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Development, Validation and Standardization of Tertiary Examination Behaviour Inventory: Diagnostic Instrument for Measuring Cheating Tendency in Educational Assessments

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Abstract

The research focused on development, validation and standardization of a diagnostic instrument called Tertiary Examination Behaviour Inventory (TEBI) for determining the tendency of students in tertiary institutions to participate in academic cheating. Anchored on the Modified Theory of Planned Behaviour (MTPB) and Item Response Theory (IRT), the table of test blue print covered the constructs of examination anxiety, examination ethics, study habits, and attitude towards cheating in examinations in one dimension and the phases (prior, during and after examinations) on the other dimension. Initial pilot study analysis of 50 items using test-retest reliability and factor analysis led to pruning down to 35 final items. The final sample size for validation of the TEBI was 1000 students drawn from higher institutions across the six geo-political zones in Nigeria and 3500 students for the standardization (construction of the national 'norms'). The Cronbach Alpha and Principal Component Analysis (PCA) were used to determine the psychometric properties. Standardized Cronbach Alpha ($\alpha = .78$) is an acceptable index indicating internal consistency, reliability and validity. Each of the 35 items yielded scaled means above 80 and each item's Cronbach Alpha is greater than .75. PCA yielded 13 factors from the 35 item TEBI. Those 13 factors contributed 62.73% variance in TEBI items. National 'norms' are 84.19% and 82.82% for male and female students respectively. Thus, TEBI is reliable, valid and standardized for use as a diagnostic instrument for identifying students who have positive dispositions towards academic dishonesty which is an educational monster.

Keywords: Tertiary, Examinations, Cheating, Behaviour, Inventory

Introduction

A reliable and valid examination system is important for the educational development of all nations. However, the incidence of “examination malpractice” or cheating in tests has constituted a serious threat to the attainment of the laudable goals of education. Examinations ought to be conducted in such a manner devoid of malpractices or cheating but unfortunately reports in research literature across the world including Nigeria show a preponderance of incidents of cheating in examinations. It involves all acts of dishonesty connected with examination administration which violates the rules and regulations governing the conduct of examinations and could occur before, during and after an examination usually intended to favour a candidate or candidates in that examination. Examination malpractices constitute severe threats to the very essence of education and human capital development since it negates the acquisition of knowledge, skills and values expected to be bequeathed to students in schools.

Examination as it relates to education has been defined as the written, oral or practical tasks or set of questions or exercises designed to test a candidate’s knowledge and skills in particular domains of learning (American Heritage Dictionary of English Language 2015). It occupies a very important pivotal position in the educational system of any country. A well designed and conducted examination system is the best indicator for assessing the success or failure of an educational programme. It is, therefore, important that examination should be conducted in such a manner devoid of malpractices or cheating. Unfortunately reports in research literature across the world show a preponderance of incidents of cheating in examinations (an educational phenomenon which will subsequently be referred to in this paper as “examination malpractices”).

Examination malpractices which is referred to as cheating in examinations or in broad terms as ‘academic dishonesty’ in international research literature is a global educational pandemic comparable in magnitude and spread to the ‘coronavirus’ (COVID-19) in the health sector. It is the educational equivalence of the COVID-19. According to Punch Editorial (2019):

In 2016, China prescribed a seven-year jail term for cheating and deployed IT tools to scan students’ clothing, shoes and accessories. Drones were also flown over and around examination centres to detect and block wireless signals by crooked students. In 2018, China’s courts jailed six persons four years each for cheating at the national graduate school examinations.

In a study of the endemic nature of the phenomenon of academic dishonesty which lasted for 12 years from 2002-2015, McCabe and The International Center for Academic Integrity (2020) reported that from a sample of size of 70,000, “95% of the surveyed students admitted to cheating on a test and homework, or committing plagiarism” in the United States of America (US). Similarly, the situation in the United Kingdom (UK) is not different. According to The UK’s Office of Qualifications and Examinations Regulation (Ofqual, 2019) there were “2,735 number of penalties issued to students in 2018 (the same as in 2017)” for various offences of academic dishonesty.

The situation and figures reported in the preceding paragraphs about the US and UK are grim enough but what about the situation in Nigeria. Though data on the incidences of examination malpractice in Nigerian higher institutions are not available but reports from the examination bodies such as West African Examinations Council (WAEC); National Examinations Council (NECO); and Joint Admissions and Matriculation Board (JAMB) as well as the mass media gives indications of the magnitude of the problem in the country. For example, Omeri (2012) who was the Director General National Orientation Agency (NOA) reported that Nigeria ranked number one in the world’s examination malpractice index because the average annual examination malpractice index was 12 per cent. Table 1 shows the data of examination malpractice cases in WAEC, NECO and JAMB examinations in the past 12 years compiled from reports by Atueyi (2019) and results release announcements by the examination bodies from 2008 to 2019. Table 1 shows the rampancy of the examination malpractices in the country. The situation is such that no examination is free from the menace. In fact, the data reflects only those who were caught. In actual fact the cases of examination malpractices in WAEC, NECO and JAMB examinations may be triple or quadruple of the numbers reported. Magaji (2019) suggested that most societal ills in Nigeria such as quack

engineers, medical doctors, armed robbers, drug traffickers, terrorists, kidnappers and so on are products of examination malpractices.

