

Article

Teacher Scale on Bullying (TSB): Development and Preliminary Validation

Paula Alfonso-Asencio¹, Lucía Álvarez-Cepeda^{1*}, Alba Roldán¹, Eduardo Cervelló¹ and Carlos Montero-Carretero.¹

Department of Sport Sciences, Sports Research Center, Universidad Miguel Hernández de Elche, Alicante, Spain.

* Correspondence: (AC) lucia.alvarez05@goumh.umh.com.  ORCID ID nº 0009-0006-4435-1146

Received: 10/11/2025; Accepted: 22/12/2025; Published: 30/06/2026

Abstract: The aim of this study was to develop and conduct a preliminary validation of the Teacher Scale on Bullying, designed to evaluate teachers' perceptions of their ability to identify, prevent, and intercede in cases of school bullying. This research was grounded in the Theory of Planned Behavior, which posits that attitudes, subjective norms, and perceived behavioral control influence the intention to act. The instrument was created using the Delphi method with contributions from experts in educational psychology and teacher training. A total of 315 Spanish teachers from primary and secondary education participated, whose ages ranged from 25 to 68 years. Exploratory Factor Analysis revealed a structure of four factors: concern, responsibility, commitment, and self-efficacy, with the originally separate knowledge and self-efficacy dimensions combining into a single construct. Internal consistency coefficients were high, with Cronbach's alpha values ranging between 0.84 and 0.94, indicating strong reliability. Results showed that teachers reported high levels of concern, responsibility, and commitment, but comparatively lower self-efficacy in managing bullying situations. Positive and significant correlations among the four factors supported the theoretical coherence of the scale. Although this is a preliminary validation and the factor structure is exploratory, the findings suggest that this new instrument could be valid and reliable for assessing teachers' perceptions and beliefs about bullying, specifically within the Spanish educational context. While further testing is needed to ensure optimal psychometric properties, this questionnaire appears to be a valuable tool for identifying training needs and guiding the development of educational policies and programs aimed at fostering effective bullying prevention.

Keywords: Bullying; Teachers; Self-Efficacy; Prevention; Questionnaire.



1. Introduction

Bullying represents one of the main challenges faced by the educational community. Its high prevalence in schools is a cause for concern (Wang et al., 2021), with estimated rates ranging between 30% and 35% (Modecki et al., 2014; García-Hermoso et al., 2020). In the European context, approximately one out of three adolescents has experienced bullying during the past school year (Inchley et al., 2020), and in Spain it is estimated that 62.2% of students have been involved in bullying situations at least once, of whom 28.5% reported having been victims on at least one occasion (González-Cabrera et al., 2019).

This social problem manifests as a series of intentional and sustained behaviors over time, perpetrated by one or more students against another, within a context of power imbalance (Olweus, 1994). According to Benítez and Justicia (2006), it requires a minimum frequency of once per week and a duration of at least six months to be classified as bullying. Furthermore, this imbalance, whether real or perceived, limits the victim's capacity for defense and reinforces an asymmetrical relationship between aggressors and victims. Forms of maltreatment are typically categorized as direct or explicit violence (physical and verbal bullying), indirect or covert violence (relational and material), and cyberbullying (Benítez & Justicia, 2006; Gladden et al., 2014; Griffin & Gross, 2004).

Being a victim in childhood is associated with an elevated risk of developing

psychological and social problems such as anxiety, depression, low self-esteem, academic difficulties, and suicidal ideation later in life (Takizawa et al., 2014). These effects may persist into adulthood, compromising overall well-being, employability, and interpersonal relationships (Wolke & Lereya, 2015). Likewise, perpetrators demonstrate a higher incidence of conduct problems and psychosocial adjustment difficulties, which frequently continue into adulthood (Olweus, 2011).

The consequences of this violence are profound and long-lasting, impacting physical, psychological, and social health, and affecting all members of the school environment, including teachers. Several studies have shown that a significant number of teachers feel insufficiently prepared or lack the required resources and skills to effectively identify, prevent, or intercede in these situations (Craig et al., 2011; Fischer et al., 2021; Sen & Doğan, 2021). In this regard, the role of teachers extends beyond the delivery of academic content, becoming a critical agent in fostering positive and safe school climates (Fischer et al., 2021). Given the alarming prevalence of bullying worldwide, few teachers remain unaffected by this issue (Bradshaw et al., 2013), which often results in feelings of being overwhelmed and perceiving themselves as inadequately prepared or lacking resources to effectively identify, prevent, and intervene in such situations (Craig et al., 2011; Fischer et al., 2021; Sen & Doğan, 2021). This perception is associated with elevated stress

levels and lower job satisfaction (Eden et al., 2013).

