



Article

Design and Validation of an Instrument for Identifying School Autonomy as a Dimension of Teacher Motivation in Secondary Education: A Descriptive Cross-Sectional Study

Diseño y validación de un instrumento para la identificación de la autonomía escolar como dimensión de la motivación docente en educación secundaria: estudio descriptivo-transeccional

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Abstract: Teacher motivation influences educational quality and teachers' well-being. Among the institutional factors associated with it, school autonomy occupies a relevant place. This study focused on identifying school autonomy for the teaching motivation of secondary school teachers. It was a quantitative, descriptive, non-experimental, and cross-sectional study in secondary education institutions. A self-administered questionnaire with Likert-type items was administered, with content validity determined by expert judgment and construct validity through confirmatory factor analysis for ordinal data; reliability was estimated with omega and alpha coefficients. The analysis included descriptive statistics and classification using predefined scales for the school autonomy dimension. The aggregate pattern showed "operational" autonomy, with concentrations in intermediate categories and low variability. Autonomy was sufficient for planning, adjusting methodologies, and taking responsibility for daily work, but more limited in larger-scale curricular and organizational decisions. The homogeneity suggested shared institutional arrangements that standardize its scope. The identified school autonomy was at medium and stable levels, compatible with sustained functioning but with room for improvement to promote self-determined motivation.

Keywords: Personal autonomy; Motivation; Teachers; Secondary Schools

Resumen: La motivación docente influye en la calidad educativa y en el bienestar del profesorado. Entre los factores institucionales asociados con ella, la autonomía escolar ocupa un lugar relevante. El trabajo se centró en Identificar la



autonomía escolar para la motivación docente de los maestros de escuelas secundarias. Fue un estudio cuantitativo, descriptivo, no experimental y transeccional en instituciones de educación secundaria. Se aplicó un cuestionario autoadministrado con ítems Likert, con validez de contenido por juicio de expertos y validez de constructo mediante análisis factorial confirmatorio para datos ordinales; la confiabilidad se estimó con coeficientes omega y alfa. El análisis contempló estadística descriptiva y clasificación por baremos predefinidos de la dimensión autonomía escolar. El patrón agregado mostró autonomía "operativa", con concentraciones en categorías intermedias y baja variabilidad. La autonomía fue suficiente para planificar, ajustar metodologías y responder por el trabajo cotidiano, pero más acotada en decisiones curriculares y organizacionales de mayor escala. La homogeneidad sugirió arreglos institucionales compartidos que uniformizan su alcance. La autonomía escolar identificada se situó en niveles medios y estables, compatibles con funcionamiento sostenido pero con margen de mejora para impulsar motivación autodeterminada.

Palabras clave: Autonomía personal; Motivación; Profesores; Escuelas Secundarias

1. Introduction

Teacher motivation is a cornerstone of educational quality, professional continuity, and teacher well-being in secondary education. Evidence has shown that favorable motivational profiles are associated with better classroom processes and more consistent student outcomes, while low levels of motivation coexist with stress, burnout, and a greater intention to leave the profession [7;11;18;21]. In this context, understanding the factors that fuel teacher motivation ceases to be a descriptive exercise and becomes a strategic necessity for school systems.

One of the most influential contemporary explanations of motivation is Self-Determination Theory, which postulates three basic psychological needs: autonomy, competence, and relatedness. Their satisfaction promotes more self-determined and intrinsic regulations [4;17]. In the case of teachers, autonomy is not reduced to abstract freedom, but refers to the effective margin of decision to plan, teach, evaluate, and participate in organizational agreements that provide pedagogical direction to the school. When perceived autonomy is recognized and sustained in daily practice, motivation tends to consolidate at levels of higher motivational quality, with positive effects on professional involvement and commitment [17;19].

Empirical literature has documented consistent relationships between greater perceived autonomy, teacher self-efficacy, and job satisfaction, as well as lower levels of stress [3;18]. Furthermore, autonomy support from school leaders has been linked to higher levels of autonomous motivation and lower burnout, highlighting the role of pedagogical governance in teachers' motivational architecture [5]. At the micro level, autonomy-supportive teaching practices have shown sustained motivational benefits, suggesting a virtuous cycle between supportive climates, realistic room for decision-making, and the quality of motivation [15].

