

# Validation of the Workplace Bullying Spectrum Scale: A Study of the Congolese Higher Education Sector

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## Abstract

**Purpose:** This study aimed to validate a newly developed scale measuring workers' perception of the workplace bullying spectrum which considered multiple facets of the phenomenon beyond the NAQ and its revised version. **Methodology:** 948 academics and support staff were selected using a proportional stratified sampling from 17 private and public Congolese higher education institutions based in Kinshasa who volunteered to participate in the study. They responded to an auto-administered closed-ended questionnaire, including the NAQ-R, experience, channels of occurrence, identity characteristics of perpetrators and victims, and management attitude and response in relation to workplace bullying. EFA and CFA were used to test the hypotheses about reliability, convergent and discriminant validity of the scale, and the model fit of the measurement scale. **Results:** The results displayed a good model-fit comprising nine structure factors as underlying dimensions of WPBS. All measurement scales were reliable and valid in terms of convergence and divergence. **Practical implications:** The developed WPBS scale can be a useful tool for holistically apprehending multiple facets of workplace bullying in order to elaborate policies and interventions to curb the issue. **Originality:** The study contributed to the literature on workplace bullying in general and closed the gap in the under-researched Congolese context. It can also serve leadership and HR management in designing policies and interventions to tackle workplace bullying.

## Keywords

Democratic Republic of Congo, Factor Analysis, Higher Education, Kinshasa, Negative Acts Questionnaire and Workplace Bullying

## 1. Introduction

Humans are an essential resource for production, often working to accomplish complex tasks that require evolving in an ergonomic environment (Sgarbossa et al., 2020). However, regardless of the type of industry, workers are fully immersed in numerous risk factors in their workplace that hinder not only their productivity, commitment and achievement-striving ability but also their mental and physical health, not to mention their general well-being (Gu et al., 2022). Indeed, workplace stressors bring stress, anxiety or strain for employees (Miharti, 2020).

According to Pham (2024), it includes heavy workloads, lack of control over job-related decisions, support, recognition or reward, and role clarity, job insecurity, poor communication, conflict, organisational injustice, and poorly managed work procedure change and relationships. On the other side, Maulik (2017) highlighted sexual harassment and workplace bullying as harmful workplace-related stress that can happen in any organisation, affecting both genders, especially those lower in the hierarchy, though often women are at increased risk. In addition, costs from work-related bullying are acknowledged to burden both individuals and organisations (Saline, 2015). Hence, it is imperative for organisations to understand the intricacies of such a phenomenon within themselves, in order to equip themselves with appropriate policies and interventions to combat it effectively, if not eradicate it.

The evolving nature of faculty work and related interpersonal relationships and interactions between academics, administrative workers and students have ingrained incivility and bullying in higher education institutions as they became more capitalistic, corporatised and market-driven (Twale, 2018). Numerous empirical studies revealed that academic workplace bullying is observed in the forms of antecedents of power, favouritism, and precursors and challenges of incivility such as humiliation, overtalking others, aggression, exclusion of others, and disengagement of employees (Coke, 2021). Yet, at first glance, there is nothing to suggest that an environment filled with élite academics, well-educated and civilised professionals who are considered immune to irresponsible behaviour by society, would engage in such aggressive, inappropriate and unethical behaviour. Indeed, the academic workplace that was seen as an environment where individuals treat each other with respect and dignity in expanding perspectives and knowledge within and beyond their communities, has turned into a place devoid of collegial ideals where bullying behaviour can thrive (Klein & Lester, 2013). Furthermore, new information technologies have given rise to another channel through which academic workers are targeted by these despicable behaviours through what is called “cyber-bullying” (Blizard, 2019). The latter was amplified by online or remote work, a way of working promoted with the advent of the Covid-19 pandemic.

The rise of bullying reported in the higher education environment should raise awareness among the academic community to conduct research on this subject, in order to provide academic managers, administrators and human resources professionals with the necessary information, and propose relevant recommendations

to eliminate this scourge. Making academic leadership cognisant of the types, meaning and motivations involved in the bullying process can help them act adequately through dissuasive, preventive and protective measures that render educational organisations safe and secure for every worker (Maulik, 2017). To achieve this holistically, it is essential to apprehend the structural design of the academic bullying spectrum through the understanding of factors and their sub-dimensions reflecting the reality of the context in which it occurs. Only in this way can organisations develop effective restrictive and dissuasive tailored policies and interventions for implementation that counter the motivations leading to these deviant behaviours.

## 2. Research Purpose and Objective

The objective of this research study was to validate a newly developed scale labelled “Workplace Bullying Spectrum (WPBS)” that captures aspects surrounding workplace bullying beyond what is offered by the Negative Acts Questionnaire and its revised version. Hence, this study analysed the structure, reliability and validity of the aforementioned scale. Indeed, fostering organisational response and intervention towards this scourge requires digging deep into the multiple facets of this phenomenon.

This study proposed to close the gap in the literature on the topic specifically for the under-researched Congolese context while contributing to the general body of knowledge at large.