Thus, teacher preparedness may be a decisive factor in the prevention and intervention of bullying. Evidence indicates that teacher intervention is associated with a lower prevalence of bullying behaviors, whereas perceived inaction reinforces the normalization of the phenomenon (van Gils et al., 2022; Craig et al., 2011). However, several studies indicate that many teachers do not consider the frequency and repetition of incidents as relevant criteria for categorizing them as bullying (Paljakka, 2024), contrary to established scientific evidence (Gladden et al., 2014), highlighting the lack of specific training. It appears crucial for teachers to have a thorough understanding of the characteristics of this type of violence and to receive training in its prevention and management in order to intervene actively and eradicate the problem.

According to the Theory of Planned Behavior (TPB; Ajzen, 1991), the intention to perform a behavior is the strongest predictor of whether that behavior will actually be carried out. This theoretical framework posits that intention is influenced by attitudes toward the behavior, perceived subjective norms, and perceived behavioral control, that is, self-efficacy. Based on this, if a teacher perceives that an active behavior aimed at bullying prevention is positive, it will be valued by their social environment, and feels capable of acting, they are more likely to intend to act and ultimately follow through. In line with this theory, several studies have shown that perceived levels of self-efficacy regarding bullying prevention significantly predict a higher likelihood of teacher intervention, which in turn is

associated with a reduction in the frequency of bullying behaviors (De Luca et al., 2019). These same authors additionally demonstrated that teacher satisfaction is negatively related to bullying rates, highlighting a bidirectional relationship between teacher well-being and the quality of school climate.

In contrast, the literature addressing the measurement of teacher self-efficacy in bullying prevention and intervention presents a series of methodological and conceptual limitations that must be considered. First, a widely recognized limitation lies in the predominance of cross-sectional designs, which dominate research in this field and hinder the establishment of causal relationships and the assessment of self-efficacy over time (Fischer et al., 2021; Peraza-Balderrama et al., 2021; van Aalst et al., 2022). Moreover, sample sizes are often small, affecting the validity of the results; that is, the literature suggests that individual-level data require at least 300 or 400 participants for adequate validity, and even larger samples are needed for data with a multilevel structure (such as in educational settings; Ryan & Hill, 2016). However, in the review conducted by Fischer et al. (2021), only 4 of the 33 studies achieved sample sizes of 500 or more; this finding is supported by van Aalst et al. (2022), in which 13 of the 75 analyzed studies included fewer than 50 participants and 25 studies included between 50 and 149 participants.

Furthermore, there is conceptual heterogeneity in the definition of bullying-related self-efficacy, which generates diverse results that are difficult to compare, as 45% of studies lack explicit theoretical foundations (Fischer et al., 2021). Similarly, there is

inconsistency in the assessment of this construct, as the number of items in the scales ranges from 2 to 24 (Fischer et al., 2021), and only 10% of the studies used previously validated questionnaires (van Aalst et al., 2022). This variability hinders the comparison of results and highlights the need to develop a single, valid, and reliable scale for the assessment of teacher self-efficacy in relation to school bullying.

On the other hand, focusing exclusively on the assessment of self-efficacy represents a reductionist perspective that prevents a full understanding of the antecedents of such self-efficacy. Among other limitations, this approach omits key psychosocial factors that influence bullying behavior, such as attitudes and perceived subjective norms (e.g., support from the principal or family), which have been identified as essential mediators in the relationship between teacher motivation and the reduction of bullying (Fischer et al., 2021; van Aalst et al., 2022; Feijóo et al., 2024). This reductionist approach overlooks the possibility of understanding aspects such as the level of concern teachers have about bullying, the degree of responsibility they believe they hold in preventing it, or the level of commitment they are willing to assume for that purpose. Although there is no evidence on this matter, conceptually these aspects could explain a greater intention to engage in proactive behaviors related to training, in order to acquire knowledge about how bullying operates and to enhance their abilities to address it, in line with the principles of the Theory of Planned Behavior (TPB). Finally, the lack of validated instruments in the Spanish context constitutes a critical limitation, as most of the

evidence comes from Anglo-Saxon countries (Fischer et al., 2021), creating a geographic bias that compromises external validity and the generalizability of the results to the Spanish educational system (García-Vandewalle García et al., 2023; Miralles-Cardona et al., 2022). Currently, in Spain, the self-efficacy scales used are often adaptations of instruments developed in other contexts, such as the NTSES (Norway; Reyes-Rodríguez et al., 2021) or the DABSE-T (Feijóo et al., 2024). These authors already include dimensions to measure the extent to which teachers feel capable of identifying different types of bullying, whether they feel able to intervene in the moment, the responsibility they feel to take action, the degree to which they believe they have the knowledge to act, and their confidence in their ability to do so. In this way, they differentiate two dimensions related to self-efficacy: knowledge about bullying and the ability to develop strategies to address it. This approach could serve as a starting point for addressing the construct within the Spanish context. However, cultural and educational differences may affect the interpretation of items and responses, making contextual validation essential (Cabero-Almenara et al., 2020).