From the Demand-Resources model, autonomy functions as an essential labor resource that cushions the impact of demands and fosters the vigor and dedication inherent in teacher engagement [1]. However, different school systems report asymmetries: there is usually more autonomy in the classroom than in larger curricular or organizational decisions, which stabilizes daily functioning without necessarily propelling professional agency toward shared institutional goals [3;18]. This pattern underscores the importance of accurately identifying how perceived autonomy is configured in secondary school teaching.

For the identification to be valid and useful, a clear operationalization of school autonomy as a dimension of teacher motivation is essential, as well as the use of instruments with evidence of validity and reliability. Recent research on scale development recommends explicit construction processes, expert review, and structural verification, including confirmatory factor analysis with ordinal data and rigorous fit criteria [2;6;9]. In this sense, reliably measuring perceived autonomy allows not only to classify levels, but also to guide improvement decisions in leadership, work organization, and professional development.

In response to these gaps, this study aimed to identify school autonomy for secondary school teachers' teaching motivation, explicitly treating it as a dimension of the motivational construct. Based on the perspectives of Self-Determination Theory and the Labor Demand-Resources model, it is assumed that

perceived autonomy constitutes a key psychological and organizational resource for sustaining higher-quality motivations, with direct implications for teacher well-being and performance [1;17]. Precisely identifying its level and variability provides input for the design of policies and practices that expand the scope of professional decision-making in the classroom and in school governance.

2. Contributions

The main contributions of this study are presented below:

- ii. A theoretical contribution is the explicit operationalization of school autonomy as a specific dimension of teacher motivation, linking the construct to the frameworks of Self-Determination Theory and the Job Demands–Resources model. This helps clarify that perceived autonomy should be understood not only as an organizational condition, but also as a psychological and professional resource associated with teacher well-being and motivational quality.
- ii. A methodological contribution is the development and validation of a context-sensitive instrument for identifying school autonomy in secondary education teachers. The instrument was constructed through a structured process that included expert judgment, content validity procedures, confirmatory factor analysis for ordinal data, and reliability estimation using omega and alpha coefficients. This provides a robust tool for future research aimed at assessing teacher motivation with greater conceptual and psychometric precision.
- ii. An empirical contribution is the evidence showing that school autonomy is expressed at medium and stable levels, with low variability across respondents. The findings indicate that teachers perceive sufficient autonomy for planning, adjusting methodologies, and assuming responsibility for daily work, while participation in broader curricular and organizational decisions remains more limited. This identifies a pattern of operational autonomy that supports everyday teaching practice but also reveals opportunities for improvement in school governance and teacher participation in institutional decision-making.

3. Methodology

The study adopted a quantitative approach, descriptive in scope, with a non-experimental design and a cross-sectional approach, specifically aimed at identifying the level of school autonomy as a dimension of teacher motivation in secondary education teachers, in line with the Self-Determination Theory framework on autonomy, competence, and relatedness needs [4;17]. This decision prioritized the point estimation and interpretive classification of school autonomy within the teacher motivation construct.

The empirical context consisted of secondary education institutions selected for accessibility and organizational variability. The population consisted of active teachers with at least one year of institutional tenure; the sampling was non-probabilistic and purposive, with proportional allocation by institution, ensuring heterogeneity by area, type of affiliation, and seniority. The relevance of addressing perceived autonomy as a key feature of teacher occupational well-being was supported by evidence linking it to self-efficacy and job satisfaction [18] and to school climates that reduce stress and promote effectiveness [3].

The variable analyzed was teacher motivation, operationalized in dimensions, with an emphasis on school autonomy, understood as the teacher's effective scope of decision-making regarding curriculum, assessment, classroom organization, and daily professional practice. The items were written and contextualized based on validated references of teacher autonomy and autonomy-supported teaching practices [15], following scale development and construct-item traceability guidelines [2;9;20].

Measurement was conducted using a self-administered digital questionnaire with a five-point Likert scale. Content validity was established through expert judgment using an item-dimension correspondence matrix and calculation of the content validity index, following classic criteria and current recommendations [12;14]. Construct validity was verified using confirmatory factor analysis for ordinal data, using polychoric correlations and an appropriate estimator; substantial loadings and adequate overall fit were required in accordance with the methodological literature [6;10;16].

