Investigating the causal relationship between Self Beliefs and Automatic Thoughts in Adolescents' Success Aspiration

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Abstract
The study investigated the correlation between self beliefs and automatic thoughts in adolescents' success aspirations in Lagos, Nigeria. A sample of 180 students randomly selected from nine secondary schools comprising of 90 males and 90 females was used. Questionnaire was employed to generate data for the study. This study also investigated the current state of the influence of gender schema on adolescents' success aspiration. Data collected were analyzed with the use of ANCOVA and Pearson correlation coefficient. Results obtained indicated a significant effect of self defeating beliefs and negative automatic thoughts in success aspiration as a result of poor success expectancy.

Keywords: *Self belief, Automatic thought, Gender schema, Success expectancy*

Background to The Study
Belief comes as message from the environment and with continual reinforcement, becomes part of the individual. It molds people's values, attitudes and directs their perceptions. The environment is the culture within which socialization takes place with all its myths and ritual, it exerts great impact on individual social and psychological development. Through various social contacts, children gradually learn what is expected of them as members of the society in which they live. Likewise, the social groups in which children are reared help them learn ways of behaving and also direct their aspirations. Thus, to understand an adolescent's beliefs and the corresponding success aspiration, the social practices in which such a person is reared must be understood (Jackson & Davis, 2000). Beliefs learnt over time could become mentally engrained and develop as well learned automatic thoughts.

However, societies may differ in their emphasis on individual achievement, the rights of the individual, educational attainment and success expectancy. The types of achievement and values displayed or stressed and how much emphasis a particular society puts on them help determine the individual beliefs developed over time and invariably the achievement. There are also differences among social groups within a society. The ethical standards of these social groups influence the personality development and attainment of individuals. Malphurs, (1996) from the same perspectives averred that adequate effort will be needed to help the adolescents in clarifying their self beliefs as the adolescence stage marks the emergence of new thought processes and expressions.

Self Belief: It is the personal theory of self which is important in learning and success attainment. It is the overall self evaluation, the summation of all self schemas and 'possible selves'. That is, visions of the 'self' one dream's of becoming or the 'self' one fears becoming. The construct "self" is used to embrace all attributes of an individual. It includes among other things, a system of beliefs, attitudes, values and commitments.

D'Souza, (2001) posits that self picture or belief could be a substitution for mental model and it is like a video tape in one's mind. It contains hundreds of mental images of oneself collected over the years and when put together form the person's beliefs. It is the end result of memories and past experiences as well as one's reaction to them. Thus, Giddens, (2000) posits that global self beliefs adds colour to one's feelings about personal traits and abilities and colours the memories and thoughts. Self belief therefore includes two basic processes-the process of self evaluation and the process of self-worth.

Self belief has a great effect on how an individual goes through life. It influences actual performance and achievement in both personal and professional life. Notably, negative self belief will lead to poor success orientation and value assimilation (D'Souza, 2001; Bandura, 2001; Nwadinigwe & Longe, 2007). It seems then that many of the difficulties that people and mostly adolescents experience in life are closely connected with the self beliefs they hold about themselves and about their place in the world in which they live. It can therefore be suggested that youth academic and social failures, the misdirected motivation and lack of commitment that often characterizes the underachiever, the dropout, the youth labeled "at risk" and the socially disabled, are in good measure the consequences of or exacerbated by, the beliefs that they develop about themselves and about their ability to exercise a measure of control over their environments. Thus, the self defeating beliefs could be said to have degenerated into cognitive distortions of reality hampering the success aspiration. In view of this, achievement motivation will be dependent on success expectancy perception and invariably the satisfaction that will come out of it.

*Automatic thoughts***:** In cognitive behavioural model of counselling, self-defeating beliefs are also known as automatic thoughts so called because they occur very quickly or spontaneously and may appear to be both plausible and realistic to the person. They are in form of images or pictures and are also considered as thinking errors because they lead to distortion of reality. Thus, they are known as cognitive distortions (Szymanska & Palmer, 2000; Schroeder, 2002).