Therefore, considering the limitations of existing instruments for measuring teacher self-efficacy in relation to bullying, despite the importance of such self-efficacy in shaping teachers' intention to act and ultimately follow through, the primary aim of this study was to develop and conduct a preliminary validation of a scale designed for this purpose.

2. Materials and Methods

Subjects — A non-probabilistic convenience sampling method was used, as participants were contacted through collaborating educational centers, teacher training networks, and professional associations, with the support of school leadership teams and guidance departments. Participation was voluntary, anonymous, and unpaid.

All participants completed an informed consent form, which explained the purpose of the study, the confidentiality of their responses, and their right to withdraw at any time without consequences.

As an inclusion criterion, only active teachers affiliated with formal educational institutions, with a minimum of one academic year of experience and regular direct contact with students in their teaching practice, were considered. Individuals with exclusively administrative or educational inspection roles, as well as teachers on extended leave or retired, were excluded.

Finally, a total of 315 teachers from educational institutions across Spain participated in the present study. Participants' ages ranged from 25 to 68 years, with a mean age of 45.12 years ($SD = 9.20$). In terms of gender, 62.54% identified as female, 37.14% as male, and a small proportion selected the non-binary option.

The majority of participants (90.79%) were employed in public schools, 8.89% in semi-private (charter) schools, and the remaining participants in private schools. Regarding the educational level at which they taught, 60% were engaged in secondary education, while the remainder taught at the primary level.

Teaching experience among participants was heterogeneous, ranging from educators with only one year of professional experience to those with a career spanning up to 40 years.

A detailed summary of the sample's sociodemographic characteristics is presented in Table 1.

Table 1. Sociodemographic characteristics of the study participants.

Variable	Category	n	%
Gender	Female	197	62.54
	Male	117	37.14
	Non-binary	1	0.32
School Type	Public	286	90.79
	State-subsidized	28	8.89
	Private	1	0.32
Educational Level	Secondary Education	189	60
	Primary Education	126	40

Methodology — Initially, the items comprising the Teacher Scale on Bullying (TSB) were developed. To ensure the content validity of the scale, the Delphi method was employed—a structured expert consensus procedure (Hsu & Sandford, 2007). The panel consisted of four experts intentionally selected for their high level of specialization in educational psychology, school intervention, and teacher training. All had over 15 years of professional experience, had participated in school bullying prevention programs, and were authors of scientific publications in the field. Although the number of experts was small, the methodological literature supports

prioritizing the quality and depth of expert judgment over quantity.

During the first round, experts evaluated an initial pool of 42 items, rating each based on three criteria—clarity, relevance, and construct coverage—using a 5-point Likert scale. Qualitative comments were also collected to guide refinements. An item was considered adequate if it received a mean score ≥ 3.5 on all three criteria and at least 80% agreement among experts (scores ≥ 4).

Based on expert suggestions, the items were reformulated to improve wording, eliminate ambiguities, and avoid redundancies. In the second round, the revised version with 33 items was presented. The experts re-evaluated these items, achieving high consensus (mean scores ≥ 4.2 and agreement $\geq 90\%$ for inclusion). However, prior to psychometric validation, additional technical and theoretical refinement criteria were applied. First, three items were removed due to redundant content or semantic overlap with others already included, based on consensus within the research team. Second, to ensure a balanced structure, the instrument was configured to include exactly six items per each of the five theoretical dimensions. The experts agreed that each dimension should contain exactly six items, to prevent the instrument from being overly lengthy for practical use, while also ensuring the robustness of subsequent statistical analyses.

As a result, the final version of the instrument comprised 30 items, evenly distributed across five dimensions grounded in the Theory of Planned Behavior (Ajzen, 1991) and the literature on teacher self-

efficacy in bullying prevention (Feijóo et al., 2024): (1) concern, (2) responsibility, (3) commitment, (4) knowledge, and (5) self-efficacy.

In addition, a pilot test was conducted with 12 in-service teachers, who completed the scale and provided feedback on the clarity, relevance, and comprehension of the items. This phase confirmed the instrument's feasibility, as well as its linguistic and contextual appropriateness for the Spanish educational setting.

Following the development of the instrument, it was administered to participants at their respective educational institutions, with completion requiring approximately five minutes.

Statistical Analysis— To evaluate the validity and reliability of the instrument, several statistical analyses were conducted. First, an Exploratory Factor Analysis (EFA) was performed to evaluate construct validity and to examine the coherence of item grouping. Prior to conducting the Exploratory Factor Analysis (EFA), the KMO index and Bartlett's test of sphericity were calculated to justify the use of EFA with our data. KMO values above .60 (Kaiser, 1974) and p-values $< .05$ for Bartlett's test (1950) indicate that the data are suitable for EFA. The number of factors retained was based on a parallel analysis of principal components. The rotation method used was direct oblimin, as the factors were correlated. In addition to the factor loadings, the uniqueness of each item was examined, defined as the proportion of variance not explained by the common factors in the model, where values $< .60$ are considered acceptable (Costello & Osborne, 2005). A

minimum factor loading of 0.40 was required for an item to be considered a significant contributor to a factor.

