



Psychometric Properties of Study Centre Directors' Behaviour Expectation Scale (BES)

Un Echantillon Des Propriétés Psychométriques Comportementales Des Directeurs De Centres D'études De L'université Nationale De L'enseignement A Distance Du Nigeria

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Abstract

The researcher developed a 15-item scale with the use of documented literature. In establishing the psychometric properties of the scale, sample of 49 males and 49 females Study Centres staff from three North-west Centres of NOUN participated in the study. Descriptive statistics was used to analyse the preliminary data, while Exploratory Factor Analysis (EFA) was used to determine the psychometric properties of the scale. Results of the EFA revealed that the scale measures four distinct dimensions: Behaviour trait for managing staff/students (BTMS/S), Behaviour trait for financial prudent (BTFP), Behaviour trait for community advocacy (BTCA) and Behaviour trait for managing self/university dictates (BTMS/UD), with four sub-scale (4-3 items) which demonstrates good psychometric properties. Cronbach's alpha ranged from 0.88 to 0.80 across the four sub-scales. Criterion-related validity was demonstrated for each sub-scale. BTMS/S for those who reported 'yes' had a higher mean than those who responded with 'no' or 'don't know' (3.44 vs. 2.43). For BTFP and BTCA, samples with desire to involve in monetary activities and advocacy of the centres had a higher mean score than respondents without desire to involve (3.83 vs. 2.41), and for BTMS/UD, samples who reported to centre directors having the behaviour trait obtained a lower mean score than samples who reported 'no' or 'don't know'

(2.59 vs. 3.43). Based on the findings therefore, the study conclude that centre directors behaviour trait for managing staff/ students is related to trait for mobilizing the community and essential for successful management of study centre. Likewise, ability to be prudent in financial management is also related to individual self-control which assists the individual to abide by university dictates

Résumé

Le chercheur a construit une échelle de 15 questions à l'aide d'une documentation. Pour établir les propriétés psychométriques de l'échelle, un échantillon de 49 hommes et 49 femmes du personnel de trois centres d'études de NOUN dans la région du nord-ouest du Nigeria a participé à l'étude. Des statistiques descriptives ont été utilisées pour analyser les données préliminaires, tandis que l'analyse factorielle exploratoire (AFE) a servi à déterminer les propriétés psychométriques de l'échelle. Les résultats de l'AFE ont révélé que l'échelle mesure quatre dimensions distinctes : Trait de comportement pour la gestion du personnel/étudiants (TCGP /E) ; trait de comportement pour la prudence financière (TCPF) ; trait de comportement pour le plaidoyer communautaire (TCPC) et trait de comportement pour la gestion des dictats de l'auto/université (TCPGDL/U), avec quatre sous-échelles (4-3 indices) qui démontrent de bonnes propriétés psychométriques. L'alpha de Cronbach variait de 0,88 à 0,80 sur les quatre sous-échelles. La validité liée aux critères a été démontrée pour chaque sous-échelle. Les TCGP /E pour ceux qui ont répondu " oui " avaient une moyenne plus élevée que ceux qui ont répondu " non " ou "je ne sais pas ". (3,44 contre 2,43). Pour les TCPF et les TCPC, les échantillons désireux de participer aux activités monétaires et de plaidoyer des centres ont obtenu une moyenne note plus élevée que les répondants qui ne souhaitent pas participer (3,83 vs 2,41), et pour les TCPGDL/U, les échantillons qui ont déclaré aux directeurs de centres ayant le trait de comportement ont obtenu une moyenne note inférieure à ceux qui ont déclaré " non " ou " ne sais pas ". (2,59 contre 3,43). Basant sur les résultats, l'étude conclut donc que le trait de comportement des directeurs de centre pour la gestion du personnel et des élèves est lié au trait pour la mobilisation de la communauté et ceci est essentiel pour une gestion effective du centre d'étude. De même, la capacité d'être prudent dans la gestion financière

est également liée à la maîtrise de soi qui aide l'individu à se conformer aux exigences de l'université.