Cognitive Schema: According to Evans et al., (2005), schema is an underlying belief or rules of life usually learnt from an individual's early development; it helps to make sense of the world and about other people. As children grow they develop schema for gender which help them to develop gender identity and formulate an appropriate gender role (Hunter & Forden, 2002; Abe, 1997). Gender schema is therefore a cognitive structure. The entrenched schema could however interfere with the individual's self beliefs and success aspirations.

Meanwhile, each individual has a purpose in life which means that a person is motivated to strive toward the fulfillment of unique potentials. But this can be affected by cultural gender-role distinctions. A distinction that endows a differential value not only on the activities of male and female, but also on gender as a social category. This situation sometimes poses mental conflict on the success orientation of certain individuals. This system of gender stratification in the society not only burdens women for example, with domestic responsibilities but draw them away from success achievement. However, it accords higher value to masculine endeavour, making maleness a condition of intrinsic worth. This situation causes a conflict between achievement and social acceptance in females (Kite, 2001; Gloria & Robinson-Kurpius, 2001). The expectancy that success in achievement-related situations will be followed by negative consequences arouses fear for success. In other words, achievement motivated women develop anxiety which inhibits their performance and levels of aspiration.

However, as elucidated by Good & Sherrod (2001) and Courtenay (2001) the amount of strain and anxiety that males encounter in their attempt to live up to the standards and traditional ideologies of masculinity set by the society are very significant in relation to their success aspiration. Although, Bem (1993) proposed an ideal where male and female would not be equal but, nevertheless, would be able to find within themselves the best of what can now be labeled as masculinity and feminity i.e. a composite gender. They stressed further that it is people that matter, not labels and the only criterion that counts is the achievement of an optimal quality life. The counselling strategies and coping skills adopted for this current study were to reinforce this view.

The Statement of the Problem
Concisely, most human behaviour and efforts in any field of endeavour are purposeful and aimed at achieving success, a highly cherished value in human life. However, researches have shown that to some youths for example, success is an illusion. Such youth think that it is impossible for them to succeed and this may be due to self defeating beliefs and negative automatic thoughts that might have grown beyond their control with a sort of compelling drive. This personal identity often affects the way an individual perceives and conceives personal abilities, capabilities, assets and potentialities.

The main objective of this paper is to analyze the occurrence, effects and proffer solutions to poor success expectancy amongst the adolescents.

Research Hypotheses
The conceptual hypothesis tested was that there will be no significant causal relationship between self beliefs, automatic thoughts and adolescent generalized success aspiration across experimental conditions. This hypothesis was broken into three null hypotheses and tested.
1. There is no significant correlation between expectancy for success, the automatic thought and irrational self belief of participants at pretest and posttest levels across experimental conditions.
2. There is no significant difference in posttest scores on orientation to generalized expectancy for success as a result of experimental conditions.
3. There is no significant gender difference in posttest scores on orientation to generalized expectancy for success of participants across experimental conditions.

Methodology

Design
The research design used for this study was quasi-experimental pre-test posttest control group design. This is a design in which experimental participants are assigned randomly from a common population to the experimental and the control groups.

Sampling Procedure
Using purely random procedures, the researchers drew a sample of 180 participants from nine secondary schools in three Local Education districts (LED) out of the twenty in the state through "hat and draw" random sampling method. This number was considered worthwhile so that each LED represented each of the three treatment groups. The sample consisted of 90 males and 90 females within the age bracket of 14-20 years. The adolescence is the developmental stage of identity formation, becoming critical of societal rules and developing personal ideas. Adolescence is considered adequate because, the participants will be better disposed socially and age wise to freely and adequately communicate their feelings and beliefs. The

mean age of participants was 16.53 and a standard deviation of 1.52. Using the baseline assessment scores, those who have above the median score in both irrational beliefs and negative automatic thoughts were selected to form the experimental groups with 60 participants in each group.

