

Design And Validation of an Instrument for Assessing Positive Adolescent Development in the Educational Context (PAAD-CE)

Diseño y validación de un instrumento para evaluar el Desarrollo Positivo Adolescente en el Contexto Educativo (DPA-CE)

Conceção e validação de um instrumento para medir a avaliação do Desenvolvimento Positivo do Adolescente em Contexto Educativo (PAAD-EC).

教育情境中青少年积极发展评估量表 (DPA-CE) 的设计与验证

تصميم وتقويم أداة قياس للتنمية الإيجابية لدى المراهقين في السياق التعليمي (DPA-CE)

León-Carrascosa, Víctor⁽¹⁾ ; Gutiérrez-Ujaque, Daniel⁽²⁾ ; Bayarri López, Cristina⁽³⁾ 

⁽¹⁾ Complutense University of Madrid, Spain

⁽²⁾ University of Lleida, Spain

⁽³⁾ University of Oviedo, Spain

Abstract

Inclusion and youth well-being are key priorities on the international educational agenda. In this context, Positive Adolescent Development focuses on adolescents' strengths and on the school factors that promote them. This instrumental psychometric validation study aimed to design and validate a tool for assessing Positive Adolescent Development in Educational Contexts (PAAD-CE). The sample consisted of 444 adolescents aged 12 to 16 years, mainly aged 13 and 14, enrolled in the second and third years of Compulsory Secondary Education in schools across Spain. Of the participants, 51.6% identified as female, 45.7% as male, and 2.7% as non-binary; 30.6% attended public schools, and 69.4% attended private or state-subsidised schools. The instrument was structured around four dimensions: Personal Growth, Social Interaction, Values, and Agency. Content validity was examined through expert and teacher judgement, construct validity through confirmatory factor analysis, and internal consistency through Cronbach's alpha. The results showed excellent overall reliability ($\alpha = 0.963$) and adequate model fit, providing favourable evidence for the proposed theoretical structure. In practical terms, the PAAD-CE offers schools a useful tool for identifying students' strengths, needs, and school conditions related to well-being, social interaction, participation, and inclusion.

Keywords: Positive Adolescent Development, Compulsory Secondary Education, Measurement instrument, Confirmatory factor analysis

Resumen

La inclusión y el bienestar juvenil son prioridades esenciales en la agenda educativa internacional. En este contexto, el Desarrollo Positivo Adolescente se centra en las fortalezas de las personas adolescentes y en los factores escolares que las promueven. Este estudio instrumental de validación psicométrica tiene como objetivo diseñar y validar una herramienta para evaluar el Desarrollo Positivo Adolescente en el Contexto Educativo (DPA-CE). La muestra estuvo compuesta por 444 adolescentes de entre 12 y 16 años, mayoritariamente de 13 y 14 años, escolarizados en 2º y 3º de Educación Secundaria Obligatoria en diversos centros educativos de España. El 51.6% se identificó como mujer, el 45.7% como hombre y el 2.7% como no binario; además, el 30.6% procedía de centros públicos y el 69.4% de centros concertados o privados. El instrumento se estructuró en cuatro dimensiones —Crecimiento Personal, Convivencia, Valores y Agencia—. Se analizó la validez de contenido mediante juicio de expertos y docentes, la validez de constructo mediante análisis factorial confirmatorio y la consistencia interna mediante el alfa de Cronbach. Los resultados mostraron una fiabilidad global excelente ($\alpha = 0.963$) y un ajuste adecuado del modelo, lo que aporta evidencia favorable a la estructura teórica propuesta. En términos prácticos, el DPA-CE ofrece a los centros educativos una herramienta útil para identificar fortalezas, necesidades y condiciones escolares relacionadas con el bienestar, la convivencia, la participación y la inclusión del alumnado.

Palabras clave: Desarrollo Positivo Adolescente, Educación Secundaria Obligatoria, Instrumento de medida, Análisis factorial confirmatorio

Received/Recibido	May 31, 2025	Approved/Aprobado	Jun 24, 2026	Published/Publicado	Jun 30, 2026
-------------------	--------------	-------------------	--------------	---------------------	--------------

Resumo

A inclusão e o bem-estar dos jovens são prioridades fundamentais na agenda educativa internacional. Neste contexto, o Desenvolvimento Positivo do Adolescente centra-se nos pontos fortes da adolescência e nos fatores escolares que os potenciam. No entanto, no contexto educativo, continuam a faltar ferramentas contextualizadas para avaliar esta abordagem. Por esta razão, o presente estudo tem como objetivo conceber e validar um instrumento teoricamente fundamentado que permita medir o Desenvolvimento Positivo do Adolescente em Contexto Educativo (DPAE-CE), que reúna as características psicométricas exigidas: fiabilidade, homogeneidade dos itens e validade. A amostra é constituída por 444 alunos do 8.º e 9.º anos do Ensino Básico em várias escolas distribuídas pelo território espanhol. Foi proposto um modelo teórico constituído por quatro dimensões, para o qual foi examinada a sua consistência interna (α total = 0,963), bem como a sua validade de conteúdo, através da avaliação por especialistas, e da validade de constructo, através de uma análise fatorial confirmatória. Os índices obtidos foram adequados ($\chi^2/\text{gl} = 1,383$; CFI = 0,900; RMSEA = 0,04; PRATIO = 0,945), evidenciando resultados satisfatórios do modelo. Assim, o instrumento proposto contribui para o estudo do desenvolvimento positivo da adolescência no contexto escolar, quer do ponto de vista teórico, quer pelas suas propriedades psicométricas. É também uma ferramenta útil para a avaliação do bem-estar dos adolescentes, respondendo às necessidades e exigências dos estudantes nos contextos educativos.

Palavras-chave: Desenvolvimento Positivo do Adolescente, Ensino Básico, Instrumento de medição, Análise fatorial confirmatória

摘要

包容和青少年福祉是国际教育议程中的关键优先事项。在此框架下，青少年积极发展提供了一种聚焦于青春期优势及促进这些优势的学校因素的视角。然而，在教育情境中仍然缺乏用于评估该取向的情境化工具。因此，本研究旨在设计并验证一份能够测量教育情境中青少年积极发展的工具（DPA-CE），该工具具有理论基础，并满足所要求的心理计量特性：信度、题项同质性和效度。样本由分布在西班牙各地不同教育中心的 444 名初中二年级和三年级学生组成。提出了一个由四个维度构成的理论模型，对其内部一致性进行了检验（总 $\alpha = 0.963$ ），并通过专家评估进行了内容效度检验，以及通过验证性因子分析进行了构念效度检验。所获指标良好（ $\chi^2/\text{gl} = 1.383$; CFI = 0.900; RMSEA = 0.04; PRATIO = 0.945），表明模型结果令人满意。综上所述，所提出的工具无论从理论视角还是从心理计量属性方面，均对学校情境中青少年积极发展的研究作出了贡献。同时，该工具也构成了一个有用的青少年福祉评估工具，能够回应教育环境中学生的需求和诉求。

关键词: 青少年积极发展、中等教育、测量工具、验证性因子分析

ملخص

يُعدّ الإدماج ورفاهية الشباب من الأولويات الرئيسة في الأجندة التعليمية الدولية. وفي هذا الإطار، تقدّم مقاربة التنمية الإيجابية للمراهقين منظورًا يركز على نقاط القوة لدى المراهقين، وعلى العوامل المدرسية القادرة على تعزيزها. ومع ذلك، لا تزال الأدوات الملائمة للسباق التعليمي، والمخصصة لتقييم هذا النهج، محدودة التوفر.

والتحقق من خصائصها (DPA-CE) ومن هذا المنطلق، تهدف هذه الدراسة إلى تصميم أداة لقياس التنمية الإيجابية للمراهقين في السياق التعليمي، والسيكومترية، استنادًا إلى أساس نظري واضح، وبما يضمن توافر مؤشرات الموثوقية، وتجانس البنود، والصدق. وتكوّن العينة من 444 طالبًا وطالبة من الصفين الثاني والثالث من التعليم الثانوي، موزعين على مدارس مختلفة في إسبانيا. كما تم التحقق ($\alpha = 0.963$) وقد اقترحت الدراسة نموذجًا نظريًا مكونًا من أربعة أبعاد، جرى فحص اتساقه الداخلي، حيث بلغ معامل ألفا كرونباخ الكلي من صدق المحتوى من خلال تحكيم الخبراء، ومن صدق البناء باستخدام التحليل العاملي التوكيدي. وقد أظهرت المؤشرات المتحصل عليها ملاءمة مناسبة، بما يدل على نتائج مرضية لبنيتها العاملية ($\chi^2/\text{gl} = 1.383$; CFI = 0.900; RMSEA = 0.04; PRATIO = 0.945) للنموذج. وبناءً على ذلك، تسهم الأداة المقترحة في دراسة التنمية الإيجابية للمراهقين داخل السياق المدرسي، سواء من المنظور النظري أو من حيث خصائصها السيكومترية. كما تمثل أداة مفيدة لتقييم رفاهية المراهقين، مع مراعاة احتياجات الطلبة ومتطلبات البيئات التعليمية.

العنف ضد المرأة في العلاقات : التنمية الإيجابية في مرحلة المراهقة؛ التعليم الثانوي؛ أداة القياس؛ التحليل العاملي التوكيدي

Introduction

One of the key principles of the Sustainable Development Goals and of the current Strategic Framework for European cooperation in the field of education and training, which focuses on the European Education Area (2021–2030), is educational equity and inclusion in the broadest sense. This principle places great importance on keeping young people in education and training pathways for longer, viewing this as a fundamental pillar of their social inclusion and well-being (OECD, 2012; 2019).

