

The Translation and Validation of a Multidimensional Tool for Measuring the Boredom State among Cameroonian Workers

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Received: November 11, 2022

Accepted: February 11, 2023

Online Published: February 13, 2023

doi:10.5539/ijps.v15n1p39

URL: <https://doi.org/10.5539/ijps.v15n1p39>

Abstract

This research involved developing a tool for measuring boredom state with a sample of Cameroonian workers. Boredom refers to a state of under-arousal, caused by the experience of an aversive situation of idleness, perceived as useless and discouraging (Rengade, 2016). Recent scientific literature highlights the adverse effects of boredom on workers' health and organisational performance (Vodanovich & Watt (2016). The lack of an operational tool to diagnose boredom at work limits the possibilities of managerial intervention aimed at developing appropriate managerial strategies. However, similar studies revealed an increase in the number of Cameroonian civil servants with work contracts, regular salaries, identified work stations, missions and work objectives to achieve, who report a permanent feeling of emptiness, monotony and dejection (Simaleu, 2021; Doumbeney, 2021). We applied the cross-cultural validation procedure proposed by Vallerand (1989), to adapt the multidimensional state boredom instrument (MSBS) by Fahlman et al. to the Cameroonian context. The study was carried out in three stages with a sample of 469 civil servants. Our results are in line with the measurement model of the original version, which is a five-factor structure (low arousal, disengagement, high arousal, inattention and time perception). Despite the existing socio-cultural differences between the validation context of the original version and the Cameroonian context, the structure which is similar to the original version of the MSBS obtains better fit indices with the data collected from Cameroonian workers (CFI = .99; GFI: 0.99; SRMR = 0.05; RMSEA=.004). Since the Cameroonian version of the MSBS has been able to demonstrate adequate psychometric properties, it can therefore be used as a measure of boredom at work.

Keywords: boredom, work, emptiness, measurement, emotion

1. Introduction

1.1 Problem

Numerous works carried out in industrial and organisational psychology (Taiwo, 2010; Bourion & Trébuq, 2011; Harju et al, 2014; Simaleu, 2021), alongside observations made in the field, reveal that quite a few workers are bored at workplaces. This is must not be overlooked, but rather taken into consideration since it is a real problem whose harmful effects on the health of workers and the productivity of organisations are obvious (Eastwood et al, 2012; Rengade, 2016; Vodanovich & Watt (2016). In Cameroon, Nyock Ilouga's (2019) analysis of the relationship to work shows that Cameroonians are hard-working and that social recognition is achieved through work. Hence, when there is no work, they try all means to find another and, if necessary, they create new work. In such a society of activists, boredom is forbidden and might even be a taboo. Surprisingly, it is increasingly becoming apparent that there are civil servants with work contracts, regular salaries, workstations, as well as missions and objectives to be achieved who report a permanent feeling of emptiness, monotony and boredom at work. Moreover, the study by Simaleu (2021), in the Cameroonian context, indicates that almost half of the respondents (43%) report that they are bored at work. This paradoxical situation finds its explanation in the analysis of the situation of Cameroonian workers proposed by Nyock Ilouga et al. (2018). According to them, Cameroonian workers evolve in an entropic context marked by a managerial deficiency that seems to have abandoned to workers, the responsibility of organising their work and adjusting their collaboration. Such managerial deficiency leads to the collapse of the value of work. Thus, when a significant number of workers is uneducated and unaware of what is expected of them, the relationship to work loses its structure and meaning

(Ambassa & Nyock Ilouga, 2021). Emptiness, vacuity and boredom creep in. What is the level of boredom of Cameroonian workers? This study attempts to answer this question through a validation process of an instrument for measuring boredom at work. This approach is justified by the fact that in the Cameroonian and even francophone context there is no operational tool to assess the boredom which seems to be generalized in the workplaces in Cameroon. This absence of a boredom assessment tool in the workplace is justified by the fact that very few empirical studies have been carried out on this problem in Africa in general and in Cameroon in particular. Thus, the objective of this study is to translate and validate the multidimensional scale of state of boredom proposed by Fahlman et al. (2013), among Cameroonian public administration workers.

