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Structural empirical model of personal positive youth development, parenting, and school climate

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Abstract

This study tested an empirical model of the relationship between *Personal Positive Youth Development* (PPYD) and two contextual factors: *Positive Parenting* (PP), and Perception of the *Climate and Functioning of the School* (PcfS). The hypothesis tested was that a positive relationship with parents and a positive perception of the school will contribute to the prediction of PPYD. The sample was composed of 1507 adolescents recruited in 10 Spanish schools who were aged between 12 and 18 years and 52% were female. PPYD was evaluated through *Dispositional optimism*, *Self-competence*, and *Sense of coherence*. PP was evaluated through *Affect and communication*, *Autonomy granting*, *Humor*, and *Self-disclosure*. PcfS was evaluated through *School climate*, *School bonds*, *Clarity of rules and values*, and *Empowerment*. Previous reliability and validity analyses of the constructs were carried out, and correlational analyses and structural predictions were made. The results show that both PP and PcfS were associated with better scores in PPYD. Also, a positive correlation between those two contextual factors was found. Implications for applied research are discussed.

KEYWORDS

Personal Positive Youth Development, Positive Parenting, School Climate, School Functioning, Structural Empirical Model

1 | INTRODUCTION

Positive psychology, and specifically the positive youth development (PYD) approach, investigates and promotes human development from a perspective of competence improvement. PYD has contributed to a number of fields of research, including education (Conway et al., 2015; Orejudo et al., 2013). Furthermore, this scope complements the prevention of instability, conflicts, or risk behaviors, promoting positive aspects for human development. In fact, both perspectives—prevention and promotion—are necessary for youths' health and wellbeing (Gutiérrez & Gonçalves, 2013; Oliva, Reina, et al., 2011).

1.1 | The PYD approach

Among PYD approaches, *Lerner's Five Cs model*—Competence, Confidence, Connection, Character, and Caring—(Benson et al., 2006; J. V. Lerner et al., 2009; R. M. Lerner, Lerner, et al., 2005) is one of the most complete (Oliva et al., 2010). The Five Cs model encompasses different types of dimensions, such as social (e.g., connection, caring), moral (e.g., character), or personal (e.g., confidence). For its part, the "competence" dimension has social, cognitive, and personal components, characteristics of a good level of self-regulation behavior.

Globally, the Five Cs model gathers different indicators around cognitive, behavioral, and social competencies building PYD, and has received some empirical support (Dvorsky et al., 2019; R. M. Lerner, Lerner, et al., 2005; Oliva, Pertegal, et al., 2011). This model is actually a benchmark to understand the PYD aim—youth flourishing—offering a global factor related both to the reduction of risk behaviors and to contributing to a positive community (Oliva & Pertegal, 2015).

1.1.1 | The personal positive youth development (PPYD) approach

Based on Five Cs PYD perspective, there is an approach focused on the flourishing of personal competencies (e.g., Balaguer, Orejudo, et al., 2020; Oliva et al., 2010; Orejudo et al., 2013, 2021). This approach shares with the Five Cs perspective their line on understanding how adolescents generate flexible and adaptive answers to the developmental tasks they daily face. PPYD considers the perspective of *personal competencies* as the core aspect of the PYD model. This is because these personal beliefs, skills, and capabilities work as a core of the other competencies—for example, social, emotional, cognitive—that integrate the model. The personal competencies are based on *behavioral self-regulation*, with an adaptive component (de la Fuente, 2017).

Oliva et al. (2010), based on the Five Cs approach (Lerner, 2004; R. M. Lerner, Lerner, et al., 2005) proposed a new model. To classify competencies, they distinguished between personal, social, cognitive, moral, and emotional competencies. They placed personal competencies, such as self-esteem, self-concept, or self-efficacy, at the core of the model. They are related to the sense of belonging, attachment, and personal initiative. Around the central core of personal constructs, Oliva et al. (2010) proposed four peripheral areas of competencies: social, cognitive, moral, and emotional. The personal and peripheral competencies nurture each other.

Balaguer, Orejudo, and collaborators (Balaguer, Orejudo, et al., 2020; Orejudo et al., 2021) delved into these personal constructs, proposing a personal model of PYD, that is PPYD. They focus on the personal core of PYD following the mentioned classification by Oliva et al. (2010). Delving into PPYD contributes to improve the understatement of the core individual factors related to wellness and adolescent adjustment to the context.

1.2 | Contextual factors in PPYD

In the adolescent stage, important changes occur in the relationships with the most direct socialization agents, such as family and school (White, 2000). In other words, parental and school support predicts growth and wellness (Vansteenkiste & Ryan, 2013). PPYD is expected to be influenced by different contexts of adolescents' life, and family and school are the most relevant for their development.

1.2.1 | Positive parenting (PP)

The classical dimensions of parenting styles, control, and warmth, (Baumrind, 1967; Maccoby & Martin, 1983) have been the most studied ones. Both can be considered positive for child development. There are different types of control. Psychological control involves manipulative strategies of emotional blackmail and induction of guilt. Literature associates it with emotional problems (Balaguer et al., 2020, 2021; Barber, 2005; González-Cámara et al., 2019; Oliva et al., 2011). Behavioral control is based on setting limits on behaviors and knowing what children are doing. An excessive degree of behavioral control can generate immaturity and emotional problems and in some cases aggressiveness and rebellion. On the opposite side, a lack of behavioral control is usually related to behavioral problems such as antisocial behavior or substance abuse (Oliva et al., 2011).