In this context, the positive and healthy development of young people, as well as the creation of safe school environments that foster the engagement of pupils at socio-educational risk and prevent absenteeism and early school leaving, emerge as priority issues. These aspects are interlinked and have been a focus of public policy. In particular, early school leaving and the deterioration in adolescents' socio-emotional well-being – exacerbated by various circumstances – are two of the main areas of concern within the Spanish school system.

For this reason, in the field of education, it is necessary to incorporate research and intervention approaches centred on well-being, grounded in a positive and healthy view of adolescence, and to move away from deficit-oriented, punitive, and adult-centred approaches. This approach must focus on organisational conditions (protective factors, facilitators, etc.) rather than placing the blame solely on adolescents and their socio-familial contexts, upon whom corrective measures of a passive, psychologistic or therapeutic nature are traditionally imposed, thereby placing the responsibility for their own transformation on them (Allen & Boyle, 2018; Nobile, 2017; Nobile & Tarabini, 2025; Sorondo & Abramowski, 2024; Zyngier, 2017). Furthermore, it is essential to incorporate tools that foster their skills, awareness and ability to express themselves, free from value judgements or risk-centred approaches (Hart et al., 2018).

In this regard, Positive Adolescent Development (PAD) emerges as a fundamental theoretical framework, proposing a holistic approach that combines adolescents' personal competencies with environmental factors that promote their healthy development. Recent research on PAD has developed proposals that emphasise the positive aspects and inherent strengths of this developmental stage, with particular attention to identity, autonomy, interpersonal relationships and general well-being (Fernández-Rodrigo & Gutiérrez-Ujaque, 2022; Oliva et al., 2011a; Urrea-Monclús et al., 2023).

This PAD model is structured around a set of school-based assets, defined as specific factors that support Positive Adolescent Development in formal educational settings. These assets aim to enhance students' skills, foster social cohesion, and help prevent risk factors affecting their academic development, such as absenteeism and early school leaving (Oliva et al., 2011a; Pertegal et al., 2015). These risk factors may be both internal and external in nature (Urrea-Monclús et al., 2023).

This PAD model is structured around a set of school-based assets, specific factors that support PAD in formal educational settings. These assets aim to enhance students' skills, foster social cohesion, and help prevent risk factors affecting their academic growth—such as absenteeism and early school leaving (Oliva et al., 2011a; Pertegal et al., 2015). These risk factors can be both internal and external (Urrea-Monclús et al., 2023).

Furthermore, it is necessary to develop structured approaches to their assessment and improvement, grounded in positive, comprehensive perspectives informed by research in this field. Most studies focusing on PAD have been conducted internationally, predominantly in English-speaking countries and at stages beyond basic education (Catalano et al., 2004; Mariano & Going, 2011; Snyder & Flay, 2012). On this basis, a relatively under-researched area has been identified, focused on adapting the PAD to the educational realities of Compulsory Secondary

Education; to this must be added the lack of processes that strengthen school ties, which are essential for pupils' full development. Although studies on the PAD approach have expanded in recent years within the Spanish and Latin American contexts, specific assessment tools in the school setting remain scarce. At an international level, Benson (2006) makes a significant contribution by grounding the model in the Search Institute's proposal of the 40 assets (Benson et al., 2004), which focuses on identifying internal and external assets that promote the healthy development of children and adolescents. In the Spanish context, there are also significant contributions: Oliva et al. (2011a) have developed instruments designed to assess mental health, positive adolescent development and the assets that promote it; Suárez et al. (2011) propose a scale specifically centred on values for positive adolescent development; and Oliva et al. (2011b) and Pertegal et al. (2015) analyse the school-based assets that promote such development from the pupils' perspective.

These contributions have led to progress in the study of adolescent well-being, values, school assets, a sense of belonging, and the prevention of truancy and school dropout. However, these instruments tend to focus on specific dimensions of Positive Adolescent Development (PAD), general assets, or certain associated constructs, rather than on an integrated measure of Adolescent Positive Development situated specifically within the educational context. For this reason, the previously validated scales were considered conceptual antecedents and reference points for defining the constructs involved, but not as a direct basis for adapting items. This decision stems from the aim of this study not being to replicate existing instruments, but to operationalise the GRIAF (*Research Group on Childhood, Adolescence and Families*) model at the Compulsory Secondary Education stage (Balsells et al., 2024). Its main contribution lies in analysing, in conjunction, individual competencies and the school-related, relational, regulatory and participatory

conditions linked to pupils' wellbeing and inclusion. Similarly, this model is based on the need to move away from individualistic and deficit-based views of adolescence and proposes a structural and contextual model that places pupils' well-being at the centre and focuses attention on the organisational, relational and pedagogical conditions that promote inclusion in schools (Balsells et al., 2023; Urrea-Monclús et al., 2023). Thus, our instrument for assessing and researching the PAD in the educational context is organised around four main dimensions: *Personal Growth*, *Social Interaction*, *Values* and *Agency*, the rationale for which is set out below.

Concerning *Personal Growth*, reference is made to the personal and socio-emotional skills that enable pupils to form bonds with themselves, their peers, their teachers and other members of the school community. These skills are associated with autonomy, resilience, flexibility, authenticity, self-reflection and emotional well-being (Benson, 2006; Ruiz-Román et al., 2020; Reeve & Tseng, 2011), amongst other essentially intrapersonal variables that influence institutional commitment or socio-educational engagement, particularly in contexts of adversity or organisational mistrust. It also incorporates aspects linked to identity formation, ranging from necessary recognition, validation, and social appreciation to positive affect (Azpiazu et al., 2024; Brown et al., 2025; San Fabián, 2020; Whitlock, 2004).

Regarding *Social Interaction*, this involves assessing the relational climate in the classroom and within the school, examining perceptions of compliance with rules of social conduct, teachers' views and their ability to listen to adolescents, as well as the understanding and handling of school conflicts (Roffey, 2012; Schall et al., 2016). Studies carried out by Ortega-Ruiz et al. (2013) and Oliva et al. (2011b) show that a positive, supportive school climate promotes pupils' continued participation in education and reduces absenteeism and school dropout rates,

among other benefits. It also helps to increase feelings of safety, positive treatment and the expression of ideas without fear of rejection (González Moreno & Molero, 2023; Porter et al., 2021).

With regard to *Values*, these refer to the development of a sound ethical framework during adolescence, understood as the ability to act in accordance with principles such as justice, respect, solidarity, equity and a commitment to the common good (Albertos et al., 2020; Gutiérrez et al., 2021). This is based on theories of moral development (Kohlberg et al., 1984) and approaches to critical citizenship, which promote the active and contextualised internalisation of ethical values that enable young people to address moral dilemmas, contribute to collective well-being or become agents of change in their communities (González et al., 2024). In situations of vulnerability, shared values act as pillars of social cohesion, promoting resilience and a sense of belonging (Lerner et al., 2015).

Agency is underpinned by adolescents' ability to make responsible decisions, express their views with confidence and self-assurance, and take ownership of their development, particularly in the classroom. It reflects recognition of young people as competent individuals with the potential to influence their environment and forge meaningful paths based on their interests, values, and aspirations. Agency is underpinned by factors such as autonomy, self-esteem and meaningful participation. It is strengthened when adolescents develop in environments that validate their voices, offer them real opportunities to influence the processes that affect them, and foster mutually supportive relationships (Lerner et al., 2015; Shek et al., 2019; Suárez et al., 2011). Promoting agency strengthens self-efficacy and intrinsic motivation, whilst contributing to the development of a sense of purpose, resilience and civic engagement – key aspects for the positive development of young people.

In light of this reality, and given the need for robust and tailored instruments to analyse

Positive Adolescent Development in the Educational Context (PAD-EC), the main objective of this study is to design and validate a theoretically grounded instrument for assessing PAD-EC that meets the required psychometric characteristics: reliability, item homogeneity and validity. Based on the theoretical review, the instrument is structured around four key dimensions: *Personal Growth*, *Social Interaction*, *Values* and *Agency*. This proposal, therefore, seeks to provide a robust tool for understanding and promoting adolescents' well-being. Its main value lies in integrating the personal, relational, ethical and participatory dimensions of PAD into a single measurement model specific to the school context. The PAAD-CE thus complements already validated instruments and presents a scale adapted to Compulsory Secondary Education. This scale enables the analysis of both individual competencies and the educational conditions linked to social interaction, shared values, pupils' agency and their positive development within the school setting.

Specifically, the PAAD-CE provides an integrated and contextualised measure of positive development in adolescence within the school setting. Unlike previous tools that focused on general assets, specific values, mental health or particular academic aspects, this scale allows for a joint analysis of pupils' personal resources and the educational conditions that foster harmonious coexistence, the internalisation of values and active participation. This integration represents an improvement in educational research, as it enables the simultaneous analysis of personal, relational, ethical, and participatory dimensions related to well-being, inclusion, and school retention.

Method

Population and Sample

The study population comprises pupils in Years 2 and 3 of Compulsory Secondary Education (ESO) attending schools in various Autonomous Communities across Spain, with

a range of characteristics, particularly in schools categorised as ‘challenging’. The choice of this intermediate stage reflects the main study’s focus on analysing PAD in school contexts (R&D research project PID2022-136865OA-I00) to guide educational interventions to prevent absenteeism and early school leaving.

