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DEVELOPMENT AND VALIDATION OF THE TEACHER HUMOUR SCALE: A PSYCHOMETRIC STUDY IN THE PAKISTANI ACADEMIC CONTEXT

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Abstract

This research was conducted to design and validate a Teacher Humour Scale (THS) in the Pakistani context, where no context-specific and psychometrically reliable tool currently exists to measure humour among university-level educators. Although humour has long been recognized as an important pedagogical strategy to reduce anxiety, increase engagement, and strengthen teacher–student relationships, most available scales either measure humour as a general personality trait or have been developed in non-academic or school-based contexts. This study sought to address that gap by constructing and validating a scale suitable for higher education teachers in Pakistan. A pool of twenty items was developed and piloted on a sample of 300 university teachers from public sector universities in Punjab, Pakistan. Exploratory Factor Analysis (EFA) identified four factors with five items each: Self-Enhancing Humour, Affiliative Humour, Aggressive Humour, and Self-Defeating Humour. Reliability and validity were established through composite reliability, content validity, and convergent and discriminant validity analyses, confirming that the scale was both robust and contextually relevant. The Teacher Humour Scale contributes to educational assessment by offering a reliable self-assessment tool for university teachers, reflecting their pedagogical use of humour. Beyond filling a theoretical gap, it has practical implications for teacher training, professional development, and curriculum design. The scale may be used to foster reflective teaching, improve classroom climate, and promote student engagement through effective and culturally relevant humour.

Keywords: Teacher Humour, scale development, validation of scale, Teacher Humour Scale.

Introduction

Humour is a strong teaching tool that softens the classroom climate, reduces anxiety, and helps students engage more effectively with their teachers (Lovorn & Holaway, 2015; Shakir, 2019; Makewa & Genga, 2011; Lourenço et al., 2025). In higher education, it goes beyond being a simple icebreaker and can serve as an advanced pedagogical strategy that addresses the cognitive demands and diversity of students (Murillo & Tan, 2022).

Despite its recognized importance, the use of humour by teachers in universities has rarely been measured empirically (Bakar, 2018). Existing scales primarily focus on humour as a personality trait or a workplace behaviour (Di Fabio et al., 2023; Ruch & Heintz, 2013; Romero & Cruthirds, 2006). However, there is a lack of a psychometrically reliable scale that measures humour specifically in the context of higher education teaching (Maini & Dhawan, 2023; Rawlings & Findlay, 2016; Heintz et al., 2021).

Problem Statement

The currently available tools, such as the Short Sense of Humour Scale (Heintz et al., 2021), the Humour Styles Questionnaire (Puhlik-Doris, 2000), and others, either remain too broad or fail to capture the pedagogical intent of humour in the classroom. Moreover, instruments like the Teachers' Humour Orientation Scale (Maini & Dhawan, 2023) were developed in different contexts (e.g., undergraduate students in India) and do not account for the perspectives of teachers themselves. This leaves a research gap in assessing humour as part of the self-perceived professional identity of university educators.

Hence, the present study aimed to develop and validate the Teacher Humour Scale (THS) for university-level teachers in Pakistan. The scale was intended to serve as a context-sensitive, reliable, and valid self-assessment tool, helping educators and researchers understand humour in teaching as part of professional practice.

Research Objectives and Questions

The present study was designed to develop and validate a context-specific Teacher Humour Scale (THS) for higher education teachers in Pakistan. To achieve this objective, the following research questions guided the study:

1. What are the key dimensions of teacher humour in the Pakistani academic context?
2. Is the Teacher Humour Scale (THS) a valid and reliable tool for measuring humour styles among university teachers?

Review of the Literature

Humour in Education

Humour is a well-established pedagogy that has been credited with enhancing classroom climate, motivation, and teacher-student relations, among other factors, through numerous studies in this regard. There are a number of humour-related scales devised by researchers in such fields as work environments, in medicine, as well as in the classroom setting in schools. The context-specificity of humour, however, requires the creation of specific tools, especially such measuring the humour use by an educator of higher education, which is the gap covered in the research.

Existing Scales of Humour

Rawlings (2011) and subsequently Rawlings and Findlay (2016) in the area of workplace presented the Humour at Work (HAW) Scale, a scale that assessed both the enactment and impression of humour among workers. Their results revealed that humour in working places has a great correlation with job contentment, visibility of worry and viewpoint of work output. Markedly, the HAW scale was shown to be relatively indifferent to the gestures of impression management or mood, so it is a strong tool. Nevertheless, such a scale only applies to the general aspects of workplaces and fails to take into consideration the special socio-cultural and pedagogical peculiarities of the education teaching.

Leñero-Cirujano et al. (2023) also constructed a Three-Dimensional Scale of Humour in Health Professionals that included dimensions that were health care-specific. Their mixed-method construct also enabled the contextual relevance and psychometric soundness of items to be supported, and the field-specific measurement instruments on

humour and its use should be stressed.