1.2 Definitions

It is important to note that boredom at work, as addressed in occupational psychology, draws its conceptual and theoretical foundations from various fields of knowledge such as sociology (Barbalet, 1999), philosophy (Sartre, 1947), management (Hackman & Oldham, 1976) et la psychology (Fiske & Maddi, 1961). With such a diverse foundation, boredom remains difficult to define or even conceptualise. Nevertheless, authors agree that boredom is a multidimensional construct with three perspectives: i.e. affective, cognitive and behavioural (Rengade, 2016; Teng, Hassan & Kasa, 2016). Boredom could therefore be defined as a state of unease marked by a feeling of emptiness and refers to the test of time that seems to stretch on forever, without being able to end, giving rise to the painful experience of emptiness (Rengade, 2016). Cognitively, Mikulas and Vodanovich (1993) consider that boredom corresponds to a state of dissatisfaction and very low arousal, attributable to a situation (internal or external) perceived as insufficiently stimulating. The emotional aspect of boredom is the consequence of the frustration, either real or perceived, that arises from a situation causing dissatisfaction (Rengade, 2016). According to Fiske and Maddi (1961), boredom is also conceptualised as an aversive state of underarousal that occurs when “information” or environmental “stimulation” is redundant, monotonous, of low intensity or meaningless. Finally, the main characteristic of boredom is the aversive experience of having an unfulfilled desire to be engaged in satisfying activity but being unable to do so (Eastwood et al., 2012). This definition clearly captures the crux of the problem in Cameroonian workplaces. As a matter of fact, in the socio-professional context of Cameroon, it is obvious that workers are unable to access work due to lack of resources and barriers of all kinds (Guemeta Tsayem, 2020). This lack of access to work thus leads to frustration and boredom.

2. Literature Review

In the scientific literature, two major publications provide a detailed overview of psychometric tools for boredom. In 2003, Vodanovich presents the first thorough review of boredom measures. In his work, the author shares the idea that boredom as a construct has received less attention in literature and there was therefore a need to take stock of it. He further goes in his study to examine some tools such as: the boredom propensity scale (Farmer & Sundberg, 1986), the workplace boredom scale (Grubb, 1975), the leisure boredom scale (Ragheb & Merydith, 2001), the sexual boredom scale (Watt & Ewing, 1996). A second more detailed review was published by Vodanovich and Watt (2016) with a view to providing an exhaustive review of the measures alongside an update of recently published new measures. The peculiarity of this review is its classification of the measures of boredom into two axes: boredom as a personality trait and boredom as an emotional state.

2.1 Boredom as A Personality Trait

The proponents of this approach start from the idea that boredom is innate in every individual. According to them, each of us has a propensity to be bored in different aspects of life. The first and largest boredom measurement scale used is the boredom predisposition questionnaire. In 1986, Farmer and Sundberg developed a tool to measure the propensity to experience boredom across a wide variety of situations. According to these authors, individuals are predisposed to experience boredom in their daily activities.

2.2 Boredom as An Emotional State

Contrary to the dominant literature that presents boredom as a personality trait, the idea that boredom could also be an emotional state has been widely advocated in the scientific literature since the 2010s. As a matter of fact, the works of Fahlman and his colleagues in 2013 contrasted, for the first time, boredom as a personality trait with boredom as an emotional state. According to them, boredom is a response to an environmental configuration. External aspects therefore give room to boredom. The multidimensional boredom state instrument, which originated from this approach (Fahlman & al., 2013), consists of 29 items rated on a 7-point Likert scale ranging from “1” (strongly disagree) to “7” (strongly disagree). The MSBS includes the following five factors: disengagement, inattention, high arousal, time perception and low arousal. This tool is the most widely used in scientific literature when dealing with boredom as an emotional state. We will use this instrument in this study

since the idea advocated here is that boredom among Cameroonian employees originates from the work environment, which is considered entropic and deficient. Thus, boredom would be an aversive emotional response to the socio-professional environment in which Cameroonian workers evolve.

2.3 What is the Need for A Translation and Adaptation of the MSBS to the Cameroonian Cultural Context?

The literature analysis shows that there are few tools for measuring boredom at work available in French. Furthermore, boredom at work has been least explored in the African literature, especially at the empirical level. To our knowledge, there are no tools for measuring boredom at work in French-speaking Africa. In order to fill this gap, this study attempts to translate and adapt the multidimensional boredom scale to the Cameroonian context. Since the original measure is in English, we will translate it into French. This research will also enable us to continue the validation work of this instrument in different contexts undertaken since 2012. Unlike Farmer and Sundberg's (1986) boredom predisposition tool, which has been proven to be robust in different cultural contexts, cross-cultural validation studies of the MSBS are rather recent and need to be intensified (Liu Yong et al., 2013; Alda et al., 2015; Spoto et al., 2021).