The final sample comprised six schools from two Autonomous Communities, with a total of 444 participants, selected using incidental non-probabilistic sampling, subject to availability and acceptance of the participation criteria for the research project (acceptance by teaching staff, pupils in Years 2 and 3 of ESO and their families, and a follow-up intervention two years after the questionnaire, among other criteria). Regarding the distribution of the sample, 30.6% of participants attended state schools, whilst 69.4% attended state-subsidised or private schools. By year group, 44.6% were in the second year of ESO and 55.4% in the third. The age distribution showed that the majority of participants were aged 13 (43.9%) and 14 (46.6%), followed by 5.6% aged 15 and 0.5% aged 16. 3.4% of participants were aged 12. Concerning gender identity, 51.6% of the sample identified as female, 45.7% as male and 2.7% as non-binary.

No socio-economic or cultural data were collected from the questionnaire respondents. However, variables were included that partially contextualise the academic profile of the sample: it was found that 9.2% had repeated a year, 15.3% had repeated one or more subjects, 41.2% had missed more than three days of school during the previous academic year, and 7.2% had considered leaving school before graduating, with 11.7% stating they were unsure. Similarly, 17.2% receive educational support within the school, whilst 36.5% receive it externally.

It should be noted that, given the nature of the study, care was taken to ensure the sample size was adequate for the analyses envisaged. To this end, it was considered that the number of observations should be at least five times

greater than the number of variables to be studied (Hair et al., 2014). In this case, the instrument comprised 70 items, providing sufficient observations for each variable assessed (observations-to-variables ratio = 6.34), thereby ensuring the robustness of the planned statistical analyses.

Instrument

This section is of particular interest, given that the research aims to measure PAD in an educational context using an instrument designed for this purpose. The initial version of the questionnaire comprised 70 items organised around four dimensions (see Table 1): Personal Growth, Social Interaction, Values and Agency. The items were rated on a 1–5 Likert scale, where 1 corresponds to ‘Not at all/Hardly at all’ and 5 to ‘Completely/Very much’. Following psychometric analyses and the factor-extraction process, the final validated version of the instrument comprised 55 items (see Appendix I).

Development of the instrument

The scale for assessing the PAAD-CE was developed based on the GRIAF model and a table of specifications organised into dimensions, sub-dimensions, and indicators, and aligned with the study’s theoretical framework and previous research on PAD, school assets, values, and agency. The instrument was structured around four dimensions: *Personal Growth*, *Social Interaction*, *Values* and *Agency*.

The *Personal Growth* dimension comprised the following sub-dimensions: *Self-Actualisation* (which promotes the development of personal values), *Sense of Purpose* (which focuses on the exploration and affirmation of identity), *Social-Emotional* (which encompasses the development of emotional and adaptive skills), *Interpersonal Relationships* (which centres on building positive bonds and mutual support within the educational environment) and *Leadership* (which fosters organisational skills and teamwork). The *Social Interaction* dimension was structured into the sub-dimensions *Student*

Support (aimed at promoting inclusion, safety and self-expression within the school environment, ensuring access to resources and respect for diversity) and *School Climate* (related to the quality of interaction between the different members of the educational community, addressing conflict resolution, recognition of teachers and mediation in school situations). The *Values* dimension comprises the following sub-dimensions: *Shared Values* (encompassing fundamental principles for coexistence) and *Personal Values* (focusing on ethical and individual development). Finally, the *Agency* dimension comprised three sub-dimensions: *Learning* (which contributes to motivation and personal achievement), *Educational Experiences* (which broadens learning opportunities beyond the classroom) and *Empowerment* (which strengthens the sense of belonging and involvement in the educational community).

To validate the instrument's content against the theoretical definitions of the described dimensions, an expert judgement exercise was conducted. The selection of individuals for the expert panel included complementary profiles in educational measurement and evaluation, researchers with expertise in PAD, and teachers with experience in secondary education. Sixteen people were contacted by email to explain the purpose of the study and the voluntary nature of their participation. Ultimately, eight experts agreed to take part, forming two groups: four experts in education and the subject matter under study, and four teachers. To carry out the evaluation, each participant was provided with a template containing the instrument's items, grouped according to the theoretical dimension they represented. On this template, the experts were asked to rate each item on a scale of 1 to 5 for both clarity (adequate comprehension and wording) and relevance (adequate importance, insofar as each item measured the

corresponding dimension). In addition, open-ended questions were included to elicit suggestions for modifications or the possible removal of items, thereby ensuring that the instrument was ethically sound and of high quality, in line with the study's purpose and the developmental characteristics of the participating sample.

Once the rating scales provided by the panel of judges had been collated, the results were analysed. Items were considered suitable if they obtained an average score of more than 4 for clarity and relevance. In addition, particular attention was paid to those items with a standard deviation of 1.5 or higher, as these were considered indicative of greater disagreement amongst the judges' ratings. These items were analysed alongside the expert panel's qualitative observations, which informed a decision on whether to retain, reformulate, or eliminate them (Cortada de Kohan, 1999). In this regard, the initial scale provided to the experts comprised 85 items, of which 9 were removed for failing to meet the statistical criteria and 6 for showing discrepancies between the criteria. The qualitative analysis of the open-ended responses collected in the validation questionnaires identified redundancies or overlaps in information, insufficiently specific items, and cases of poor fit with the construct under study.

In turn, the results demonstrated a high level of content validity for the remaining items in the instrument; consequently, the modifications were mainly orthographic and grammatical, with some adjustments to wording to adapt certain expressions to the sample profile and improve item clarity. Table 1 sets out the corresponding configuration of the indicators assessed, in relation to the dimension and sub-dimension to which they belong.

Table 1. Dimensions, sub-dimensions, indicators and descriptive statistics

DIM	SUBDIM	Cód	Indicator	M	SD
Personal Growth	Self-Actualization	PG1	Integrity	3.96	1.122
		PG2	Autonomy	4.02	1.048
	Sense of Purpose	PG3	Self-reflection	3.93	1.027
		PG4	Self-awareness	4.02	0.999
		PG5	Authenticity	3.79	1.067
	Social-Emotional Development	PG6	Social integration	2.33	1.374
		PG7	Appreciation (by others)	3.64	1.086
		PG8	Personal safety	3.58	1.126
		PG9	Resilience	3.41	1.269
		PG10	Self-acceptance	3.98	1.128
		PG11	Adaptability	3.85	1.037
		PG12	Empathy (active listening)	4.38	0.874
		PG13	Emotional communication	3.13	1.205
	Interpersonal Relationships	PG14	Social well-being	4.02	1.008
		PG15	Recognition of ideas	3.55	1.079
		PG16	Social support	4.42	0.953
	Leadership	PG17	Activity Leadership	3.70	1.149
		PG18	Teamwork	3.82	1.063
		PG19	Team Management	3.85	1.118
Social Interaction	Student Support	SI20	Inclusion and Diversity	3.91	1.037
		SI21	Respect for Rules of Coexistence	3.45	0.976
		SI22	Harassment Prevention	3.69	1.165
		SI23	Expressing Ideas	3.22	1.195
		SI24	Developing Interests	3.26	1.191
		SI25	Access to Resources	4.45	0.855
		SI26	Safe Spaces	3.82	1.170
		SI27	School Conflicts	3.29	1.179
	School Climate	SI28	Listening to Teachers	3.58	1.108
		SI29	Valuing Teachers' Opinions	3.43	1.191
		SI30	Support from Teachers	3.73	1.095
		SI31	Conflict Mediation	3.90	1.111
		SI32	Teacher Role Models	3.26	1.398
		SI33	Recognition and Appreciation	3.51	1.157
Values	Shared Values	VA34	Solidarity	4.26	0.881
		VA35	Generosity	3.69	1.092
		VA36	Respect for diversity of thought	4.16	0.997
		VA37	Social awareness	3.94	1.094
		VA38	Justice and equality	4.03	1.045
		VA39	Gender equity and sexual diversity	4.00	1.208
		VA40	Culture and identity	4.10	1.019
		VA41	Responsibility and self-awareness	3.98	1.033
		VA42	Collaboration and exchange of ideas	4.04	0.992
		VA43	Justice and action	3.63	1.112
		VA44	Commitment and shared responsibilities	3.91	0.938
		VA45	Respect and coexistence	4.15	0.930
		VA46	Participation and decision-making	3.84	1.088
	Personal Values	VA47	Motivation and curiosity	4.05	0.941
		VA48	Perseverance and effort	3.93	0.956
		VA49	Seeking support	3.58	1.160
		VA50	Vision and goals	4.13	1.056
		VA51	Social support and recognition	4.12	1.021
Agency	Learning	AG52	Motivation to learn	3.36	1.197
		AG53	Satisfaction with achievements	4.22	1.020
		AG54	Educational support	3.33	1.289
		AG55	Relevant information	3.41	1.138
	Educational Experiences	AG56	Discussions and coexistence	3.42	1.138
		AG57	Creativity and proposals	3.15	1.252
		AG58	Participation in groups	2.71	1.421
		AG59	Participation in the Rules of Coexistence	2.99	1.352
		AG60	Social activities	3.19	1.247

Empowerment	AG61	Educational field trips	3.80	1.187
	AG62	Extracurricular activities	2.79	1.635
	AG63	Information on culture and art	3.45	1.280
	AG64	Well-being at school	3.84	1.084
	AG65	Pride in belonging	3.63	1.187
	AG66	Democratic participation	3.31	1.219
	AG67	Professional future	3.35	1.295
	AG68	Educational future	3.30	1.270
	AG69	Reflection in decision-making	3.81	1.045
	AG70	Consultation and listening	3.80	1.098

Procedure

The study was conducted as part of a wider research project, within the framework of an action research process aimed at designing educational interventions to improve the school experience and prevent absenteeism and early school leaving, based on an analysis of the PAD (R&D research project: PID2022-136865OA-I00). Initially, the public schools participating in the study were those with characteristics associated with contexts of greater educational vulnerability. Subsequently, to increase the sample size and ensure an adequate sample for psychometric studies, other institutions were contacted, thereby increasing the heterogeneity of the student profile.