In a broader way, Heintz et al. (2021) and Thorson and Powell (1993) have also helped to understand humour as a personality factor, using such tools as the Short Sense of Humour Scale (SHS-S) and Multidimensional Sense of Humour Scale. The scales are aimed at assessing general humour tendencies (e.g. appreciation, creativity, verbal humour) and may tend to cover a number of life spheres. Likewise, the multidimensional scale that has been created to differentiate between adaptive and maladaptive humour styles was aimed at representing the styles of the Humour Styles Questionnaire (HSQ), which was created by Puhlik-Doris (2000). Inasmuch as the psychometric rigour of these instruments is high, the problem is that they fail to bring in the contextual and functional application of humour in teaching settings.

Murillo and Tan (2022) investigated humour-related teaching videos in mathematics because teaching with humour could be used to enhance learning and engagement with the educational content. The paper itself also indicates the applied value of humour in educational innovation, but points out what could be seen as the absence of a standardization regarding the measurement of the usage of humour by educators, especially in tertiary institutions.

Punia and Bala (2021) made another contribution to measuring teacher attributes by developing a Teacher Enthusiasm Scale, where such dimensions as interaction with students, creativity, and professional development were also identified. Their method of scale development. Literature review, expert consultation, and statistical validation, is a methodological standards to be followed even in future instrument design.

Gap in Research

Although a number of instruments related to humour are available, it is evident that a validated scale to identify the use of humour by university teachers during classroom interactions is rarely accessible. Available measures are devoted to overall humour characteristics (e.g. SHS, HSQ), to humour in workplaces other than education (e.g. HAW), or humour in primary and secondary schools (Maini & Dhawan, 2023). Moreover, the majority of them estimate humour based on the attitudes of students or about society in general and not on the self-evaluation of teachers in higher education

Teaching at a university level has its special dynamics: Bigger classrooms, diverse populations, and complicated subject materials that change how and why humour gets applied and its reception. Hence, having a context-sensitive, psychometrically validated scale for educators in the university setting shall address a gap that needs to be filled in, both in educational psychology and pedagogy. This kind of tool can guide the teacher training, encourage reflective teaching instructions and eventually improve the overall student interest and learning performance in higher education.

Methodology

A pilot study including 300 teachers from public sector universities in the province of Punjab, Pakistan, was conducted. The teachers were selected using stratified multistage sampling techniques. There were six categories of universities, namely general, women's, medical, engineering, agriculture, and veterinary. The sample included both male and female teachers, representing a range of age groups and teaching experience levels, from early-career faculty to senior professors, which ensured diversity and representativeness in the study. All the ethical guidelines were observed, including informed consent, confidentiality, and voluntary participation (Hasan et al., 2021).

According to Lamm et al. (2020), scale development involves eight steps: the researcher defines the measures related to the scale, generates a pool of items, and seeks expert evaluations, including input from domain specialists, subject experts, and two peer reviewers in education and behavioural sciences, to ensure the content and face validity of the instrument. Items were originally written in English, and a forward–backward translation into Urdu was carried out for cultural sensitivity, although the majority of participants had strong

English proficiency. Including validated items, THS was administered to the sampled undergraduate students as well, to confirm the clarity and relevance of wording from a classroom perspective, since the scale was ultimately intended for teacher self-assessment. Then, items were evaluated through statistical analysis regarding reliability and validity and optimized scale length.

The scale consisted of 20 items using a Likert-type scale and for four factors, i.e. Affiliative Humour, Self-enhancing Humour, Aggressive Humour and Self-defeating Humour. Strongly Disagree was assigned the value of 1, Disagree was designated a value of 2, Neutral a value of 3, Agree a value of 4, and Strongly Agree a value of 5.

A total of 20 items were developed, and a scale was implemented for undergraduate students for data collection. The scale was validated for face and content validity by eight experts, four from the national knowledge and emotions domain and four from the international domain. To identify the fundamental dimensions within the data, exploratory factor analysis (EFA) was conducted. EFA is a valuable technique for identifying latent variables that group scale items, ensuring that these items accurately represent the intended constructs (Reise et al., 2000). The adequacy of the sample for factor analysis was evaluated using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity, which also tested for significant correlations in the matrix, thereby ensuring construct validity (Kyriazos & Stalikas, 2018).