Keywords: *Study Centre, Directors' Behaviour Expectations and NOUN*

Mots-clés : *Centre d'étude, Attentes relatives au comportement des administrateurs et NOUN*

Introduction

The host community, human and material resources at the study centres are considered to be very important to the management and stakeholders of the National Open University of Nigeria. Therefore, behaviours of the managers known and called Centre Directors according to the University policy and regulation are central to the management of these resources towards meaningful success and achievement of the University goals, mission and objectives (NOUN Academic Brief, 2014). For the University to agree with this standpoint, a standard measurement scale needs to be in place which may be situational used to measure the behaviour dispositions of the Centre Directors at the Study Centres.

National Open University of Nigeria Academic Brief (2014) stated in its description of a typical study centre that the infrastructures in a study centre are very important facilities to NOUN because it is where the students' presence is felt. The description of study centre in NOUN consisted of buildings- gate house with a designed block wall and metal protector at the approach view. The main entrance of the building is a conically shaped-concept and on the premises of a study centre is an L-shaped administrative building with an integrated auditorium complex of about 300 seating capacity.

The study centres structures are in an expansive compound of about 2 acres or 1.500 m² that accommodate other physical structures as well as vehicular parking space for staff and students, and the premises fenced to ward-off intruders. All the study centres covered by this study is equipped with an electric generator and dedicated transformer both

of which are located at the extreme section of the fence to reduce noise level.

In line with the organogram of the National Open University of Nigeria (2006), the study centres are under the Directorate of Learner Support Services and the Directorate of Learner Support Services itself is under the Office of the Vice-Chancellor, managed by a Director. As of August, 2018 there were seventy-six study centres that spread across the six geo-political zones and thirty-six states of Nigeria including the Federal capital, Abuja (NOUN Registry, 2018). Staff description across the study centres are the student counsellors, library, information and communication technology/management information system, registry/administrative, bursary/store, physical development, works and services, legal, security, environmental attendants and drivers. The students' population spread into eight faculties namely; agricultural sciences, arts, education, health sciences, law, management, social and sciences. In the central position is the Centre Director, who is charged with management of the affairs and activities and responsible for attainment and upholding the core values of the university at the study centre level.

The study centre director's behaviour expectations is to be of worthy examples that manages human and material resources towards achievement of university goals and objectives. Therefore, students, members of staff and university management must record satisfaction and success under the directors' management behaviours. All expected behaviour traits from the study centre director are behavioural traits that he or she must possess and inculcate in others as he determined to succeed. Following the central position occupied by the study centre director, the university and stakeholders must constantly measure and evaluate the behaviour expectations. Measurement and evaluation of these expected behaviours must be carried out with the use of standard yardstick. Developing a standard yardstick for this purpose is the premise of this study.

However, evidences from the National Open University of Nigeria literature that talked about behaviour expectations from the study centre directors can be grouped into:

1. Behaviour trait for managing staff/students (TMS/S)
2. Behaviour trait for financial prudent (TFP)
3. Behaviour trait for community advocacy (TCA), and
4. Behaviour trait for managing self/university dictates (TMS/UD)

The above grouped behaviour expectation traits are similar to Shaun (2016) ten top identified behaviour management strategies. Shaun (2016) opined that when behaviour management is talked about in management of learning institutions, the conversation focuses on the: importance of rules and routines, appropriateness of punishments or consequences and need for 'admin' to do something about it.

Dweck (2006), Hattie (2013), Gadermann, Guhn and Zumbo (2012), Hattie (2013), O'Neill and Stephenson (2014) and Marzano, Marzano and Pickering (2003) believed that the top ten research-based behaviour disposition of successful managers of learning institutions are Strong leader- staff- Student Relationships; With-It-Ness, mechanism to know every little thing going on in the environment; Structure leadership style and strategies; Nip Small Problems In The Bud; Group Reinforcement; Individual Reinforcement; Routines; Establishing rules to formalizes the expectations of other in a learning environment; Emotional Objectivity; allows individual understanding of Consequences or Punishments.