Contact with the schools was made via email, in which the research project was presented, and the possibility of holding a meeting to provide further information was offered. Once agreement to participate had been obtained, the schools' management teams and the teaching staff involved held a meeting with the families of the participating groups, during which all aspects of the project were explained and informed consent was sought from the families or legal guardians. Similarly, before administering the questionnaire, the participating pupils were informed about the study, the voluntary nature of their participation, and the measures taken to ensure the anonymity and confidentiality of the data (no identification data was collected, nor was it possible to identify participants individually), and their informed consent was sought. Finally, as part of the project, the participating teachers also signed their informed consent forms.

Data collection was carried out using a Google Form or on paper, depending on each school's preference. In both cases, the teacher in charge of the group was present, either in the school's computer room or in the group's usual classroom, where the questionnaire was physically distributed, following the instructions provided by the research team (explanation of the study, matters relating to informed consent, careful reading, amongst others). Furthermore, the questionnaire was submitted to the Ethics Committee of the Complutense University of Madrid for review, which issued a favourable report for its use under code CE_20240613_04_SOC.

Analysis

To analyse the results, a preliminary descriptive analysis of the responses was conducted. In this analysis, irregular patterns were observed in the variability and central tendency of items PG12, PG16, SI25, VA50, VA51, AG53, AG64, and AG65, suggesting possible limitations in their ability to measure the construct under study in a stable and consistent manner. Across this set of items, extreme values were observed (a concentration of high responses between 61.5% and 88.8% for ratings of 4, 'frequently', and 5, 'always') and biases in the distributions (negative skewness ranging from -0.709 to -1.799; kurtosis ranging from -0.284 to 3.160), which limit discrimination between participants and could affect the quality of the questionnaire. Consequently, these items were removed before proceeding with the reliability and validity analyses. The reliability of the questionnaire was assessed using Cronbach's alpha in SPSS version 28. Furthermore, item homogeneity indices were analysed to

determine whether any items should be removed, following the recommendations of Hair et al. (2014), which state that items with values below 0.2 should be removed. Similarly, using IBM SPSS AMOS version 28, the initial model proposed at a theoretical level was specified, based on the previously defined dimensions and sub-dimensions. To assess the model's fit, a Confirmatory Factor Analysis (CFA) was conducted, assuming that the observed variables exhibit quasi-continuous behaviour (i.e., behave like continuous variables) and follow an approximately normal distribution. To this end, the following criteria recommended by Byrne (2010), Hair et al. (2014) and Kline (2010) were established, namely: CMIN/DF less than 5; CFI and IFI equal to or greater than 0.9; PRATIO, PNFI and PCFI greater than 0.7; RMSEA between 0.05 and 0.08, with values below 0.06 considered optimal; and a HOELTER index greater than 200 (see Table 2). Subsequently, in order to supplement the evidence of the measurement model's reliability and validity, the composite reliability (CR) was calculated, with accepted values above 0.70, and the average variance extracted (AVE) with accepted values of ≥ 0.5 , criteria established by Fornell and Larcker (1981), Hair et al. (2022) and Seidel and Back (2009).

Results

Reliability and item analysis

The reliability of the measurement instrument was assessed using Cronbach's alpha (α), yielding an initial value of 0.962, which is highly acceptable. Items PG6 and SI27 were removed because they had homogeneity indices below 0.2 (Hair et al., 2014), thereby raising the α to 0.963. Reliability was then confirmed using confirmatory factor analysis (CFA), yielding an excellent overall alpha ($\alpha = 0.963$) and high values across all dimensions: Personal Growth ($\alpha = 0.898$), Social Interaction ($\alpha = 0.899$), Values ($\alpha = 0.920$), and Agency ($\alpha = 0.912$). Similarly, composite reliability (CR) was calculated, exceeding the recommended threshold of 0.70 in all cases (both for the study

dimensions: *Personal Growth* = 0.904, *Social Interaction* = 0.870, *Values* = 0.910 and *Agency* = 0.899; as well as in the sub-dimensions, with values ranging from 0.716 to 0.875) and the average variance extracted (AVE), with values above 0.5, except for four out of eleven factors which were slightly below this threshold (*Values* dimension = 0.48; *Self-Actualisation* sub-dimension = 0.46; *Safe Environment* sub-dimension = 0.44; *Agency* dimension = 0.48). These results indicate an adequate CR value and provide information on convergent validity via AVE. Although some AVE values were lower than expected, all factors showed CR values above 0.70. Therefore, the results can be interpreted as acceptable, albeit not conclusive, evidence of convergent validity (Fornell & Larcker, 1981; Pahlevan-Sharif et al., 2018).

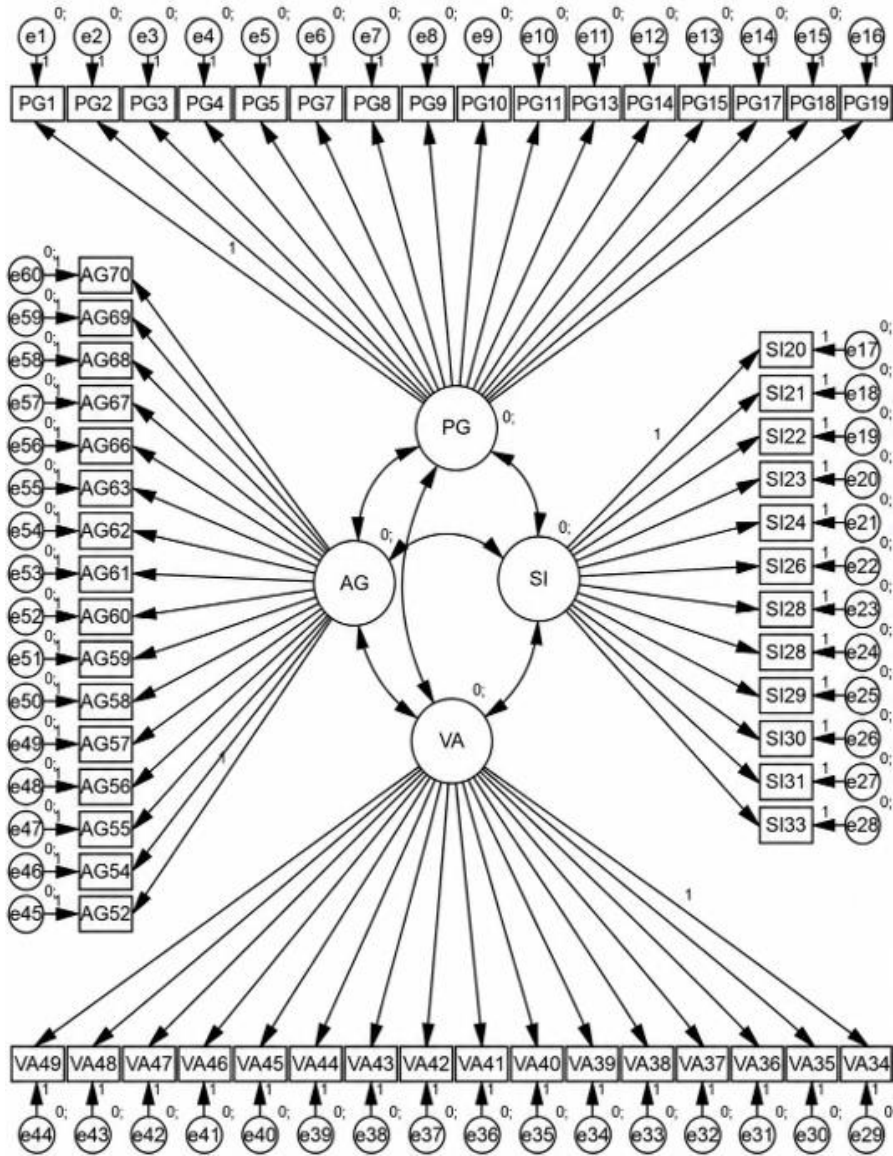
Construct validity (Confirmatory Factor Analysis)

CFA was carried out using structural equation modelling within the measurement model approach, in which observed variables reflect latent variables. To this end, the Structural Equation Modelling (SEM) methodology was used to validate the instrument's construct. Based on the scientific literature that underpinned the development of the instrument's structure (Table 1), the aim was to verify the proposed theoretical model, incorporating all the variables considered in the study. This technique allows for the examination of the relationships between the observed variables and the factors comprising the proposed measurement model. Figure 1 presents the initial measurement model, which incorporates all the items theoretically envisaged for assessing our construct. Two phases were defined: an initial phase of structural modelling and a second phase of specifying the relationships between the variables analysed. The model includes 4 latent variables (PG: *Personal Growth*; SI: *Social Interaction*; VA: *Values*; AG: *Agency*), 60 observed variables (PG1 to AG70), and 60 error terms (e01 to e60). Similarly, 60 factor loadings were included, representing the

regression weights between the items and their corresponding factors, as well as 60 regression weights between the error terms and their respective variables, indicating the effect of measurement error. Finally, six correlations

were incorporated between the latent variables of the scale's dimensions, whilst all error terms were considered uncorrelated with one another.

Figure 1. Initial structural model for measuring PAAD in an educational context



Notes: ellipses = latent variables/dimensions; rectangles = observed variables/items; small circles = error terms associated with each item).