The Principal Component Analysis (PCA) Varimax rotations were used to reduce dimensionality, decrease redundancy and make data streamline and demonstrate patterns/relationships of significance (Field, 2013; Costello & Osborne, 2005; Tabachnick et al., 2019). PCA assists in making the factors that are extracted unique and comprehensible. In order to determine the internal consistency of the scale, Cronbach remove alpha and Composite Reliability (CR) were calculated to measure the overall scale and subscales. The Teacher Humour Scale also had the convergent and discriminant validity of its scale. Convergent and discriminant validity were also used to ensure that the scale measures its intended construct and distinguishes itself well with the use of instructions in Campbell and Fiske (1959) and Fornell and Larcker (1981), which confirm that the scale measures its intended construct very well. These tests of validity played a critical role in checking the clarity and the strength of the scale to be used in measuring different elements of the construct (Hair et al., 2012). Besides, the mean value of scale items was also synthesized to introduce more information on the data.

Results

The results of data analysis are as follows:

Table 1. *KMO and Bartlett's Test of Sphericity*

No. of Items	Cronbach's Alpha	KMO of sampling adequacy	Bartlett's Test of Sphericity
20	.870	0.811	.000

The statisticians (Hair et al., 2012; Tabachnick & Fidell, 2014) considered that the factor analysis should be followed by 0.50 a minimum value, ranging from 0 to 1, in the KMO test. On the other hand, Bartlett's test of sphericity should be considered significant when ($p < .05$) for confirming the suitability of the data for factor analysis. After applying KMO and Bartlett's test of sphericity, the analysis for Teacher Humour Scale (THS) showed the KMO value as .870 for 20 items. The KMO value estimate was 0.811, and Bartlett's Test of Sphericity for 20 items was also significant at $p = 0.00$, which indicates that the data were appropriate for factor analysis (Table 1).

Cumulative Percentage of the Variance for Teacher Humour Scale (THS)

Eigenvalues greater than 1 in Kaiser's rule, along with the cumulative percentage of variance, are considered as a key criterion in factor analysis (Horn, 1965; Kaiser, 1964). The range of the variance explained in social sciences is typically from 45% to 60% (Hair et al., 2014; Pett et al., 2003). Table 2 shows cumulative percentages of variance reached at 67.180% for four factors having eigenvalues

greater than 1 (Shaharudin & Ahmad, 2017).

Table 2. Total Variance Explained for Teacher Humour Scale

	Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Cumulative %
1	5.803	29.017	29.017	5.803	29.017	29.017	17.205
2	2.669	13.347	42.364	2.669	13.347	42.364	34.183
3	2.557	12.784	55.148	2.557	12.784	55.148	51.081
4	2.406	12.032	67.180	2.406	12.032	67.180	67.180

ExExploratory Factor Analysis (EFA)/Construct Validity

Table 2 shows the loadings of the factor for the Exploratory Factor Analysis (EFA), which has been performed to assess the construct validity of the Teacher Humour Scale on 20 items. Hair et al. (2014) indicate that the following benchmarks can be used to interpret the factor loadings: as the minimum level, ±0.30, as a moderate, and ±0.40, as practically significant. To determine whether factor analysis should be used or not, Shrestha (2021) recommends that a researcher needs to review the decision in cases where no variable has a loading factor that exceeds 0.30. In Table 3, all the factor loadings are given, but only those items with factor loadings higher than 0.30 were selected to proceed further with their analysis

Table 3. *Factor Loading of Teacher Humour Scale (THS)*

Items	Factor Loading Value
Factor 1: Self-Enhancing Humour	
I use the strategy of humour to maintain a positive outlook in challenging situations during class	0.732
I make light of my own mistakes to create a relaxed teaching environment	0.833
I use humour as a coping strategy for stress during teaching	0.819
Making jokes in everyday situations keeps me motivated	0.811
Using humour keeps me in a good mood during overburdened teaching days	0.705
Factor 2: Affiliative Humour	
Humour creates a sense of mutual support among my students	0.804
I share funny stories in the classroom to build a positive atmosphere	0.807
I use light-hearted comments as well as jokes to connect with my students	0.789
Using humour during my teaching makes the lesson more engaging	0.783
I find that when my students laugh, it enhances our relationship	0.841
Factor 3: Aggressive Humour	
I evade the issue to address student misbehavior	0.843
I make jokes in difficult situations to maintain control of the classroom	0.848
I criticize students through humour on their mistakes in a light-hearted way	0.804
Occasionally, I tease students to motivate them	0.746
I use humour while pointing out flaws in students' work	0.752
Factor 4: Self-Defeating Humour	
I make jokes occasionally about my own shortcomings to amuse the students	0.824
I highlight my own flaws to diffuse tense situations in the classroom	0.734
I use humour to downplay my successes to make myself more approachable to my students	0.82
I make fun of myself for the comfort of my students	0.779
To encourage the participation of my students, I use humour to highlight my own limitations	0.829

Item Total Correlations

The measurement of item-total correlations was done through Pearson correlation to give a value range between 0.377 and 0.542, which were all statistically significant (Table 4). The

positive correlations mean that each item is in accordance with the total scale, which shows that the scale demonstrates excellent discriminatory power. Besides, the overall response, as well as all the separately measured items' mean and standard deviation (SD), were calculated. Of the items that have mean score values near either 1 or 5, it is possible that they are not suitable and should be even considered to removed as they may adversely influence the estimated correlation between the rest of the items (Peterson & Kim, 2013).