2.3 Research Hypothesis

In line with the previous translations and validations of the Multidimensional Boredom Scale (MSBS) by Fahlman et al. (2013), we agree despite the existing socio-cultural differences and realities between the validation context of the original scale (English) and the Cameroonian context that: the MSBS in the Cameroonian workplace and its dimensions will fit in the same way as the original version. To test this hypothesis, we adopted the cross-cultural validation procedure for psychological questionnaires proposed by Vallerand (1989). It includes many levels

of studies, each with its own specific methodology: the preparation of the preliminary version of the questionnaire, the evaluation of the preliminary version, the pre-test of the questionnaire, measurement of concurrent and content validity, development of the Cameroonian version of the MSBS et the measurement of the validity of this version.

3. Translation Process

3.1 Stage 1: Translation of the Multidimensional Scale of Boredom

The objective of this first step is to prepare the French translation of the instrument of measurement. To achieve this objective, we have one of the ideal translation techniques of a psychological measurement instrument recommended by Vallerand (1989), namely back-translation (reverse translation). To this end, we first used the French translation carried out by a master's student in occupational psychology and a professional working at the University of Yaoundé 2 (SOA). These two experts were perfectly bilingual and had never been familiar with the original version of the MSBS used. The two French translations produced were evaluated by an expert committee consisting of two researchers in occupational psychology. Once the French version was selected, we submitted it to two other experts for translation from French to English. For this purpose, we had to call on a bilingual letters student from the University of Yaoundé 1 and a high school teacher from Yaoundé. These two experts were perfectly bilingual with an English-speaking background. They had no previous knowledge of the original version of the MSBS tool. The two back-translated English versions were evaluated by an expert committee made up of two researchers and a professional translator. The work involved comparing the back-translated English version with the original version. If the translation of an item was deemed unsatisfactory, the committee members examined the French version to ensure that it was correctly translated from the source language (English) to the target language (French). Finally, all items were reviewed and at the end of the discussion, an experimental version of the questionnaire was adopted.

3.2 Pre-Testing the Experimental Questionnaire

This is a test of the data collection instrument. It is essential to ensure that the items that make up the test are intelligible and that they actually address the problems raised by the researcher. Moreover, given that the tool used was developed in a cultural context different from ours, the pre-test also allows the tool to be free from its original cultural burden particularly through the use of local language expressions (Nyock Ilouga et al, 2018). The pre-test was carried out to evaluate the comprehension and formulation of the items. It was carried out with 15 civil servants (8 women and 7 men) working at the departmental delegation of basic education of Mfoundi (Yaoundé). The civil servants completed this experimental version without major difficulty, in about ten minutes. In the view of those consulted, the questionnaire, aside from its structure (small font size), was straightforward and easy to complete. No changes were made to the drafting of the items. This result is justified by the fact that the tool was evaluated by the experts during the translation stages before being pre-tested with the workers. Once

the pre-test was completed, exploratory, confirmatory and correlational studies were carried out to validate the boredom measurement scale in the Cameroonian socio-professional context.

3.3 Stage 2: Exploratory Research

The objective in this development stage of the Cameroonian version of the MSBS is to find the factor structure that fits our data. To do this, we focused on exploratory factor analyses following the extraction method of the principal axes with oblique rotation.

4. Methodology

4.1 Instrument of Measurement

The approach that led to the collection of data was primarily based on the administration of a questionnaire divided into two sections. The first is made up of the 29 items of the original version of the MSBS distributed into five dimensions (disengagement, inattention, low arousal, high arousal, time perception). Participants were asked to express their level of agreement with each item or suggestion using a 7-point Likert scale: 1- Strongly disagree; 2- Disagree; 3- Fairly disagree; 4- Neutral; 5- Fairly agree; 6- Agree; 7- Strongly agree. The second section measured the socio-demographic characteristics of the participants (age, gender, etc.).

4.2 Participants

In this study, we administered a paper and pencil questionnaire to 267 workers from different public administrations in the city of Yaoundé. These participants were selected using the convenience sampling technique. The research sample consisted of 124 (46.4%) women and 143 (53.6%) men. The average age of the participants is 36 years with a wide range (E-T= 7.35) in a sample dominated by youths under 40 years of age, where the youngest is 22 years old and the oldest 57 years old. On the one hand, it is a sample of young workers with an average of 9 years of service and youths with a high level of qualification, whereby 60% of the managers holding a minimum level of bachelor's degree and the vast majority holding a master's degree.