As opposed to parental psychological control, some instruments measure the *promotion of autonomy*. It consists not only in avoiding psychological control but also in positively encouraging psychological autonomy (Barber, 2005). This implies parents encouraging the child to express their own ideas and to make decisions by themselves. This dimension would be closer to parental warmth than to parental control.

Parental warmth assesses parents' *closeness and affection* toward their children. This dimension is assessed in similar ways by different authors. There is also concordance regarding the effects of this dimension: parental warmth is associated with positive outcomes in child development, especially with emotional ones (self-esteem, psychological well-being, attachment, etc.; Darling, 1999).

The *Escala para la Evaluación del Estilo Parental* (EEEP) (*Scale for the evaluation of the educational style of fathers and mothers of adolescents*) (Oliva et al., 2007) assesses, among other dimensions, "affection and communication," "promotion of autonomy," and "humor." In addition, following the suggestions by Stattin and Kerr (Kerr & Stattin, 2000; Stattin & Kerr, 2000), the EEEP assesses "self-disclosure" as well. Some of these dimensions are sometimes grouped under the term "positive parenting."

1.2.2 | Perception of the climate and functioning of the school (PcfS)

Schools contribute to PPYD as they have been related to competency development and to psychological adjustment problems prevention among youth. Indeed, there is a consistent relationship between adolescents' perception of school assets and their degree of adjustment and competence (Balaguer, Martínez, et al., 2020; Oliva, Reina, et al., 2011). Consequently, the school becomes a key context for the adolescents' adjustment and positive development (Greenberg et al., 2003; Pertegal, Oliva, et al., 2015).

Several approaches have proposed different dimensions to assess students' PcfS, such as school climate (Moos et al., 1987), clarity of rules and values, coexistence and conflict (Trianes et al., 2006), or school participation and school opportunities (Marjoribanks, 1980). Oliva, Pertegal, et al. (2011) proposed four school dimensions to assess an educational environment for adolescents' successful development. First, a warm and safe *school climate*, that is the perception about being taken care of in the school itself, and security, guaranteed by educators' supervision. School climate plays a central role in promoting good peers' relationships or friendships, as well as support networks and connectedness. Second, *positive bonds with adults in the school*, improves motivation and academic adjustment

(Cambron et al., 2019, cited in Oliva, Reina, et al., 2011). This dimension also implies students' perceived support from teachers. Third, the *clarity of rules and values perceived* in the school helps students to internalize school rules and the conviction of their needs. This need is associated with a decrease in disruptive behaviors (Oliva, Reina, et al., 2011). Finally, the *empowerment and opportunities* provided by the school are activities, spaces, or resources that promote students' motivation to have initiatives of participation in the same educational context (R. M. Lerner, Almerigi, et al., 2005). In short, an externally regulatory context, promoter of self-regulation (de la Fuente, 2017).

1.3 | Aims and hypothesis

Previous literature has associated family issues (e.g., Bowers et al., 2014), school climate (e.g., Årdal et al., 2018), or both factors (Marchant et al., 2001; Paulson et al., 1998) with PYD under the "Five Cs" approach. Under the PPYD approach, personal competencies have been associated with parenting, and with other key contextual factors, such as participation in leisure activities (Balaguer, Orejudo, et al., 2020; Oliva & Pertegal, 2015; Steinberg & Silk, 2002), but almost always independently. School assets have been related to competencies development, but more strongly with academic and social competencies than with personal ones (Oliva, Reina, et al., 2011).

Indeed, adolescents' school and parenting perceptions have been shown as significant predictors of academic motivation (Marchant et al., 2001) and psychological adjustment (Pertegal, Oliva, et al., 2015; Roeser & Eccles, 1998), as well as students' academic competence (Marchant et al., 2001; Wentzel, 1998). However, there is a gap regarding how family and school issues influence the specific personal constructs that explain PPYD.

Considering this gap, our *objective* is to propose an *empirical model* that offers an explanation about how PP and school improve PPYD. For this purpose, a *structural empirical model* is proposed, assessing PPYD throughout Dispositional Optimism, Hope, General Self-efficacy, and Sense of Coherence. Our *hypothesis* is that both a positive relationship with parents and a positive perception of the school—two externally regulatory contexts—will contribute to a linear association and structural prediction of PPYD (see Figure 1).

2 | METHOD

2.1 | Participants

Participants were recruited at schools. The inclusion criteria for the schools was that they offer formal education courses for students of adolescent age. Among all secondary schools in the province of Zaragoza (Spain), we randomly selected 10 schools, with a proportional representation of public/private and of urban-rural schools: seven public schools (four urban, three rural) and three private urban schools. Among them, seven schools participated: six public schools (four urban, two rural) and one private urban school.

At these schools, we requested participation from students in grades 7, 9, and 11 (around 12, 14, and 16 years old, respectively). In total, 1507 students completed the survey, with balanced distributions of sex (50.1% males) and age (12–13 years: 34.8%, 14–15 years: 34.6%, and 16–17 years: 30.6%). According to school type, 766 students (50.1%) were from public urban schools, 587 (39.0%) were from public rural schools, and 154 (10.2%) were from private urban schools. Regarding parents' education, 183 (6.7%) did not have any level of formal education, 1037 (37.7%) had elementary education, 950 (34.5%) had secondary education, and 580 (21.1%) had higher education. Most parents (2119, 75.3%) were employed. By origin, 2301 (78.5%) parents were from Spain, 236 (8.1) from the rest of Europe, 268 (9.1%) from America, and 126 (4.3%) from Asia or Africa.