Table 1: Data of Examination Malpractice Cases in WAEC, NECO and JAMB Examinations in Nigeria from 2008 – 2019.

S/N	Year	WAEC			NECO			JAMB		
		Candidates enrolled	Malpractice Cases	%	Candidates enrolled	Malpractice Cases	%	Candidates enrolled	Malpractice Cases	%
1	2008	1,369,142	74,956	5.47	1,166,118	88,884	7.62	1,174,935	158,784	13.51
2	2009	1,373,009	109,201	7.95	1,184,907	32,000	2.70	1,306,193	23,819	1.82
3	2010	1,351,557	77,168	5.71	1,132,357	615,010	5.74	1,433,268	20,780	1.45
4	2011	1,540,250	81,573	5.30	1,160,561	51,312	4.42	1,493,604	15,160	1.02
5	2012	1,672,224	112,000	6.70	1,087,627	NA	-	1,503,931	27,266	1.81
6	2013	1,689,188	112,865	6.68	1,034,263	8,308	0.80	1,644,110	68,309	4.16
7	2014	1,692,435	145,795	8.61	978,886	4,307	0.44	1,015,504	38,658	3.81
8	2015	1,593,442	118,101	7.41	969,491	1,066	0.11	1,475,600	NA	-
9	2016	1,552,758	137,295	8.84	1,022,474	43,905	4.29	1,592,905	NA	-
10	2017	1,559,162	214,952	13.79	1,051,472	50,586	4.81	1,722,236	76,923	4.47
11	2018	1,572,396	NA	-	1,032,729	20,181	1.95	1,653,127	NA	-
12	2019	1,590,173	180,205	11.33	1,151,016	40,630	3.53	1,792,719	34,120	1.90

This research, therefore, focused on developing a diagnostic instrument for determining the propensity of students in tertiary institutions to involve themselves in examination malpractices so as to reform them before the actual examination takes place. The rationale for the research is premised on the need for preventive measures against the incidences of cheating in examinations in Nigerian higher institutions since the punitive measures in place seems to have limited success. Whereas various governments and examination authorities around the world have applied punitive approaches to tackle academic dishonesty, the incidents of examination malpractices have taken different dimensions and structure to evade detection and sanctions. For instance, quite recently, information and communication technology (ICT) devices are employed to facilitate the process of cheating in examinations (Ossai, 2018; McCabe and The International Center for Academic Integrity, 2020). It includes use of programmed wrist watches, electronic calculators, pens and such other gadgets that could receive worked answers to examination questions from remote sources outside the hall. It is imperative, therefore, that preventive approach to tackle the menace of cheating in examination halls be devised such as an instrument that could be used to diagnose students' disposition towards cheating. The possibility of such an instrument is very feasible as inferred from the works of Coren (2012); Chudzicka-Czupala, Grabowski, Mello, Kuntz, Zaharia, Hapon, Lupina-Wegener, Börü (2016).

Objectives of the Study

The major aim of the research was to develop a valid, reliable and standardized instrument for measuring the likely examination behaviour of students in tertiary institutions in Nigeria. In order to achieve this goal, the following objectives guided the research:

- i. Construct a test blue print for the Tertiary Examination Behavior Inventory (TEBI);
- ii. Develop items to measure examination behaviour of students in tertiary institutions in Nigeria;
- iii. Subject the items of the TEBI to reliability and validation procedures and analysis;

- iv. Standardize the TEBI instrument through national ‘norming’.