The Strengths and Difficulties with bias often associated with non-use of standardized instrument to the knowledge of the researcher makes the judgments on performance of study centre directors to be vague and makes the process to be seen as victimization. As noted by Goodman (2001) and many other literatures (Björnsdotter et al., 2013; Dickey and Blumberg, 2004; Mellor and Stokes, 2007), there are several competitive advantages of the use of standardized instruments, if developed to measure and evaluate behaviour disposition of individual study centre director before making valid and acceptable judgments. In addition, the use of Exploratory Factor Analysis to determine suitability of items contained in Study Centre Directors' Behaviour Expectations Scale is similar to how it was used in some studies in Nigeria (Ortuño-Sierra, Chocarro, Fonseca-Pedrero, Paino, Sastre,

Riba, and Muñiz, 2015; Adeosun, Ogun, Adegbohun, Jejeloye, and Ogunlowo, 2014; Pinterits, Poteat, Spanierman, 2009; Akpa, Bamgboye, and Baiyewu, 2015; Van Leeuwen, Meerschaert, Bosmans, De Medts, and Braet, 2006 and Aminu, 2015).

For this study, behaviour trait for managing staff/students (BTMS/S) connotes understanding that social-emotional growth is a never-ending process and clearly communicates rules, goals, and expectations to students and members of staff including high degrees of empathy and self-efficacy; behaviour trait for financial prudent (BTFP) connotes that financial responsibility, accountability and transparency to the university, students and staff; behaviour trait for community advocacy (BTCA) connotes ability to discriminate between issues of responsibility and problem ownership, while behaviour trait for managing self/university dictates (BTMS/UD) connotes ability to clearly internalize communicated rules, goals, ever changing expectations, respect for self-own strengths and weaknesses as seriously as those of the university, staff and students including respond to behaviours consistently and predictably. Therefore, the goal of this present study was to develop a test that will be used to measure and evaluate study centre's behavioural expectations as theoretically assumed so as to serve as basis for remediation.

Method

The study is descriptive and an exploratory factor analysis research.

Sample, selection and characteristics

The sample consisted of Ninety-eight (98); 49 males and 49 females Study Centres staff from three North-west Study Centres of National Open University of Nigeria. The first study centre had thirty-four (34) participants representing 34.69%, the second study centre with Thirty-three (33) participants representing 33.67% and the third study centre had thirty-two (32) participants representing 32.65%. The mean age was 27 years with an average working experience in study centres to be 3 years.

Instrument Development

The researcher developed 36 items, 9 per factor, covering four factors. Experts in test construction, past centre directors, accountant and Open and Distance learning experts reviewed the items. Experts' suggestions were used to drop the items from 52 to 36 and also for necessary modifications. Directions for the items were: A. Rarely or almost never true for me. B. Sometimes but infrequently true for me. C. Occasionally true for me. D. Very often true for me and E. True for me all or most of the time. Scoring pattern: (a) each item response is given a weight ranging from 1 for an A response to 5 for an E response. (b) A high score indicates unfavourable behaviour expectations towards self and others. The four sub-levels of the scale were:

1. Behaviour trait for managing staff/students (BTMS/S)
2. Behaviour trait for financial prudent (BTFP)
3. Behaviour trait for community advocacy (BTCA), and
4. Behaviour trait for managing self/university dictates (BTMS/UD).

Item Selection

Given that the researcher wanted to create brief items scale based on experts suggestions with fewest items possible without compromising adequate internal consistency ($\alpha < .70$), the researcher eliminated items which sounded very similar to other items and items with significant amounts of missing data. Using factor analytic techniques, the researcher chose items, so that four distinct factors emerged. He removed items which correlated with scales other than their own. Finally, fifteen items were retained for the final instrument validation.

Data Collection Procedure

The scale copies were distributed to sampled members of staff representing three study centres of National Open University of Nigeria North-west geo-political zones. The researcher was assisted by volunteered student counsellors in the centres. All the sampled members of staff were present employees of the National Open University of Nigeria.

Method of Data Analysis

The study used frequency counts; Exploratory Factor Analysis (EFA) and Chi-square test to determine the psychometric properties of the scale.

Results

Table 1 shows the characteristics of the four sub-levels of the scale. In spite of their brevity, they demonstrated adequate reliability, with Cronbach's alpha ranging from 0.88 to 0.80. Respondents gave mean ratings to the behaviour trait for managing staff/students and behaviour trait for community advocacy sub-levels which were near the 'Agree' level. Behaviour trait for financial prudent and behaviour trait for managing self/university dictates on the other hand, were between the 'Agree' and 'Disagree' ratings.