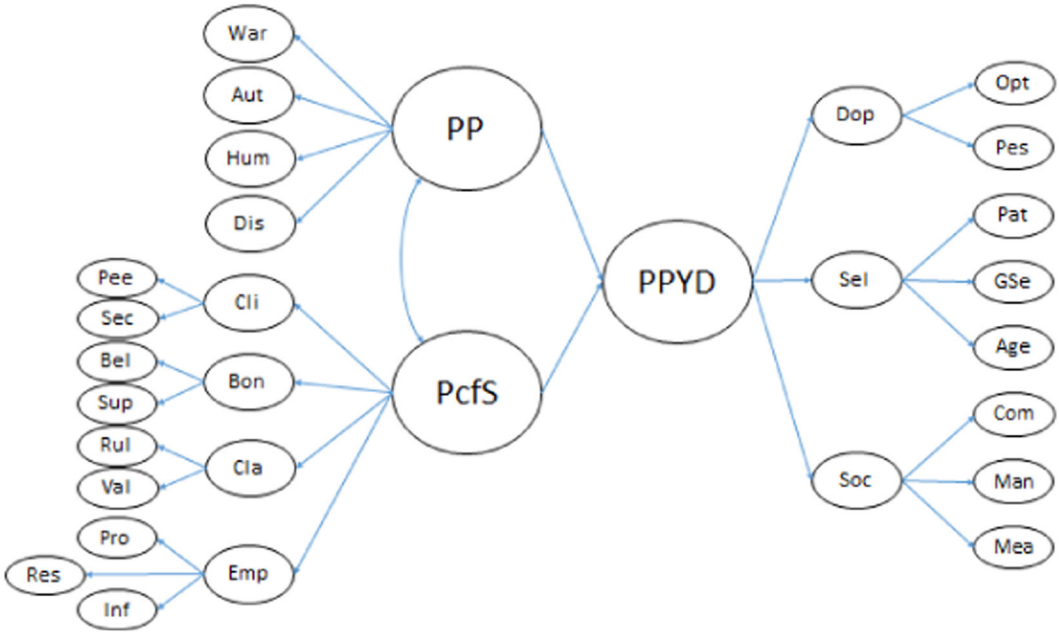

FIGURE 1 *Initial structural model for PPYD (Personal Positive Youth Development) in function of PP (Positive Parenting) and PcfS (Perception of the Climate and Functioning of the School).* Constructs associated to *PP*: *Warmth* (War), *Autonomy* (Aut), *Humor* (Hum), and *Self-disclosure* (Dis). Constructs associated to PcfS: (1) *Climate* (Cli): *Peer relations* (Pee) and *Security* (Sec); (2) *Bonds* (Bon): *Belonging* (Bel) and *Support* (Sup); (3) *Clarity* (Cla): *Rules* (Rul) and *Values* (Val); (4) *Empowerment* (Emp): *Activities proffered* (Pro), *Resources* (Res), and *Influence* (Inf). Constructs associated to *PPYD*: (1) *Dispositional optimism* (Dop): *Optimism* (Opt) and *Pessimism* (Pes); (2) *Self-Competence* (Sel): *Pathways* (Pat), *General Self-efficacy* (GSe), and *Agency* (Age); (3) *Sense of coherence* (Soc): *Comprehensibility* (Com), *Manageability* (Man), and *Meaningfulness* (Mea). Straight arrows correspond to direct relationship, curve arrow corresponds to the covariance between constructs

2.2 | Instruments

2.2.1 | Dependent variables: PPYD

Youth Life Orientation Test (YLOT, Ey et al., 2005)

It is a measure adapted from LOT-R (Scheier et al., 1994) to assess optimism in children and adolescents between 7 and 18 years. It consists of two subscales—Optimism and Pessimism—that can be measured both jointly and separately. In total it contains 14 items: six *Optimism* items (e.g., "In general, I think that more good things will happen to me than bad"), six *Pessimism* items (e.g., "When things go well, I hope something will go wrong"), and two distracting items. In the version adapted to Spanish by Royo (2016), the statements are rated on a Likert scale (from 1 = *I never think so*, to 5 = *I always think so*). In the translated version of this study, the internal consistency of the instrument's two scales was 0.62 and 0.78, with better indicators for *Pessimism*. In our study, the reliability index of the whole scale was $\alpha = .84$ (.71 for each subscale).

Children's Hope Scale (Snyder et al., 1997)

It measures the ability to generate the pathways toward the objectives and to persevere toward them and contains the subscales *Pathways* and *Agency*. It is appropriate for ages between 8 and 19 years. It consists of six items using a five-point Likert scale (from 1 = *I never think so*, to 5 = *I always think so*). The *Pathways*

subscale contains three items (e.g., "When I have a problem, I can find many ways to solve it"), whereas the *Agency* subscale contains other three items (e.g., "I think I'm doing things right"). It has an internal consistency of .86. In this study, we have used the Spanish version of Royo (2016), whose confirmatory factor model generated a better fit for the two-factor model than for the one-factor one. Precisely, in the validation study, the scales had internal consistency indexes of α = .574 (*Agency*) and α = .642 (*Pathways*). In our sample, these values were .532 and .614, respectively.