The uniqueness of the items will be analyzed in order to determine whether all items are sufficiently explained by the factors, with values below .60 considered acceptable (Lloret-Segura et al., 2014).

Following the Exploratory Factor Analysis (EFA), a Confirmatory Factor Analysis (CFA) was conducted to assess the structural validity of the proposed theoretical model. This analysis was performed on the covariance matrix using the Maximum Likelihood (ML) estimation method. Model fit was evaluated using multiple complementary indices, as recommended by Hu and Bentler (1999). Specifically, the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) were calculated, with values above .90 considered acceptable and values of .95 or higher indicating excellent fit.

Additionally, the Root Mean Square Error of Approximation (RMSEA) was reported, along with its 90% confidence interval; values below .08 indicate a good fit, and values below .05 indicate excellent fit (Browne & Cudeck, 1993). The Standardized Root Mean Square Residual (SRMR) was also included, with values below .08 reflecting an acceptable fit. The combination of these indices provided a comprehensive evaluation of the degree to which the factorial model fit the empirical data.

Second, descriptive statistics were computed, and the internal consistency of each dimension was assessed using Cronbach's alpha (Cronbach, 1951). This coefficient allows for the evaluation of the degree of consistency among the items comprising each factor, that is, the precision

with which they measure the same construct. According to classical psychometric criteria, values of $\alpha \geq 0.70$ are considered indicative of good internal consistency (Nunnally & Bernstein, 1994). Finally, bivariate correlations were calculated between the dimensions of the scale to examine convergent validity across factors. The following scale was used to interpret the magnitude of correlation coefficients: <0.1, trivial; 0.1–0.3, low; 0.3–0.5, moderate; 0.5–0.7, high; 0.7–0.9, very high; and 0.9–1.0, nearly perfect (Hopkins et al., 2009).

3. Results

Prior to conducting the Exploratory Factor Analysis (EFA), data suitability was assessed using two standard tests. First, the Kaiser-Meyer-Olkin (KMO) index was calculated, yielding a value of .927, which indicates excellent sampling adequacy for factor analysis (Kaiser, 1974). Second, Bartlett's test of sphericity was applied and found to be significant ($\chi^2(406) = 6450.310$, $p < .001$), allowing the rejection of the null hypothesis of an identity matrix and confirming the presence of sufficient correlations among items. These results support the appropriateness of conducting an exploratory factor analysis on the data.

To verify the factorial structure of the instrument, an EFA was conducted with the 30 items. The results revealed four factors instead of the initially expected five, with the knowledge and self-efficacy dimensions merging into a single factor. All items showed factor loadings above .40 on their intended factor, and only item 18 displayed cross-loadings on two factors, leading to its

removal. Based on these findings, item 18 was excluded and a second EFA was performed (see Table 2). In this second analysis, the items again grouped into four factors, all with factor loadings above .40. Uniqueness values ranged from 0.161 to 0.631, and were generally considered acceptable, as most were below .60 (Lloret-Segura et al., 2014). These findings support the appropriateness of the items retained in the factorial model.

Table 2. Exploratory Factor Analysis of the TSB.

Items	1	2	3	4	Uniqueness
TSB 22	.831				.318
TSB26	.830				.335
TSB20	.805				.333
TSB29	.801				.408
TSB25	.798				.298
TSB23	.786				.369
TSB27	.768				.392
TSB24	.750				.406
TSB19	.719				.419
TSB30	.682				.484
TSB28	.664				.563
TSB21	.641				.508
TSB9		.860			.256
TSB10		.857			.320
TSB11		.724			.366
TSB12		.678			.304
TSB8		.620			.431
TSB7		.558			.631
TSB4			.853		.297
TSB3			.762		.424
TSB2			.756		.420
TSB6			.701		.490
TSB1			.577		.636
TSB5			.559		.579

TSB16	.875	.161
TSB14	.854	.290
TSB17	.833	.229
TSB15	.604	.380
TSB13	.401	.557

1 = *Self-Efficacy*; 2 = *Responsibility*; 3 = *Concern*; 4 = *Commitment*.

Based on the results of the Exploratory Factor Analysis (EFA), a Confirmatory Factor Analysis (CFA) was conducted, excluding item 18 and considering a four-factor structure. The global fit indices obtained were satisfactory, with CFI = .90 and TLI = .90, indicating an acceptable fit of the model to the data (Hu & Bentler, 1999). Likewise, the RMSEA = .07 (90% CI: 0.072–0.083) and SRMR = .06 fell within the ranges considered appropriate for this type of model, supporting the structural validity of the proposed instrument.