Instrument
Three major instruments were selected and adapted psychometrically for use .The adapted 50 items of Self belief and aspiration scale (BAS) was used in collecting data. The concise description of the three test instruments is: IVS-Irrational value scale; ATQ- Automatic thought questionnaire and GESS-Generalized expectancy for success scale. All 50-item BAS questionnaire were scored on a 4-point Likert scale and each assessment was done separately as follows: 1-strogly disagreed, 2-moderately disagreed, 3-moderatly agreed, 4- strongly agreed, all reverse scoring were done vice-versa. However, for ATQ measuring the frequency of negative automatic statements, participants were asked to go through variety of thoughts that pop into people's heads and consider how often such thoughts occurred to them over the last one week. Higher score indicates higher endorsement of negative thoughts. The moderated instrument was subjected to face and content validity and test-retest reliability coefficients were established as: IVS= 0.69, ATQ = 0.86 and GESS = 0.71.

Data Collection Procedure
The participants were assigned to treatments on equal basis. The pre-test was carried out two weeks before the experimental treatments. All experimental treatment were divided into six sessions spread over six weeks with an average of two hours per session. The post treatment session was carried out two weeks after the last treatment session, making eight weeks in all per treatment. The sessions include: Relationship Establishment; Problem Identification and Exploration; Teaching skills techniques and review of homework assignment; Solution Application and Termination among others. In an effort to determine if treatment and control groups were different on baseline demographic variables, independent samples *t* tests, examining the initial differences between treatment and control groups on the pretest, found no significant differences on the dimensions of each of the variables, indicating that the two groups were statistically equivalent on each variable. Whereas the two groups were equivalent before the intervention, an analysis of covariance (ANCOVA) was conducted for the analyses of research hypotheses, because this procedure increases the statistical power (Keppel, 1991).

Treatment Programme 1:
Corsini & Wedding, (2000) described cognitive restructuring/counselling therapy primary assumption as the belief that individual irrational beliefs, attitudes, and assumptions about the world around them are mediated by unhealthy thinking. As such produces negative emotions such as frustration, anxiety and could be detrimental to success aspiration and general well being.

Cognitive Restructuring/Counselling
The purpose of this programme treatment was to outline procedures for modifying aspects of individual's cognitive processes that are likely to have implications on success behaviour. The procedure was based on the assumption that certain negative automatic thoughts and behaviour are mediated by unrealistic aspirations and expectations. According to Ellis, (1995) the individual's overt responses in many situations are mediated by cue-producing or schema producing responses. The cue-producing responses function in essence as labels affecting self talk and not necessarily the situation itself. This strategy was used to help elicit, identify, examine, reality test and modify negative automatic thoughts, irrational beliefs culminating into various faulty mental schemas that engendered self defeating statements (Ayers et al., 2000).

Treatment Programme 2:
Social Learning
This strategy developed by Bandura (2001) sees learning as not simply being the result of classical and operant conditioning but as being influenced by observational learning. Observational learning takes place when people learn from observing the actions of others and the consequences of those actions. This psychoeducational programme was designed to facilitate the participants acquisition of skills, techniques and prevention strategies specifically related to problems self defeating beliefs and negative automatic thoughts, as well as to enhance their self efficacy for confronting poor success orientation The key concept of social learning is perceived self efficacy and the role of expectancies in influencing behaviour and behavioural change. The current research employed the use of video clips as a process for social comparison. An attempt to help the adolescents in attribution retraining as regards self belief and success aspiration.