Scale of General Self-Efficacy (Baessler & Schwarzer, 1996, adapted by Sanjuán et al., 2000)

It evaluates the stable feeling of personal competence in order for it to be managed effectively in a wide variety of situations. It has been used indistinctly of age. It consists of 10 items (e.g., "Whatever comes, I'm usually able to handle it") with Likert scales of four points (from 1 = *I never think so*, to 5 = *I always think so*), generating a total score on a single factor of self-efficacy general level. The Spanish version obtained high scores in internal consistency (α = .87). In our study, it was .83.

Scale of Sense of Coherence (SOC-13; Antonovsky, 1987)

The SOC-13 is an adaptation of the Orientation Life Questionnaire (OLQ), which evaluates the SOC construct as a global orientation. The Spanish adaptation used in this study (Manga, 2006, cited by Fernández Martínez, 2009, pp. 388-389) reduced the original 29-item OLQ version to 13 items, using a seven-point Likert-type escalation. It evaluates the three subscales of this construct: *Comprehensibility* (five items; e.g., "Do you often feel that you are in an unusual situation, not knowing what to do?"); *Manageability* (four items; e.g., "How often do you have feelings that you doubt you can control?"); and *Meaningfulness* (four items; e.g., "How often do you feel that the things you do in your daily life barely make sense?"). The SOC scales have been used in all ages since the age of 10 years. In our study an α index of .77 was obtained (α = .82 in Fernández-Martínez et al., 2017). The different subscales showed lower reliability indices: *Comprehensibility*, α = .58; *Manageability*, α = .52; *Meaningfulness*, α = .50.

These instruments assess the proposed constructs to evaluate the personal component of the PYD. As for that, these PPYD constructs are personal variables with broad support in the literature. These constructs contain an important adaptive component and are based on self-regulation models, within the framework of the PYD.

2.2.2 | Independent variables

EEEP (Scale for the evaluation of parenting styles) (Oliva et al., 2007)

This is one of the most frequently used instruments to assess parenting in Spanish (González-Cámara et al., 2019). This instrument evaluates several dimensions of the parental educational style based on the perception of their adolescent children from 12 years of age. It consists of 41 items and is divided into six factors: *Affect and communication* (eight items; e.g., "I feel supported and understood by them"), *Autonomy promotion* (eight items; e.g., "They encourage me to make my own decisions"), *Humor* (six items; e.g., "They are usually in a good mood"), *Self-disclosure* (six items; e.g., "I tell them about the problems I have with my friends"), *Behavioral control* (eight items; e.g., "They put limits on the time I have to be at home"), and *Psychological control* (eight items; e.g., "They make me feel guilty when I don't do what they want"). We have left aside the two control dimensions. The rest of the dimensions refer to an effective relationship between parents and child, and we have grouped them under the label *PP*. The items are scored in a Likert-type scale (from 1 = *Strongly disagree*, to 6 = *Totally agree*). Below are the reliability indexes of the subscales, first in the authors' validation (Oliva et al., 2007) and second in our study: *Affect and communication* (α = .92; α = .91), *Autonomy promotion* (α = .88; α = .88), *Humor* (α = .88; α = .89), and *Self-disclosure* (α = .85; α = .87), *Behavioral control* (α = .82; α = .83), *Psychological control* (α = .86; α = .85).

Escala de percepción del clima y funcionamiento del centro (EPCFC) (Scale of Perception of the School Climate and Functioning) (student's version) (Oliva et al., 2008)

This instrument is a comprehensive scale. In addition to evaluating classical dimensions in the literature, such as climate or relationships, it also evaluates the clarity of norms and values, and empowerment and opportunities offered by the school to students. It evaluates several dimensions of the school climate and *functioning* from the perception of adolescents from 12 years of age. This instrument consists of 30 items and is divided into 4 factors: *School Climate* (six items; e.g., "The relations between the students of the school are good"), *Bonds* (seven items; e.g., "In this school I feel very comfortable"), *Clarity of rules and values* (seven items; e.g., "The rules of behavior of this school are clear and known to all"), and *Empowerment and Opportunities* (10 items; e.g., "Students propose some celebrations and activities of the school and participate in its organization"). The items are scored in a Likert-type escalation (from 1 = *totally false*, to 7 = *totally true*). Below are the reliability indexes of the second-order factors, first in the authors' validation (Oliva et al., 2008) and second in our study: *School Climate* (α = .78; α = .40), *Bonds* (α = .81; α = .91), *Clarity* (α = .82; α = .87), *Empowerment and Opportunities* (α = .83; α = .90), and for the total punctuation (α = .90; α = .92). Finally, we show the reliability of first-order factors: *Peer Relationships* (α = .78; α = .75), *Peers Security* (α = .78; α = .70), *Belongingness* (α = .87; α = .91), *Perceived Support* (α = .80; α = .87), *Rules* (α = .82; α = .80), *Values* (α = .82; α = .83), *Perceived Influence* (α = .73; α = .73), *Resources and Facilities* (α = .78; α = .75), and *Activities Proffered* (α = .78; α = .82).

2.3 | Procedure

The objectives and characteristics of the study were explained to the principals and counselors of the schools. Before completion, families were informed through a letter about the purpose of the study and procedure, and participants' anonymity was ensured. Schools were informed of the possibility of excluding from the activity those children whose families did not agree with their participation. Questionnaires took 1 h to complete in the presence of external team staff. After completing the study, each school received an individualized report with the overall results.