4.3 Statistical Approach

The data collected was processed using JASP software under Windows 10. A set of criteria was used to approve the resulting factor structure. Overall, the approach adopted was as follows: a) retain the number of factors that explain a significant part of the variance; b) select the factors with an eigenvalue greater than 1 according to the Kaiser (1958) criterion. c) Check the values of the Kaiser-Meyer-Olkin test (Kaiser & Rice, 1974). The Kaiser-Mayer-Olkin (KMO) index, whose value must be between 0 and 1 and at least .70, ensures that the distribution of values is adequate (correlation between statements). The sphericity test (Bartlett) which verifies the normality of the data recorded in the evaluation of the statements must be significant to .05. The final step had to do with the rotation of factors to improve the clarity and readability of the factor structure.

5. Results of the Exploratory Research

The results show that the average KMO index for all the selected items is 0.89. This reflects a good match of the items to the latent factors. Similarly, the results indicate that Bartlett's sphericity test is significant ($X^2= 2259.47$; $p<.001$). This result allows the null hypothesis to be rejected and shows that there is a correlation between the items. To determine the number of factors to be extracted, we used exploratory factor analysis following the extraction method of principal axes with oblique rotation. After oblique rotation, the factor structure presented in Table 1 is revealed. Five factors were identified.

Table 1. Results of the exploratory analysis

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Uniqueness
I feel depressed	0.841					0.166
I feel empty	0.820					0.234
I feel lonely	0.795					0.276
There seems to be no one around me to talk to	0.715					0.369
Time moves very slowly		0.919				0.135
Time presently seems to move slowly		0.868				0.240
Time seems to have stopped		0.636				0.327
I feel restless			0.809			0.339
I'm more often in a bad mood than usual			0.776			0.317
I easily get distracted				0.999		0.001
It is difficult to focus my attention				0.486		0.426
I feel bored					0.848	0.265
I'm wasting time that could be better spent on other things					0.543	0.496
% of accounted variance	23%	17.2%	11.6%	11%	9.4%	
Cronbach Alpha	.91	.90	.80	.82	.72	

Results of the EFA show a factor structure of boredom that is organised into five factors. The different communities reflecting the variance of the item explained by the latent factor are very good in general. Thus, each selected item shares at least 50% of its information with the latent variable. The examination of the factorial solution that best fits our data shows that 16 items were removed from the analysis. The main reason for this is that the proportion of the unique variance of these items was higher than that supported by the common factorial solution. This five-dimensional factorial solution is the most stable and restores 72.4% of the common variance. In fact, the composition and naming of the factors in the original version was maintained. Hence, the first factor (low arousal) restores 23%, the second factor (time perception) restores 17.2%, the third factor (high arousal) restores 11.6%, the fourth factor (inattention) restores 11% and finally the fifth factor (disengagement) restores 9.4% of the common variance. Finally, the analysis of the RMSEA = 0,05 shows that the model is rather satisfactory. The dimensions of the tool are rather stable. Furthermore, the results of the reliability analysis show that the 13 items selected in the factorial solution constitute a coherent set. The results show that Cronbach's α value for the disengagement" dimension is equal to 0.72. This means that the 2 items of this dimension constitute a consistent set. For the "Time perception" dimension, the α value = 0.90. For the "Low arousal" dimension, the α value = 0.91. For the "High arousal" dimension α value = 0.80. Lastly, the "Inattention" dimension has an α value = 0.82.

5.1 Descriptive Analysis

Table 2. Item-by-item descriptive statistics

	Mean	Standard deviation	Minimum	Maximum
I feel bored	3.390	2.001	1.000	7.000
I'm wasting time that could be better spent on other things	3.730	2.073	1.000	7.000
I'm more often in a bad mood than usual	3.060	1.881	1.000	7.000
I feel restless	2.708	1.714	1.000	7.000
I easily get distracted	3.011	1.851	1.000	7.000
It is difficult to focus my attention	2.948	1.824	1.000	7.000
I feel lonely	2.861	1.890	1.000	7.000
I feel depressed	2.772	1.863	1.000	7.000
I feel empty	2.700	1.872	1.000	7.000
There seems to be no one around me to talk to	2.547	1.754	1.000	7.000
Time seems to have stopped	3.052	1.845	1.000	7.000
Time moves very slowly	3.232	1.899	1.000	7.000
Time presently seems to move slowly	3.270	1.934	1.000	7.000
Disengagement	3.560	1.803	1.000	7.000
High arousal	2.884	1.641	1.000	7.000
Inattention	2.979	1.695	1.000	7.000
Low arousal	2.720	1.641	1.000	7.000
Time	3.185	1.723	1.000	7.000

