 1990), and dysfunctional cognitions (Corbishley & Yost, 1989). All these point to the seriousness of irrational career thoughts among adolescents.

Some studies have further shown that irrational career thoughts are related to some emotional states in adolescents such as perfectionism (Osborn, 1998), anger expression (Strausberger, 1998), and depression (Saunders, Sampson, Peterson, & Reardon, 2000). These emotional states can be linked to decision-making problems. Sampson et al. (1996b) reported that the Career Thoughts Inventory (CTI) accurately discriminated between clients (those seeking career services) and non-clients, with clients always indicating more negative or irrational career thoughts. In all, the above stated studies suggest a relationship between irrational career thoughts and career decision which, in turn, interfere with the capacity for effective career problem-solving and decision-making. Career development and cognitive reframe therapy are designed to help identify and address irrational career thoughts which are not only theoretically relevant to career planning, but also practical in their application (Peterson, Sampson & Reardon, 1991). Classes in career development usually have self-

exploration and reflection built into their design and could contribute to developing self-confidence in student.

Career development therapy has been observed to have positive effect on students in general (Folsom & Reardon, 2000; Whiston, Sexton & Lasoff, 1998). Career development therapy had resulted in reduction of negative traits, including career indecision (Johnson, Nichols, Buboltz & Riedesel, 2002; Peng, 2001), irrational career thoughts (Reed, Reardon, Lenz & Leierer, 2001), as well as increases in positive traits such as career decidedness (Johnson, Nichols, Buboltz & Riedesel 2002). In addition, Folsom, Peterson, Reardon and Mann (2002) observed that students who completed an undergraduate career planning course had higher graduation rates when compared to the general student population (81% compared with 69%) and graduated with fewer credit hours on average than the general population (110 compared with 132).

People's perception about themselves and their career choice affect their ability to make decisions. Cognitive reframe focuses on actively changing the pre-existing schema underlying automatic thoughts that may hinder performance of a specific task (Kinnier & Krumboltz, 1986). Sampson et al. (1996) suggested that cognitive reframe may be one intervention counsellors can use to assist clients in combating irrational career thoughts. Most adolescents are unaware of the biases, misinformation, and distorted beliefs that they bring to career choice and that these presuppositions can lead to self-defeating and disabling experiences (Krumboltz, 1983). Elliott (1995) noted that negative self-statements can impair a client's ability to utilize occupational information, lead to career indecision, and inappropriate choices. Instruction in reframing, by which students learn to change their irrational thoughts to more functional ones is often an important part of cognitive reframe treatments.

According to Bandura (1977), one of the most effective ways to change cognitions is to change behavior. Based on this premise, cognitive reframe uses experience to create feedback loops, which challenges irrational thoughts and assumptions and increase positive feelings. The desired outcome of cognitive reframe is increased self-control by enabling more accurate processing of information and interpretation of events. The ultimate goal in cognitive reframe interventions is to teach clients the art of auto-cognitive reframe. Clients are trained to recognize, examine, and modify or refute maladaptive cognitions whenever they emerge in the future.

The positive effect of career development and cognitive reframe therapy has been consistently demonstrated in foreign countries as related in the studies cited above. In Nigeria, these have not been sufficiently done. Therefore, there is the need to investigate if these interventions will be useful so as to inculcate them into our schools' curriculum to help these students make the appropriate career choice as they transit from childhood to adolescence and finally to adulthood.

Although many studies have investigated factors influencing the career decision-making process in adolescence in Nigeria over the years (Adeyemo, 1996, 1998, 1999, 2001, 2006; Salami & Onyeacho, 1998; Osakinle & Adegoroye, 2008; Osakinle, 2009; Okafor, 2004; Salami 1997, 1999, 2000, 2001, 2005; Kuti 1979; Kolo, 1987), irrational career thought remain a largely understudied field within vocational psychology and career counselling in Nigeria. With this expressed problem, this study experimentally investigates the effectiveness of career development and cognitive reframe therapy on irrational career thoughts of secondary school students. In articulating this research problem, we postulated that there is no significant main effect of treatment on irrational career thoughts of secondary school students. Our assumption from this hypothesis is to experimentally establish the efficacy of CDT and CRT on irrational career thoughts among Nigerian adolescents. Knowing well that we could not cover a large population of adolescents, we limited our investigation to adolescents in Ogun State, Nigeria.