## 3. Literature Review

Workplace bullying is a phenomenon that is not unanimously defined exactly by researchers due to a lack of consensus (Hodgins et al., 2024). Rather than embarking on a rhetorical reproduction of different definitions from several authors, this study aims to highlight three definitions from pioneers in raising awareness and promoting the fight against workplace bullying. The first ever known person to define workplace bullying was the late Andrea Adams, a British journalist who was neither a researcher nor a theorist. In 1994 while delivering a speech to the trade union Manufacturing, Science and Finance, she defined workplace bullying as an “offensive behaviour through vindictive, cruel, malicious or humiliating attempts to undermine an individual or groups of employees (Adams, 1992)”, enriching the content of what may have been the first book to use the word “bullying” at work as an operative term that she authored two years ago (Duffy et al., 2018). The echoes of the fight started by Adams against workplace bullying crossed the Atlantic to be taken up by two psychologists, Gary Namie and Ruth Namie, who will inoculate this new vocabulary—Workplace bullying—into the jargon of American employee relations and mental health treatment (Duffy et al., 2018). At the core of the creation of the Workplace Bullying Institute and publication of several books, the Namies defined workplace bullying as the “repeated, health-harming mistreatment of a person by one or more workers that takes the form of

verbal abuse; conduct or behaviours that are threatening, intimidating, or humiliating; sabotage that prevents work from getting done; or some combination of the three” (Namie & Namie, 2009). However, the two aforementioned definitions targeting the public audience were deemed non-academic, despite capturing elements found in the academic ones.

It was in 2011 that a team of European researchers and theorists—Stale Einarsen, Helge Hoel, Dieter Zapf and Cary Cooper—who were examining bullying/mobbing and related behaviours at work since the 1990s, proposed a definition specifically oriented towards the academic sphere in these terms (Duffy et al., 2018): “Bullying at work is about repeated actions and practices that are directed against one or more workers; that are unwanted by the victim; that may be carried out deliberately or unconsciously, but clearly cause humiliation, offence, and distress; and that may interfere with work performance and/or cause an unpleasant working environment.” (Einarsen et al., 2020) This definition is an expansion of the one they had previously proposed which stipulated that at a basic level, workplace bullying refers to a “systematic mistreatment of a subordinate, a colleague or a superior, which, if continued and long-lasting, may cause severe social, psychological and psychosomatic problems in the target” (Einarsen et al., 2020). Thus, the academic approach emphasised the multifaceted and mutant nature of workplace bullying which is a complex phenomenon. To realise this, one just has to immerse oneself in literature to observe that bullying, mobbing in Germanic language, is bordered by concepts describing different forms of interpersonal aggression and hostile behaviours in the workplace such as employee abuse, workplace aggression, victimisation, interpersonal deviance, workplace mobbing, workplace incivility, harassment, scapegoating, workplace trauma, work harassment, abusive behaviour or emotional abuse, non-sexual harassment, and psychological harassment (Chirilă & Constantin, 2013). However, it is important to note that, though bullying and harassment are often used interchangeably, they refer to two distinct psychological abuses by nature. **Table 1** below provides an attempt at clarification on the difference between bullying and harassment.

In view of the above and extensive reading on the matter, the portrait of this phenomenon called “bullying” contains five essential elements which can help to understand it in a given context according to this study. Firstly, the nature of abusive behaviours happening in the workplace that cause physical and psychological harm to the bullied or victim. Common types of bullying are physical, verbal or sexually-oriented (Bulut & Hihi, 2021). Physical bullying refers to any kind of assault leading to physical harm and/or psychological trauma (Edmonson & Zelonka, 2019). Grabbing, hitting, kicking and pushing are examples of physical bullying (Tight, 2023). On the other hand, verbal bullying is any spoken aggression that can take the form of either gossip, humiliation or mockery, as well as offensive fun or jokes that hurt a person’s feelings (Bulut & Hihi, 2021). Sexual bullying, referred to as sexual harassment, is any behaviour of a sexual nature through comments made, jokes and rumours spread, either orally or electronically, in the

**Table 1.** Differences between harassment and workplace bullying.

<i>Harassment</i>	<i>Workplace bullying</i>
Often physical, e.g., contact and touch in various forms, intrusion into personal space and damage to possessions.	Almost exclusively psychological, but may become physical over time.
Tends to focus on the individual because of what they are focused on (e.g., gender, race, disability, etc.).	Individuals are targeted particularly if they are competent, skilled or popular.
Harassment is based on discrimination of protected grounds under human rights, e.g., gender, race.	Although bullies are deeply prejudiced, their behaviour is based on personal attributes, such as competence (envy) and popularity (jealousy)
May consist of a single incident.	Rarely a single incident but a pattern of behaviour increasing in intensity and duration.
The person being harassed knows almost straight away they are being harassed.	The person being bullied initially may not realise they are being bullied.
Harassment often reveals itself through use of recognised offensive and stereotypical Vocabulary.	Tends to fixate on trivial criticisms and false. Allegations of underperformance.
Often an element of possession such as in Stalking.	The impetus is control and subjugation.
Harassment may be for peer approval, bravado, macho image, i.e., more visible to others.	Not only the target but also witnesses may not recognise the bullying behaviour.
May occur in and out of work.	The bullying originates in the context of the Workplace.
Perceives an easy target.	The target is seen as someone who must be controlled.