Theoretical and Conceptual Framework

A plethora of theories have been adduced to explain the concept of examination malpractices or students’ cheating behaviour such as the ones listed by Madara, Namango and Katana (2016) which includes: system theories, psycho-dynamic theory, social learning theory, conflict theory, Kohlberg’s theory of moral development, theory of cognition, trans-personal theories of human development, stage theories, self-presentation theory, learning theories, theory of reasoned action, theory of planned behaviour (TPB), modified theory of planned behaviour, neutralization theory, etc. The authors find the Theory of Planned Behaviour (TPB) and Modified Theory of Planned Behaviour (MTPB) suitable for the present research. In earlier research studies by Ossai, Ethe, Edougha and Okwuedei (2014); Bagraim, Goodman and Pulker (2014); Hendy and Montargot (2019), TPB formed the basis for determining or predicting students’ academic cheating behaviour. The development of Examination Behaviour Inventory (EBI) for secondary school students by Ossai, Ethe, Edougha and Okwuedei (2014) was hinged on TPB. The same conditions are also applicable to the development of TEBI. Theory of Planned Behaviour (TPB) as propounded by Ajzen (2006) has been modified by inclusion of three components, namely, Moral Obligation, Moral Reasoning and Demographic Factors such as Age, Gender, and Past Behaviour [cheating in previous educational level] (Madara, Namango and Katana, 2016; Harding, Mayhew, Finelli & Carpenter, 2007; Passow, Mayhew, Finelli & Carpenter, 2006).

The modification of TPB arose from observations that there are other variables that determine the tendency of an individual to engage in the target behaviour and these variables contribute to enhancement or inhibition of the elements of TPB. For example, moral upbringing, past experience and personality factors could expand or confound the tendency to engage in the target behaviour. In other words, the three original elements of TPB which comprised of Attitude towards Behaviour (ATB), Subjective Norms (SN) and Perceived Behavioural Control (PBC) could be influenced by demographic factors, moral obligation and moral reasoning hence these variables were accommodated in the development of TEBI. Thus, the phenomenon of examination malpractice is not just a spontaneous event but an activity that is planned, coordinated and executed. That being the case, it is therefore possible to intervene in or intercept the process of moral reasoning, attitude formation, perception of the ease of execution and the actual execution through administration of diagnostic instrument such as TEBI to prospective candidates.

In addition to the framework of the MTPB discussed in the preceding paragraph, the Item Response Theory (IRT) is also applicable to the present study. IRT provides explanation for predicting a candidate’s latent trait such as tendency to indulge in examination malpractices based on responses to items in a scale relevant to such measurements (attitudes, exam anxiety, interests, study habits, etc). Zanon, Hutz, Yoo and Hambleton (2016) provided the rationale for adoption of IRT models in educational and psychological research. He explained that IRT provides suitable basis for the determination of latent variables in an individual based on their response patterns to items in a measurement scale such as aptitudes, interests, attitudes, habits and so on. Therefore, IRT applies to the present study in that the students’ latent trait (tendency to engage in examination malpractices or cheating in examinations) are measured with an instrument (TEBI) which composition encapsulated variables such as examination anxiety, study habits, attitude towards examination malpractices and examination ethics or rules and regulations governing the conduct of examinations.

Methodology

Research Design: The ex-post facto survey design was used in the research because there was no interference by the researchers on the characteristics of the human participants (Silva, 2010). This design is most appropriate for the research since it involved self-report by the subjects on their examination behavior. In other words, the subjects voluntarily reported their dispositions towards examination conditions and practices without being coerced or manipulated. To prevent faking of responses, the items were constructed in such a way that actual determination of right or wrong responses may not easily be discernable by the respondents. Such techniques have been used

successfully in research studies in education and the social sciences by Ossai (2004a, b, 2011, 2012, 2014); Ajzen (2006); Ossai, Ethe, Okwuedei and Edougha (2014a, b) and Okorodudu (2016).

Population and Sample: The population consisted of all students in tertiary institutions in Nigeria. It is not possible to get a definite number of the population and in such situation a large sample size (1000 and above from the population suffices for the purpose of development and standardization of an inventory applicable to the population (Pareek 2005). Therefore, proportional stratified sampling technique was used to select a sample of 1000 students from tertiary institutions in the six geo-political zones of Nigeria for the validation of the instrument and 3500 students for standardization (establishment of national norms). The populations were made up of 60% males and 40% female students.

Instruments, Data Collection and Analysis: TEBI was structured on a 1 - 4 point format and consisted of an initial draft of 50 items covering the major domains of examination behaviour, namely, examination anxiety, examination ethics, study habits, and attitude towards cheating in examinations on the one hand and the phases (prior, during and after examinations) on the other hand. Items were stated in such a manner that scoring proceeds with Strongly Agree (SA) = 1, Agree (A) = 2, Disagree (D) = 3, and Strongly Disagree (SD) = 4 except item numbers 1, 10, and 20 that are scored in reverse order because they are positively toned. Principal Component Analysis was used to extract major factors of examination behavior covered by TEBI and Cronbach Alpha index was computed for the items to determine internal consistency as it relates to reliability and validity.

The researchers personally administered the TEBI to the sample in order to ensure high rate of return and compliance with the procedures for responding to the items. This procedure helped to guard against faking responses as well as prevent high rate of attrition. Data analysis was done with the Statistical Package for the Social Sciences (SPSS).