Method

Research Design

This study employed a pre-test, post-test and control group quasi-experimental design to investigate the effectiveness of career development and cognitive reframe therapy on irrational career thoughts among secondary school students. Through this design, we experimentally subjected the adolescents to two interventions (CD and CR).

Sample and Sampling Techniques

The study adopted the multistage and purposive random technique to choose the sample. There are 20 local government areas (LGAS) in Ogun State, Nigeria. Ogun State is one of the 36 states in Nigeria. It is in the Southern part of the country. Ogun State like many states in Nigeria has three senatorial districts (Ogun Central, Ogun East and Ogun West). This is delineated for political representation at the national assembly. Simple random sampling technique was employed to select one L.G.A each from the three senatorial districts and one school each was selected using the ballot system from each of the local governments selected.

Using the Career Thought Inventory by Peterson et al (1996) as the screening instrument, a sample of 96 Senior Secondary One (1) students with irrational career thoughts was purposively selected from three Senior Secondary Schools out of the 272 Senior Secondary Schools in Ogun State (CD Group 32, CR Group 30 and Control 34).

Demographic Information of the 96 participants in the study

<i>Variable</i>	<i>distribution</i>	<i>number</i>	<i>percentage (%)</i>
Gender	Male	48	50%
	Female	48	50%

Research Instruments

Career Thought Inventory: The Career Thought Inventory (CTI) of Sampson et al (1996) is designed to measure irrational career thoughts in career problem-solving and career decision-making. The CTI is based on the Cognitive Information Processing approach (CIP; Peterson, Sampson & Reardon, 1991; Peterson, Sampson, Lenz & Reardon, 2002; Peterson, Sampson, Reardon & Lenz, 1996; Sampson, Reardon, Peterson, & Lenz, 2004) derived from cognitive therapy (Beck, 1976; Beck, Freeman, Davis, 2004; Beck, Rush, Shaw & Emer., 1979), cognitive reframe (Meichenbaum, 1977), and information processing theory (Newell & Simon, 1972). The CTI is a self-administered instrument consisting of 48 negative statements to which individuals respond using a 4-point rating scale ranging from "Strongly Agree" (0) to "Strongly Disagree" (3). Typically, the CTI can be administered in 7 to 15 minutes. The CTI total scores range from 0 to 144 and represents a single global indicator of irrational career thoughts in career problem-solving and decision-making. Higher CTI total scores are indicative of greater levels of irrational career thoughts.

The CTI also yields scores on three construct scales. The 14-item Decision-Making Confusion (DMC) scale reflects an inability to initiate or sustain the decision making process as a result of disabling emotions and/or lack of understanding about the decision making process itself (Sampson et al., 1996). The 10-item Commitment Anxiety (CA) scale reflects an inability to make a commitment to a specific career choice, accompanied by generalized anxiety about the outcome of the decision making process. The 5-item External Conflict (EC) scale reflects an inability to balance the importance of one's self-perceptions with the importance of input from significant others, resulting in a reluctance to assume responsibility for decision-making. A typical example of the items in CTI are : I'm afraid if I try out my chosen occupation, I won't be successful; I can't think of any field of study of occupations that would suit me; I don't know why I can't find a field of study or occupation that seems interesting.

Sampson et al. (1996) reported Cronbach's alpha internal consistency reliabilities of 0.93 to 0.97 for the total score of the CTI, 0.90 to 0.94 for the DMCS (14 items), 0.79 to 0.91 for the CA scale (10 items), and 0.74 to 0.81 for the EC scale (5 items). Test-retest reliability was measured in secondary school students across four weeks and the reliability was 0.86 for the total CTI score.

Procedures for Treatment Packages

The researchers sought permission through a letter written to the Teaching Service Commission, Ogun State, Nigeria. With permission granted, principals of schools to be used for the experiment were contacted. These schools were visited beforehand to enable the researchers get acquainted with the schools and their environment. The concerned people (principals, teachers and students) were adequately informed of the purpose of the research work and what the participants

stand to benefit. Participants were also given consent forms through which permission was sought from their parents.