Source: [Coldwell, S.](#) (2013, February 27-28), Addressing Workplace Bullying and Harassment in Canada, Research, Legislation, and Stakeholder Overview: Profiling a Union Program. 2013 JILPT Seminar on Workplace Bullying and Harassment, Tokyo. p. 145. [https://www.jil.go.jp/english/events/seminar/13\\_0227report.html](https://www.jil.go.jp/english/events/seminar/13_0227report.html)

workplace ([Nielsen et al., 2024a](#)).

Secondly, the place where exclusion, hostility, humiliation, incivility, misconduct and belittlement occurred. Indeed, with the advent of ICTs and social media, aggressive behaviour and harassment are perpetrated significantly through electronic or online means over time ([Okafor et al., 2020](#)). This form of workplace persecution is known as “cyberbullying”, which coexists with mistreatment and ostracism that takes place within an organisation’s premises ([Blizard, 2019](#)).

Thirdly, the identity characteristics of a person which are determined by his/her age, ethnic origin, length of employment, level of education, marital status, race and type of employment contract ([Badenhorst & Botha, 2022](#)). It is worth noting that the ambiguity of the association between gender and bullying ([Salin & Hoel, 2013](#)) has been seen in the literature with some studies proving its existence ([Chan et al., 2019](#)) while others have not ([Botha, 2019](#)). Indeed, the lower prevalence rate amongst men might find its roots in the expectation that men should be independent and self-reliant ([Namie & Namie, 2018](#)) which prevents them from reporting bullying and/or seeking help ([Salin, 2018](#)). Similarly, uncertainty regarding the validity of age and marital status as significant factors favouring the occurrence of workplace bullying has divided the scientific community following dichotomous results ([Badenhorst & Botha, 2022](#)).

If age has followed the pathway of the “significant-no significant” debate like gender, marital status on the other hand showed a significant association with the prevalence of workplace bullying but the likelihood of experiencing bullying differs according to geographic location. Studies conducted in China (Yang & Zhou, 2021) and India argued that married individuals were more likely to experience workplace bullying which was seen to decrease with a long work tenure for married Indians (Yadav et al., 2020) while the trend was reversed to the detriment of divorced and single people in Japan (Giorgi et al., 2013). Numerous studies have ascertained the correlation between level of education, length of employment and type of employment contract with individuals’ workplace bullying experience (Badenhorst & Botha, 2022). At last, the intercultural environment of the workplace facilitated by migratory movements has revealed what is labelled “ethnic bullying” and “race-related bullying” which refer to aggression directed at an individual based on either their ethnic origins or skin colour (Wu & Jia, 2023).

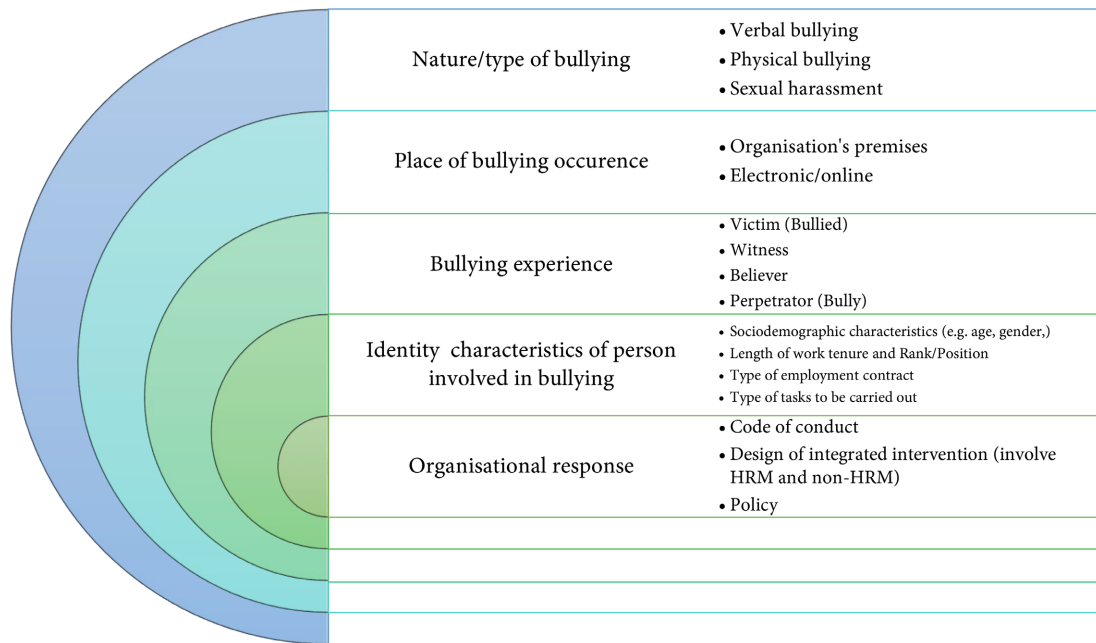
Fourth, bullying experience which informs the position from which an individual makes their judgment on this phenomenon. To begin with, there are the perpetrator (bully) and his victim (bullied), who are directly involved in the action (Gaffney et al., 2021), surrounded by witnesses who observe. The latter can be passive or active actors, depending on whether they decide or muster the courage to get involved in resolving the problem, thus facing the risk of being harmed equally with the targeted bully (Nielsen et al., 2024b). On the other hand, there are people who firmly believe that bullying exists in their workplace without having been involved in any way (Nielsen & Einarsen, 2018). These are the believers.