Results

A Table of Test Blueprint to cover the components of examination behaviour was constructed for the Tertiary Examination Behaviour Inventory (TEBI) as presented in Table 2.

Table 2: TEBI Test Blue Print

CONSTRUCT DOMAINS	PHASE DIMENSION			
	Pre-exam	During Exam	Post-exam	Total
1. Examination Anxiety	3	3	2	08
2. Examination Ethics/Rules and Regulations	2	8	2	12
3. Study Habits	6	-	-	06
4. Attitude towards Examination/Exam Malpractices	3	1	5	09
Total	14	12	09	35

The items on the construct domains of the TEBI were derived from adaptations from standardized inventories on the variables such as Test Anxiety Inventory (TAI) by Spielberger (1987) which was revalidated with Nigerian undergraduates by Ossai (2004, 2013); Study Habits from Study Skills Checklist (Cook Counselling Center, 2020); Examination Ethics/Rules and Regulations from rules and regulations guiding the conduct of examinations in a Higher Institution in Nigeria (Delta State College of Education, Mosogar, 2019); and Attitude towards Examination Malpractices from Ossai (2004, 2013). A total of 50 items were initially constructed but these were prone down to 35 after initial analysis from the pilot study and expert judgment of Colleagues in educational measurement and evaluation. The items that measure each domain of examination behaviour are specified in Table 3. The 35 items TEBI is attached as *Appendix 1*.

Table 3: Construct Domains and Their Item Specifications.

S/N	Construct Domains	Item Numbers	Total Items
1.	Examination Anxiety	1,2,3,4,5,6,7,32.	08
2.	Examination Ethics/Rules and Regulations	21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32.	12
3.	Study Habits	9, 10, 11, 12, 13, 14.	06
4.	Attitude towards Examination Malpractices	8, 15, 16, 17, 18, 19, 20, 34, 35.	09
			35

Standardized Cronbach Alpha ($\alpha = .78$). This α is more than the .70 benchmark considered acceptable in education and social science researches (Institute for Digital Research and Education, UCLA, 2013). Moreover, α of each of the 35 items did not fall below .75 as shown in Table 4. This is an indication that each item contributed significantly to the internal consistency, reliability and validity of the TEBI. Reliability over time was determined through test-retest over a period of four weeks on a sample of 60 students and Pearson correlation (r) for the two administrations is .80. None of the scaled mean score for the items is below 81 as contained in Table 4. This is indicative that the TEBI has high degree of stability.

Table 4: Contribution of Each Item to the Overall Cronbach Alpha of .78

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
1*	81.80	116.89	-.08	.39	.78
2	82.06	112.58	.16	.39	.77
3	82.10	111.53	.22	.32	.76
4	81.75	109.59	.36	.37	.76
5	82.08	109.86	.33	.32	.76
6	82.12	110.48	.29	.28	.76
7	82.61	110.92	.31	.30	.76
8	82.65	112.18	.24	.21	.76
9	81.78	109.68	.30	.30	.76
10	83.23	115.75	.04	.17	.77
11	82.69	111.56	.27	.26	.76
12	81.54	109.46	.36	.40	.76
13	81.94	108.05	.40	.39	.75
14	81.30	112.85	.13	.17	.77
15	81.61	112.47	.11	.17	.77
16	81.55	109.36	.25	.23	.76
17	81.23	111.42	.20	.24	.76
18	82.14	111.25	.21	.13	.76
19	82.71	114.52	.05	.38	.77
20	82.51	115.58	-.01	.39	.77
21	81.33	112.14	.18	.24	.76
22	81.66	107.67	.39	.31	.75
23	81.18	110.14	.27	.31	.76
24	82.03	107.54	.39	.31	.75
25	81.85	108.38	.37	.35	.76
26	81.99	108.61	.40	.29	.76
27	81.60	109.86	.28	.28	.76

28	82.28	110.95	.24	.23	.76
29	82.08	106.49	.48	.34	.75
30	82.10	108.99	.39	.45	.76
31	82.14	106.61	.50	.48	.75
32	82.30	103.33	.26	.16	.77
33	81.51	108.15	.36	.42	.76
34	81.55	107.41	.43	.38	.75
35	82.52	113.15	.14	.14	.77

*Item Serial Numbers.

Factor Analysis using Principal Component Analysis (PCA) was applied to the data generated to further confirm the validity of TEBI. The output is presented in Table 5. Thirteen (13) factors were extracted and they contributed 62.73% variance in the TEBI items.