Coping Skills:
A useful distinction exists between managing problems and altering the underlying problematic skills that sustain or could sustain problems. The objective of the coping skills is to assist the participants in one or more life skills areas by means of the therapeutic strategies as suggested by Animashaun, (2004). Emphasis was laid on the following two skills:

*Thinking Skills***:** Thinking skills comprise such areas as owning responsibility for choosing, developing coping self-talk, possessing realistic personal rules, perceiving accurately, attributing cause accurately, predicting realistically, setting realistic goals and making rational decisions as regards aspiration.

*Action skills***:** These tend to vary according to skill areas e.g. studying for examination, resisting negative gender influence and negative automatic thoughts etc. Action skill helps the participants to think of action to take in terms of mental messages and environmental emphasis received (Nelson-Jones, 1993).

Data Analysis
The means, standard deviations and inter-correlational matrixes for the pre and post-test measures were computed. The hypotheses were tested using the 2 x 3 Analysis of covariance (ANCOVA). Pair wise comparisons were done using Fishers least square method (LSD) to determine which pairs of the groups showed significant difference in the post test means on all the variables.

Results
The results obtained from the various statistical analyses carried out in the study are presented below.

Hypothesis 1: In the null form the hypothesis stated that there is no significant correlation between expectancy for success, the automatic thought and irrational self belief of participants at pretest and posttest levels across experimental conditions.

The hypothesis was analyzed using Pearson correlation coefficient technique. The results of the analyses were presented in Tables 1and 2.

Table1: Means and Standard Deviation of the Pre and Post Test Scores of the Assessment Measures

	N	Pre-Test		Post -Test		Mean Difference
		$\bar{x}$	SD	$\bar{x}$	SD	
AGE	180	16.53	1.52	16.53	1.52	0.00
GESS	180	53.36	9.30	60.45	9.39	7.09
IVS	180	26.06	3.67	23.18	4.37	2.88
ATQ	180	47.17	9.46	38.37	9.35	8.80

As evident from table 1; there is a significant improvement in the post-test scores of all the variables compared with the pre-test scores, except age. The post- test mean scores of the dependent variables (GESS) increases while those of the (IVS, ATQ) decreases at post test level. This signifies that if the irrational beliefs individuals are holding on to, and the sentimental negative statements about selves could be moderated, there would be dynamic success aspiration that would lead to positive success achievement.

From the data in Table 2, it is evident that at pre-test and post-test there were significant correlations between all the dependent variables.

Table 2: Intercorrelation Matrix of the Assessment Measures at Pretest and Posttest

ASSESSMENT INSTRUMENTS	GESS PRE	IVS PRE	ATQ PRE	GESS POST	IVS POST	ATQ POST
AGE						
GESS PRE	1					
IVS PRE	0.17*	1				
ATQ PRE	-0.27*	-0.22*	1			
GESS POST				1		
IVS POST				-0.22*	1	
ATQ POST				-0.40*	0.30*	1

*Correlation is significant at the 0.05 level (2-tailed); df =178; critical r = 0.10

The results also show that the IVS and ATQ correlate with each other at pre-test and post test with -0.22 and 0.30 respectively. They both negatively correlate with the GESS variable at post-test level. Positive correlation implies that, the higher the level of dependent variable, the higher the level of relationship between that variable and the independent variable. The negative correlation implies that the higher the level of dependent variable, the lesser the relationship between that variable and the independent variable. This could be attributed to other factors such as family culture, social factors, gender schema and others. Due to this result the hypothesis I which postulated that there would be no significant correlation between the dependent variables at pre-test and post-test was rejected.

Hypothesis 2: In the null form the hypothesis stated that there is no significant difference in posttest scores on orientation to generalized expectancy for success as a result of experimental conditions. In order to test this hypothesis, a 2x3 analysis of covariance (ANCOVA) was used. The result of the analysis is presented in Table 9. Table 9 shows the mean () score of the cognitive restructuring to be 64.82 and standard deviation (SD) of 7.48; the mean () score of social learning was 63.00 and SD=7.26 and the control group's mean () score was 54.60 and SD=10.65.