Finally, the organisational response which refers to the organisational leadership and the Human Resource Management’s (HRM) ability, capacity and willingness to prevent the occurrence of bullying at the workplace, or if not, to take actions simultaneously against the bully while supporting the bullied worker (Cowan et al., 2021). It is believed that management response can combat workplace bullying by establishing clear codes of conduct included in the organisation’s policy that mobilises both HRM and non-HRM interventions (Ferris et al., 2021). However, as highlighted by Badenhorst and Botha (2022), bullied workers complain about bullying, harassment and emotional abuse perpetrated by individuals sitting in managerial positions that compound the bullying situation within the organisation. Therefore, victims tend to agree that managers often come up with façade policies that are never applied due to their complicity and complacency towards these audacious acts (Boddy & Boulter, 2025).

The theoretical framework of the workplace bullying spectrum proposed by this study is illustrated in **Figure 1**. It highlights elements considered based on the rationale of their underpinning and theoretical interrelationships as explained in a systematic review and meta-analysis study conducted by Nielsen et al. (2024b).

#### **4. Problem Statement and Motivation for the Study**

In the DR Congo’s higher education institutions, the commonly reported abuse



Source: Authors' own construction.

**Figure 1.** The workplace bullying spectrum.

is sexual harassment targeting female students, known under the phenomenon “sexually transmitted marks” (Yende et al., 2022). However, academic workers experience the same alongside other physical, psychological, social and verbal forms of bullying happening in the Congolese workplace environment, as sketched by Malwilo et al. (Ramazani et al., 2021). Thus, the proper functioning and performance of these institutions are impeded by the high health-related costs due to victims and witnesses who develop depressive symptoms and have to visit healthcare professionals (Simon et al., 2020). Likewise, tolerance of workplace bullying exposes these institutions to legal risk and expense, as bullied workers can claim intentional endangerment of their health (Geleta, 2025). As a result, their reputation is tarnished, compromising their ability to recruit and retain the creative talent essential to their scientific productivity.

Although legislation exists to address workplace bullying, it is unfortunate to note the lack of explicit dissuasive, preventive and protective measures against this scourge from higher education institutional leadership (Zawadi, 2024). In addition, the relevant legal texts do not provide for any sanction for the employer. Judiciary procedures initiated often result in the termination of the employment contract to the detriment of the bullied worker (Éric, 2024). Therefore, elaborating a holistic policy that includes tailored interventions to address the issue requires understanding the spectrum of workplace bullying by identifying all the factors and sub-dimensions involved in it, considering the particular Congolese context. In addition, this study finds its motives for both contributing to the general knowledge of workplace bullying and closing the gap on limited research available, which focuses on the Congolese context.

In order to achieve the stated objective, this study answered the following research questions:

1) What are the underlying constructs measured by WPBS scale based on participant responses to a set of survey questions?

2) Does the hypothesised five-factor structure of the WPBS scale accurately represent the underlying relationships among the items in this dataset?

## 5. Research Design and Methodology

The research paradigm followed by this study is best described as “positivistic”, given the guidance of an empiricist epistemology and a realist and objectivist ontology (Alharahsheh & Pius, n.d.). The adopted quantitative method pleaded for a closed-ended questionnaire self-administered by respondents who volunteered to participate in the survey with guarantees on the anonymity of their identity and responses (Connor & Reimers, 2019). The questionnaire used was designed to capture information reflecting respondents’ opinions on work-related negative acts suffered or witnessed, channels by which they are perpetrated, descriptions of the bully, and institutional response. However, though validating a developed instrument required following a quantitative approach, it is worth noting that a qualitative approach considering interviews with academics, leaders, human resource managers, and worker’s union representatives constituted the beginnings of this research. This helped to define concepts, gather opinions and perceptions relating to the phenomenon under study. Thus, the study involved key actors involved in the prevention and management of workplace bullying, starting with their understanding of the phenomenon up to the development of the survey questionnaire.

### 5.1. Sampling Method and Size

The study was conducted in Kinshasa, the capital city of DR Congo, where 17 private and public higher education institutions made up the research setting. The target population comprised the affiliated academics and support staff of these higher education institutions, regardless of the type of their contract, length of work tenure and position. No exclusion was applied based on any of the sociodemographic characteristics. A proportional stratified sampling was applied to give an equal chance to all higher education institutions and their staff to participate, in order to get a representative sample that allowed for generalisation of findings (Makwana et al., 2023). Firstly, two strata were created for private (65) and public (17) institutions. Secondly, 20 percent of higher education institutions from each stratum were drawn randomly, proportionally to their weight among the 82 institutions operating in Kinshasa (Akilimali, 2021). Finally, questionnaires were distributed at each institution selected, to be completed by their academics and support staff willing to participate for 10 working days, after which 948 correctly completed questionnaires were collected.

