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IMPACT OF ACADEMIC PROCRASTINATION AND STUDY HABIT ON EXPRESSED MATHEMATICS ANXIETY OF JUNIOR SECONDARY SCHOOL STUDENTS IN ESAN SOUTH-EAST EDO STATE NIGERIA

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ABSTRACT*: This study investigated the impact of academic procrastination and study habit on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria. Using the descriptive survey research design, two research questions were answered. Data were collected using three validated instruments, from four hundred (400) purposively selected junior secondary school students in Esan South-East Edo State Nigeria. Data was analysed using the Multiple Regression Analysis statistical tool at 0.05 level of significance. The study revealed that the independent variables jointly impacted significantly on Mathematics anxiety of junior secondary school students. The findings suggest the need for teachers should endeavour to use diverse teaching methods that would take into consideration individual differences that exist among students with having challenges with their Mathematical skills. This could make them adjust and overcome their difficulty in understanding Mathematics. Also, students should endeavour to practice Mathematics regularly, attend classes and seek consultation with their teachers when they encounter challenges studying Mathematics.*

KEYWORDS*: Academic Procrastination, Mathematics Anxiety, Study Habit, Students' and School*

INTRODUCTION

Mathematics as a subject offered in secondary schools happens to be a compulsory subject required to gain admission into tertiary institutions in Nigeria. Students desiring to further their academic pursuit after secondary education are expected to have credit pass in Mathematics, English language and three other subjects in line with their intended course of study. This development could make some students with poor mathematical skills and competence become apprehensive, afraid and tensed when studying Mathematic. The resultant consequence could be the expression of Mathematics anxiety. Mathematics anxiety is a negative reaction to Mathematics associated with negative emotions. Specifically, Mathematics anxiety is a state of discomfort occurring in response to situations involving Mathematics tasks that are perceived as threatening to self-esteem. Thus, students expressing Mathematics anxiety could record poor academic performance because they could be easily

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distracted and discouraged to strive for success when exposed to mathematical task (Okoiye & Anusiem, 2015; Krinzinger, Kaufmann, Dowker, Thomas, Graf, Nuerk & Willmes, 2007).

Some secondary school students in Nigeria could express Mathematics anxiety due to them disliking Mathematics as a subject despite the important nature of Mathematic to their future academic attainment. When students register unreserved negative dislike towards Mathematics as a subject, it tend to influence their attitudinal disposition such that they may start developing procrastinating attitude, poor study habit, lack of interest in acquiring mathematical skills and become ill-motivated which could lead to consistent poor performance in Mathematic. For example, recently out of the 172,699 who sat for the 2016 West African Senior School Certificate Examination (WASSCE) in Nigeria, only 39 per cent passed with credit in Mathematics and English language. This poor performance in Mathematics could be as a result of students' expressing Mathematic anxiety. However, contemporary global economic and infrastructural challenges affecting human survival requires that students acquire mathematical skills, knowledge and competence that will help them contribute positively to finding solution to diverse challenges experienced in human society presently. This holds to the fact that the application of mathematical knowledge is needed in all fields of human endeavour and this implies that it is not expected that students procrastinate or be nonchalant in studying Mathematics as a subject in secondary schools. This make investigating the impact of academic procrastination and study habit on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria a necessity.

Academic procrastination as expressed by students is a situation whereby students keep postponing their engagement with and accomplishment of an academic task such as home work assignment, preparing for test/examination, project work, etc, either due to fear of failure, ill-motivation, helplessness, nonchalant attitude or poor study habit. The act of academic procrastination negatively impairs students' academic performance. Since Mathematics requires constant practice, academic procrastination hinders secondary school students' ability to excel in Mathematics because procrastinating could prevent them to engage in consistent practice that would help them acquire more mathematical knowledge, skills and competence. Asikhia (2010) stated that the consistent poor performance of Nigerian secondary school students' in Mathematics is an illustration that most secondary school students procrastinate studying Mathematics as a subject.

Okoiye (2011) reported that academic procrastination and poor study habit put secondary school students at academic risk. For example, out of 1,351,557 Nigerian secondary school students only 24.94% had credit pass in Mathematics, English language and at least three other subjects in 2010 WAEC Senior School Certificate Examination. Also, in the May/June 2009 released result, out of 1,373,009 candidates that sat for the examinations, only356, 981 candidates, representing 25. 99 %, obtained credit passes and above in English Language and Mathematics, and in at least three other subjects. This means that over 60 per cent of the candidates that sat for the examinations would not gain admission to any Nigerian university based on admission requirement. The possible cause of this disturbing phenomenon that is placing secondary school students at academic-risk of being incapacitated to go further in their educational pursuit could be attributed among other factors to be the problem of academic procrastination, poor study habit and examination anxiety (Okoiye, 2011). Academic procrastination is like a benign problem to some people, but it can be potentially

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serious when it leads to high levels of distress and academic failure in otherwise capable students. Also, academic procrastination impairs academic performance and makes students express pessimistic behaviour before the examination (Okoiye, 2011). Research on procrastination also shows that Procrastination often results when a task seems difficult unpleasant or overpowering (Akinsola, Tella & Tella, 2007). Also, procrastination has been linked to other adverse behaviour and outcomes including poor study habits, test anxiety, cramming for examinations, late submission of course work, fear of failure, fear of social disapproval by peers, lower grades, sense of guilt, and depression (Lee, 2005; Uzun Ozer, Demir, & Ferrari, 2009; Chow, 2011).