Table 3: Descriptive Statistics of Gender and Experimental Conditions in Generalized Success Expectancy (GESS)

Experimental Conditions	Sex	N	Mean($\bar{x}$)	SD
Cognitive Restructuring (CR)	Female	30	63.17	7.49
	male	30	66.47	7.25
	Total	60	64.82	7.48
Social learning (SL)	Female	30	61.90	7.26
	Male	30	64.10	7.53
	Total	60	63.00	7.26
Control/ Placebo (c)	Female	30	53.13	10.58
	Male	30	56.07	10.63
	Total	60	54.60	10.65
Total	Female	90	59.40	9.32
	Male	90	62.21	9.33
	Total	180	60.81	9.38

To determine whether significant difference exists, the hypothesis was tested using analysis of covariance as indicated in Table 4.

Table 4: ANCOVA of Gender and Experimental Conditions on Posttest Scores of Generalized Expectancy for Success (GESS)

Source of Variation		Sum of Squares	df	Mean Square	F
Main effects	Combined	7094.86	4	1773.72	36.22
	Experimental Conditions	4331.83	2	2165.92	44.23*
	Sex	63.56	1	63.56	1.30
	Groups x Sex	32.81	2	16.40	0.34
Model		7127.67	6	1187.94	24.25
Residual		8472.53	174	48.97	
Total		15600.19	180	87.15	

*Significant; P < 0.05; df =2/174, critical F=3.06; df=1/174, critical F=3.91

Table 4 shows that the effect of experimental condition on orientation to generalized expectancy for success was statistically significant. The calculated F- value of 44.23 was significant being greater than the critical F- value of 3.06 given 2 and 174 degrees of freedom. Thus, the null hypothesis was rejected. It can be concluded that significant differences exist between the experimental groups in their attitude to generalized expectancy for success. In order to determine where significant differences as stated in hypothesis 4 lie across the groups, the Fisher's least square method (LSD) was employed and the analysis is presented in table 5.

Table 5: Protected t-test Analysis of Difference in Generalized Expectancy for Success (GESS) across Groups

Groups	Cognitive Restructuring	Social Learning	Control
Cognitive Restructuring	64.82[a]	0.75	4.21*
Social Learning	1.82	63.00[a]	3.46*
Control	10.22	8.4	54.60[a]

*a = Group means are in the diagonal; differences group means are below the diagonal, while protected t – values are above the diagonal; df = 118; critical t = 2.00; * significant at p < 0.05.*

Table 5 shows that the participants who received cognitive restructuring showed significant improved perception in generalized expectancy of success than those in control group (t = 4.21; df = 118; critical t = 2.00; P < 0.05). Similarly, participants who received social learning therapy showed a significant improved perception in generalized expectancy of success compared with those in control group (t = 3.46; df 118; critical t = 2.00; P < 0.05). However, there is no significant difference in generalized success expectancy (GESS) among participants who received cognitive restructuring and those who received social learning therapy (t = 0.75; df = 118; critical t = 2.00; P > 0.05).

Hypothesis 3: In the null form the hypothesis stated that there is no significant gender difference in posttest scores on orientation to generalized expectancy for success (GESS) of participants across experimental conditions. The result of the analysis is presented in Tables 3 and 4.It is indicated that the total mean () score for male was 62.21 and standard deviation (SD) was 9.33 while the mean () score for female was59.40 with standard deviation (SD) of 9.32. In other to determine whether significant difference on orientation to generalized expectancy for success in experimental groups exist, ANCOVA statistics was employed. The result is as shown in Table 4. This result also shows calculated F-value of 1.30 as a result of gender difference in orientation to generalized expectancy for success. This value was significantly less than the critical F-value of 3.91, given 1 and 174 degree of freedom. Consequently, the null hypothesis which stated that there is no significant gender difference in GESS posttest of participants across experimental condition was accepted.