Table 5: Principal Components Extracted from the 35 Item TEBI

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.89	13.98	13.98	4.89	13.98	13.98	2.39	6.84	6.84
2	2.48	7.08	21.05	2.48	7.08	21.05	2.16	6.17	13.01
3	2.05	5.87	26.92	2.05	5.87	26.92	2.07	5.92	18.93
4	1.86	5.33	32.24	1.86	5.33	32.24	2.04	5.82	24.76
5	1.48	4.22	36.46	1.48	4.22	36.46	1.91	5.46	30.22
6	1.28	3.67	40.13	1.28	3.67	40.13	1.85	5.28	35.49
7	1.26	3.61	43.74	1.26	3.61	43.74	1.61	4.59	40.08
8	1.25	3.56	47.30	1.25	3.56	47.30	1.39	3.98	44.06
9	1.19	3.39	50.69	1.19	3.39	50.69	1.36	3.88	47.94
10	1.11	3.18	53.87	1.11	3.18	53.87	1.34	3.83	51.77
11	1.08	3.10	56.97	1.08	3.10	56.97	1.34	3.82	55.59
12	1.02	2.90	59.87	1.02	2.90	59.87	1.30	3.71	59.29
13	1.00	2.86	62.73	1.00	2.86	62.73	1.20	3.44	62.73
14	.93	2.65	65.38						
15	.89	2.54	67.92						
16	.83	2.36	70.28						
17	.80	2.30	72.58						
18	.80	2.27	74.85						
19	.75	2.15	77.00						
20	.73	2.08	79.09						
21	.69	1.98	81.06						
22	.67	1.92	82.99						
23	.62	1.77	84.75						
24	.58	1.64	86.39						
25	.58	1.64	88.04						
26	.56	1.61	89.64						
27	.52	1.49	91.13						
28	.50	1.43	92.56						
29	.45	1.28	93.84						
30	.43	1.21	95.05						
31	.39	1.12	96.17						
32	.38	1.08	97.25						
33	.35	.99	98.24						
34	.32	.90	99.14						
35	.30	.86	100.00						

In order to establish the national norms for the TEBI, a sample of 3500 students from the six geo-political zones of the Nigeria and the Federal Capital Territory of Abuja was used. This consisted of 60% males and 40% females.

According to Pareek (2005, p. 37) a large sample of 1000 and above is sufficient for generating data for calculation of “norms” which normally consists of means and standard deviations against which scores generated with an instrument could be judged. These national norms are useful in determining whether a student’s TEBI score is indicative of negative or positive disposition towards indulging in examination malpractices. The national norms are presented in Table 6.

Table 6: National Norms of the TEBI

Gender	Mean Age	Mean TEBI score	S. D.	Std. Error of Mean	Median Score
Male	21	84.19	11.43	.61	83.00
Female	20	82.82	10.74	.43	81.00

The numerical values scored on each item are added up to get a total score for each test taker. The minimum and maximum scores obtainable are 35 and 140 respectively. An individual’s total score is interpreted by either comparing it with the national norms presented in Table 6 or using the statistically calculated cut-off score of 87.50. The national mean score for male students as contained in Table 6 is 84.19 while that of female students is 82.82. The statistically calculated cut-off score of 87.50 was derived from adding the lowest score possible to the highest score attainable and then dividing by 2, thus: $(35+140) \div 2 = 175 \div 2 = 87.50$. A Score above the national mean is indicative of negative tendency to be involved in examination malpractice behaviour while a score below the national mean is an indicator of a positive disposition towards engaging in examination malpractices. Similarly, if you want to use the derived mean of 87.50 as the cut-off, any score below it is an indicator of a positive disposition towards engaging in examination malpractices or academic dishonesty and vice-versa.

Discussion of Results

TEBI is a validated and standardized testing instrument for determining the tendency of students in tertiary institutions to engage in academic dishonesty. The essence is to reform those who are positively disposed towards the dishonest behaviour of cheating in examinations or engaging in other forms of academic dishonesty. Therefore, the usefulness of TEBI could be looked at from different perspectives. It is a tool for proactive action against examination malpractices because it will help to identify students who are prone to engaging in academic dishonesty so that corrective counselling could be administered on them before they sit for examinations. Research on application of counselling therapies to curb incidences of academic dishonesty as a preventive approach indicates significant results. For instance, Ahmad (2017) found that guidance and counselling efforts of teachers could result in preventing cheating behaviour among students. Moreover, Mckenzie, Murray K., Murray A. and Richelieu (2015); Wijayanti, Sugiharto and Wibowo (2019) in their respective studies found that counselling services and therapies are very effective in the treatment of students against academic dishonesty. Wijayanti, Sugiharto and Wibowo (2019) applied Rational Emotive Behaviour Therapy (REBT) to treat students who were identified through a cheating behaviour scale to have tendencies for cheating in examinations and they found the counselling therapy to be very effective in reducing students’ academic cheating behaviour. Other counselling strategies such as Cognitive Behaviour Therapy (CBT) and Video therapy (VDT) were also established by Ossai and Omoni (2006) as effective therapies for tackling students’ examination cheating behaviour. The results of the study showed that CBM and VDT were equally effective in the treatment of corrupt examination behaviour. Therefore, it was recommended that counsellors should use both CBM and VDT to treat students who show tendencies of being disposed to corrupt examination behavior. Video therapy counseling technique should be included in the curriculum of counsellor education because movies, videos or films have very powerful impact on both children and adults. The use of video technology in counselling therapeutic practice impacts positively on the social and academic behaviour of students. Video clips of the prohibited acts of examination malpractices as well as their consequences are also useful in counselling interviews against academic dishonesty as demonstrated in the Ossai and Omoni (2006) study. On the other hand, applications of CBM in Counselling interventions are well documented in the training module for guidance counselors by UNESCO (2000a).