The Ethical Guidelines for Educational Research (British Educational Research Association, 2011) were followed. No compensation was granted for participating in the study. Ethical approval was obtained for the project from an Academic Commission of the University of Zaragoza (Spain).

2.4 | Data analyses

The study was classified in the group of transversal *ex post-facto* models.

Before analyses, records with at least one missing value (93 participants, 6.2% of the sample) were eliminated. Cronbach's internal reliability statistics for each subscale, and multivariate normality (skewness and kurtosis), were evaluated for all instrument items. For CFA the model adjustments were evaluated through the Comparative Fit Index (CFI), the Root of the Standardized Root Mean Square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA) and its interval of confidence at 90%. To modify the instrument, Lagrange Multiplier was used for release parameters, and for restriction of parameters the Wald test was applied. Each modification was applied sequentially, one parameter at the time, based on a significant effect ($p < .05$), change of the values of χ^2, and improvement in the indexes mentioned above (RMSEA and SRMR < 0.055, CFI > 0.94, and the upper limit of the 90% confidence interval for the RCMEA should be less than .09; Hu & Bentler, 1999).

Reliability and validity of the constructs were evaluated in the final model: reliability > 0.39, composite reliability > 0.7, and variance extracted > 0.49 units, Fornell and Larcker (1981), O'Rourke and Hatcher (2013). Convergence validity was assessed by *t* tests on parameters and discriminant validity on the 95% confidence interval for

covariances. The estimates were made using the Maximum Likelihood (ML) method over the Pearson product-moment correlation matrix.

Structural Equation Modeling (SEM) was applied to evaluate the relationship between *PPYD* and the independent variables (*PP* and *PcfS*). Additionally, the invariance of the model was evaluated for the age and sex groups: ages were split into early adolescents (12–16 years old) and late adolescents (17–18 years old). The adjustment of the measuring instruments *EEEP*, *EPCFC*, and *PPYD* were evaluated through confirmatory factor analysis (CFA). The constructs of instruments show different levels of association. For *EEEP*, the first level was related to the dimensions *Warmth*, *Autonomy*, *Humor*, and *Self-disclosure*, and the second level, those latent variables related to *PP*. For *PcfS* the levels of first-order corresponded to *Peer Relations*, *Security*, *Belonging*, *Support*, *Rules*, *Values*, *Activities proffered*, *Resources*, and *Influence*. The second order had four latent variables: *Climate*, from *Peer Relations* and *Security*; *Bonds* resulting from *Belonging* and *Support*; *Clarity* that associates *Rules* and *Values* constructs; and *Empowerment* affecting *Activities Proffered*, *Resources*, and *Influence* factors. The third level related the second level (*Climate*, *Bonds*, *Rules*, and *Empowerment*) with the construct *PcfS*. *PPYD* model was evaluated in three levels with three different constructs: *Dispositional Optimism* influencing *Optimism* and *Pessimism*; *Self-Competence* affecting *Agency*, *Pathways*, and *General Self-efficacy*; and *Sense of Coherence* that included in a first level the dimensions *Comprehensibility*, *Manageability*, and *Meaningfulness*. The second-level factors (*Dispositional Optimism*, *Self-Competence*, and *Sense of Coherence*) were grouped in the final construct *PPYD*).

Pearson Correlations matrix between factor scores of constructs at the first level was analyzed.

The statistical package SAS 9.4 PROC CALIS was used.

3 | RESULTS

Previous analyses were made to evaluate the variables of *PPYD* construct, PP, and PcfS. Next, the correlations were analyzed before the approach of the CFA.

3.1 | Previous analyses

3.1.1 | Evaluation of the PPYD construct

For the evaluation of the *PPYD* construct, validations were made in all sublevels and in their corresponding higher levels: *Optimism* and *Pessimism* as functions of *Dispositional Optimism*; *Agency*, *Pathways*, and *General self-efficacy* as functions of *Self-Competence*; and *Comprehensibility*, *Manageability*, and *Meaningfulness*, as functions of *Sense of coherence*. These second levels are grouped in a third level: *PPYD*. However, second-order relationships were not possible to maintain for any of the subscales. Either because of negative or near-zero variance estimates, non-significant effects of the predictors, or presence of complex variables.

With these problems in the estimation of the second-order model, an alternative way was decided to evaluate a general second level structure, where the constructs *Optimism*, *Pessimism*, *Pathways*, *General Self-efficacy*, *Agency*, *Comprehensibility*, *Manageability*, and *Meaningfulness* were directly influenced by the *PPYD* construct. With this structure, adequate adjustment indicators were obtained, SRMR = 0.051, and RMSEA = 0.045 (90% CI = 0.043–0.047). However, CFI = 0.86, was not an adequate value. The modification indexes detected a complex structure of the *General Self-efficacy* factor, simultaneously influencing the *Pathways* and *PPYD* factors. In addition, discriminant validity on *Self-Competence* showed a high correlation between *Pathways* with *Agency* and *General Self-efficacy* factors. This was why the *Pathways* construct was removed together with other items suggested from the modification statistics. These changes significantly improved the adequacy indexes: CFI = 0.90, SRMR = 0.043, and RMSEA = 0.040 (90% CI = 0.040–0.038). The

TABLE 1 Estimates of the second level parameters of PPYD

Parameter	Estimate	Standard error	*t* value	Pr > |*t*|
Agency	0.82	0.027	307.2	<0.001
General self-efficacy	0.63	0.023	272.4	<0.001
Optimism	0.83	0.018	451.0	<0.001
Pessimism	−0.79	0.018	−449.8	<0.001
Comprehensibility	0.81	0.032	252.2	<0.001
Manageability	0.80	0.034	233.6	<0.001
Meaningfulness	0.95	0.022	430.9	<0.001

Abbreviation: PPYD, Personal Positive Youth Development.

second-order model (Table 1) had the greatest effect of *PPYD* on the *Meaningfulness* construct, and a negative, expectable relation against the *Pessimism* construct.