Discussion
The objective of this study is that an adolescent should become aware of their self beliefs and automatic thoughts and change the negative ones. It will bring re-adjustment in their beliefs, perceptions, aspirations and goal settings for promising long lasting satisfaction, balanced self efficacy and success expectancy. The results of hypothesis one that states there is no significant correlation between Orientation to generalized expectancy for success (GESS), the negative automatic thought (ATQ) and the self defeating beliefs (IVS) at pretest and posttest levels respectively was tested using Pearson correlation coefficient technique. The inter-correlation matrixes of the pretest and posttest scores as shown in Tables1 and 2 indicate that the variables correlate significantly either positively or negatively in favour of the counselling strategies. This suggests that the type of beliefs held and thoughts processing patterns by the adolescents influence their value clarification and the success orientation. The existence of correlation supports the theoretical assertions made by Corsini & Wedding, (2000) and Animashaun, (2004). In corroborating the rejection of the hypothesis, Bandura, (2001) postulated that a theory that denies that 'thoughts' can regulate actions of which aspiration is inclusive does not lend itself readily to the explanation of complex human behaviour.

Harlow & Cantor, (1995) and Lavallee & Campbell, (1995) also in their various works on adolescents' irrational beliefs through cognitive counselling posited that the strategies should be 'improvement focused', which in turn is a forward looking focus on self ideals. Considering the results, the outcome of causal relationship between self defeating beliefs and negative automatic thoughts, is in support of the postulations made by Becker, (2001).

Szymanska & Palmer, (2000) classifying the underlying individual automatic thoughts as the core beliefs or cognitive schemas. It could then be suggested that belief and thinking processes are important variables in determining pattern of individual success aspiration and could also interact with one's personality adjustment. However, the counselling model has shed a ray of hope to helping adolescents out of disordered or maladaptive thinking that may generate maladaptive lifestyle orientations (Ayers et al., 2000).

The results also revealed that no statistical significant difference exists in orientation to generalized expectancy for success as a result of gender across experimental conditions. In other words, sex difference seemed to have no significant influence in the posttest scores of generalized expectancy for success. This may be attributed to the positive reinforcement of gender schema through the counselling process. Suggesting that individual's expectancy for success which will invariably influence the success aspiration can be positively altered with the process of cognitive restructuring. Researches carried out by Bem, (1993) propose an ideal where male and female may not be equal but, nevertheless, would be able to find within themselves the best of what can now be labeled as masculinity and feminity, that is a composite gender'. They stressed further that it is people that matter not labels, the only criterion that counts is the achievement of an optimal quality of life.

Conclusion

The issue of adolescents' success or achievement does not end with their schooling, it also have affective undertone. Consequently, the aim of education and counselling services must transcend the development of academic competence but focus as well on the psychosocial variables adjustment. This will be an added responsibility of preparing self-assured and fully-functioning individuals capable of pursuing their hopes and their ambitions. Nurturing the self-beliefs necessary to maintain that excellence throughout the 'adult' lives could be achieved through well mapped out psychosocial strategies (Animashaun, 2004; Bandura, 2001).

Recommendations

In support of self-defeating belief Becker, (2001); Szymanska & Palmer, (2000) posited that though, every individual while young sometimes show self-defeating belief but its regular appearances strongly suggest low self-esteem. This influences attitude, aspirations and goal setting thus, it is important in learning and achievement or in success attainment. Through career information and counselling offered to participants during the course of the study, results revealed that participants were able to modify their stereotype ratings of self actualization and success expectancy. This suggests that it is possible to change beliefs about appropriateness of traditionally biased role for male and female. In other words, if the mental schema and the cultural medium could be redefined for suitability, each individual should be able to satisfy his/her needs for success without threat of affiliate role or values. Early counselling intervention is therefore recommended for secondary school students. Possibly, necessary baseline data could be collected during orientation programme, thus orientation for new intakes should be a mandatory exercise.

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