Once the model had been defined, the parameters were estimated using the maximum likelihood (ML) method, which is recognised as the most efficient and unbiased method when the assumptions of multivariate normality are met. In this case, the Mardia's

coefficient was 754.593, which is below the theoretical threshold $p \cdot (p + 2)$, where p is the number of observed variables ($60 \cdot (60 + 2) = 3720$) (Bollen, 1989). This suggests that the estimation method was appropriate, although the results should still be interpreted with

caution, given the complexity of the model. (León-Carrascosa et al., 2020). The results include a series of goodness-of-fit coefficients that assess the fit between the theoretical model and the empirical data. The results of these indices are presented in Table 2. However, some fit indices, such as the CFI =

0.789 and the IFI = 0.790, fall below the recommended threshold of 0.90 set by Kline (2010). This is due in part to the unsatisfactory factor loadings for items PG1 (0.48) and AG62 (0.42), which were below the 0.5 threshold recommended by Byrne (2010). Consequently, these items were removed from the model.

Table 2. Fitted values (goodness-of-fit statistics): initial and final models

Measurement	Recommended Values	Initial Model Value	Final Model Value
CMIN/DF	< 5	2.774	1.942
CFI	> 0.9	0.789	0.900
IFI	> 0.9	0.790	0.900
PRATIO		0.963	0.945
PNFI	> 0.7	0.680	0.770
PCFI		0.760	0.851
RMSEA	≤ 0.08	0.06	0.04
HOELTER .01		173	249
HOELTER .05	> 200	169	243

In addition, an analysis of the modification indices identified correlations among the error terms of different variables, which led to a significant reduction in the chi-square statistic, consistent with the theoretical framework.

As a result of this analysis, it was decided to include seven latent variables, meeting two criteria: a) the existence of statistical evidence of associations between more than two variables; and b) conceptual consistency between the contents of the grouped variables, in accordance with the theoretical framework. In some cases, the resulting groupings coincided with the sub-dimensions envisaged in the initial theoretical matrix, whilst in other cases a partial reformulation was necessary, as they did not cover all the original sub-dimensions but did share common content that allowed for the definition of a more specific sub-dimension within the corresponding main factor. Consequently, the *Personal Growth* dimension comprised *Self-Actualisation* (SA), *Emotional Well-being* (EW) and *Leadership* (LE); the *Social Interaction* dimension comprised *Safe Environment* (SE) and *Teacher Support* (TS); the *Values* dimension comprised

Shared Values (SV); and the *Agency* dimension comprised *Experiences of Participation* (EP). In turn, three items (VA49, AG69, AG70) were removed from the factor analysis due to an inappropriate distribution of their factor loadings, as they were significantly assigned to more than one factor.

Specifically, the item associated with VA49 showed higher loadings of 0.60 on PG, 0.51 on SI, 0.65 on VA and 0.59 on AG; item AG69 showed higher loadings on PG of 0.71, on SI of 0.54, on VA of 0.68 and on AG of 0.54; and item AG70 had higher loadings on PG of 0.59 and on VA of 0.58, as well as loadings close to the threshold on the other two factors (SI and AG). This indicated that the items did not measure the corresponding latent variables clearly and unambiguously, which affected the model's consistency and validity.

After incorporating the new factors into the model, the modification indices revealed the feasibility of establishing certain correlations (r) between the error terms, which contributed to a reduction in the chi-square statistic and were theoretically justifiable (see Table 3), such as: the correlations between e3 and e9

(both relating to self-esteem and satisfaction with one's own identity), between e6 and e12 (focusing on peer evaluation and group acceptance), between e6 and e28 (linked to recognition by students and teaching staff), between e7 and e13 (referring to the development of communication skills and an atmosphere of trust for the expression of ideas), between e20 and e21 (relating to emotional expression and the development of personal interests within the educational environment), between e28 and e39 (covering recognition by teaching staff and commitment to academic and social responsibilities), between e34 and e35 (whose elements relate to reflection on equality, diversity and

appreciation of cultural differences), between e36 and e37 (which refer to acknowledging mistakes and building learning through collaboration), between e42 and e45 (referring to motivation and satisfaction with learning), between e45 and e49 (linking motivation to the development of creativity and initiative within the school setting), between e45 and e56 (relating motivation to participation in decision-making within the school), between e47 and e48 (focusing on information and debate on current affairs), between e57 and e58 (relating to institutional support in decision-making regarding educational and professional futures).

Table 3. Modification indices

			M.I.	Par Change	r
e57	<-->	e58	112.6	0.367	0.53
e47	<-->	e48	56.359	0.268	0.47
e7	<-->	e13	46.965	0.223	0.36
e34	<-->	e35	26.323	0.185	0.25
e20	<-->	e21	25.774	0.197	0.27
e3	<-->	e9	22.511	0.154	0.27
e28	<-->	e39	16.789	0.093	0.24
e6	<-->	e12	15.881	0.117	0.25
e42	<-->	e45	15.556	0.137	0.21
e45	<-->	e49	12.475	0.15	0.14
e36	<-->	e37	12.455	0.092	0.18
e6	<-->	e28	11.559	0.096	0.25
e45	<-->	e56	5.48	-0.088	-0.18

Following the modifications outlined above, a recursive model was obtained (Figure 2), estimated on a sample of 444 subjects and comprising 128 variables: 55 observed variables (corresponding to the items) and 73 latent variables (11 factors, 55 error terms and 7 disturbance terms). Of these 128 variables, 69 are exogenous (55 error terms, 7 disturbance terms and 7 factors), whilst 59 are endogenous (55 indicators and 4 factors). In total, 191 parameters were estimated, and the chi-squared test indicated a significant p-value ($\chi^2 = 2725.970$, $p = 0.000$) with 1404 degrees of freedom, indicating that the model is over-

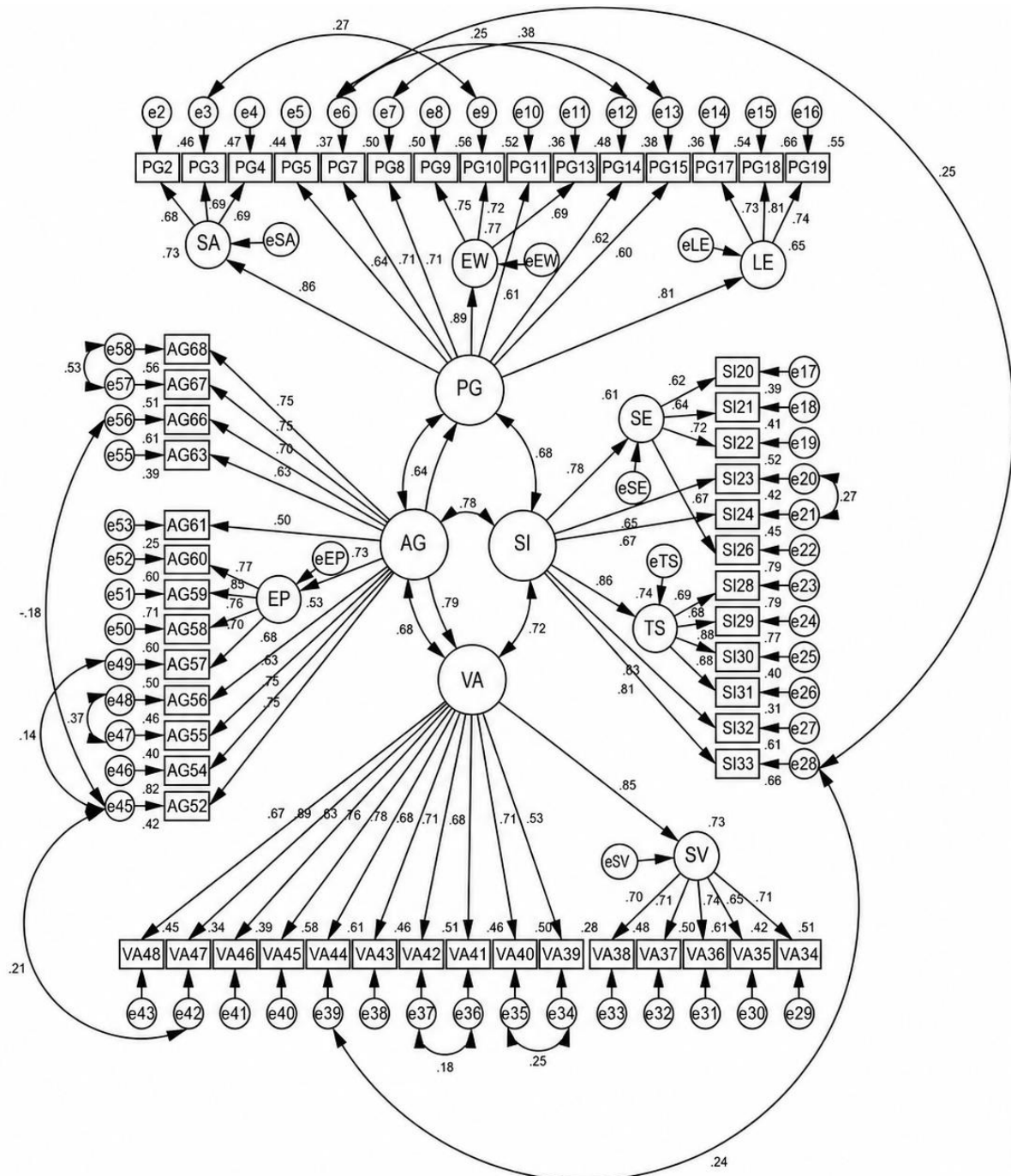
identified and can be estimated. The goodness-of-fit results for the final model can be considered adequate (Table 2), with a CFI of 0.900, an IFI of 0.900 and a CMIN/DF of 1.942. The parsimony indices are also adequate (PRATIO = 0.945; PNFI = 0.770; PCFI = 0.851), suggesting a well-fitting measurement model. Furthermore, the residual measure is adequate, with an RMSEA of 0.04. Finally, the sample size is appropriate, as the Hoelter index is 249 (>200).