3.1.2 | Evaluation of the PP construct

The evaluation of the values of kurtosis and skewness for the variables of this construct showed adequate conditions of normality, except for the variables related to *Warmth*. This construct showed high levels of kurtosis and skewness for Items 1 and 2 (1.9 and −1.5, for Question 1 and 2.3 and −1.7, for Question 2), and presented problems in the estimation of the Cronbach internal consistency index, $\alpha = .92$, indicating redundancy in the items. The other dimensions presented adequate levels of adjustment: *Autonomy* ($\alpha = .88$), *Humor* ($\alpha = .89$) and *Self-disclosure* ($\alpha = .87$). For all these reasons, variables 1 and 2 of *Warmth* were removed from the subsequent analyses. The Cronbach value was recalculated for this dimension, which decreased to $\alpha = .9$.

The model without those variables reach adequate adjustment indexes CFI = 0.91 and SRMR = 0.0398. However, the index of parsimony was above the optimum levels RMSEA = 0.07. So, adjustments to the model were evaluated through the release or restriction of parameters. This allowed the CFI value to be increased to 0.94 units, SRMR remained at 0.04 and the RMSEA decreased to 0.06 with a 90% confidence interval (0.056–0.063). The properties of the revised model are presented in Table 2.

Composite reliabilities are observed in ideal ranges between 0.69 and 0.9, and item reliabilities were within adequate values. Only one exception was found, for item 23 of *Autonomy* that is below 0.39 units. Variances extracted were optimal, and with values of significant convergent validity in all parameters. For discriminant validity, all factors showed adequate separation of the constructs.

Finally, the second level related to the *PP* factor showed positive and significant loads ($p < .05$), which would validate the definition of this level of analysis (Table 3).

3.1.3 | Evaluation of the PcfS construct

The 27 variables related to evaluation of climate and functioning of the center showed a behavior adjusted to the assumption of multivariate normality. In terms of internal consistency, adequate behavior was observed in all subscales evaluated: *Peer Relations* $\alpha = .75$, *Security* $\alpha = .70$, *Belonging* $\alpha = .91$, *Support* $\alpha = .87$, *Rules* $\alpha = .80$, *Values* $\alpha = .83$, *Influence* $\alpha = .73$, *Resources* $\alpha = .75$ and *Activities Proffered* $\alpha = .82$.

TABLE 2 Properties of the revised model for PP

Construct	Indicator	Variance extracted estimate	Reliability	Standardized loading	*t* value
Warmth		0.60	0.90[a]	–	–
	PP_3	–	0.64	0.80	69.2
	PP_4	–	0.68	0.82	77.2
	PP_5	–	0.65	0.81	70.4
	PP_6	–	0.52	0.72	48.7
	PP_7	–	0.60	0.77	60.2
	PP_8	–	0.50	0.71	45.7
Autonomy		0.48	0.86[a]	–	
	PP_23	–	0.23	0.48	20.8
	PP_24	–	0.52	0.72	47.2
	PP_26	–	0.52	0.72	47.0
	PP_27	–	0.59	0.77	56.5
	PP_28	–	0.61	0.78	59.2
	PP_29	–	0.46	0.68	39.3
	PP_30	–	0.43	0.65	36.3
Self-disclosure		0.60	0.86[a]	–	
	PP_38	–	0.50	0.71	43.4
	PP_39	–	0.75	0.86	80.9
	PP_40	–	0.69	0.83	70.2
	PP_41	–	0.47	0.69	40.3
Humor		0.60	0.88[a]	–	
	PP_32	–	0.61	0.78	61.0
	PP_33	–	0.58	0.76	56.3
	PP_34	–	0.50	0.71	45.0
	PP_35	–	0.67	0.82	73.3
	PP_36	–	0.62	0.79	63.5

Abbreviation: PP, Positive Parenting.

[a]Composite reliability.

TABLE 3 Estimates of second-level parameters of PP

Parameter	Estimate	Standard error	*t* value	Pr > |t|
Warmth	0.92	0.011	85.8	<0.001
Autonomy	0.84	0.013	62.2	<0.001
Self-disclosure	0.69	0.019	35.5	<0.001
Humor	0.88	0.012	74.5	<0.001

Abbreviation: PP, Positive Parenting.

In the confirmation of factors an adequate adjustment of the model was found with values of CFI = 0.94, SRMR = 0.035, and RMSEA = 0.049 (90% CI = 0.049–0.055). Regarding the measurement properties of the model, in general, adequate confidence values were identified by item and composite, except for *Security* and *Resources* constructs. The values of variance extracted were at optimal values. In terms of convergent validity, all the estimated parameters were significant, and in terms of discriminant validity, each factor evaluated their respective dimensions (Table 4).