Table 1: The Scale Characteristics

Scale	N	N of Items	Cronbach alpha	Mean	Std Deviation
(BTMS/S)	318	4	.80	2.96	0.74
(BTFP)	299	3	.80	2.89	0.92
(BTCA)	316	4	.88	2.41	0.87
(BTMS/UD)	313	4	.82	2.65	0.86

*1. (BTMS/S) =Behaviour trait for managing staff/students. 2. (BTFP) =Behaviour trait for financial prudent. 3. (BTCA) =Behaviour trait for community advocacy. 4. (BTMS/UD) =Behaviour trait for managing self/university dictates.

*Items are rated from 5 (Rarely or almost never true for me), 4 (Sometimes but infrequently true for me), 3 (Occasionally true for me), 2 (Very often true for me) and 1(True for me all or most of the time). For easier interpretation and comparison, each respondent scale scores are represented as the mean of their item responses.

Table 2 shows the exploratory factor analysis performed using principle axis factoring as the extraction method and direct oblique as the rotation method. Oblique rotation was chosen because it was anticipated that the factors would have some inter-correlation based on the facts that the behaviour traits assumed were related. A screen test indicated that a four- factor solution was appropriate. Therefore, Table 2 further shows the pattern matrix resulting from this analysis. The sub-levels of the scale demonstrated factor structure which was consistent with expectation. All items had high loadings on their own scales, and loaded minimally on the other scales.

Table 2: Exploratory Factor Analysis Showing Item Factor Loadings

Item	BTMS/S	BTFP	BTCA	BTMS/UD
BTMS/S 1: I find it easy to exert considerable influence over some of the staff and students	-.01	-.02	-.01	-.77
BTMS/S 2: When staff and students make an error I am almost certain to point it out to them	-.01	.00	.01	-.87
BTMS/S 3: I always feel I should involve in staff and Students activities	.05	.00	-.08	-.67
BTMS/S 4: My decisions regarding staff and students problems I face do not turn out to be good ones	.05	.00	-.08	-.67
BTFP 1: I manage the centre monetary activities with the study centre accountant	.90	-.02	-.04	.07
BTFP 2: I have meetings with the study centre staff on how to manage centre's monetary activities	.82	-.03	-.04	-.07
BTFP 3: First thing I do is to plan a financial budget before any monetary activities at the study centre	.86	-.02	.02	-.05
BTCA 1: I understand that the study centre have problems with the host community	.51	.05	.08	-.37
BTCA 2: I persuade the study centre host community to contribute to the activities of the centre	.02	-.08	-.75	-.01
BTCA 3: I feel bad whenever I think about the activities of the study centre host community	.02	.03	-.82	.04
BTCA 4: Staff and I at the study centre visit and participate in many activities organised by the study centre host community	-.03	.11	-.68	-.08

BTMS/UD 1: If I am criticize it makes me feel very low or worthless	-0.20	.72	.02	-.02
BTMS/UD 2: I change the way I do things in order to please my university	-.07	.86	-.05	.01
BTMS/UD 3: I am proud of my opinion in all circumstances	.19	.73	-.03	.02
BTMS/UD 4: I find it hard to take a genuine interest in the activities that take place at my study centre	-.02	.72	.02	-.02

*Factor loadings with absolute value > .05 are in boldface. BTMS/S = Behaviour Trait for managing Staff/Students, BTFP = Behaviour Trait for Financial Prudent, BTCA = Behaviour Trait for Community Advocacy and BTMS/UD = Behaviour Trait for Managing Self/University dictates.

Table 3 show the Behaviour trait for managing staff/students, BTMS/S and Behaviour trait for community advocacy, BTCA showed a moderately strong negative correlation ($r = -0.57$). The Behaviour trait for financial prudent, BTFP factor showed a moderate correlation with Behaviour for managing self/university dictates, BTMS/UD, BTMS/UD and BTMS/S, .31 and .33 respectively. Other factor inter-correlations were weak.