Subsequently, descriptive statistics and internal consistency analyses were conducted for the items comprising each factor. Regarding the descriptive statistics, teachers exhibited high levels of concern, responsibility, and commitment, whereas self-efficacy in addressing bullying was comparatively lower.

The results also indicated that the factors demonstrated Cronbach's alpha coefficients ranging from .84 to .94, reflecting a very high level of internal consistency among the items within each factor (Table 3).

Table 3. Descriptive Statistics and Reliability Analysis of the TSB.

Factor	M	SD	α
--------	---	----	----------

Concern (6 items)	4.47	.58	.84
Responsibility (6 items)	4.62	.57	.89
Commitment (5 items)	4.43	.71	.91
Self-Efficacy (12 items)	3.43	.79	.94

The item-total correlation was calculated and found to be above .50 for all factors.

Finally (Table 4), a Pearson correlation analysis was conducted among the factors of the scale, revealing significant correlations between all factors. The correlations ranged from moderate to high, except for the relationship between self-efficacy and concern, which was low (.232).

Table 4. Bivariate Correlations among the Factors of the Teacher Scale on Bullying.

Factor	1	2	3	4
1. Concern	-			
2. Responsibility	.351***	-		
3. Commitment	.501***	.638***	-	
4. Self-Efficacy	.232***	.469***	.479***	-

Note. *** $p < .001$.

4. Discussion

Aware of the limitations of existing scales for measuring teachers’ perceived self-efficacy in addressing bullying (Feijóo et al., 2024), the primary objective of this study was to develop and evaluate a new scale specifically designed for this purpose, aiming to improve upon the performance of previously available instruments. The experts understood that these dimensions are key determinants of the intention to implement preventive strategies, based on

the dimensions described in the TPB (Ajzen, 1991): attitude toward the behavior, subjective norm, and perceived behavioral control.

Among the main criticisms of prior measurement instruments is the lack of a theoretical framework to support the construct’s development and facilitate its comprehensive understanding. To address this limitation, the research team relied on the TPB (Ajzen, 1991), considering the importance of teachers feeling capable of addressing bullying in order to enhance their intention to act, thereby increasing the likelihood of intervention. Accordingly, the researchers created items to define self-efficacy as the perception of possessing the necessary tools to prevent bullying in daily practice. Additionally, the research team recognized the importance of including other dimensions related to self-efficacy to provide a more comprehensive understanding of teachers’ perceptions regarding bullying, ensuring theoretical justification within the TPB framework. Consequently, items were designed to capture concern about bullying, perceived responsibility in prevention, willingness to engage actively, and knowledge of the topic.

The exploratory factor analysis (EFA) revealed the existence of four factors instead of the five initially anticipated by the research team. The theoretical dimensions of knowledge about bullying and self-efficacy to prevent it were grouped into a single factor. This finding suggests that teachers’ perception of competence depends both on what they know and on what they feel capable of doing with that knowledge,

forming a unified construct of self-efficacy. This integration may be influenced by contextual and cultural factors within the Spanish educational system, where training programs and professional teaching culture tend to closely link theoretical knowledge with practical application. In this sense, teachers may not perceive knowledge as an isolated element, but rather as a necessary condition for action, which reinforces the functional and applied nature of the construct in this context. This result is consistent with the concept of competence as understood in motivational theories such as Self-Determination Theory (SDT; Deci & Ryan, 2000) and Achievement Goal Theory (AGT; Nicholls, 1984), where feeling competent implies both understanding a phenomenon and knowing how to act effectively in response to it. Thus, in the cultural context analyzed, the resulting scale combines both components—knowledge and action—into a single self-efficacy factor, composed of twelve items.

It is worth noting that the remaining items grouped in the EFA as initially expected, corresponding to the theoretical factors for which they were originally designed. Only item 18 (“Combating bullying is among my commitments”) loaded on two factors (responsibility and commitment); however, the highest loading corresponded to the commitment factor, for which it was originally intended. For this reason, that item was excluded from the remaining analyses in our study. Based on this, its exclusion in future studies is recommended, or alternatively, a more in-depth analysis potentially including

clarifications to enhance participants’ understanding.

Based on the results of the EFA, a confirmatory factor analysis (CFA) was conducted, excluding item 18 and using the previously identified four-factor structure as a basis. The fit indices obtained were satisfactory, providing empirical support for the factor solution proposed in the EFA and reinforcing the structural validity of the instrument. Based on these results, it is proposed that further analysis of the scale’s performance be conducted considering this model.

Moreover, the results demonstrated excellent reliability across the four resulting factors, addressing issues observed in previous scales where reliability was questioned (Ryan & Hill, 2016; Fischer *et al.*, 2021; van Aalst *et al.*, 2022). In particular, self-efficacy reached a coefficient of 0.94 in the present study.