On the other hand, the second and third models failed to estimate the variances of the *Peer relations*, *Security*, and *Resources* factors, and they did not show a significant effect in relation to the third level from *PcfS* with *Security*. A model where *Security* was directly affected by *PcfS* and where *Resources* construct was removed together with variable 21 that had a high correlation with the other items was tested. In this way, the model achieved had adequate estimates of parameters CFI = 0.94, SRMR = 0.041, and RMSEA = 0.056 (90% CI = 0.053–0.059) (Table 5).

3.2 | Correlations

Table 6 shows the correlations of the analyzed subscales. High or medium-high correlations were observed between PP variables. Also, among PcfS variables, especially among activities proffered, resources and influence, correlations were very high. The correlations between the PPYD variables were high, except for *General self-efficacy*. *Meaningfulness* presented very high correlations with all variables. In addition, PP variables showed low correlations with PcfS ones and moderate with PPYD ones—except for *General self-efficacy*. On the contrary, the correlations between PPYD and PcfS were low, very low in the case of *General self-efficacy* or activities proffered. On the other hand, *Pessimism* correlated negatively with the other variables, presenting high correlations with the PPYD ones—except for *General Self-efficacy*—, moderate with PP—except for *Self-disclosure*—, and low or very low with PcfS.

3.3 | Structural prediction: PPYD as a function of PP and PcfS

With all instruments validated, the final model related *PP* against the *PPYD* and *PcfS* constructs. The initial model had identification problems, so it was necessary to remove some variables and relationships. In principle, variables with possible high multicollinearity were identified that generated negative eigenvalues. The final model obtained adequate adjustment values (Table 7).

Regarding the estimations, it can be observed that, for *PP*, the *Warmth* factor was the variable with the greatest impact, for *PPYD* it was *Meaningfulness*, and for *PcfS* the factor with the greatest influence was *Bonds*. In the relation from *PcfS* and *PP* towards *PPYD*, it was observed that the greatest influence was *PP*, and as mentioned above there was a positive and significant covariance between the two exogenous variables *PcfS* and *PP* (see Figure 2).

Finally, the invariance of the means and of the covariance structure of the model were tested in four groups: women and men in early and late adolescence. The unrestricted model did not show improvements with respect to the invariant model, so it can be asserted that, for these groups of students, the obtained model can be generalized.

4 | DISCUSSION

The objective of this study was to examine whether PPYD can be explained by two contextual variables: family and school. Specifically, it was hypothesized that PPYD would be promoted by PP—characterized by closeness and *Communication*, *Promotion of autonomy*, *Humor*, and *Self-disclosure*—and by a positive school context

TABLE 4 Properties of the PcfS measuring instrument

Construct	Indicator	Variance extracted estimate	Reliability	Standardized loading	*t* value
Peer relations		0.51	0.76[a]	–	–
	PcfS_1	–	0.41	0.64	29.1
	PcfS_3	–	0.62	0.79	43.0
	PcfS_5	–	0.51	0.71	35.7
Security		0.45	0.71[a]	–	
	PcfS_2	–	0.33	0.58	21.3
	PcfS_4	–	0.43	0.65	24.8
	PcfS_6	–	0.58	0.76	29.0
Belonging		0.79	0.92[a]	–	
	PcfS_10	–	0.80	0.89	113.0
	PcfS_12	–	0.82	0.91	122.4
	PcfS_8	–	0.75	0.86	94.2
Support		0.64	0.88[a]	–	
	PcfS_11	–	0.71	0.85	78.2
	PcfS_13	–	0.68	0.82	69.9
	PcfS_7	–	0.51	0.71	43.7
	PcfS_9	–	0.67	0.82	68.6
Rules		0.59	0.81[a]	–	
	PcfS_15	–	0.64	0.80	54.5
	PcfS_17	–	0.68	0.82	59.6
	PcfS_19	–	0.47	0.68	36.5
Values		0.56	0.84[a]	–	
	PcfS_14	–	0.61	0.78	54.7
	PcfS_16	–	0.68	0.82	66.3
	PcfS_18	–	0.48	0.70	39.7
	PcfS_20	–	0.48	0.69	39.0
Influence		0.50	0.75[a]	–	
	PcfS_22	–	0.45	0.67	35.4
	PcfS_25	–	0.55	0.74	44.1
	PcfS_28	–	0.49	0.70	38.4
Resources		0.44	0.76[a]	–	
	PcfS_21	–	0.49		40.8
	PcfS_23	–	0.45	0.67	37.2
	PcfS_26	–	.37	0.60	29.5
	PcfS_29	–	0.45	0.67	37.4

TABLE 4 (Continued)

Construct	Indicator	Variance extracted estimate	Reliability	Standardized loading	*t* value
Activities proffered		0.60	0.82[a]	–	
	PcfS_24	–	0.62	0.79	56.3
	PcfS_27	–	0.55	0.74	47.2
	PcfS_30	–	0.63	0.79	56.9

Abbreviation: PcfS, Perception of the Climate and Functioning of the School.
[a]Composite reliability.