Finally, Figure 2 presents the proposed model, showing that the indicators have factor loadings greater than or equal to the

recommended minimum threshold of 0.5. Furthermore, the four components exhibit high

correlations (ranging from 0.644 to 0.792), consistent with the characteristics of the PAD.

Figure 2. Final structural model for measuring PAD in an educational context



Notes: ellipses = latent variables/dimensions; rectangles = observed variables/items; small circles = error terms; unidirectional arrows = from factors to items represent factor loadings, and from error terms to items represent residual variance; bidirectional arrows = covariances or correlations between factors or error terms).

Discussion and Conclusions

The results obtained have enabled the development of a measurement instrument for the PAAD-CE, which is theoretically grounded and operationally defined across four main dimensions: *Personal Growth*, *Social Interaction*, *Values*, and *Agency*. This is a comprehensive conceptualisation of adolescent development, supported by a solid theoretical framework and an appropriate operationalisation of the items, thereby underpinning the instrument's internal consistency and relevance. Furthermore, it serves as a useful tool for schools and their professionals by providing relevant information on student progress, facilitating interventions tailored to students' needs.

The theoretical foundation and expert review facilitated the collection of solid evidence of content validity. Furthermore, the results reflect high overall reliability and adequate internal consistency. The defined dimensions are based on the specialised literature and prior empirical evidence, thereby strengthening the instrument's theoretical validity.

For its part, Confirmatory Factor Analysis (CFA) provides initial evidence supporting construct validity by demonstrating a coherent metrical structure and an adequate fit to the proposed theoretical model. The included items show consistent alignment with the conceptual foundations that guided their design, which reinforces their theoretical soundness. These results are similar to previous PAD models, particularly in their view of adolescent development as a multidimensional process in which personal competencies, relational bonds, prosocial values, and opportunities for participation interact (Benson, 2006; Lerner et al., 2015; Shek et al., 2019). In this regard, the obtained factor structure maintains a clear connection to approaches centred on developmental assets, values, and school assets that have been previously validated in the literature (Oliva et al., 2011a; Pertegal et al., 2015; Suárez et al., 2011). The subdimensions identified through

factor analysis —*Self-Actualisation*, *Emotional Well-Being*, *Leadership*, *Safe Environment*, *Teacher Support*, *Shared Values*, and *Experiences of Participation*— are also related to components widely recognised in the literature on PAD, such as personal competencies, relational support, school climate, meaningful participation, and the internalisation of prosocial values.

However, the PAAD-CE model features a specific organisational framework that integrates these components within the educational context into a single measurement structure. Unlike previous approaches that focused more on general assets, specific values, mental health, or specific school-related assets, the PAAD-CE integrates *Personal Growth*, *Social Interaction*, *Values*, and *Agency* as interrelated dimensions. This configuration enables the capture of both students' personal resources and the relational, normative, and participatory school conditions that can promote their well-being, inclusion, and participation in school life.

The CFA provided evidence of construct validity and supported the instrument's suitability for assessing the proposed dimensions: *Personal Growth* (comprising *Self-Actualisation*, *Emotional Well-Being*, and *Leadership*), *Social Interaction* (comprising a *Safe Environment* and *Teacher Support*), *Values* (linked to *Shared Values*), and *Agency* (related to *Experiences of Participation*). As such, this study contributes to the analysis of positive adolescent development from an educational and psychosocial perspective, highlighting the importance of these factors for students' well-being and holistic development (González et al., 2024; Gutiérrez et al., 2021; San Fabián, 2020). However, during the validation process, many key variables were eliminated, opening new avenues for exploration in adolescents' positive development. In particular, social integration and empathy are fundamental to strengthening social-emotional competencies, resilience, and a sense of community among young people (Azpiazu et al., 2024; Ruiz-Román et al., 2020). Furthermore, previous studies have

demonstrated the impact of social support, access to resources, and participation in extracurricular activities on students' academic motivation and psychological well-being (Balsells et al., 2023; Shek et al., 2019). Furthermore, the capacity for reflective decision-making, along with consultation and active listening, has been identified as an essential component for building youth autonomy (Shek et al., 2019). The literature on identity and belonging (Fernández-Rodrigo & Gutiérrez-Ujaque, 2022; Lerner, 2015; Urrea-Monclús et al., 2023) highlights the importance of pride in belonging and well-being in the school environment as key elements in the development of a positive identity. The exclusion of these indicators may be due to the difficulty of operationalising them within the proposed framework, rather than a lack of theoretical relevance. Their conceptual significance suggests that these topics warrant deeper exploration in future studies.

Similarly, it is necessary to continue analysing the impact of individual differences on responses to the instrument, as well as the instrument's applicability across various educational and cultural contexts. Along these lines, revising the items and potentially incorporating new indicators would help strengthen the measurement of the included dimensions. Furthermore, to overcome the limitations of the current methodological design, it would be appropriate to conduct longitudinal studies to assess the instrument's stability over time and its sensitivity to changes characteristic of adolescent development.

Among the study's main limitations is the use of incidental non-probability sampling, which suggests that the results should be interpreted with caution regarding their generalisability. Furthermore, the sample consists of students in the 2nd and 3rd grades of Compulsory Secondary Education (ESO); therefore, future research should validate the instrument in other ESO grades and in non-compulsory secondary education levels. It would also be advisable to verify the factor structure in independent samples, analyse the

instrument's invariance with respect to variables such as gender or school type, provide new evidence of convergent, discriminant, and criterion validity, and conduct factor analyses using estimators specific to ordinal data, along with ordinal reliability indices. Furthermore, future research could examine the relationships among PAAD-CE results, student well-being, and academic performance.

In summary, the instrument presented here offers specific value for assessing PAD in the educational setting—not as a substitute for existing scales, but as a complementary tool integrated into and adapted to Compulsory Secondary Education. Its main contribution lies in articulating, within a single measurement framework, students' personal growth, social interaction, values, and agency—dimensions that in previous literature are typically addressed separately or through partial constructs. This integration advances educational research by offering a useful measurement model for analysing how personal competencies and school conditions relate to students' well-being, inclusion, participation, and retention at school.

Acknowledgments

This study is part of the project PID2022-136865OA-I00 (FOTO-Edu), “Photo-Elicitation as an Inclusive Educational Strategy to Address School Absenteeism: A Multiple Case Study in Highly Challenging Schools”, carried out at the Faculty of Education—Teacher Training Centre—of the Complutense University of Madrid and funded by the Spanish Ministry of Science and Innovation.

Declaration on the Use of Artificial Intelligence

The generative artificial intelligence tool Gemini (educational version provided by the institution) was used to improve the manuscript's grammar, style, clarity, and readability. All authors reviewed and approved the final version.

References

- Albertos, A., Osorio, A., & Beltramo, C. (2020). Adolescentes y ocio: desarrollo positivo y transición hacia la vida adulta. *Educación y Educadores*, 23(2), 201–220. <https://doi.org/10.5294/edu.2020.23.2.3>
- Allen, K., & Boyle, C. (2018). *Pathways to Belonging. Contemporary Research in School Belonging*. BRILLSENSE. <https://doi.org/10.1163/9789004386969>
- Azpiazu, L., Antonio-Aguirre, I., Izar-de-la-Fuente, I., & Fernández-Lasarte, O. (2024). School adjustment in adolescence explained by social support, resilience and positive affect. *European Journal of Psychology of Education*, 39, 3709–3728. <https://doi.org/10.1007/s10212-023-00785-3>
- Balsells, M. À., Cortada, N., Tió, E. V., & Ribas, A. M. (2024). FRAME+ P: Diseño y validación de un modelo de acción socioeducativa con la familia de origen en el sistema de protección de la infancia. *Revista de investigación en educación*, 22(2), 348–363. <https://doi.org/10.35869/reined.v22i2.5387>
- Balsells, M. À., Urrea Monclús, A., Fernández Rodrigo, L., & Forné Samitier, M. A. (2023). *Adolescència en creixement: Actualització dels actius interns i externs del desenvolupament positiu adolescent* (Vol. 10). Edicions de la Universitat de Lleida. <https://doi.org/10.21001/monografics.10.2.023>
- Benson, P. L. (2006). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents*. Jossey-Bass.
- Benson, P. L., Mannes, M., Pittman, K., & Ferber, T. (2004). Youth development, developmental assets and public policy. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 781–814). John Wiley. <https://doi.org/10.1002/9780471726746.ch25>
- Bollen, K. A. (1989). *Structural Equations with Latent Variables*. Wiley. <https://doi.org/10.1002/9781118619179>
- Brown, C., Douthwaite, A., Donnelly, M., & Shay, M. (2025). Connected Belonging: A relational and identity-based approach to schools' role in promoting child wellbeing. *British Educational Research Journal*, 00, 1–39. <https://doi.org/10.1002/berj.4112>
- Byrne, B. (2010). *Structural equation modeling with AMOS (2nd ed.)*. Taylor and Francis Group.
- Catalano, R. F., Berglund, M. L., Ryan, J. A., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The annals of the American academy of political and social science*, 591(1), 98–124. <https://doi.org/10.1177/0002716203260102>
- Cortada de Kohan, N. (1999). *Teorías psicométricas y Construcción de Tests*. Editorial Lugar.
- Fernández-Rodrigo, L., & Gutiérrez-Ujaque, D. (2022). Promoción de la resiliencia y de la educación artística en centros de máxima complejidad: vínculos y orientaciones desde la literatura. *Revista Complutense de Educación*, 33(2), 237–246. <https://doi.org/10.5209/rced.73990>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>
- González, M., Kokozos, M., McKee, K., & Byrd, C. (2024). Storytelling through a critical positive youth development framework: A mixed methods approach. *Journal of Youth Development*, 19(1), 1–14. <https://doi.org/10.34068/JYD.19.01.02>
- González Moreno, A., & Molero Jurado, M. M. (2023). Conductas prosociales y violencia escolar en la adolescencia: Una revisión sistemática con enfoque cualitativo. *Teoría De La Educación*.