The study was completed within the school term to avoid time lag. The researchers with the assistance of six research assistance and class teachers in each of the schools used held 90 minutes sessions for each of the experimental groups for seven weeks, while the control group was engaged with their daily school work activities.

The CTI (Sampson et al., 1996a) was administered at the beginning and at the end of treatment sessions as a pretest and posttest instrument to measure participants irrational thoughts. Participants with career thought were enrolled in to the experimental groups. Researchers discussed the concept of irrational career thoughts as well as the impact that irrational thinking has on making a career decision. Students who needed more personalized, one-on-one help in reframing a career statement were offered individual appointments with the researchers and some were referred to the school counsellors. The intervention sessions are briefed below:

Experimental Group 1: Career Development

The seven sessions covered the following:

Session I: Pre-test administration and general orientation on concept of career development

Session II: Career Development Theories

Session III: irrational career thoughts

Session IV: Identifying personality type, interest, skills, abilities and values

Session V: Relating personal characteristics and career goals to academic majors

Session VI: Creating a customized career action plan

Session VII: Revision of all activities in previous sessions and re-administration of research instruments for post test scores.

Experimental Group 2: Cognitive Reframe

Session I: administration of instrument to obtain pretest scores and general orientation on the concept of cognitive reframe

Session II: Identifying irrational career thoughts

Session III: Cognitive Information Processing Theory in relation to irrational career thoughts

Session IV: Explanation on how to challenge irrational career thoughts

Session V: The CASVE Cycle

Session VI: Creating a plan to act on new, more adaptive thoughts

Session VII: Revision of all activities in previous sessions and re-administration of CTI for post test scores.

Control group

Session 1: Administration of pre-test instrument.

Session 2: Administration of post-test instrument on the 7th week

Results

Analysis of covariance (ANCOVA) was used to test the research hypothesis to determine the significance of the hypothesis.

Table1: Analysis of Covariance (ANCOVA)

Source of variation	Sum of Squares	df	Mean Square	f	Sig.
Covariates	11378.963	1	11378.963	76.071	0.000
PRETEST	11378.963	1	11378.963	76.071	0.000
Main Effects	49744.655	2	24872.328	166.278	0.000
TRTGROUP	49744.655	2	24872.328	166.278	0.000
Explained	61123.618	3	20374.539	136.209	0.000
Residual	13761.621	92	149.583		
Total	74885.240	95	788.266		

Table 2: Multiple Classification Analysis

Source of variation	N	Unadjusted Variation	Eta	Adjusted deviation	Beta
Grand Mean = 48.86					
<u>Treatment Groups:</u>					
1 Career Development	32	-20.11		-19.21	
2 Cognitive Reframe	30	-15.93		-14.97	
3 Control	34	32.99		31.29	
			.88		.83
Multiple R-Square					.816
Multiple R					.903

Summary of Findings

This study examined the effectiveness of career development and cognitive reframe therapy on the irrational career thoughts of secondary school students in Ogun State, Nigeria. The finding is summarized as follows: there is significant main effect of treatment on dysfunctional career thoughts of secondary school students.

Discussion

The finding showed that there is a significant main effect of treatment on the irrational career thoughts of participants in experimental groups and that of the control group. This implies that career development and cognitive reframe therapy were effective in reducing irrational career thoughts of secondary school students. The adjusted means of the three groups were 28.75, 32.93 and 80.85 for CDC, CR and control groups respectively. The adjusted means were obtained by summing the grand mean ($x = 48.86$) to the respective adjusted deviations. This shows that the two experimental groups were superior to the control group, while career development was superior to cognitive reframe therapy in reducing irrational career thoughts of secondary school students. With this experimentation, it is safe to infer that students with irrational career thoughts can be reduced if appropriate treatments are used. Career therapy are frequently aimed at exposing students to a various career options and the academic requirements for these, as well as engage them in decision-making processes that can help them choose among different career options. This might be the reason why career development therapy was more effective in reducing career thoughts. The fact that the participants in the treatment groups performed better in the post-test scores than those in control group reveals that the treatment programs were effective. The finding of this study supports Osborn, Howard and Leierer (2007) study, those students who completed the career planning classes significantly reduced their irrational career thoughts. Also, Johnson and Smouse (1993) reported that career therapy is effective in increasing participants' career decidedness. This shows that if career therapy is well handled, it would reduce irrational career thoughts of students and enhance career decidedness. The findings of this study is also in harmony with that of Ware (1985) who explored the need for a career development classes for upper level college students and affirm that upper-level college students need and can benefit from programs in career development. A number of studies (Reed, Lenz, Reardon, & Leierer, 2000; Anderson, 1995; Sullivan & Mahalik 2000) have also demonstrated the effectiveness of career development therapy in eliminating irrational career thoughts in areas of decision making confusion, commitment anxiety and external conflict. Our finding also showed that cognitive reframe could reduce irrational career thoughts among senior secondary school adolescents.