Descriptive analyses indicated that Spanish teachers in the sample reported high levels of concern about bullying, with a mean of 4.47 out of 5, in line with prior studies highlighting teachers’ concern regarding this issue (Craig *et al.*, 2011; Fischer *et al.*, 2021; Sen & Doğan, 2021). Additionally, participants reported notable levels of perceived responsibility and willingness to engage actively in bullying prevention. In contrast, self-efficacy exhibited the lowest mean among the four factors. These results align with previous research emphasizing the need to provide teachers with specific training for addressing bullying (Craig *et al.*, 2011; Fischer *et al.*, 2021). Current

professional development initiatives do not appear to address this issue to the extent required, given the levels of concern and perceived responsibility among educators. However, considering the high scores in the three aforementioned dimensions and the fact that the scale is in an exploratory phase, the possible presence of ceiling effects should be taken into account, as the clustering of scores near the maximum may be limiting variability and, consequently, the instrument's ability to discriminate between different levels of attitude or willingness. This limitation suggests the advisability of revising or expanding the scale in future studies to improve its sensitivity.

Correlations among the different factors confirmed the existence of relationships between them, supporting the inclusion of the corresponding items to provide a more complete explanation of teachers' perceived self-efficacy. All correlations were positive and statistically significant, indicating convergent validity. It is reasonable to expect that teachers who are more concerned and perceive higher responsibility also exhibit greater commitment, and vice versa. Similarly, commitment and self-efficacy are positively correlated; teachers with higher commitment are likely to engage more in training and consequently feel more competent, while those who feel more capable are more likely to commit to prevention efforts.

These findings are consistent with the TPB (Ajzen, 1991), which posits three determinants of behavioral intention in bullying prevention. First, attitude toward the behavior, defined as the positive or

negative evaluation of the consequences of attempting to prevent bullying. Concerned teachers are likely to perceive preventive actions positively, with thoughts such as: "If I intervene, my students will benefit." Second, subjective norm, defined as the perceived social pressure to perform or not perform the preventive behavior. Teachers who perceive intervention as part of their professional responsibilities and understand that their role requires commitment are more likely to intend to act. Third, perceived behavioral control refers to teachers' perception of their ability to carry out preventive actions. Those who believe they have the necessary knowledge and skills, and therefore high perceived self-efficacy, are more likely to intend to actively engage in bullying prevention. This is critical considering evidence that interventions, to varying degrees, are generally effective (van Gils et al., 2022; Craig et al., 2011). Students' perception that teachers are actively addressing bullying inherently supports its prevention.

The present scale was specifically designed to measure self-efficacy in Spanish, addressing the limitations of prior scales developed in Anglo-Saxon contexts and their applicability to Spanish-speaking populations (Cabero-Almenara et al., 2020; Fischer et al., 2021; Reyes-Rodríguez et al., 2021; Feijóo et al., 2024).

5. Practical Applications

The new scale will allow for a valid and reliable assessment, in Spanish, of teachers' perceived ability to address bullying,

facilitating the identification of training needs and the design of educational policies that promote professional well-being and vocational engagement. It will also enable the development of studies analyzing differences in levels of concern, responsibility, and commitment toward bullying prevention among teachers of different educational levels, subject areas, and genders. Furthermore, the scale will provide insight into teachers' perceived capacity to prevent bullying, as well as the effects of training programs aimed at enhancing teachers' competence in managing bullying situations. This instrument may be particularly useful for assessing the impact of teacher training programs by measuring its dimensions before and after the course. Having objective measures of such training can help determine the extent to which the course objectives are being met, and whether participants are closer to taking action to prevent bullying.

This study presents preliminary findings that require confirmation in subsequent research involving substantially larger samples. Additionally, the factorial structure should be further examined through confirmatory factor analyses to verify the presence of four, rather than five, factors. Item 18 appears to require adjustment, and its performance should be analyzed in future studies, or it may be permanently removed. Moreover, it is advisable to assess construct validity using predictive analyses alongside other variables, such as teaching vocation, teacher satisfaction, or types of teacher motivation. No multigroup invariance tests have been conducted based on sex, age, years of

experience, subject areas taught, etc. It is recommended that future studies include such analyses.

6. Conclusions

While the results should be interpreted with caution, it can be affirmed that the Teacher Scale on Bullying (TSB) appears to be a valid and reliable instrument for measuring, within the Spanish context, teachers' concern about bullying, their sense of responsibility regarding bullying, their commitment, and their perceived self-efficacy in bullying prevention.

Funding: This research was funded by the Ministerio de Ciencia e Innovación (MCIN) and the Agencia Estatal de Investigación (AEI), grant number PID2020-118826RA-I00.