The results of the descriptive analyses implemented show that the average of the scores obtained for each item and per dimension is lower than the theoretical average (4) of a 7-point Likert scale. The level of boredom reported by the workers seems to be slightly low. In fact, almost 43.74% of the workers seemed to be bored at work. This result is quite similar to the one obtained by Simaleu (2021), with a sample of 100 workers in the public administration of the city of Yaoundé in Cameroon. This research revealed that almost 43% of workers are bored at work. These scores of boredom at work are not far from those proposed by the authors who developed the original version. These results, which do not reflect the real level of boredom observed by the workers, can be explained by the social desirability resulting to the fact that all the items in the tool are formulated in the affirmative. This limitation was also revealed by the authors of the original version (Fahlman & al, 2013). In conclusion, these results of the AFE show that these items obtained after examination of the factorial solution constitute an excellent measure of the Cameroonian version of boredom at work.

6. Confirmatory Research

The objective of this analysis is to confirm that the factor structure from the exploratory factor analysis is stable.

6.1 Methodology

6.1.1 Participants

In order to achieve this objective, a second field research using a paper and pencil questionnaire was carried out on a sample of 202 workers in the central services of the public administration in the city of Yaoundé. The sample consisted of 101 men and 101 women with an average age of 38 years and a standard deviation of 8.53. 52% of the workers interviewed were civil servants and 48% were contract workers. These employees have an average of 10 years' seniority and work an average of 37 hours per week. The majority of respondents have a bachelor's degree (27.7%) or a master's degree (22.8%). The workers interviewed came from all regions of the country and the vast majority (51%) were married. The data collected during this second stage made it possible to test the construct validity and discriminant validity.

6.1.2. Statistical Approach

To check whether the factor structure obtained during the AFE is stable, we opted for the “robust” estimation method, which is recommended when the data is collected using ordinal scales and which allows a confirmatory analysis when the normality of the distribution has not been clearly established. Several indices were used to estimate the adequacy of the proposed models, i.e. the degree of correspondence between the matrix of theoretical estimates and the matrix of empirical estimates. For this purpose, we have retained: the ratio of the chi-square to the corresponding number of degrees (χ^2/df), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA).

6.2 Results

The statistical indices confirmed the construct validity of the five-dimensional structure of boredom.

Table 3. Model fit indices

Indices	χ^2/df	CFI	GFI	TLI	NFI	RMSEA	SRMR
M1	1.45	0.999	0.996	0.998	0.995	0.048	0.050
M2	3.72	0.922	0.893	0.895	0.897	0.116	0.153

In this research, we examined two models. An M1 model to measure boredom in five dimensions and an M2 model to measure boredom in three dimensions (inattention, disengagement and time perception). The results of the confirmatory analysis show that the M1 model presents structuring indices that reflect, on the whole, a very good fit of the data to the proposed model. On the other hand, the structuring indices of the M2 model show, as a whole, values below the expected thresholds. We logically decided not to use this model as a tool for measuring boredom among Cameroonian workers. Model 1, which presented better indices, was adopted in the final analysis. In order to verify that the five dimensions adopted effectively reflect workers' boredom, a factorial analysis integrating a second-order factor was carried out using JASP.

Table 4. Second level analysis

Latent Factor	Indicator	Symbol	Estimate	Std. Error	z-value	P	95% Confidence Interval	
							Lower	Upper
Boredom	Factor 1	γ_{11}	1.180	0.085	13.851	< .001	1.013	1.347
	Factor 2	γ_{12}	1.954	0.264	7.412	< .001	1.437	2.470
State	Factor 3	γ_{13}	-0.065	0.026	-2.480	0.013	-0.11	-0.01
	Factor 4	γ_{14}	1.784	0.161	11.102	< .001	1.469	2.099
	Factor 5	γ_{15}	1.287	0.081	15.919	< .001	1.129	1.446

The results of this analysis show that the five dimensions are indeed related to a second-level construct. This means that the five proposed dimensions are related to boredom at work. We considered that this second factor corresponds to boredom at work. Figure 1 confirms this organization.