- Revista Interuniversitaria*, 35(1), 143–166. <https://doi.org/10.14201/teri.28629>
- Gutiérrez, M., Tomás, J. M., & Pastor, A. M. (2021). Apoyo social de familia, profesorado y amigos, ajuste escolar y bienestar subjetivo en adolescentes peruanos. *Suma Psicológica*, 28(1), 17–24. <https://doi.org/10.14349/sumapsi.2021.v28.n1.3>
- Hair, J.F, Black, W.C., Babin, B.J., & Anderson, R.E. (2014). *Multivariate data analysis (Seventh edition, Pearson new international edition)*. Pearson Education Limited.
- Hair, J. F., Hult, T., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage. <https://doi.org/10.1007/978-3-030-80519-7>
- Hart, A., Fernández-Rodrigo, L., Molina, M. C., Izquierdo, R., & Maitland, J. (2018). *El Enfoque de Resiliencia Académica en la promoción de la salud mental de los adolescentes. Propuestas para su aplicación en centros educativos*. Edicions de la Universitat de Lleida. <http://hdl.handle.net/10459.1/64643>
- Kohlberg, L., Ricks, D., & Snarey, J. (1984). *Childhood development as a predictor of adaptation in adulthood*. Genetic Psychology Monographs.
- Kline, R.B. (2010). *Principles and practice of structural equation modelling (3rd ed.)*. The Guilford Press.
- León-Carrascosa, V., Sánchez-Serrano, S., & Belando-Montoro, M.R. (2020). Diseño y validación de un cuestionario para evaluar la metodología Aprendizaje-Servicio. *Estudios Sobre Educación*, 39, 247–266. <https://doi.org/10.15581/004.39.247-266>
- Lerner, R. M., Lerner, J. V., P. Bowers, E., & G. J. Geldhof (2015). Positive youth development and relational-developmental-systems. *Handbook of child psychology and developmental science*, 1–45. <https://doi.org/10.1002/9781118963418.ch1dpsy116>
- Mariano, J. M., & Going, J. (2011). Youth purpose and positive youth development. *Advances in Child Development and Behavior*, 41, 39–68. <https://doi.org/10.1016/B978-0-12-386492-5.00003-8>
- Nobile, M. (2017). Sobre la ‘educación emocional’: subjetividad y psicologización en la modernidad tardía. *Digitum*, 20, 22–33. <http://dx.doi.org/10.7238/d.v0i20.3089>
- Nobile, M., & Tarabini, A. (2025). Schooling, social inequalities and (dis)affects: enriching the sociological gaze. *Emotions and Society*, 7(1), 3–12. <https://doi.org/10.1332/26316897Y2025D00000057>
- OCDE (2012). *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*. OECD Publishing. <https://doi.org/10.1787/9789264130852-en>
- OCDE (2019). *PISA 2018 Results (Volume III): What School Life Means for Students’ Lives*. OECD Publishing. <https://doi.org/10.1787/acd78851-en>
- Oliva, A., Antolín, L., Pertegal, M., Ríos, M., Parra, A., Hernando, A., & Reina, M. D. (2011a). *Instrumentos para la evaluación de la salud mental y el desarrollo positivo adolescente y los activos que lo promueven*. Consejería de Salud.
- Oliva, A., Pertegal, M., Antolín, L., Reina, M., Ríos, M., Hernando, A., & Estévez, R. M. (2011b). *Desarrollo positivo adolescente y los activos que lo promueven: Un estudio en centros docentes andaluces*. Junta de Andalucía, Consejería de Salud.
- Ortega-Ruiz, R., Del Rey, R., & Casas, J. A. (2013). La Convivencia Escolar: clave en la predicción del Bullying. *Revista Iberoamericana De Evaluación Educativa*, 6(2). <https://doi.org/10.15366/riee2013.6.2.004>
- Pahlevan-Sharif, S., Mostafiz, I., & Gupta, V. (2018). A systematic review of structural equation modelling in nursing research. *Nurse Researcher*, 26(2), 28–31. <https://doi.org/10.7748/nr.2018.e1577>

- Pertegal, M. Á., Oliva, A., & Hernando, Á. (2015). Evaluating the school assets that promote positive adolescent development from the perspective of the student. *Culture and Education*, 27(1), 33–63. <https://doi.org/10.1080/11356405.2015.1006849>
- Porter, J., McDermott, T., Daniels, H., & Ingram, J. (2021). Feeling Part of the School and Feeling Safe: Further Development of a Tool for Investigating School Belonging. *Educational Studies*, 1–17. <https://doi.org/jmw2>
- Reeve, J., & Tseng, C. (2011). Personal agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology*, 36, 257–267. <https://doi.org/10.1016/j.cedpsych.2011.05.002>
- Roffey, S. (2012). Developing positive relationships in schools. In S. Roffey (Ed.), *Positive relationships: evidence based practice across the world* (pp. 145–162). Springer Science + Business Media. https://doi.org/10.1007/978-94-007-2147-0_9
- Ruiz-Román, C., Juárez Pérez-Cea, J., & Molina Cuesta, L. (2020). Evolución y nuevas perspectivas del concepto de resiliencia: de lo individual a los contextos y relaciones socioeducativas. *Educatio Siglo XXI*, 38(2 Jul-Oct), 213–232. <https://doi.org/10.6018/educatio.432981>
- San Fabián, J.L. (Coord.) (2020). *Jóvenes resilientes en contextos socioeducativos adversos*. Editorial Graó.
- Schall, J., Wallace, T. L., & Chhuon, V. (2016). ‘Fitting in’ in high school: How adolescent belonging is influenced by locus of control beliefs. *International Journal of Adolescence and Youth*, 21(4), 462–475. <https://doi.org/10.1080/02673843.2013.866148>
- Shek, D. T., Dou, D., Zhu, X., & Chai, W. (2019). Positive youth development: Current perspectives. *Adolescent health, medicine and therapeutics*, 131–141. <https://doi.org/10.2147/AHMT.S179946>
- Seidel, G., & Back, A. (2009). *Success factor validation for global ERP programmes*. Paper presented at the 17th European Conference on Information Systems, Verona.
- Sorondo, J., & Abramowski, A. (2024). La centralidad de las emociones como nuevo discurso dominante. Un mapa del papel de lo emocional/afectivo en las perspectivas de educación crítica. En H. Monarca (Coord.), *Regímenes de verdad en educación* (pp. 104–125). Dykinson.
- Snyder, F. J., & Flay, B. R. (2012). Positive youth development. En P. Brown, M. W. Corrigan & A. Higgins-D'Alessandro (Eds.), *Handbook of Prosocial Education* (pp. 415–443). Rowman & Littlefield Publishing Group.
- Suárez, L. A., Delgado, A. O., Vega, M. Á. P., & Jiménez, A. M. L. (2011). Desarrollo y validación de una escala de valores para el desarrollo positivo adolescente. *Psicothema*, 23(1), 153–159. <https://doi.org/10.1037/t16329-000>
- Urrea-Monclús, A., Balsells, M.A., Forné, M.A., & Fernández-Rodrigo, L. (2023). *Adolescències: reptes, propostes i orientacions per a les polítiques municipals*. Àrea d'igualtat de la Diputació de Barcelona. <https://doi.org/10.21001/monografics.10.2023>
- Whitlock, J. (2004). Places to be and places to belong. *Youth Connectedness in School and Community*. Cornell University.
- Zyngier, D. (2017). Left Numb and Unengaged. (Re)Conceptualising Risk: What (Seems to) Work for at-Risk Students. *Social Sciences, MDPI*, 6(1), 1–17. <https://doi.org/10.3390/socsci6010032>