This implies that academic procrastination with poor study habit. When students procrastinate in respect to their desire to study, they tend to delaying embarking on their private study after normal classroom teaching and learning experiences, also, they might absent themselves from attending classes regularly. This disposition could have negative impact on their academic performance which outcome is an important criterion for judging students expressed academic and intellectual capabilities often adjourned by attained results from attempted examination(s). Study habit is a student attitudinal disposition in adopting a self-convenient way to independently acquire knowledge based on self intellectual exploration as a means to develop their intellectual capability, competence and mastery of learnt subject. Study habit is an expressed phenomenon which consistency serves as a reinforcing stimulus that helps students not only adapt to the challenges of teaching learning experiences but overcome such challenges and advances in their pursuit of and acquisition of knowledge. According to Mendezabal (2013) study habit refers to a student's positive attitude toward the specific act of studying and the student's acceptance and approval of the broader goals of college education. In short, study habits of students are determined through their time management ability, work methods, attitudes toward teachers and acceptance of education (Crede & Kuncel, 2008). Students who have difficulty in college frequently do not have adequate study habits that affect their academic achievement positively. A central problem noted was that many of these students had not learned how to take effective notes and manage time for studying (Mutsotso & Abenga, 2010).

This study is anchored on theory of planned behaviour by (Ajzen, 1991). This theory is a very powerful and predictive model for explaining human behaviour considering the fact that human behaviour is guided by three kinds of consideration, "behavioural beliefs," "normative beliefs," and "control beliefs." In their respective aggregates, "behavioural beliefs" produce a favourable or unfavourable "attitude toward the behaviour"; "normative beliefs" result in "subjective norm"; and "control beliefs" gives rise to "perceived behavioural control."In combination, "attitude toward the behaviour," "subjective norm," and "perceived behavioural control" lead to the formation of a "behavioural intention". In particular, "perceived behavioural control" is presumed to not only affect actual behaviour directly, but also affect it indirectly through behavioural intention (Ajzen, 2001, Noar & Zimmerman, 2005).

As a general rule, the more favourable the attitude toward behaviour and subjective norm, and the greater the perceived behavioural control, the stronger the person's intention to perform the behaviour in question should be. Finally, given a sufficient degree of actual control over the behaviour, people are expected to carry out their intentions when the opportunity arises (Ajzen, 2002). When students that expresses Mathematics anxiety becomes conscious that their poor academic performance and psychological state of anxiety is as a

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result of their attitudinal disposition of procrastinating and poor study habit they could modify their negative behaviour to a more desirable one. Since they are aware of the significant value attached to Mathematics as a subject required for admission to higher institution of study in Nigeria, their attitude could change based on this belief that without a credit pass in Mathematics they would not go further in their future studies. The theory of planned behaviour specifies the nature of relationships between beliefs and attitudes. According to these models, people's evaluations of, or attitudes toward behaviour are determined by their accessible beliefs about the behaviour, where a belief is defined as the subjective probability that the behaviour will produce a certain outcome. Specifically, the evaluation of each outcome contributes to the attitude in direct proportion to the person's subjective possibility that the behaviour produces the outcome in question (Ajzen, & Fishbein, 1975). This makes it imperative and germane to determine the impact of academic procrastination and study habit on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria

Statement of the Problem

Students who procrastinate responding to their academic responsibility could be inclined to poor study habit as they might find it difficult to plan their activities, manage their time, develop study times table or coordinate a productive balance between their academic and socio-personal life activities. When students consistently procrastinate and engage in poor study habit, they tend to lose focus, ill-motivated to excel academically and could express anxiety while studying or sitting for examinations. They could also develop negative self-verbalisation; helplessness and poor academic performance that could put them at academic risk and this reflect the character of some Nigerian secondary school students.

Research Questions

What joint impact does academic procrastination and study habit have on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria?

What relative impact do academic procrastination and study habit have on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria

METHODOLOGY

This study adopted a descriptive survey research method in which the researcher did not manipulate any of the variables. The participants for the study were male and female junior secondary school students in Esan South East Local Government Area of Edo State Nigeria.