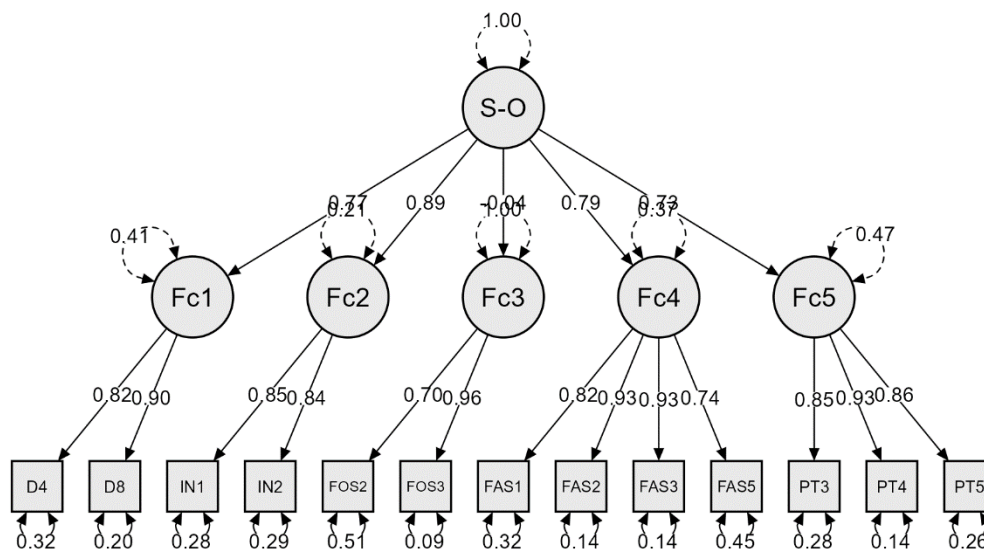


Figure 1. Confirmatory structure of the Cameroonian version of the multidimensional Boredom tool at work
Notes: Fc1 : disengagement ; Fc2 : inattention ; Fc3 : high arousal ; Fc4 : low arousal ; Fc5 : time perception

The reliability analysis carried out revealed some very interesting results. The results show that Cronbach's α value for the "Disengagement" dimension is equal to 0.84. For the "Time perception" dimension, the α value = 0.90. For the "Low arousal" dimension, the α value = 0.91. For the "High arousal" dimension α value = 0.80. Lastly, the "Inattention" dimension has an α value = 0.82. Finally, the overall reliability index of the boredom measurement tool after confirmatory analysis is 0.88.

6.2.1 Review of Discriminant Validity

Finally, as recommended by Vallerand (1989), the last step in the analysis of the validity of the work boredom measurement construct concerns the consequences or correlates of the construct.

In fact, we decided to relate the work boredom measurement tool to other constructs that are very close to it in the scientific literature. In accordance with the work of Bruursema et al. (2011), Madelon et al. (2017), Mann (2007), et Teng et al. (2019), we maintain that boredom at work is positively correlated with boredom-related behaviours and intention to quit.

6.2.2 Material

Given our quantitative research, we used the questionnaire as a data collection tool. The instruments used to establish this discriminant validity research were taken from the scientific literature in occupational psychology.

6.2.3 Behaviours Related to Boredom at Work

To measure them, we used Lee's tool (1986). Following the recommendations of Van Hooff and Van Hooff (2014), we adopted the five items measuring work-related boredom behaviours (e.g. I keep myself busy with other non-work related activities to fill the time). The reliability analysis carried out indicates a satisfactory Cronbach's α value = 0.80. Participants were asked to express their level of agreement with each item or suggestion using a 4-point Likert scale: 1- very rarely; 2- rarely; 3- often; 4: very often

6.2.4 The initial Intention to Leave

To measure them, we used Perrot's tool (2004). It is a unidimensional construct measuring the initial intention to leave in four items (e.g.: I often consider getting a posting). The reliability analysis carried out indicates Cronbach's α value = 0.82 which is satisfactory for the sample. Participants were asked to express their level of agreement with each item or suggestion using a 4-point Likert scale: 1- Strongly disagree; 2- Disagree; 3- Agree; 4: Strongly agree

6.2.5 Boredom at Work

It was measured using the Cameroonian version of the MSBS measuring boredom at work in 13 items distributed into five dimensions (low arousal, time perception, high arousal, inattention and disengagement). The Cronbach's alpha values from the confirmatory analysis are very good, indicating good reliability of the instrument. Participants were asked to express their level of agreement with each item or suggestion using a 7-point Likert scale: 1- Strongly disagree; 2- Disagree; 3- Fairly disagree; 4- Neutral; 5- Fairly agree; 6- Agree; 7- Strongly agree. As far as the statistical approach is concerned, we have implemented correlational analyses in Spss version 26.