Table 4. *Item–Total Correlations of Teacher Humour Scale*

Item	Mean	SD	Item-Total Correlation	α if Item Deleted
Item1	3.0900	.53183	.464	.865
Item2	3.1133	.52415	.404	.867
Item3	3.1267	.53377	.437	.866
Item4	3.1267	.54615	.481	.864
Item5	3.1133	.53050	.377	.868
Item6	3.1200	.55974	.480	.864
Item7	3.1367	.57074	.529	.862
Item8	3.1233	.55602	.542	.862
Item9	3.1233	.58532	.447	.865
Item10	3.1633	.59259	.448	.865
Item11	3.1200	.54766	.488	.864
Item12	3.1233	.54385	.499	.863
Item13	3.1300	.54842	.489	.864
Item14	3.1233	.56792	.470	.864
Item15	3.1000	.55168	.474	.864
Item16	3.0967	.56128	.439	.866
Item17	3.1433	.53267	.448	.865
Item18	3.0967	.56128	.478	.864
Item19	3.0833	.55746	.467	.865
Item20	3.1267	.59312	.467	.865

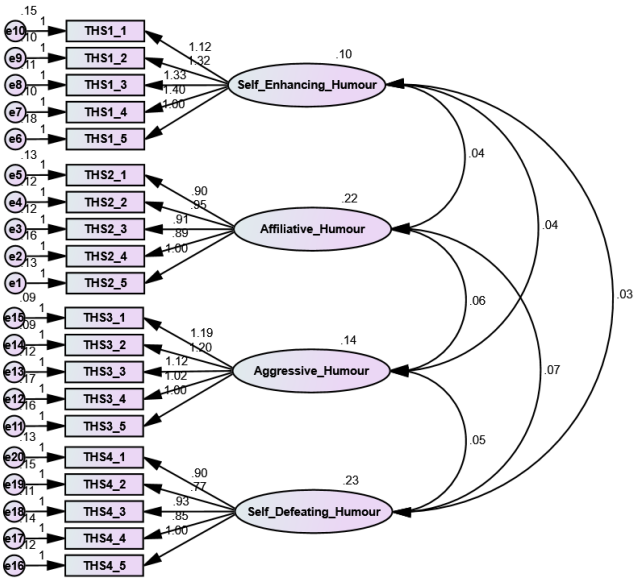
Note: N = 300 participants; α represents Cronbach's alpha of the total scale if the corresponding item is removed.

Descriptive Statistics and Cronbach Alpha Values of THS Subscales

Cronbach's Alpha reliability coefficient for the THS was α = 0.870, indicating a high level of internal consistency for the overall scale. Descriptive statistics, including the minimum and maximum mean values, overall mean, and reliability coefficients (Cronbach's Alpha) for all THS subscales, are presented in Table 5. The alpha values for all the subscales were above 0.8. The coefficient alpha values for the subscales ranged from 0.837 to 0.946, all of which exceeded the 0.70 threshold, confirming the THS's satisfactory reliability.

Table 5. *Descriptive Statistics and Reliability Coefficients of Subscales in Teacher Humour Scale*

Scale and Subscales of THS	Items	Serial Number in Scale	M	SD	α
Factor 1	5	1-5	3.5683	1.37666	.974
Factor 2	5	6-10	3.5655	1.40918	.973
Factor 3	5	11-15	3.6041	1.38683	.975
Factor 4	5	16-20	3.5607	1.43712	.974



Conclusion

The Teacher Humour Scale (THS) was created after a thorough literature review and validated through rigorous psychometric procedures. Exploratory Factor Analysis revealed four key dimensions, and the final 20-item scale demonstrated high reliability and validity. The THS provides an important contribution by offering a self-assessment tool for teachers that distinguishes between different humour styles in higher education. Practically, the scale can be applied in teacher training programs, faculty development

workshops, and curriculum design to promote engaging and emotionally supportive classrooms. It may also serve as a diagnostic tool for educators to reflect on their humour use and its impact on students.

Limitations

Although the findings are promising, some limitations must be acknowledged. First, the study was restricted to public sector universities in Punjab, which may limit generalizability to other regions of Pakistan or different cultural contexts. Second, data were collected through self-reports, which may be influenced by social desirability bias. Third, while students were included to check the clarity of items, future studies may use larger, multi-stakeholder samples to enhance external validity.

Future Research Directions

Further research could test the scale across different provinces, disciplines, and cultural settings. Additionally, studies may examine the relationship between humour styles and student learning outcomes or explore how humour interacts with other teacher attributes such as enthusiasm, emotional intelligence, and creativity.

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