Table 3: Factor Intercorrelations

Measure	BTMS/S	BTFP	BTCA	BTMS/UD
BTMS/S	--	-.17	-.16	-.57
BTFP		--	-.33	.01
BTCA			--	.31
BTMS/UD				--

BTMS/S = Behaviour Trait for Managing Staff/Students, BTFP = Behaviour Trait for Financial Prudent, BTCA = Behaviour Trait for Community Advocacy and BTMS/UD = Behaviour Trait for Managing Self/University Dictates

Validity

Behaviour trait for managing staff/students (BTMS/S) measures social-emotional growth as never-ending process and ability to clearly communicate rules, goals, and expectations to students and staffs including high degrees of empathy and self-efficacy. The items asked samples whether centre directors need to possess the above traits on a separate response format option of "yes," "no," and "don't know." Those who reported "yes" had a higher mean than those who responded with "no" or "don't know" (3.44 vs. 2.43, respectively; $t = 13.53$, $df = 97$, $p < 0.005$).

behaviour trait for financial prudent (BTFP) measures Centre directors' involvement of staff in monetary budgeting of the center towards ensuring financial responsibility, accountability and transparency to the university, students and staff, while behaviour trait for community advocacy (BTCA) measures Centre directors ability to discriminate between issues of responsibility, problem ownership and encouraging local participation in gaining access to learning opportunities. Respondents were asked to describe their centre director's involvement of staff in monetary activities and community advocacy of the centre. For both items, the options were 1: never involved, 2: not very sure, 3: somehow involved, 4: not very necessary and 5: to some extent involved. Respondents with desire to involve in monetary activities and advocacy of the centres had a higher mean score than respondents without desire to involve (3.83 vs. 2.41, respectively; $t = 9.44$, $df = 97$, $p < .005$).

Behaviour trait for managing self/university dictates (BTMS/UD) measures centre directors' ability to clearly internalize communicated rules, goals, ever changing expectations, respect for self-own strengths and weaknesses as seriously as those of the university, staff and students including respond to behaviours consistently and predictably. The study asked respondents about centre directors possessing of this behaviour trait on response format options of "yes," "no," and "don't know." Respondents who reported to centre directors having the behaviour trait obtained a lower mean score than samples who reported "no" or "don't know" (2.59 vs. 3.43).

Discussion

The scale was developed in an attempt to standardize the various behaviour expectations expected from all study directors appointed to manage the seventy-six (76) study centres of the National Open University of Nigeria, which cut across the geo-political zones of Nigeria. The items developed on the scale are brief and show strong psychometric qualities.

The items on the scale measure four distinct but interrelated dimensions, show respectable internal consistency, and exhibit criterion-related validity. The scale could provide a means of measures among others with standard scoring and unbiased judgment on the behaviour of centre directors and how the behaviour influences activities carried out at the study centre. Centre directors with positive behaviour trait that understands social-emotional growth as never-ending process and clearly communicates rules, goals, and expectations to students and members of staff including high degrees of empathy and self-efficacy may easily achieve the targeted goals of the university than directors with reverse behavioural trait.

Likewise, centre directors with prudent financial behaviour trait can easily maximize the little available monies for the betterment and provision of resources for staff and students. Directors that are judged financially prudent will gain the respect of staff, students and management. Centre directors with behaviour trait for community advocacy will assist in mobilizing the local community for increase students' enrolment, participation, security of centre resources and donations to compliment government spending on provision of education while, centre directors' behaviour trait with good management of self/university dictates may easily adjust, adapt and adopt to self, host community and university dictates with behaviours consistently and predictably.

Many beginning centre directors have become discouraged by what they perceived as negative comments regarding their behaviour trait toward management of study centres without proper evaluation and

measures. But a scale of this nature may be of guide. The scale could also be useful for study centre activities evaluation.

Conclusion

The present study is the first to provide data on a standardized scale for measuring centre directors behaviour expectations at the National Open University of Nigeria study centres. Based on the findings therefore, the study concludes that centre directors behaviour trait for managing staff/ students is related to trait for mobilizing community where the centre is located. This indicated that the two traits are essential for successful management of study centre. Likewise, study centre director's ability to be prudent in financial management related positively with the director's ability to have self-control and abide by university dictates that is essential for self-control.