Several studies have examined the effectiveness of cognitive reframe in modifying dysfunctional career thoughts (Kinnier & Krumboltz, 1986; Flavell, 1979; Bandura 1977; Paris & Winograd, 1990; Peterson, Sampson, Lenz, & Reardon, 2002). Our findings therefore corroborated what was reported in literature. The ultimate goal in cognitive reframe therapy is to teach clients the art of auto-cognitive reframe. Clients are trained to recognize, examine and modify maladaptive cognitions whenever they emerge. According to Bandura (1977), one of the most effective ways to change cognitions is to change behavior. Based on this premise, cognitive reframe uses experience to create feedback loops, which challenges irrational thoughts and assumptions and increase positive feelings. Perhaps this is the reason for the effectiveness of this cognitive reframe on irrational career thoughts.

Implication for Policy and Career Development

From our findings, we conclude that career development and cognitive reframe therapy were effective in the reduction of dysfunctional career thoughts among students in secondary schools. Thus introduction of career development would help in a great way in reducing students irrational career thoughts and if the principles of cognitive reframe are properly applied, students would develop well informed career plans. The implication is for curriculum development on career in secondary schools. More than this, the school counselors in Nigeria could also be more proactive in the mean time given the thrusts of the current findings.

As novel as the findings are, they are without some limitations. First, the number of participants was 96. This somehow, limited the generalization of the findings to the entire spectrum of adolescents in Senior Secondary Schools. However, the strength of the findings lies in the fact that it is an experimental study that doesn't require a large population. The study therefore has contributed significantly to the body of knowledge on career development, as this study to the best knowledge of the researchers knowledge is the first study to utilize career development and cognitive reframe therapy in reducing irrational career thoughts in Nigeria.

Conclusion

Based on the finding of the study, the following conclusions were reached: that career development and cognitive reframe therapy were effective in reduction of irrational career thoughts but, career development therapy was more effective. Thus, introduction of career development courses into secondary schools curriculum in Nigeria will help in eliminating students irrational career thoughts among secondary school students.

References

- Adeyemo, D.A. (1996). The didactic mode of career education and values clarification as strategies in fostering the vocational maturity of Nigerian adolescents. Unpublished Ph.D. Thesis, University of Ibadan, Ibadan.
- Adeyemo, D.A. (1998). Effect of didactic mode of career education and value clarification on career decision making self-efficacy of secondary school students. *Nigerian Journal of Applied Psychology*, 1& 2 74-92.
- Adeyemo, D.A. (1999). Career awareness training and self-efficacy intervention technique in enhancing the career interest of female adolescents in male dominated occupations. *Nigerian Journal of Applied Psychology*, 1 76-92.
- Adeyemo, D.A. (2001). Effect of vocational interest-referenced feedback on career self-efficacy of secondary school students. *African Journal of Educational Research*, 6 (1&2).
- Adeyemo, D.A. (2006). Gender differences in the career decision making self-efficacy of secondary school students. *Journal of Sociology and Education in Africa*, 5, (1), 18-29.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review*, 84, 191-215.
- Bardick, A. D., Bernes, K. B., Magnusson, K. C. & Witko, K. D. (2004). Junior high career planning: What students want. *Canadian Journal of Counselling*, 38(2), 104-117.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. NY: Penguin Books.
- Beck, A. T., Freeman, A., & Davis, D. D. (2004). *Cognitive therapy of personality disorders* (2nd Ed.). New York: Guilford.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. London: John Wiley & Sons.
- Cassie, D. V. W. (2005). Career maturation in the context of a mandated intervention at the grade ten level. Unpublished doctoral dissertation, University of Toronto.
- Corbishley, M. A. & Yost, E. B. (1989). Assessment and treatment of dysfunctional cognitions in career counseling. *Career Planning and Adult Development Journal*, 5(3), 20-26.
- Dorn, F.J. & Welch N. (1985). Assessing career mythology: A profile of high school students. *The School Counsellor*, 33, 136-142.
- Dryden, W. (1979). Rational emotive therapy and its contribution to career counseling. *British Journal of Guidance and Counselling*, 7,181-187.
- Elliott, K. J. (1995). Anthetic dialogue: A new method for working with dysfunctional beliefs in career counseling. *Journal of Career Development*, 22, 141-148.