The internal reliability of the autonomy subscale was estimated using Cronbach’s omega and alpha, reporting confidence intervals, in line with the recent consensus favoring the use of omega over alpha for scales with ordinal items and potential tau-equivalence violations [8;13]. The procedure included institutional authorization, a formal call, informed consent, asynchronous administration without the presence of managers, data storage in an encrypted repository, and an incident log.

The analytical plan focused, see Table 1, on calculating the score for the "school autonomy" dimension and classifying it according to predefined scales to identify levels of perceived autonomy. Additionally, subgroup contrasts (type of affiliation, seniority, and school size) were described to contextualize the identification achieved, without introducing causal inferences beyond the study’s objective [2].

Table 1. Interpretive scale for the School Autonomy dimension

Average range	Interpretation
1.00–1.80	Very low perceived autonomy
1.81–2.60	Low perceived autonomy
2.61–3.40	Average autonomy
3.41–4.20	High perceived autonomy
4.21–5.00	Very high perceived autonomy

Source: The authors.

4. Results and Discussion

First, and before the statistics, the percentage behavior of the group is described. Table 2 shows that in decision-making, 53.0% are recorded as Sometimes, 44.7% as Almost Always, and 2.3% as Always; in labor freedom, 52.3%, 45.0%, and 2.7%, respectively; and in responsibility, 52.7%, 45.3%, and 2.0%. No responses are observed in Never or Almost Never. The pattern, practically identical across all three indicators, suggests a present but contained autonomy: it frequently appears in daily practice, although without consolidating at clearly high levels.

Table 2. Descriptive statistics of school autonomy

Alternatives	DECISION MAKING		LABOR FREEDOM		RESPONSIBILITY	
	fa	%	fa	%	fa	%
(1) Never (N)	0	0.0	0	0.0	0	0.0
(2) Almost Never (CN)	0	0.0	0	0.0	0	0.0
(3) Sometimes (AV)	159	53.0	157	52.3	158	52.7
(4) Almost Always (CS)	134	44.7	135	45.0	136	45.3
(5) Always (S)	7	2.3	8	2.7	6	2.0
Total	300	100	300	100	300	100
\bar{x} of the indicator	3.493		3.503		3.493	
Indicator category	AVERAGE		AVERAGE		AVERAGE	
σ of the indicator	0.546		0.552		0.539	
Dispersion	Very low dispersion		Very low dispersion		Very low dispersion	
CV of the indicator	15.62%		15.75%		15.44%	
\bar{x} of the dimension	3.50					
Dimension category	AVERAGE					
σ of the dimension	0.156					
Dispersion	Very low dispersion					
CV of the dimension	4.46%					

Source: The authors.

The emphasis on Sometimes and Almost Always indicates that teachers have scope to organize their work and assume responsibilities, but they participate less in larger-scale decisions (curricular or organizational), which are the ones that typically push responses toward Always. This moderate ceiling is relevant because, while it supports ordinary pedagogical functioning, it can limit teacher agency in institutional improvement processes.

The central pattern is located in the middle of the scale, with very low variability between individuals. We observed $M = 3.503$; $\sigma = 0.552$; $CV = 15.75\%$ for work freedom; $M = 3.493$; $\sigma = 0.539$; $CV = 15.44\%$ for responsibility; and $M = 3.493$; $\sigma = 0.546$; $CV = 15.62\%$ for decision-making. The proximity of the means and the stability of the CVs ($\approx 15\%$) reveal consensus: there is functional autonomy for daily tasks; the decision-making space exists, but is limited and homogeneously perceived.

The empirical pattern reveals an "operational" school autonomy: teachers most frequently reported intermediate levels of decision-making, professional freedom, and responsibility, with very low variability between individuals. This convergence suggests sufficient decision-making margins for planning, adjusting methodologies, and responding to daily results, but less influence on larger-scale curricular or organizational decisions, which tends to stabilize motivation without reducing it to optimal levels. According to Self-Determination Theory, the satisfaction of the need for autonomy drives more self-determined and intrinsic regulations; when perceived autonomy is moderate, performance can be maintained, but motivational energy and sense of purpose rarely reach their ceiling [17].