The study sample consisted of an all-inclusive sample of academic and support

staff across the higher education institution and considered the size and number of faculties organised within them.

## 5.2. Instrumentation and Data Collection

A two-section questionnaire was used to collect the data. Section 1 captured sociodemographic data such as age, gender, level of education, socio-professional category, marital status, district and area of residence. For Section 2, the 22 items of the Negative Acts Questionnaire-Revised (NAQ-R) developed by Einarsen et al. were used for measuring perceived exposure to bullying and victimisation at work (Harb et al., 2019). In addition, self-developed questions on the respondents' bullying experience (8 items), channels of bullying occurrence (10 items), profiling of bullies and victims (6 items) as well as management's bullying-related attitude and response (23 items) accompanied NAQ-R to form the WPBS. The developed scale consisted of a five-point Likert-type scale ranging from "Strongly disagree" (1) to "Strongly agree" (5). The 69-item scale measuring the spectrum encompassing all dimensions contained in the understanding that one should have on the phenomenon of bullying at work showed excellent internal consistency ( $\alpha = 0.92$ ), exceeding the 0.70 recommended level (Winstanley et al., 2023).

## 6. Analysis and Reporting

This study used the Statistical Package for the Social Sciences (SPSS) version 29 and SmartPLS 4 for data processing. Descriptive statistics, Velicer's Minimum Average Partial (MAP) Test, Exploratory Factor Analysis (EFA) and reliability tests were performed through SPSS, while confirmatory factor analysis (CFA) was conducted with SmartPLS 4. It is worth noting that O'Connor's syntax was used to enhance the power of SPSS to get Velicer's MAP results (O'Connor, 2000). Descriptive statistics were performed to profile participants and describe their opinions in relation to the considered factors. Velicer's Minimum Average Partial (MAP) Test was used to determine the optimal number of components to retain in the collected dataset (Basto & Pereira, 2012). EFA was conducted to discover the factor structure of the data collected by means of participants' responses to the WPBS scale, while reliability tests by means of Cronbach's alpha were applied for each underlying dimension in order to examine their internal consistency (Hair et al., 2021). Finally, a confirmatory factor analysis was conducted to validate the factor structure of the developed WPBS scale. At this stage, construct reliability was determined by Composite Reliability (CR), while convergent and discriminant validities were processed respectively through Average Variance Extracted (AVE) (Dos Santos & Cirillo, 2021), Fornell-Larcker criterion (Romero Reyes et al., 2023) and Heterotrait-Monotrait ratio (HTMT) (Rönkkö & Cho, 2022). Multiple-fit indices were reported when assessing the goodness-of-fit. It was about the chi-square statistic divided by degrees of freedom (CMIN/DF), the Comparative Fit Index (CFI), the Bentler-Bonett Normed Fit Index (NFI), the Non-normed fit index (TLI), the Root-Mean-Square Error of Approximation (RMSEA) and the

Standardised Root-Mean-square Residual (SRMR).

## 7. Empirical Findings

### 7.1. Respondents' Profile

**Table 2** provides the sociodemographic information describing the respondents. From the 948 questionnaires duly completed that the study received, the sample was made up of more men (65.1%) than women (34.9%), mostly aged over 35 years old (57.9%) and holding a Master's degree (48.1%). Academic staff represented 24.6%, scientific staff 39.8% and administrative staff 35.6% of the respondents. A large majority of the respondents were married (55.3%), working in the public sector (55.8%), belonging to the Luba ethnic group (46.7%), and living in the Lukunga district (42.3%).

**Table 2.** The demographic profile of the respondents (n = 948).

<i>Bio-characteristics</i>	<i>Frequency</i>	<i>Percent</i>	<i>Bio-characteristics</i>	<i>Frequency</i>	<i>Percent</i>
Gender			Marital status		
Male	617	65.1	Single	246	25.9
Female	331	34.9	Married	524	55.3
Total	948	100.0	LivePartner	68	7.2
Age			Divorced	36	3.8
≤35 yrs Old	399	42.1	Separated	36	3.8
≥35 yrs Old	549	57.9	Widow [er]	38	4.0
Total	948	100.0	Total	948	100.0
Level of education			District of residence		
Some Primary schooling	2	0.2	Funa	177	18.7%
Standard 6/Grade 8	5	0.5	Lukunga	401	42.3%
Standard 8/Grade 10	18	1.9	Mont-Amba	243	25.6%
Matric	12	1.3	Tshangu	127	13.4%
Undergraduate degree	35	3.7	Total	948	100.0
Bachelor's degree	122	12.9	Sector of industry		
Master's degree	456	48.1	Public	529	55.8
Doctoral degree	168	17.7	Private	419	44.2
Total	948	100.0	Total	948	100.0
Corporation			Ethnic group		
Administrative staff	338	35.6	Kikongo	267	28.2
Scientific staff	377	39.8	Lingala	69	7.3
Academic staff	233	24.6	Swahili	169	17.8
Total	948	100.0	Tshiluba	443	46.7
			Total	948	100.0