- Folsom, B., Peterson, G., Reardon, R. & Mann, B. (2002). *The impact of a career course on retention and academic performance (Technical Report No. 34)*. Tallahassee: Florida State University.
- Hayes, L. (1997). The undecided college student. *Counseling Today Online*. Retrieved June 4, 2002, from: www.counseling.org/ctonline/archives/ct1097/ct1097a3.htm
- Hiebert, B, Collins, S. & Robinson, J. (2001). Needs assessment for program planning and program development: A brief review. *Alberta Counsellor*, 26(1), 11-26.
- Johnson, P., Nichols, C. N., Buboltz, W. C., Jr. & Riedesel, B. (2002). Assessing a holistic trait and factor approach to career development of college students. *Journal of College Counseling*, 5, 4-14.
- Kinner, R. T. & Krumboltz, J. D. (1986). Procedures for successful career counseling. In N. C. Gysbers (Ed.), *Designing careers* (pp. 307-335). San Francisco: Jossey-Bass.
- Kolo, F.D. (1987). Relative efficacy of two counseling strategies in fostering vocational preference realism of Nigerian adolescents. Unpublished Ph.D thesis, university of Ibadan. Ibadan.
- Krumboltz, J. D. (1990). Helping clients change dysfunctional career beliefs. Paper presented at the annual meeting of the American Association of Counseling and Development, Cincinnati, OH.
- Kuti, M.O. (1979). Experimental improvement of vocational decision-making skills of a group of Nigerian adolescents. Unpublished Ph.D. thesis, University of Ibadan, Ibadan.
- Magnusson, K., & Bernes, K. (2001). Expressed career planning needs of youth in grades 7 to 12. In H.Suzin (Ed.), *Natcon Papers 2001*. Toronto, ON: Career Centre, University of Toronto.
- Meichenbaum, D. H. (1977). *Cognitive behavior modification: An integrative approach*. New York: Plenum.
- Newell, A., & Simon, H. A. (1972). *Human problem solving*. Englewood Cliffs, NJ: Prentice Hall.
- Okafor, I.P. (2004). Relationship between career aspiration and subject preferences of secondary school students in Ibadan, Oyo State. Unpublished B.Ed. Project, University of Ibadan, Ibadan.
- Osakinle, E. O. & Adegoroye, B. S. (2008). *Vocational guidance and career counselling*. Lagos, Nigeria: Goldprints Publishers.
- Osakinle, E. O. (2010). *IABR & ITLC Conference Proceedings*. Orlando, FL, USA
- Osborn, D. S. (1998). *The relationships among perfectionism, dysfunctional career thoughts and career indecision*. (Doctoral dissertation, Florida State University). Dissertation Abstracts International, 59(10-A), 3746.
- Peng, H. (2001). Comparing the effectiveness of two different career education courses on career decidedness for college freshmen: An exploratory study. *Journal of Career Development*, 28, 29- 41.
- Peterson, G. W., Sampson, J. P., & Reardon, R. C. (1991). *Career development and services: A cognitive approach*. Pacific Grove, CA: Brooks/Cole Publishing.
- Peterson, G. W., Sampson, J. P., Jr., Lenz, J. G., & Reardon, R. C. (2002). Becoming career problem solvers and decision makers: A cognitive information processing approach. In D. Brown (Ed.), *Career choice and development* (4th ed., pp. 312-369). San Francisco, CA: Jossey-Bass.
- Peterson, G. W., Sampson, J. P., Jr., Reardon, R. C., & Lenz, J. G. (1996). Becoming career problem solvers and decision makers: A cognitive information processing approach. In D. Brown & L. Brooks (Eds.), *Career choice and development* (3rd ed., pp. 423-475). San Francisco, CA: Jossey-Bass.
- Pyne, D. & Bernes, K. (2002). *Adolescent perceptions of career and occupation*. NATCON Papers 2002. Toronto: University of Toronto.
- Pyne, D., Bernes, K., Magnusson, K. & Poulsen, J. (2002). A description of junior high and senior high school students' perceptions of career and occupation. *Guidance and Counseling*, 17(3), 67-73.
- Reed, C. A., Reardon, R. C., Lenz, J. G. & Leierer, S. J. (2001). A cognitive career course: From theory to practice. *The Career Development Quarterly*, 50, 158-167.
- Reed, C.A., Lenz, J.G., Reardon, R.C. & Leierer, S.J. (2000). Reducing negative career thoughts with a career course: *Technical Report No. 25*. Retrieved May 7, 2001 from: <http://www.career.fsu.edu/techcenter/>
- Rosenbaum, J. E. (2001). *Beyond college for all: Career paths for the forgotten half*. New York, NY: Russell Sage.
- Salami, S.O & Onyeacho, F. (1998). Group facilitation of vocational maturity of some Nigerian adolescents. *The Journal of Guidance and Counselling*, 6 (1&2), 27-41.
- Salami, S.O. (1997). Birth order, gender, family type and vocational preferences among IJMBA 'A' level science students. *Journal of Science Teaching and Learning*, 3(1&2).
- Salami, S.O. (1999). Demographic, locus of control and self- concepts as determinant of career maturity among Nigerian adolescents. *Nigerian Journal of applied psychology*, 5 (1) 150-161.