Appendix I

DIMENSIONS, SUBDIMENSIONS, INDICATORS, AND FINAL ITEMS OF THE PAAD-CE SCALE

DIM.	SUBDIM.	Cód.	INDICATOR	ITEMS
Personal Growth	Self-Actualization (SA)	PG2	Autonomy	Me siento capaz de decidir por mí mismo/a sobre mi educación.
		PG3	Self-reflection	Sé reconocer y valorar mis propios logros.
		PG4	Self-awareness	Conozco y comprendo mis propias fortalezas y debilidades.
		PG5	Authenticity	Me muestro tal y como yo soy en el centro educativo.
	Emotional Well-Being (EW)	PG7	Appreciation (by others)	Me siento valorado/a por mis compañeros/as.
		PG8	Personal safety	En general, me siento seguro/a expresando mis ideas y opiniones.
		PG9	Resilience	Soy capaz de pedir ayuda para superar situaciones difíciles.
		PG10	Self-acceptance	En general me siento satisfecho/a con quién soy.
	Emotional Well-Being (EW)	PG11	Adaptability	Me adapto bien a los cambios y a las situaciones imprevistas que se dan en mi centro educativo.
		PG13	Emotional communication	Expreso a mis compañeros/as mis pensamientos, sentimientos y emociones.
		PG14	Social well-being	Me siento cómodo/a cuando estoy con mis compañeros/as.
		PG15	Recognition of ideas	En mi clase siento que mis ideas son bienvenidas, aunque sean distintas a las de mis compañeros/as.
	Leadership (LE)	PG17	Activity leadership	Me siento bien dirigiendo proyectos o actividades en mi clase o centro educativo.
		PG18	Teamwork	Creo que puedo colaborar positivamente con mis compañeros/as para conseguir objetivos juntos.
		PG19	Team management	Soy capaz de coordinar un grupo y asignar tareas de manera justa y eficiente
Social Interaction	Safe Environment (SE)	SI20	Inclusion and diversity	En mi centro educativo se respetan los diferentes tipos de diversidades, como la cultura, el género, la apariencia física, las habilidades, etc.
		SI21	Respect for rules of coexistence	Los/as estudiantes generalmente respetamos las normas de convivencia de este centro.
		SI22	Bullying prevention	El centro educativo adopta medidas para prevenir el acoso escolar.
		SI23	Expressing ideas	En mi centro educativo se realizan actividades que nos ayudan a expresar nuestros pensamientos, sentimientos y emociones.
	Safe Environment (SE)	SI24	Developing interests	En mi centro educativo nos permiten desarrollar nuestros intereses personales.
		SI26	Safe spaces	En mi centro educativo hay espacios donde nos sentimos cómodos/as y seguros/as (patio, pasillos, lugares de estudio, etc.).
	Teacher Support (TS)	SI28	Teachers listening to students	En general los/as profesores/as me escuchan.
		SI29	Valuing teachers' opinions	Los/as profesores/as tienen en cuenta mi opinión.
		SI30	Support from teachers	Los/as profesores/as me ofrecen apoyo cuando lo necesito.
		SI31	Conflict mediation	Los/as profesores/as hablan con la clase cuando surgen problemas.
		SI32	Teacher role models	Tengo un profesor/a de referencia en el que confío en mi centro educativo.
Values	Shared Values (SV)	SI33	Recognition and appreciation	Me siento valorado/a por mis profesores/as.
		VA34	Solidarity	Me gusta ayudar a los/as demás cuando lo necesitan.
		VA35	Generosity	Me siento bien al compartir mis cosas con otras personas.
		VA36	Respect for diversity of thought	Respeto las opiniones y sentimientos de los/as demás, incluso si son diferentes a los míos.
		VA37	Social interest	Me intereso por los problemas sociales que afectan a otras personas o grupos.

Agency		VA38	Justice and equality	Defiendo un trato justo para todos/as las personas del mundo.
		VA39	Gender equity and sexual diversity	Considero importante la igualdad de género y la diversidad sexual.
		VA40	Culture and identity	Valoro positivamente conocer las raíces culturales y costumbres de mis compañeros/as.
		VA41	Responsibility and self-awareness	Reconozco mis errores y pido disculpas cuando es necesario.
		VA42	Collaboration and exchange of ideas	Si en mis trabajos de clase me apoyo o inspiro en ideas de otros/as compañeros/as, reconozco su ayuda.
		VA43	Justice and action	Si observo una situación que considero injusta en el centro educativo, intervengo para resolverla (pidiendo ayuda a una persona adulta, apoyando a otro compañero/a, etc.).
		VA44	Commitment and shared responsibilities	En mi centro educativo, cumplo los compromisos que me marco con mis compañeros/as y con el profesorado.
		VA45	Respect and coexistence	Sé trabajar con otros/as, respetando lo que dicen y lo que aportan.
		VA46	Participation and decision-making	Aporto ideas, opiniones y sugerencias que mejoran las actividades de clase.
		VA47	Motivation and curiosity	Me siento satisfecho/a cuando aprendo algo interesante.
	VA48	Perseverance and effort	Me mantengo constante para cumplir lo que me propongo.	
	Experiences of participation (EP)	AG52	Motivation to learn	Me siento motivado/a para aprender algo nuevo cada día en mi centro educativo.
		AG54	Educational support	El centro educativo me ayuda a identificar qué es positivo para mi desarrollo personal.
		AG55	Relevant information	En el centro educativo nos informan sobre temas de nuestro interés (salud, ocio, sexualidad, etc.).
		AG56	Discussions and coexistence	En el centro educativo se llevan a cabo debates sobre temas de actualidad para la mejora de la convivencia social.
		AG57	Creativity and proposals	Me gusta dar ideas nuevas (y creativas) para mejorar el centro educativo.
		AG58	Participation in groups	Participo en grupos para mejorar las clases y el centro escolar (consejo escolar, asambleas de clase, etc.).
		AG59	Participation in the Rules of Coexistence	Participo en la elaboración de las normas de convivencia de la clase.
		AG60	Social activities	Participo en actividades sociales que ayudan a los/as demás.
AG61		Educational field trips	Las salidas educativas me ayudan a aprender más cosas fuera del aula (ir a museos, eventos en la ciudad, etc.).	
AG63		Information on culture and art	El centro educativo informa sobre actividades externas culturales, artísticas y deportivas, como conciertos, exposiciones, obras de teatro, etc.	
AG66	Democratic participation	En mi centro escolar puedo decidir sobre temas que me afectan como estudiante.		
AG67	Professional future	El centro educativo me ayuda a decidir sobre mi futuro profesional: becas, ayudas y opciones de trabajo en mi entorno, etc.		
AG68	Educational future	El centro educativo me ayuda a decidir sobre mi futuro educativo: elección de estudios futuros, preferencias académicas, etc.		

Authors / Autores

León-Carrascosa, Víctor (victorleoncarrascosa@ucm.es)  [0000-0002-2418-9229](https://orcid.org/0000-0002-2418-9229)

Doctorate in Education from the Complutense University of Madrid (UCM) (Special Award). Master's Degree in Educational Research, Bachelor's Degree in Pedagogy and Diploma in Hearing and Language Teaching. Master's Degree in Educational Guidance, Professional and Personal Development Guidance from the University of Huelva. He carries out his teaching and research activities in the Department of Educational Studies in the area of Didactics and School Organisation. His latest work and publications focus on the study of key competencies for the professional development of teachers and educators, family guidance, play and child participation, the use of methodological strategies by teachers, and the analysis of the quality of educational institutions. He belongs to the research group Quality and Evaluation of Educational Institutions (UCM).

Author contribution (VLC): Original draft writing, data collection, data curation, data processing, formal analysis, methodology, validation, writing-revision and editing, supervision, research, and visualization.

Conflict of interest statement (VLC): The author declares that there is no conflict of interest related to the preparation and publication of this work.

Gutiérrez-Ujaque, Daniel (daniel.gutierrez@udl.cat)  [0000-0003-2983-7173](https://orcid.org/0000-0003-2983-7173)

PhD in Education, Society and Quality of Life from the University of Lleida. Master's Degree in Inclusive Education. He currently carries out his teaching and research activity as a lecturer in the area of Didactics and School Organization, in the Department of Education Sciences at the University of Lleida. His research focuses on improving the university learning experience through critical pedagogies and artistic practices, adopting a rhizomatic approach across disciplines such as geography, sociology, anthropology and art. He has explored the potential of contemporary art and urban space to generate critical, creative and inclusive learning environments. In 2022, he was awarded a Margarita Salas postdoctoral contract, funded by NextGenerationEU, at Brunel University London, where he developed the interactive exhibition Echoes of Uxbridge.

Author contribution (DGU): Conceptualization, original draft writing, methodology, formal analysis, writing-revision and editing, research, and visualization.

Conflict of interest statement (DGU): The author declares that there is no conflict of interest related to the preparation and publication of this work.

Bayarri López, Cristina (bayarricristina@uniovi.es)  [0000-0002-4497-8364](https://orcid.org/0000-0002-4497-8364)

Lecturer in the Department of Education Sciences at the University of Oviedo. Bachelor's degree in Education (UniOvi, 2014, End of Degree Award), Master's degree in Socio-Educational Intervention and Research (UniOvi, 2016) and Master's degree in Secondary and Baccalaureate Teaching, Vocational Training and Language Teaching (USC, 2019). Doctorate in Education (UniOvi, 2023) with a doctoral thesis on belonging among students at risk of dropping out of school. Recipient of a pre-doctoral contract from the Ministry of Science and Innovation for its development (2018-2023). Research stays in Switzerland, Portugal and Murcia. Teaching in the Degree in Early Childhood and Primary Education (UniOvi) and participant in R&D&I projects, one on the socio-educational re-engagement of resilient young people (UniOvi); and another on absenteeism in secondary education through photo-elicitation (UniOvi, Complutense University and University of Lleida). Professional experience as an educator in a socio-educational intervention programme with vulnerable young people. Training in artistic and qualitative research.

Author contribution (CBL): Conceptualization, original draft writing, methodology, data collection, writing-revision and editing, research, and visualization.

Conflict of interest statement (CBL): The author declares that there is no conflict of interest related to the preparation and publication of this work.



Revista Electrónica de **I**nvestigación y **E**valuación **E**ducativa
E-Journal of Educational Research, Assessment and Evaluation

[ISSN: 1134-4032]



Esta obra tiene [licencia de Creative Commons Reconocimiento-NoComercial 4.0 Internacional](https://creativecommons.org/licenses/by-nc/4.0/).

This work is under a [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by-nc/4.0/).