## 7.2. Exploratory Factor Analysis Results of the Workplace Bullying Spectrum Scale

Prior to embarking on the Factor Analysis (FA), firstly the study followed the logic of two-step heterogeneous correlations to estimate the number of factors to be retained through Velicer's minimum average partial test. **Table 3** indicates a minimum of 5 components according to the original (1976) MAP test, while the revised (2000) MAP test suggested a minimum of eight factors to be retained. This study followed recommendation from the revised (2000) MAP test and applied a constraint of eight factors at EFA stage. Secondly, data suitability and sample adequacy were determined through Kaiser-Meyer-Olkin (KMO), and Bartlett's Test for Sphericity and Determinant (see **Table 4**). The KMO coefficient of 0.89 well above the acceptable level of 0.5 suggested that data were sufficient for EFA. The Bartlett's Test for Sphericity  $X^2(2346) = 26031.68$  was significant at  $p < 0.000$ , showing that there were patterned relationships between items while a correlation matrix determinant of  $5.67E-013$  demonstrated the absence of collinearity.

**Table 3.** Velicer's minimum average partial test.

	Velicer's Minimum	
	Minimum	Components to retain
Squared MAP	0.0058	5
4th owner MAP	0.0001	8

**Table 4.** KMO and Bartlett's test and determinant.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.892
Bartlett's Test of Sphericity	Approx. Chi-Square	26,031.684
	Df	2346
	Sig.	0.000
Determinant		$5.67E-013$

As the above results allowed for EFA to be carried out, the underlying theoretical structure of the developed scale that grouped items in data set (factor) based on strong correlations was examined through the use of Principal Component Analysis (PCA) and orthogonal varimax rotation extraction method. Standardised factor using a 0.3 loading cut-off (De Jager, Ayikwa, & Wannenburg, 2022) and Cronbach's alpha was used under the EFA to determine the underlying questions for the extracted component structure of each dimension.

From the initially developed WPBS Scale, eight underlying dimensions emerged following EFA procedures, explaining 45.42 percent of total variance while the rule of thumb requires a minimum 60 percent for social studies (Hair Jr et al., 2018) though 50 percent is acceptable (Pallant, 2020). Therefore, EFA was reprocessed without constraining the number of factors to eight as suggested by Velicer's

revised MAP test, but rather considering the eigenvalue 1 and a 0.5 loading cut-off for standardised factor (Cheung et al., 2024). Data were grouped within sixteen factors explaining 59.29 percent of total variance, meeting the threshold requirement. As shown in **Table 5**, seven factors were left aside for CFA due to a lack of internal consistency within the formed construct, less than the required 0.7 alpha value, and a total of thirteen items were removed for loading below 0.5. The study named only factors retained for CFA.

**Table 5.** Validity and reliability analysis using Exploratory Factor Analysis (EFA) and Cronbach's alpha.

Factor/Naming	Item grouping	Factor loading		Cronbach's Alpha
		Lowest	Highest	
F1: Create an unlivable work environment	×24; ×23; ×22; ×20; ×21; ×19; ×18 <sup>a</sup> ; ×25; ×56; ×17 <sup>a</sup>	0.442	0.696	0.852
F2: Cyberbullying	×45; ×46; ×43; ×44; ×42; ×40	0.553	0.847	0.882
F3: Leadership and HR management tolerance towards workplace bullying	×63, ×61; ×60; ×59; ×62; ×12 <sup>a</sup>	0.453	0.723	0.786
F4: Humiliation at work	×11; ×14; ×8; ×13; ×16 <sup>a</sup> ; ×72 <sup>a</sup> ; ×76 <sup>a</sup>	0.313	0.647	0.702
F5: Leadership, HR management and colleagues' protective measures against bullying	×74; ×75; ×65; ×66; ×73 <sup>a</sup> ; ×53 <sup>a</sup> ; ×30 <sup>a</sup>	0.387	0.751	0.730
F6: Gender related bullying	×49; ×50; ×48; ×51	0.631	0.741	0.792
F7: Leadership and HR management actions compounding bullying situation	×70; ×69; ×68; ×71; ×67	0.539	0.734	0.708
F8:	×57; ×58; ×55; ×29 <sup>a</sup>	0.400	0.671	0.639
F9:	×36; ×35; ×37	0.618	0.711	0.642
F10: Leadership and HR management fear facing risk	×64; ×54	0.868	0.872	0.798
F11:	×33; ×32; ×31; ×28 <sup>a</sup>	0.326	0.647	0.630
F12:	×36; ×27	0.469	0.611	0.186
F13:	×9; ×10	0.678	0.682	0.686
F14: In-person occurrence of workplace bullying	×38	-	0.706	1.000
F15:	×39; ×41	0.591	0.659	0.456
F16:	×47 <sup>a</sup> ; ×52 <sup>a</sup>	0.357	0.449	0.159

<sup>a</sup>Standardised factor loading below 0.5; Shaded fields show factors with internal consistency less than 0.7 that are left aside for CFA.