A total of 400 students were used for the study. They were purposively selected from ten (10) schools in Esan South East Local Government Area of Edo State Nigeria 40 students were selected from each schools amounting to a total of four hundred (400) students selected for the study. The participants for the study were JSS3 students at the verge of transiting to SSS1 in Esan South East Local Government Area of Edo State Nigeria. Ten schools were used for the study. These schools were selected through simple box random sampling. Also, purposive sampling technique was used to select three hundred students (through evidence from cognitive cumulative record folder of those) who had consistently scored below 20% in Mathematics in JSS2 1st, 2nd and 3rd terms Mathematics examinations from the ten public schools.

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Instruments

Mathematics Anxiety Rating Scale by Yucedag-Ozcan and Brewer (2011) was used in this study. The scale has 24 questions and is scored from 1 to 5, where 1 indicates no anxiety and 5 indicates high anxiety. There are two factors in the scale. The first factor is Learning Mathematics Anxiety, which includes items that measure anxieties experienced during activities that deal with learning Mathematics, such as listening to another student explain a Mathematics formula. The second factor is Mathematics Evaluation Anxiety, which contains eight items that measure the anxiety experience of being evaluated taking examination in a Mathematics course. The scale has a Cronbach's alpha of α=.93.

The Scale of Academic Procrastination for Secondary School Students (Sunitha & Musthafa, 2013) was adapted to collect data on Academic Procrastination. The original scale consists of 46 items, in a Likert type response format ranging from Strongly Agree to Strongly Disagree. High Scores indicate high Academic Procrastination. The scale used for this study consists of 28 items with a minimum score of 28 and a maximum score of 140. The reliability coefficient of the original scale was 0.82. The reliability of the present scale was established by split half method with reliability coefficient of 0.74. The scale has content validity. This instrument has been used by Sunitha and Musthafa (2013) in studying the relationship between academic procrastination and Mathematics anxiety among secondary school students

The Study Habits Inventory (SHI) by Bakare (1977) was used to measure students study habit. It is a self reporting inventory which gives respondents the opportunity to describe their study experience before, during and after examinations. The inventory consist of 45 items with sub sections on : (i) homework and assignments; (ii) time allocation; (iii) reading and note taking; (iv) study period procedures; (v) concentration; (vi) written work; (vii) examination; (viii) teacher consultation. According to Bakare (1977), a number of investigations were conducted to investigate validity of the inventory using high performing students and a group of "failing" students. Test-retest reliability of the SHI was established by administering it twice to a group of students (N = 58; 30 boys 28 girls); mean age = 14.5 years S.D. = 1.73 years with a time interval of 3 weeks. The test-retest reliability was 0.83, P < 05.

Procedure of Administration

The researchers first visited the randomly selected schools to intimate them of the research and solicited the support of the mathematics teachers to help identify students with consistent cognitive record performance of below 20% in three examinations. Thereafter, the researchers sought their consent and willingness to participate. After getting them informed and obtaining their consent, the researchers personally distributed and collected the completed questionnaires administered to the students. Participants were adequately informed of the adherence to confidentiality and the need to be precise and truthful in filling the questionnaires. Four hundred copies of questionnaire were administered and collected back by the researchers.

Method of Data Analysis

Data was analyzed using multiple regression analysis statistical tool at 0.05 level of significance. The results of the findings are presented on tables.

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RESULTS

Research Question One: What joint impact does academic procrastination and study habit have on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria?

Table 1: Multiple Regression Analysis showing the joint impact of academic procrastination and study habit on expressed Mathematics anxiety of junior secondary school students

Multiple R	=	0.768
Multiple R^2	=	0.722
Multiple R^2 (Adjusted)	=	0.706
Standard Error of Estimate	=	3.1112

Source of variation	Sum of Squares	DF	Mean of square	F-Ratio	P
Regression	21411.033	2	10705.517	255.81	<.05
Residual	16615.702	397	41.85		
Total	38026.735	399			

Table 1 shows that the independent variables had significant joint impact on the dependent variable (expressed Mathematics anxiety) (R = 0.768, P <.05). The combination of the independent variables accounted for 72.2% of the total variance on expressed Mathematics anxiety of secondary school students (adjusted R^2 = 0.70.6). The analysis of variance of the multiple regression data yielded an F-ratio value which was found to be significant at 0.05 Alpha level, F (2, 397) = 255.81, P < 0.05).