7. Results

Table 5. Correlation matrix

	Mean	E-T	1	2	3	4	5	6	7
Intention	2.38	.78	1 (.82)						
Behaviours	2.14	.69	,346**	1 (.80)					
Disengagement	3.34	1.45	,397**	,354**	1 (.84)				
Inattention	3.01	.69	,326**	,416**	,588**	1 (.83)			
Low A.	2.89	1.75	,364**	,382**	,409**	,625**	1 (.91)		
Time P.	3.44	1.70	,375**	,324**	,545**	,499**	,629**	1 (.90)	
High A.	2.98	1.66	.134	-,150*	.019	.008	.075	.033	1 (.80)

Table 5 shows significant and positive relationships between the variables. The analysis correlation coefficients show that, overall, they have low values ($r < .05$). These results are rather satisfactory for discriminant validity research in which the indicators meant to measure different phenomena are weakly correlated with each other (Jackson & Paunonen, 1985). On one hand, in line with our predictions, the results show that the dimensions of work boredom, with the exception of high arousal ($r = -.13$, $p \geq .05$), are positively and significantly related to the intention of departure. It appears that bored workers develop departure intentions (Teng et al., 2019). On the other hand, the results show, in line with our predictions, that the dimensions of boredom at work are positively and significantly related to boredom-related behaviours. It would therefore be reasonable to think that Cameroonian public administration staff who are bored at work engage in personal activities to fill their time at work. However, it is observed that high arousal is negatively related to boredom-related behaviours. Overall, the results show that, in line with subsequent translations and validations of the Multidimensional Boredom Scale (MSBS) of Fahlman et al (2013), and despite the existing socio-cultural divergences and realities between the validation context of the original scale (English) and the Cameroonian context, the original structure of the MSBS fits well in the Cameroonian context. The Cameroonian version of the boredom-state measurement tool showing adequate psychometric properties regarding reliability and validity can be used as a measurement instrument measuring boredom at work in research.

8. Discussion

In the scientific literature of psychology, there is currently an increasing interest in the study of boredom at work as shown by numerous scientific publications (Bourion, 2016). There is a certain awareness on the need to understand this problematic as well as the negative experience workers go through. Thus, despite its impact in professional environments and in society in general, the problem of boredom at work in the Cameroonian context is the topic of very few studies. This construct, which is crucial in the world of work today, has so far received little attention in the cultural context of Francophone Africa. We intended to validate a tool for measuring boredom in this area so that it could be used as a research tool. The aim of this research was to translate and validate the multidimensional boredom scale among Cameroonian workers. 29 items of the original MSBS proposed by Fahlman et al. (2011), therefore underwent the cross-cultural validation procedure of psychological measurement scales proposed by Vallerand (1989).

The results obtained from the translation research indicate a good translation of the items from English to French and consequently the near equivalence of the two versions of the instrument. The results of the exploratory and confirmatory analyses show that the model that best represents the data is a 13-item model with a five-dimensional structure (low arousal, disengagement, high arousal, inattention, and time perception). This model is compatible with the structure of the original version obtained by Fahlman et al. (2013) The internal consistency for the whole scale is good and comparable to the original version. However, since it was developed