References

- Adeosun, I, Ogun, O, Adegbohun, A, Jejeloye, A, Ogunlowo, A. (2014). Psychometric Properties and Confirmatory Structure of the Strengths and Difficulties Questionnaire in a Sample of Adolescents in Nigeria Abstract number EPA-0886. *European Psychiatry*, 29(Suppl 1), 1-2.
- Akpa, OM, Bamgboye, EA, Baiyewu, O. (2015). The Adolescents' Psychosocial Functioning Inventory (APFI): scale development and initial validation using Exploratory and Confirmatory Factor Analysis. *African Journal for the Psychological Study of Social Issues, Afr J Psychol Study Soc Issues*, 18(1), 1–21.
- Aminu, KI. (2015). Validation of goal setting, decision-making skills and learning satisfaction scale among distance and conventional university learners in Nigeria. *West African Journal of Open and Flexible Learning (WAJOFEL)*. Vol. 4, No. 1. Pp 152-162
- Björnsdotter, A, Enebrink, P, Ghaderi, A. (2013). Psychometric properties of online administered parental strengths and difficulties questionnaire (SDQ), and normative data based on combined online and paper-and-pencil administration. *Child and Adolescent Psychiatry and Mental Health*, 7, 40. doi:10.1186/1753-2000-7-40.
- Dickey, WC, Blumberg, SJ. (2004). Revisiting the factor structure of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43, 1159–1167.
- Dweck, C. (2006). *Mindset*. New York: Random House.
- Gadermann, AM, Guhn, M, Zumbo, BD. (2012). Estimating ordinal reliability for likert-type and ordinal item response data: a conceptual, empirical, and practical guide. *Practical*

Assessment, Research & Evaluation, 17(3), 1–13. Retrieved from <http://pareonline.net/getvn.asp?v=17&n=3>

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 1337–1345.

Hattie, J. (2013). *Visible Learning: A Synthesis of 800 Meta-Analyses Relating to Achievement*. Routledge.

Marzano, RJ. Marzano, JS, Pickering, D, (2003). *Classroom Management That Works: Research-Based Strategies for Every Teacher*. Alexandria, VA: Association for Supervision & Curriculum Development.

Mellor, D, Stokes, M. (2007). The factor structure of the strengths and difficulties questionnaire. *European Journal of Psychological Assessment*, 23, 105–112.

National Open University of Nigeria, NOUN. (2006). *Getting to know your university: An orientation and information guide for students of National Open University of Nigeria*. Lagos.

National Open University of Nigeria, NOUN. (2014). *Academic brief*. National Open University of Nigeria. Lagos. 14/16 Ahmadu Bello way, Victoria Island.

National Open University of Nigeria, NOUN. (2018). *University organogram*. Abuja. Office of the University Registrar.

O’Neill, SC, Stephenson, J. (2014). Evidence-Based Classroom Behaviour Management Content in Australian Pre-Service Primary Teachers’ Coursework: Where Art Thou? *Australian Journal of Teacher Education*, 39(4), 1-22.

Ortuño-Sierra, J, Chocarro, E, Fonseca-Pedrero, E, Paino, M., Sastre i Riba, S, Muñoz, J. (2015). The assessment of emotional and Behavioural problems: Internal structure of The Strengths and

Difficulties Questionnaire. *International Journal of Clinical and Health Psychology*, 15, 265---273.

Pinterits, EJ, Poteat, VP, Spanierman, LB. (2009). The White Privilege Attitudes Scale: Development and Initial Validation. *Journal of Counseling Psychology*, 56, 417–429.

Shaun, K. (2016). Behaviour management strategies. The Australian Society for Evidence-Based teaching. Turning research into practical advice. Retrieved from <http://www.evidencebasedteaching.org.au/top-10-behaviour-management-strategies/>

Van Leeuwen, K, Meerschaert, T, Bosmans, G, De Medts, L, Braet, C. (2006). The Strengths and Difficulties Questionnaire in a community sample of young children in Flanders. *European Journal of Psychological Assessment*, 22, 189-197.