Another approach is to target the study habits and examination anxiety of the students. Some of the TEBI items focus on these two aspects (study habits and examination anxiety of the students). Items 1, 2, 3, 4, 5, 6, 7, 32 of TEBI measure the examination anxiety level of students while items 9, 10, 11, 12, 13, 14 assess their study habits. The essence is that studies have shown that the two variables have significant relationships with students' attitude towards cheating in examinations as well as academic performance (Ossai, 2004, 2011, 2012, 2013; Numan & Hassan, 2017). Therefore, one way to tackle academic dishonesty among students is to isolate those whose scores on those items indicate poor study habits and high examination anxiety so as to subject them to treatment before they write examinations. UNESCO (2000a, b) showed that guidance and counselling programmes is essential for helping students improve their study habits and normalize high examination anxiety.

Academic dishonesty constitute mortal threats to the life wire of the every nation. Education is the life wire of any nation. According to Ossai (2018) "no nation can rise above the level of her educational system. To destroy a nation requires weakening her educational system and values. This leads to political anarchy, economic degeneration and social maladies". Therefore, concerted efforts must be made by the government and people of all nations to rise up and adopt proactive measures to tame the monster called "examination Malpractices" or academic dishonesty which is now a pandemic that has defied solutions over the decades (McCabe, Trevino and Butterfield, 2001; Walker, 2012). The governments and school authorities should not be contented with enactment of laws against examination malpractices but should equip schools with the necessary tools such as TEBI which could be used to identify and reform students who have the tendency to engage in academic dishonesty. Sanitization of the educational system may not be successful if it is not rooted in the holistic effort to end corruption in the larger society. Every well-meaning citizen of a country must be concerned and contribute to the war efforts realizing that "if we do not kill corruption, corruption will kill us". The time has come, therefore, for all stakeholders in education to contribute towards taming and eventual elimination of this educational monster in the school system. Punitive measures alone cannot tame the educational monster as to render it impotent. Preventive measures advocated in this study should be considered and applied, first, as complimentary to the punitive sanctions that are already in practice and subsequently as the most effective antidote to the menace of the monster. Therefore, TEBI is recommended for use by teachers and researchers in all educational systems as a veritable tool for diagnosing students who may have the attitude and behavioural tendencies towards engaging in academic cheating behaviour. TEBI could be revalidated and used in other countries of the world.

Conclusion

Tertiary Examination Behaviour Inventory (TEBI) is a validated and standardized instrument for measuring the behavioural disposition of students towards academic dishonesty in higher educational institutions. It is a veritable tool that could be used to diagnose students' tendencies to cheat in examinations. The essence is to refer such identified students to counsellors for reformation. It is hoped that the instrument will help stakeholders in education to adopt preventive rather than the punitive measures to tackle, tame and eventually eradicate the phenomenon of academic dishonesty from educational systems in the world.

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References

- Ahmad, R. (2017). Teacher guidance and counselling efforts to prevent cheating behaviour. *Advances in Social Science, Education and Humanities Research*, 118, 765-770.
- American Heritage Dictionary of the English Language (2015). Retrieved from <http://www.thefreedictionary.com/Dictionary.htm>
- Ajzen, I. (2006). Constructing a TPB Questionnaire: Conceptual and methodical considerations, Retrieved from: www.unibieleofed.delajzen%construction%20%20questionnaire.pdfajzen2006