After determining the factors and associated items eligible for CFA, a procedure was followed to test for the reorganised scale's reliability, convergent validity, and discriminant validity respectively through CR, AVE, Fornell-Larcker criterion and HTMT. As indicated in **Table 5**, reliability of all constructs has been attested as their CR were above the recommended  $\geq 0.6$  (Hair et al., 2010). On the other hand, though the commonly used cut-off for AVE is  $\geq 0.5$ , lesser values above 0.4 are sometimes accepted to proceed with the overall model fit test as long as no

offending estimate, which refers to negative error covariance and/or standardized regression coefficient  $\geq 1$ , occurred (Ayikwa, 2022). After testing each construct measurement model, the items  $\times 64$ ,  $\times 67$ ,  $\times 68$ , and  $\times 71$  were removed for loading low into their respective construct in order to improve their AVE. Thus, convergent validity was confirmed. Likewise, despite the loads of the indicators in their corresponding construct being greater than the cross loads with other constructs and the square root of the AVE of most constructs was greater than the correlations with the others, exceptions were highlighted between F1 and F4 ( $\sqrt{F1} = 0.635$  and  $\sqrt{F4} = 0.640 < r(F1 \leftrightarrow F4) = 0.770$ ) which did not meet the criterion, leading to questioning discriminant validity between both constructs which might be tapping into similar underlying concepts or be poorly defined as shown in **Table 6** (Romero Reyes et al., 2023). To address such issue, re-evaluation of measurement items relying on checking cross-loadings and/or refining items is recommended and was previously done at EFA stage for this study. Other ways consist of acknowledging the issue as a limitation, merging constructs or considering a second-order factor model where the problematic constructs become dimensions of a higher-order factor. However, the study opted to go further by processing the HTMT criterion, an even more conservative limit, which is more reliable than the Fornell-Lacker criterion, especially in PLS-SEM. All the constructs obtained an HTMT value below the 0.85 threshold as well as their upper bounds of the confidence intervals bias corrected (Rönkkö & Cho, 2022), thus showing adequate discriminant validity in **Table 7**.

Descriptive statistics indicated that higher education workers were undecided about protective measures taken by leadership and HR management against bullying, and that related mistreatment is based on gender. Similarly, they looked confused about leadership and the HR management trend to fire individuals who report bullying, though they expressed concern about this misbehaviour taking place. This act reveals their fear of having to face the risks to which these denunciations can expose the leadership and HR management, as well as the institution.

**Table 6.** Reliability, convergent validity and discriminant validity—Fornell-Larcker criterion.

Construct	CR	AVE	Discriminant validity using Fornell-Larcker criterion									
			F1	F10	F14	F2	F3	F4	F5	F6	F7	
F1	0.842	0.403	(0.635)*									
F10	1.000	1.000	0.067	(1.000)								
F14	1.000	1.000	0.195	0.046	(1.000)							
F2	0.881	0.553	0.281	0.115	0.322	(0.744)						
F3	0.787	0.449	0.391	0.260	0.139	0.337	(0.670)					
F4	0.702	0.401	0.743	0.082	0.180	0.156	0.276	(0.633)				
F5	0.728	0.410	0.059	-0.030	0.141	0.239	-0.086	0.184	(0.640)*			
F6	0.795	0.494	0.389	0.125	0.348	0.595	0.245	0.365	0.225	(0.703)		
F7	0.627	0.458	0.304	0.180	-0.015	0.171	0.542	0.301	0.192	0.139	(0.677)	

The square root of the AVE is shown diagonally in parentheses. \* $\sqrt{AVE} < \text{correlation with another construct}$ .

**Table 7.** Descriptive and discriminant validity—Heterotrait-Monotrait ratio (HTMT).

Construct	Descriptive		Discriminant validity using Heterotrait-Monotrait ratio (HTMT)								
	Mean	Std.	F1	F10	F14	F2	F3	F4	F5	F6	F7
F1	2.242	0.784									
F10	2.703	2.539	0.075 (0.090)								
F14	2.910	1.157	0.190 (0.263)	0.046 (0.096)							
F2	2.546	0.872	0.309 (0.373)	0.119 (0.165)	0.359 (0.426)						
F3	2.387	0.878	0.392 (0.454)	0.263 (0.355)	0.143 (0.219)	0.381 (0.451)					
F4	2.360	0.969	0.730 (0.785)	0.083 (0.109)	0.161 (0.233)	0.176 (0.266)	0.276 (0.355)				
F5	3.035	0.836	0.096 (0.106)	0.030 (0.047)	0.145 (0.240)	0.244 (0.315)	0.125 (0.148)	0.212 (0.301)			
F6	2.838	0.855	0.389 (0.460)	0.132 (0.233)	0.350 (0.424)	0.606 (0.664)	0.258 (0.337)	0.382 (0.452)	0.226 (0.306)		
F7	2.577	0.899	0.304 (0.377)	0.176 (0.281)	0.014 (0.023)	0.189 (0.248)	0.535 (0.634)	0.303 (0.392)	0.241 (0.351)	0.154 (0.247)	

The upper bounds of the confidence intervals, bias-corrected, are shown in parentheses.

Likewise, they were not sure about bullying occurring in person.

On the contrary, they felt that their work environment was peaceful; they did not generally suffer humiliation even through electronic channels, as leadership and HR management did not compound bullying because they did not tolerate these deviations in behaviour.