Research Question Two

Research Question Two: What relative impact do academic procrastination and study habit have on expressed Mathematics anxiety of junior secondary school students in Esan South-East Edo State Nigeria

Table 2: The relative contribution of each of the independent variables on expressed Mathematics anxiety of junior secondary school students

Variables	B	Std.Error	Beta	T	Sig.	P
(constant)	7.114	3.251		4.758	.000	<.05
Academic Procrastination	.193	.056	.185	3.615	.000	<.05
Study Habit	.286	.081	.339	5.813	.000	<.05

Dependent –Variable: Expressed Mathematics anxiety

Table 2 indicates the impact of each of the independent variables on expressed Mathematics anxiety of secondary school students'. In terms of magnitude of the impact: study habit had more impact on expressed Mathematics anxiety of secondary school students' (β = 0. 339, t = 5.813, P < 0.05) followed by academic procrastination (β = 0. 185, t = 3.615, P < 0.05).

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DISCUSSION OF RESULT

Research question one revealed that the independent variables had significant joint impact on the dependent variable (expressed Mathematics anxiety) (R = 0.768, P <.05). This shows that academic procrastination and study habit have direct impact on expressed Mathematics anxiety of secondary school students. When student procrastinate engaging themselves in creative academic studies, they fail to study hard and this development could make them express anxiety when faced with academic task such as Mathematics. Some secondary school students in Nigeria could express Mathematics anxiety due to them disliking Mathematics as a subject despite the important nature of Mathematic to their future academic attainment. When students register unreserved negative dislike towards Mathematics as a subject, it tend to influence their attitudinal disposition such that they may start developing procrastinating attitude, poor study habit, lack of interest in acquiring mathematical skills and become ill-motivated which could lead to consistent poor performance in Mathematic. Thus, students expressing Mathematics anxiety could record poor academic performance because they could be easily distracted and discouraged to strive for success when exposed to mathematical task (Okoiye & Anusiem, 2015; Krinzinger, Kaufmann, Dowker, Thomas, Graf, Nuerk & Willmes, 2007). Since Mathematics requires constant practice, academic procrastination and poor study habit hinders secondary school students' ability to excel in Mathematics because procrastinating and not studying could prevent them to engage in consistent practice that would help them acquire more mathematical knowledge, skills and competence. Asikhia (2010) stated that the consistent poor performance of Nigerian secondary school students' in Mathematics is an illustration that most secondary school students procrastinate studying Mathematics as a subject.

The result of the second research question indicated that in terms of magnitude of impact: study habit had more impact on expressed Mathematics anxiety of secondary school students' ($\beta = 0.339$, $t = 5.813$, $P < 0.05$) followed by academic procrastination ($\beta = 0.185$, $t = 3.615$, $P < 0.05$). This implies that when students fail to study and keep procrastinate, they perform poorly in Mathematics and the resultant consequence is Mathematics anxiety. Okoiye (2011) reported that academic procrastination and poor study habit put secondary school students at academic risk. For example, out of 1,351,557 Nigerian secondary school students only 24.94% had credit pass in Mathematics, English language and at least three other subjects in 2010 WAEC Senior School Certificate Examination. Also, in the May/June 2009 released result, out of 1,373,009 candidates that sat for the examinations, only356, 981 candidates, representing 25. 99 %, obtained credit passes and above in English Language and Mathematics, and in at least three other subjects. This means that over 60 per cent of the candidates that sat for the examinations would not gain admission to any Nigerian university based on admission requirement. The possible cause of this disturbing phenomenon that is placing secondary school students at academic-risk of being incapacitated to go further in their educational pursuit could be attributed among other factors to be the problem of academic procrastination, poor study habit and examination anxiety (Okoiye, 2011). When students procrastinate in respect to their desire to study, they tend to delaying embarking on their private study after normal classroom teaching and learning experiences, also, they might absent themselves from attending classes regularly. This disposition could have negative impact on their academic performance which outcome is an important criterion for judging students expressed academic and intellectual capabilities often adjourned by attained results

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from attempted examination(s). Procrastination has been linked to other adverse behaviour and outcomes including poor study habits, test anxiety, cramming for examinations, late submission of course work, fear of failure, fear of social disapproval by peers, lower grades, sense of guilt, and depression (Lee, 2005; Uzun Ozer, Demir, & Ferrari, 2009; Chow, 2011).

RECOMMENDATIONS

Parents should give students expressing Mathematics anxiety the desire support they need to succeed in school.
Teachers should endeavour to use diverse teaching methods that would take into consideration individual differences that exist among students with having challenges with their Mathematical skills. This could make them adjust and overcome their difficulty in understanding Mathematics.
Teachers should use reinforcing technique while teaching to stimulate student's interest to learn and develop their Mathematics competence.
Students should endeavour to practice Mathematics regularly, attend classes and seek consultation with their teachers when they encounter challenges studying Mathematics.

CONCLUSION

Based on the outcome of this study, it is clear that the challenge of expressed Mathematics anxiety experienced among secondary school students could be overcome if they cease to procrastinate and engage in good study habit that would help them develop their learning capacity and positively improve their Mathematics competence.

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