- Salami, S.O. (2000). Assessing vocational preference realism among Nigerian school-going adolescents: A discriminant analysis of personological factors. *African Journal of Educational Research*, 6(1&2): 168-179.
- Salami, S.O. (2001a). Psychological correlates of career indecision among secondary school adolescents. *Nigerian Journal of Applied Psychology* 6(2) 116-125.
- Salami, S.O. (2001b). Influence of gender and sex-role stereotyping on career decision-making self-efficacy of secondary school students. *Ibadan Journal of Educational Studies*. 1(1): 128-139.
- Salami, S.O. (2003). Self-esteem and work role salience as predictors of career maturity of secondary school adolescents. *Journal of Research in Counselling Psychology*. 9 (1): 76-83.
- Salami, S.O. (2004). A path model to examine factors influencing career orientations of school-going adolescents in Nigeria. *International Journal for the Advancement of Counselling*. 26(1): 79-94.
- Salami, S.O. (2005). Discriminant analysis of academic abilities and work values of career choice of high school adolescents in southwestern Nigeria. *Journal of Personality Study and Group Behavior*, 25: 49-73.
- Sampson, J. P., Jr., Peterson, G. W., Lenz, J. G., Reardon, R. C. & Saunders, D. E. (1996a). *Career thoughts inventory*. Odessa, FL: Psychological Assessment Resources.
- Sampson, J. P., Jr., Peterson, G. W., Lenz, J. G., Reardon, R. C. & Saunders, D. E. (1996b). *Career thoughts inventory professional manual*. Odessa, FL: Psychological Assessment Resources.
- Sampson, J. P., Jr., Reardon, R. C., Peterson, G. W., & Lenz, J. G. (2004). *Career counseling and services: A cognitive information processing approach*. Pacific Grove, CA: Brooks/Cole.
- Saunders, D.E., Peterson, G.W., Sampson, J.P. & Reardon, R.C. (2000). The contribution of depression and dysfunctional career thinking to career indecision. *Journal of Vocational Behavior*, 56, 288-298
- Schneider, B. & Stevenson, D. (1999). *The ambitious generation: America's teenagers, motivated but directionless*. New Haven: Yale University Press.
- Strausberger, S. J. (1998). *The relationship of state-trait anger to dysfunctional career thinking and vocational identity* (Doctoral dissertation, Florida State University, 1998). Dissertation Abstracts International, 59(10), 3747A.
- Whiston, S. C., Sexton, T. L. & Lasoff, D. L. (1998). Career-intervention outcome: A replication and extension of Oliver & Spokane (1988). *Journal of Counseling Psychology*, 45, 412-426.

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