Both the initial and final estimation of the WPBS scale suggested an overall good fit model, with indexes being respectively below and above their permissible levels, as indicated in **Table 8**.

**Table 8.** Reported fit statistics for Congolese Workplace Bullying Spectrum Scale's measurement model.

Measure	Name	Initial	Final	Cut-offs for good fit
CMIN/DF	Chi-square/Degree of freedom	3.954	3.846	≤5.0 to 2.0
CFI	Comparative fit index	0.854	0.874	≥0.9 to 1
GFI	Goodness of fit index	0.873	0.890	≥0.85
RMSEA	Root-mean-square error of approximation	0.056	0.055	≤0.08
SRMR	Standardised root-mean-square residual	0.055	0.048	≤0.08
TLI	Non-normed fit index	0.838	0.857	>0.9 (sometimes > 0.8)

Shaded field shows a fit index that did not meet its acceptable criterion.

## 8. Discussion

The objective of this study was to develop a psychometric scale extending the NAQ-R that would assess multiple facets of workplace bullying, in order to provide a holistic understanding of the phenomenon. Therefore, the secondary objectives arose of analysing the structure, identifying underlying dimensions, reliability and validity of the instrument's scale through a rigorous FA process. Out of sixteen constructs explaining 59.2 percent of total variance, nine met the reliability requirement to advance for CFA processing and 35 out of the 69 items of the instrument were retained for loading  $\geq 0.5$  within their factor structures. CFA showed a good model fit with the data of the sample after deletion of four items in order to improve AVE within their respective two-factor structure. Only the comparative fit index indicated an unacceptable fit.

Results revealed that exclusion, hostility and belittlement identified by [Badenhorst and Botha \(2022\)](#) are perceived as acts that make life at work unbearable which puts work tenure at stake for the victim. Should these reprehensible acts happen, they are carried out both in person ([Blizard, 2019](#)) and online as credited by [Okafor et al. \(2020\)](#). In line with [Cowan et al. \(2021\)](#), the need for leadership and HR management to put protective measures in place against bullying, and a code of conduct to ensure a safe work environment for all was highlighted. Also, tolerance of bullying would pave way to leadership and HR management behaviour compounding the scourge ([Boddy & Boulter, 2025](#)). However, though managers expressed concern regarding workplace bullying, this sounds like a rhetorical façade for the victims who are fired from their jobs after reporting the facts, while the perpetrators are protected ([Éric, 2024](#)). Indeed, the health, financial and especially legal risks that this could pose would explain this ambiguous attitude of management ([Ferris et al., 2021](#)). However, although changing jobs resolves the problem at an individual level for a victim of workplace bullying by improving his/her situation, it does not address the issue and risk factors associated with an organisation ([Rosander et al., 2022](#)). Finally, gender criterion is an element that favours or does not favour the occurrence of bullying.

## 9. Limitations

Despite being among the pioneers in an essay to capture the spectrum of the phenomenon well beyond the NAQ and NAQ-R through a unique measurement scale, the study's instrument could benefit from enhancing it by considering further questions on other identity characteristics than gender. In addition, replicating the study in other sectors besides higher education and another region would provide a better portrait of workplace bullying in DR Congo. Also, self-selection bias from volunteer participation and student-assisted data collection can unveil what is called volunteer participation paradox by [Hiratsuka \(2025\)](#). Indeed, convenient participation encourages the selection of individuals sharing common traits while diversity and inclusion promoted by methods such as snowballing compromise the volunteer nature. Finally, a longitudinal approach would provide a more sus-

tainable understanding of the workplace bullying structure of the data sample through tracking changes and developments within individuals or groups.

## 10. Conclusion

Overall, the developed WPBS scale was a good fit to the data of the sample, presenting adequate evidence of its factor structure though CFI did not meet its criterion. Convergent and discriminant validity was proved as well as reliability of the measurement scale through indices ranging within the threshold. Subsequent studies should duplicate this research in other work sectors and regions to obtain further evidence and enhance the instrument with items capturing aspects that were not considered in the present study. Only in this way will the limitations observed in this study be addressed. The latter used rigorous FA techniques with the support of two powerful statistical software, SPSS 29 and SmartPLS 4, that allowed the researchers to produce evidence of the newly developed instrument's construct validity.

Quantitative results confirmed experience of workplace bullying, to a certain extent, at Congolese higher education institutions under investigation, given that the majority of respondents admitted not facing this problem. They scored undecided regarding protective measures taken by leadership and HR management against bullying which might be related to gender. Concern was raised between leadership and HR management, with statements of condemnation of bullying with the dismissal of victims while the perpetrators keep their jobs, possibly undergoing a simple change of position. The study contributed to the literature on workplace bullying in general and closed the gap in the under-researched Congolese context. It can also serve leadership and HR management in designing policies and interventions to tackle workplace bullying.

## Ethical Considerations

This study adhered to the following ethical considerations in the conduct and reporting of the research: ensuring professional integrity, obtaining duly signed informed consent, ensuring the anonymity and confidentiality of the research to the respondents from data collection to reporting, as generally recommended (Badenhorst & Botha, 2022). Ethical clearance was granted by the Research Ethics Committee of the Protestant University of the Congo to carry out the survey.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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