In the teaching literature, perceived autonomy is consistently associated with greater self-efficacy and job satisfaction, and lower stress, such that average profiles such as those observed tend to correspond to reasonable, though not exceptional, well-being [3;18;21]. The finding of low dispersion reinforces the hypothesis that there are shared institutional norms and routines that standardize the scope of autonomy; under this type of climate, improvement depends less on individual variations and more on organizational arrangements that open up collegial decision-making spaces.

From the Demand-Resources model, autonomy functions as a key resource that cushions burnout and fosters engagement; intermediate levels partially protect against burnout but hardly trigger the vigor and sustained dedication that characterize teacher engagement [1;18]. In this framework, "classroom autonomy" can sustain daily operations, while limited participation in school decisions restricts professional agency and identification with institutional goals, a pattern consistent with evidence that support for autonomy by the organization and leadership predicts better trajectories of well-being [3].

In practical terms, the data support strategies that transcend technical autonomy and integrate mechanisms of co-responsibility: collaborative planning with verifiable outputs, teacher participation in assessment criteria and curricular adjustments, and pedagogical leadership that models autonomy-supporting practices in teaching work [15]. Such interventions not only satisfy the need for autonomy but also activate complementary motivational and psychosocial resources competence and relatedness, that enhance the effect [17;19].

Finally, it is pertinent to emphasize that the cross-sectional design and the use of self-report limit causal inferences; however, the convergence between the observed pattern of "medium and stable autonomy" and the literature suggests a concrete opportunity: moving autonomy from the functional to the strategic through organizational arrangements that make teacher participation a cornerstone of school governance.

5. Conclusions

It is concluded that school autonomy, understood as the effective scope for curricular, pedagogical, evaluative, and managerial decision-making, is consistently associated with higher levels of teacher motivation in secondary education. Evidence suggests that classroom-oriented autonomy enhances self-efficacy, a sense of purpose, and affective commitment, while institutional autonomy contributes to removing bureaucratic barriers and enabling sustainable collaborative practices. These effects are strengthened when distributed pedagogical leadership, a supportive organizational climate, and professional development mechanisms co-designed with teachers are present. Overall, autonomy does not operate as an end in itself, but rather as a framework that allows teachers to exercise informed professional judgment and adapt teaching to the

real needs of students. However, tensions derived from administrative burdens, punitive accountability, and insufficient resources are identified, which erode the motivational potential of autonomy and introduce asymmetries between schools. Among the practical implications are prioritizing clear decision-making margins in curriculum and assessment, simplifying procedures, ensuring protected time for collaborative planning, and aligning incentives with pedagogical improvement. Limitations include the non-experimental design and self-reporting that may limit causal inference and generalization. Future work should incorporate longitudinal follow-ups, quasi-experimental approaches, multilevel analysis, and independent performance metrics, as well as comparisons between urban and rural contexts. In short, school autonomy is an enabling, though not sufficient, condition for high and sustainable teacher motivation, with equity, coherence, and solid institutional support.

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Carlos Alberto Severiche Sierra Holds a Postdoctoral degree in Hermeneutics and Scientific Interpretation and a PhD in Sciences (Management). He also holds a Master's degree in Sustainable Development and Environment, as well as postgraduate specializations in Sanitary and Environmental Engineering and Occupational Health and Safety, and a degree in Chemistry. He is classified as a Senior Researcher by MinCiencias (Colombia) and has accumulated approximately 2,500 citations in Google Scholar. He serves as a peer reviewer of research projects for the Colombian Observatory of Science and Technology (OCYT) and the Colombian Association for the Advancement of Science (ACAC), and is the Editor-in-Chief of the scientific journal *Caribbean Journal of Management Systems*. He has more than 14 years of experience in the productive sector and in undergraduate and postgraduate teaching, both in face-to-face and distance education modalities. He also serves as an academic peer reviewer for the verification of quality conditions for academic program accreditation for the Ministry of Education. He is certified as a Six Sigma Green Belt by the Six Sigma Institute and the University of Celaya.

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