Acknowledgments: The authors wish to thank all the study participants for their collaboration.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Bartlett, M. S. (1950). Tests of significance in factor analysis. *British Journal of Statistical Psychology*, 3(2), 77–85. <https://doi.org/10.1111/j.2044-8317.1950.tb00285.x>
- Benítez, J. L., & Justicia, F. (2006). El maltrato entre iguales: descripción y análisis del fenómeno. *Electronic Journal of Research in Educational Psychology*, 4(2), 151–170. <https://doi.org/10.25115/ejrep.v4i9.1186>

- Bradshaw, C. P., Waasdorp, T. E., O'Brennan, L. M., & Gulemetova, M. (2013). Teachers' and Education Support Professionals' Perspectives on Bullying and Prevention: Findings From a National Education Association Study. *School Psychology Review*, 42(3), 280–297. <https://doi.org/10.1080/02796015.2013.12087474>
- Browne, M. W., & Cudeck, R. (1993). *Alternative ways of assessing model fit*. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Sage.
- Cabero-Almenara, J., Gutiérrez-Castillo, J.-J., Palacios-Rodríguez, A., & Barroso-Osuna, J. (2020). Development of the Teacher Digital Competence Validation of DigCompEdu Check-In Questionnaire in the University Context of Andalusia (Spain). *Sustainability*, 12(15), 6094. <https://doi.org/10.3390/su12156094>
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, 10(1).
- Craig, K., Bell, D., & Leschied, A. (2011). Pre-service teachers' knowledge and attitudes regarding school-based bullying. *Canadian Journal of Education*, 34(2), 21–33.
- Cronbach, L. J. (1951). *Coefficient alpha and the internal structure of tests*. *Psychometrika*.
- De Luca, L., Nocentini, A., & Menesini, E. (2019). The Teacher's Role in Preventing Bullying. *Frontiers in psychology*, 10, 1830. <https://doi.org/10.3389/fpsyg.2019.01830>
- Deci, E., y Ryan, R. (2000). The "what" and "why" of goal pursuits: Human Needs and the self determination of behavior. *Psychological Inquiry*, 11, 227–268. <https://doi.org/10.1207/S15327965PLI110401>
- Eden, S., Heiman, T. and Olenik-Shemesh, D. (2013), Teachers' perceptions about cyberbullying. *Br J Educ Technol*, 44: 1036–1052. <https://doi.org/10.1111/j.1467-8535.2012.01363.x>
- Feijóo, S., Kuldass, S., Sargioti, A., Kinahan, A., Heaney, D., Gorman, A., & O'Higgins Norman, J. (2024). A Test of Dublin Anti-bullying Self-Efficacy Scale for Teachers (DABSE-T). *International Journal of Bullying Prevention*. <https://doi.org/10.1007/s42380-024-00246-5>
- Fischer, S. M., John, N., & Bilz, L. (2021). Teachers' self-efficacy in preventing and intervening in school bullying: A systematic review. *International Journal of Bullying Prevention*, 3, 196–212. <https://doi.org/10.1007/s42380-020-00079-y>
- García-Hermoso, A., Hormazabal-Aguayo, I., Oriol-Granado, X., Fernández-Vergara, O., & Del Pozo Cruz, B. (2020). Bullying victimization, physical inactivity and sedentary behavior among children and adolescents: a meta-analysis. *The international journal of behavioral nutrition and physical activity*, 17(1), 114. <https://doi.org/10.1186/s12966-020-01016-4>
- García-Vandewalle García, J. M., García-Carmona, M., Trujillo Torres, J. M., & Moya Fernández, P. (2023). Analysis of digital competence of educators (DigCompEdu) in teacher trainees: the context of Melilla, Spain. *Technology, Knowledge and Learning*, 28, 585–612. <https://doi.org/10.1007/s10758-021-09546-x>
- Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, Version 1.0. National Center for Injury Prevention and