- Atueyi, U. (25 January 2019). Examiners reveal how private schools aid exam malpractice. *The Guardian*. Retrieved from <https://guardian.ng/features/examiners-reveal-how-private-schools-aid-exam-malpractice/>
- Bagraim, J., Goodman, S. & Pulker, S. (2014). Understanding dishonest academic behaviour amongst business students- The business leaders of the future. *Industry and Higher Education*, 28, 5, 331-343, <https://doi.org/10.5367/ihe.2014.0222>
- Chudzicka-Czupala, A., Grabowski, D., Mello, A.L., Kuntz, J., Zaharia, D. V., Hapon, N., Lupina-Wegener, A., Börü, D. (2016). Application of the theory of planned behavior in academic cheating research—cross-cultural comparison. *Ethics & Behavior*, 638-659, <https://doi.org/10.1080/10508422.2015.1112745>
- Cook Counselling Center (2020). *Study skills checklist*. Virginia: Division of Student Affairs, Virginia Polytechnic Institute and University. Retrieved from <http://www.ucc.vt.edu/checklist.html>
- Coren, A.(2012). The theory of planned behaviour: Will faculty confront students who cheat? *Journal of Academic Ethics*, 10, 171-184, <https://doi.org/10.1007/s10805-012-9162-7>
- Delta State college of Education, Mosogar (2019). *Hand book*. Benin City: Masega Publishers.
- Harding, T. S., Mayhew, M. J., Finelli, C. J. & Carpenter, D. D. (2007). The theory of planned behaviour as a model of academic dishonesty in engineering and humanities undergraduates. *Ethics and Behaviour*, 17, (3), 225-279.
- Hendy, N. T. & Montargot, N. (2019). Understanding academic dishonesty among business school students in France using the theory of planned behaviour. *The International Journal of Management Education*, 17, 1, 85-93. <https://doi.org/10.1016/j.ijme.2018.12.003>
- Institute for Digital Research and Education, UCLA. (2013). What does Cronbach alpha mean? Retrieved from <http://www.ats.ucla.edu/stat/SPSS/faq/alpha.html>
- Madara, D. S., Namango, S. S. & Katana, H. (2016). Theories and models relevant to cheating behaviour. *Research on Humanities and Social Sciences*, 6, (17), 108-139.
- Magaji, A. (2019). NECO: Two decades of battling exam malpractice! Retrieved from <https://www.thenigerianvoice.com/news/281097/neco-two-decades-of-battling-exam-malpractice.html>
- McCabe & The International Center for Academic Integrity (2020). *Statistics*. Retrieved from <https://academicintegrity.org/statistics/>
- McCabe, D. M., Trevino, L. K. & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behaviour*, 11, 219 – 232.
- Mckenzie, K., Murray, K. R, Murray, A. L. & Richelieu, M. (2015). The effectiveness of university counselling for students with academic issues. *Counselling and Psychotherapy Research* 15(4) · DOI: 10.1002/capr.12034
- Numan, A. Hassan, S. S. (2017). Effect of study habits on test anxiety and academic achievement of undergraduate students. *Journal of Research and Reflections on Education*, 11, 1-14.
- Okorodudu, R. I. (2016). *Emotional homeostatic equilibrium: counselling for longer life*. 48 Inaugural Lecture Series of Delta State University, Abraka.
- Omeri, M. (2012). Nigeria Tops Examination Malpractice Index World-wide. Retrieved from www.dailytrust.com.ng/index.php/news/171616-nigeria-tops-examination-malpractice-index
- Ossai, M. C. (2004a). *Study habits and examination anxiety as correlates of students' attitude towards examination malpractices in tertiary institutions in Delta State* (Unpublished doctoral dissertation). Delta State University, Abraka.
- Ossai, M. C. (2004b). Counseling for the prevention of examination malpractices: Study habit as predictor of students' attitude towards examination malpractices. *The Counsellor*, 20, 1-12.
- Ossai, M. C. (2011). Study habit predicts examination behavior: An imperative for enhancing quality of college guidance and counseling. *Mediterranean Journal of Social Sciences*, 2, 23-28.
- Ossai, M. C. (2012). Age and gender differences in study habits: A framework for proactive counseling against low academic achievement. *Journal of Education and Social Research*, 2, 67-73.
- Ossai, M.C. (2013). *Study Habits, Anxiety and Examination Malpractice Attitude*. Saarbrücken Germany: LAP LAMBERT Academic Publishing.
- Ossai, M. C. (2014). Counselling imperatives of students' examination taking behaviour for personal-social and moral development in Nigerian schools. *Delta Journal of Guidance and Counselling*, 2, 11-23.
- Ossai, M. C. (2018). *Taming the educational monsters: The rescue and reformative roles of the guidance counsellor*. 3rd Inaugural Lecture Series of Delta State College of Education, Mosogar.
- Ossai, M.C (2019). *Theory and practice of Guidance and Counseling (2nd ed.)*. Benin City: Masega Publishers.
- Ossai, M.C. & Omoni, G.E. (2006). Counseling against corrupt practices: Impact of cognitive behaviour modification and video therapy on students' examination behaviour. *The Counsellor*, 23, 46-55.
- Ossai, M. C., Ethe N., Okwuedei, C.A. & Edougha, D.E. (2014a). *Manual of Examination Behavior Inventory (EBI)*. Benin City: Masega Publishers.