in a very specific socio-cultural context, the Cameroonian version presents variations from the original version. In fact, even though we obtained a five-factor structure, the Cameroonian version has 13 items as unlike the 29 items in the original version. This variation appears to get its explanation from the population since the original version of the MSBS was administered to a sample of Canadian students. In contrast, the MSBS in the Cameroonian context was administered to a sample of public administration workers. It should be noted that the MSBS is based on the fundamental idea that the environment in which individuals live is the driving force behind boredom. Based on this assumption, it is possible to believe that, the results may slightly vary when administered in different environments. Students and workers in different realities do not experience situations in the same way. It is therefore possible to assume that some items in the original version do not capture the workers' state of boredom. Despite the fact that the withdrawal is better justified by the statistical analysis implemented, this 13-item version reflects the authors' suggestions that by administering the MSBS in other contexts, a version with fewer items could be obtained. As a matter of fact, the main criticism that the MSBS has received is its length (Fahlam & al., 2013). Outside the original version, the Cameroonian version stands out with better fit indices than the Italian adaptation of (Spoto et al., 2021) administered to students and presenting a five-dimensional structure with 23 items (M_cam: CFI = .99; TLI: 0.99; SRMR = 0.05; RMSEA=.004/ M_ital: CFI = .92; TLI: 0.90; SRMR = 0.05; RMSEA=.06). The Spanish version (Alda et al., 2015) also shows a five-dimensional structure, and the Spanish version administered to the general population was not the subject of an exploratory research. The authors endeavoured to confirm the original structure. Exploratory research would probably have made it possible to determine whether the 29 items are maintained in a sample that does not only include students. However, the fit indices of the Cameroonian version are better than those of the Spanish version (M_cam: CFI = .99; GFI: 0.99; SRMR = 0.05; RMSEA=.004/ M_esp: CFI = .95; GFI: 0.93; SRMR = 0.05; RMSEA=.07). These different comparisons show that the Cameroonian version, in spite of its significant number reduced items, presents interesting structuring indices that comply to the theorization on boredom. Moreover, the study of the correlates showed that the Cameroonian version, like the previous adaptations, can explain the realities related to boredom. This result provides further evidence to the validity of this construct. The Cameroonian version of the MSBS translated and adapted for the purpose of the research provides an undeniable contribution to the measurement of boredom in general and particularly boredom at work. Overall, it fits in with work that supports the idea that boredom as an emotional state is a multidimensional construct (Fahlam et al., 2013; Alda et al., 2015; Rengade, 2016; Teng, Hassan & Kasa, 2016). This multidimensionality is probably due to the fact that there is no current consensual definition of boredom. Each definition seems to emphasise on an aspect that is likely to account for this construct. In fact, it is this lack of consensus that led the authors to design this multidimensional scale. As far as the measurement of boredom at work is concerned, this Cameroonian version of the MSBS constitutes one of the first validations of this tool in the world of work. Other validity studies have been carried out with students, the general population and patients. According to these studies, the value of the MSBS lies in its ability to help us identify adolescents who may be clinically at risk in advance because excessive levels of boredom may mask a general unease (Fahlam et al., 2013; Rengade, 2016). To our knowledge, it has not yet been validated in the socio-professional environment. The results obtained support the idea of the original authors (Fahlan et al., 2013) that the MSBS could be adapted to all contexts regardless of cultural differences. This study goes in line with the work carried out in the 2010s to test the strength of the multidimensional nature of boredom as an emotional state. This multidimensionality accounts for the cognitive, emotional and behavioural specificities of the state of boredom.

This Cameroonian version indicates that boredom at work in the public administration is translated into five dimensions: disengagement, time perception, low arousal, inattention and high arousal. This Cameroonian version, logically, enables us to understand boredom at work as a translation of the aversive experience of being deprived of access to work (Eastwood et al, 2012). Although this definition is gradually accepted in the literature, it also appears to reflect this reality in the Cameroonian socio-professional context. As a matter of fact, in many work environments in Cameroon, workers are unable to access work due to lack of resources and barriers of all kinds. This lack of access to work thus leads to frustration and boredom.

This evaluation tool will allow Cameroonian managers to offer a reliable diagnosis of the level of boredom of their employees. Such a diagnostic will help to avoid the consequences linked to boredom at work. Whether the results of the study of correlates attest to a link between boredom and the intention to leave on the one hand and counterproductive behaviours on the other. It is becoming urgent for managers to fight against these negative emotions whose the effects on the productivity of organizations and the health of workers no longer need to be demonstrated. For example, empirical studies have shown the negative effects of boredom and linked it to a number of mental health, including traumatic brain injury, depression and anxiety (Farmer & Sundberg, 1986).

8.1 Limitations of the Study

In spite of these acceptable results, this study has two main limitations. The sample size is quite small, given the number of parameters estimated (267 for the exploratory study and 202 for the confirmatory study), though useful in a validity study. It is important to further this research with a larger sample of workers. The items in this questionnaire are all in the affirmative form. This might lead to social desirability among the participants. In future researches, a social desirability scale should be introduced.

9. Conclusion

Notwithstanding these limitations, from a scientific point of view, this questionnaire could contribute to empirically describe the variables underlying boredom at work since the tool has good psychometric qualities. Cameroonian managers now have an operational tool to diagnose boredom at work and consider corrective measures. However, other researches should be conducted to further explore the validity of the tool as well as the identification of relevant elements for the construction of the concrete representation of the construct. It would be interesting to see in future studies whether these components of boredom vary according to occupation or sector of activity (Khalaf & Abuela, 2021). It would also be important to empirically study the effects of boredom on the behavior and psychological health of workers. Many empirical studies of tool validation have undertaken such an approach by establishing a link between the adapter tools and other constructs that are often associated with it (Khalaf & Al-Said, 2022; Khalaf & Omara, 2022).

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