- Control, Centers for Disease Control and Prevention and U.S. Department of Education.
- González-Cabrera, J., Sánchez-Álvarez, N., Calvete, E., León-Mejía, A., Orue, I., & Machimbarrena, J. M. (2019). Psychometric properties of the triangulated version of the European Bullying Intervention Project Questionnaire: Prevalence across seven roles. *Psychology in the Schools*, 56(12), 1989–2003. <https://doi.org/10.1002/pits.22320>
- Griffin, R. W., & Gross, A. M. (2004). Childhood bullying: Current empirical findings and future directions for research. *Aggression and Violent Behavior*, 9(4), 379–400.
- Hopkins, W. G., Marshall, S. W., Batterham, A. M., & Hanin, J. (2009). Progressive statistics for studies in sports medicine and exercise science. *Medicine & Science in Sports & Exercise*, 41(1), 3–13. <https://doi.org/10.1249/MSS.0b013e31818cb278>
- Hsu, C.-C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment, Research, and Evaluation*, 12(10), 1–8. <https://doi.org/10.7275/pdz9-th90>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Inchley, J., Currie, D., Budisavljevic, S., Torsheim, T., Jåstad, A., Cosma, A., Kelly, C., & Arnarsson, Á. M. (Eds.). (2020). Spotlight on adolescent health and well-being: Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. *International report. Volume 2. Key data*. WHO Regional Office for Europe.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>
- Lloret-Segura, S., Ferreres-Traver, A., Hernández-Baeza, A., & Tomás-Marco, I. (2014). El análisis factorial exploratorio de los ítems: una guía práctica, revisada y actualizada. *Anales de psicología/annals of psychology*, 30(3), 1151–1169. <https://dx.doi.org/10.6018/analesps.30.3.199361>
- Miralles-Cardona, C., Chiner, E., & Cardona-Moltó, M.-C. (2022). Educating prospective teachers for a sustainable gender equality practice: Survey design and validation of a self-efficacy scale. *International Journal of Sustainability in Higher Education*, 22(5), 1083–1105. <https://doi.org/10.1108/IJSHE-06-2020-0204>
- Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health*, 55(5), 602–611. <https://doi.org/10.1016/j.jadohealth.2014.06.007>
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328–346. <https://doi.org/10.1037/0033-295X.91.3.328>
- Nunnally, J.C. and Bernstein, I.H. (1994) The Assessment of Reliability. *Psychometric Theory*, 3, 248-292.
- Olweus D. (1994). Bullying at school: basic facts and effects of a school based intervention

- program. *Journal of child psychology and psychiatry, and allied disciplines*, 35(7), 1171–1190. <https://doi.org/10.1111/j.1469-7610.1994.tb01229.x>
- Olweus, D. (2011). Bullying at school and later criminality and suicide. *Criminal Behaviour and Mental Health*, 21(2), 98–103. <https://doi.org/10.1002/cbm.806>
- Paljakka, A. (2024). Teachers' awareness and sensitivity to a bullying incident: A qualitative study. *International Journal of Bullying Prevention*, 6(3), 322–340. <https://doi.org/10.1007/s42380-023-00185-7>
- Peraza-Balderrama, J. N., Valdés-Cuervo, A. A., Martínez-Ferrer, B., Reyes-Rodríguez, A. C., & Parra-Pérez, L. G. (2021). Assessment of a multidimensional school collective efficacy scale to prevent student bullying: Examining dimensionality and measurement invariance. *Psychosocial Intervention*, 30(2), 101–111. <https://doi.org/10.5093/pi2021a2>
- Reyes-Rodríguez, A. C., Valdés-Cuervo, A. A., Parra-Pérez, L. G., García-Vázquez, F. I., & Torres-Acuña, G. M. (2021). Evaluating Psychometric Properties of the New Teachers' Perceptions of Collective Efficacy to Handle Bullying Scale (TCEB). *International Journal of Environmental Research and Public Health*, 18(21), 11424. <https://doi.org/10.3390/ijerph182111424>
- Ryan, R. and Hill, S. (2016) How to GRADE the Quality of the Evidence. *Cochrane Consumers and Communication Group*.
- Sen, Z. & Doğan, A. (2021). An Examination of Teachers' Attitudes Towards Bullying, Their Coping Strategies for Handling Bullying, and Perceived School Climate. *Eğitim ve bilim-education and science*, 46(207), 43–62. <https://doi.org/10.15390/EB.2021.8942>
- Takizawa, R., Maughan, B., & Arseneault, L. (2014). Adult health outcomes of childhood bullying victimization: Evidence from a five-decade longitudinal British birth cohort. *American Journal of Psychiatry*, 171(7), 777–784. <https://doi.org/10.1176/appi.ajp.2014.13101401>
- van Aalst, D. A. E., Huitsing, G., & Veenstra, R. (2024). A systematic review on primary school teachers' characteristics and behaviors in identifying, preventing, and reducing bullying. *International Journal of Bullying Prevention*, 6, 124–137. <https://doi.org/10.1007/s42380-022-00145-7>
- van Gils, F. E., Colpin, H., Verschueren, K., Demol, K., ten Bokkel, I. M., Menesini, E., & Palladino, B. E. (2022). Teachers' Responses to Bullying Questionnaire: A Validation Study in Two Educational Contexts. *Frontiers in Psychology*, 13, 830850. <https://doi.org/10.3389/fpsyg.2022.830850>
- Wang, Z., Xu, X., Han, Q., Chen, Y., Jiang, J., & Ni, G. (2021). Factors associated with public attitudes towards persons with disabilities: a systematic review. *BMC Public Health*, 21. <https://doi.org/10.1186/s12889-021-11139-3>
- Wolke, D., & Lereya, S. T. (2015). Long-term effects of bullying. *Archives of Disease in Childhood*, 100(9), 879–885. <https://doi.org/10.1136/archdischild-2014-306667>