- Ossai, M. C., Ethe, N., Okwuedei, C.A. & Edougha, D.E. (2014b). Development of examination behaviour inventory: An integrity measure for prevention of cheating in school exams. *World Journal of Education*, 4, 2, 37 - 49.
- Pareek, U. (2005). *Training instruments in HRD and OD* (2nd Ed.). New Delhi: Tata McGraw Hill Publishing Company.
- Passow, H.J., Mayhew, M. J., Finelli, C.J. & Carpenter, D.D. (2006). Factors influencing engineering students' to cheat vary by type of assignment. *Research in Higher education*, 47, (6), 643-684.
- Punch Editorial (September 15, 2019). Stamp out cheating in examinations. Retrieved from <https://punchng.com/stamp-out-cheating-in-examination>
- Silva, C. N. (2010). Ex post facto study. In N.J. Salkind (Ed.), *Encyclopedia of Research Design*. Retrieved from www.knowledge.sagepub.com/view/researchdesign/n145.xml. D01:10. 413519781412961288.
- Spielberger, C. D. (1987). *Manual for the State-Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- The UK's Office of Qualifications and Examinations Regulation (Ofqual, 2019). Types of penalties issued to students 2017-2018. Retrieved from <https://assets.publishing.service.gov.uk>
- UNESCO. (2000a). *Module 1: Guidance*. France: Ag 2i Communication.
- UNESCO. (2000b). *Module 2: Counselling*. France: Ag 2i Communication.
- Walker, T. (2012). What can be done about student cheating? Neatoday – National education Association. Retrieved from <http://www.neatoday.org/2012/12/11/what-can-be-done-about-student-cheating>.
- Wijayanti, A., Sugiharto, Y. P. & Wibowo, M. E. (2019). The Effectiveness of Rational Emotive Behavior Therapy (REBT) Group Counseling to Reduce Cheating Behavior. *Jurnal Bimbingan Konseling*, 8 (2) (2019). 102 – 107. Retrieved from <https://journal.unnes.ac.id/sju/index.php/jubk/article/view/27934>

APPENDIX 1**TERTIARY EXAMINATION BEHAVIOUR INVENTORY (TEBI)**

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INSTRUCTION: Indicate your age, gender and course in spaces below and respond to the items by ticking the appropriate column from SA=Strongly Agree, A=Agree, D=Disagree and SD=Strongly Disagree.

Gender: _____ Age: _____ Course: _____

S/N	ITEM	SA	A	D	SD
1.	Examination does not bother me at all				
2.	I worry so much about examinations				
3.	Thoughts about impending examinations disturbs me				
4.	I always forget answers to questions in examination				
5.	During examination I feel very tensed up				
6.	Most time I don't finish attempting required number of questions				
7.	After examination I always worry about the grade I will make				
8.	I wish lecturers are always lenient when marking examination scripts				
9.	Other activities always interfere with my study schedule for examinations				
10.	I often wish I could read faster				
11.	The best way to pass examination is to prepare well for it				
12.	I usually lose concentration in class				
13.	I become tired or distracted quickly when studying				
14.	I usually study with the radio, TV or music on				
15.	Examination is not a true test of one's knowledge				
16.	The essence of schooling is to pass examinations				
17.	Examinations should be abolished in the school system				
18.	Assignments should carry more marks than tests and examination				
19.	Examination malpractice is a risk like any other risk in life				
20.	Examination malpractice is one of the worst crimes against humanity				
21.	Lobbying for mark is not examination malpractice				
22.	It is not bad to take advantage of leaked examination questions if one gets them by chance				
23.	Influencing an invigilator before examination begins is not examination malpractice				
24.	I sometimes borrow materials such as pencils, eraser, ruler, calculator from other candidates in examination hall				
25.	Talking to other candidates in the examination hall should be allowed				
26.	Sometimes I do not stop writing when we are told to do so				
27.	I always read the questions before we are asked to do so				
28.	Submission of answer booklets should be optional				
29.	Candidates who come 30 minutes after commencement of examination should be allowed to take the examination				
30.	Sometimes I receive assistance from colleagues in the examination hall				
31.	Sometimes I help my colleagues in the examination hall				
32.	After examinations, I find it difficult to cope with awaiting result anxiety				
33.	Influencing marks after examination should not be considered as examination malpractices				
34.	I wish I had someone who would influence my examination results				
35.	The end justifies the means in examination issues.				

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