TABLE 5 Estimates of the parameters for second and third level PcfS model

Second level		Third level					
Variable	Predictor	Variable	Predictor	Estimate	Standard error	*t*	Pr > |*t*|
Belonging	Bonds			0.85	0.014	60.2	<0.001
Support	Bonds			0.87	0.014	63.1	<0.001
Rules	Clarity			0.83	0.017	50.4	<0.001
Values	Clarity			0.92	0.014	63.8	<0.001
Influence	Empowerment			0.94	0.015	64.3	<0.001
Resources	Empowerment			0.99	0.015	67.6	<0.001
Activities proffered	Empowerment			0.88	0.014	62.2	<0.001
		Bonds	PcfS	0.94	0.015	62.3	<0.001
		Clarity	PcfS	0.93	0.016	58.3	<0.001
		Empowerment	PcfS	0.76	0.018	41.8	<0.001
		Peer relations	PcfS	0.63	0.025	24.8	<0.001

Abbreviation: PcfS, Perception of the Climate and Functioning of the School.

(PcfS)—characterized by good peer relationships, a feeling of belonging and support, a clear understanding of rules and values, and enriching activities and resources in the school.

These empirical results show these associations and predictions among Spanish adolescents, regardless of sex and age. PP appears as the most relevant factor in promoting PPYD, while the role of the school context is less strong. This is consistent with previous research on assets promotion in adolescence, where contextual factors have an increasing relevance (Balaguer, Orejudo, et al., 2020; Oliva, Pertegal, et al., 2011). These factors are interrelated, and all of them are related to individual personal competencies (Balaguer, Orejudo, et al., 2020; R. M. Lerner, Lerner, et al., 2005; Oliva, Pertegal, et al., 2011).

This focus implies a certain novelty in the field since it overcomes the individualistic vision of personal competencies, including the effect of contextual variables. This scope is also coherent with an interactive vision of personal development and of the educative processes. In these processes, the context plays a key role in interaction with individual characteristics, according to the current Theory of Self- versus Externally-Regulated Learning (SRL vs. ERL; de la Fuente, 2017). Thus, the value of the family and school environment—as regulatory context—to promote personal development is presented.

TABLE 6 Descriptive statistics and Pearson correlations for factor scores of model at its first level ($n = 971$)

Construct	Subscale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Positive parenting	1. Warmth	1																		
	2. Autonomy	0.841	1																	
	3. Humor	0.867	0.801	1																
	4. Self-disclosure	0.701	0.663	0.683	1															
Perception of the climate and functioning of the school	5. Peer relations	0.328	0.338	0.345	0.263	1														
	6. Belonging	0.334	0.337	0.366	0.341	0.621	1													
	7. Support	0.336	0.360	0.357	0.320	0.555	0.779	1												
	8. Rules	0.354	0.372	0.374	0.357	0.519	0.663	0.712	1											
	9. Values	0.366	0.388	0.391	0.378	0.549	0.700	0.749	0.866	1										
	10. Activities proffered	0.217	0.239	0.274	0.296	0.395	0.525	0.554	0.540	0.618	1									
	11. Resources	0.285	0.308	0.340	0.350	0.488	0.633	0.677	0.663	0.724	0.943	1								
	12. Influence	0.280	0.308	0.335	0.345	0.464	0.592	0.653	0.643	0.706	0.900	0.978	1							
Personal positive youth development	13. Optimism	0.546	0.526	0.538	0.438	0.328	0.372	0.346	0.283	0.291	0.203	0.275	0.270	1						
	14. Pessimism	−0.486	−0.452	−0.451	−0.359	−0.283	−0.293	−0.255	−0.195	−0.203	−0.131	−0.192	−0.184	−0.804	1					
	15. General self-efficacy	0.366	0.393	0.338	0.285	0.220	0.201	0.179	0.160	0.173	0.146	0.174	0.182	0.657	−0.558	1				
	16. Agency	0.579	0.549	0.557	0.476	0.322	0.366	0.319	0.287	0.294	0.193	0.259	0.256	0.878	−0.798	0.700	1			
	17. Comprehensibility	0.524	0.509	0.495	0.421	0.293	0.328	0.309	0.254	0.254	0.180	0.250	0.248	0.810	−0.771	0.660	0.870	1		
	18. Manageability	0.567	0.534	0.542	0.446	0.330	0.362	0.333	0.277	0.283	0.188	0.258	0.251	0.865	−0.835	0.640	0.900	0.890	1	
	19. Meaningfulness	0.618	0.590	0.593	0.495	0.348	0.395	0.361	0.313	0.320	0.215	0.289	0.283	0.922	−0.870	0.700	0.960	0.920	0.960	1

TABLE 7 Goodness-of-fit Indices for various models, PPYD as a function of PP and PcfS ($N = 1015$)

Model	χ^2	*df*	$\Delta\chi^2$	Δ *df*	CFI	SRMR	RMSEA	(RMSEA CL90)
Base model	39355.1	3240						
Initial model	6646.3	3153	32708.8	87**	0.90	0.046	0.034	(0.033–0.035)
Without eigenvalues ≤ 0 (resources)	6246.5	2902	399.8	251**	0.90	0.046	0.034	(0.033–0.035)
Without eigenvalues ≤ 0 (influence)	5871.4	2678	375.2	224**	0.91	0.045	0.034	(0.033–0.036)

Abbreviations: CFI, Comparative Fit Index; PPYD, Personal Positive Youth Development; RMSEA, Root Mean Square Error of Approximation; SRMR, Standardized Root Mean Square Residual.

**$p < .001$.

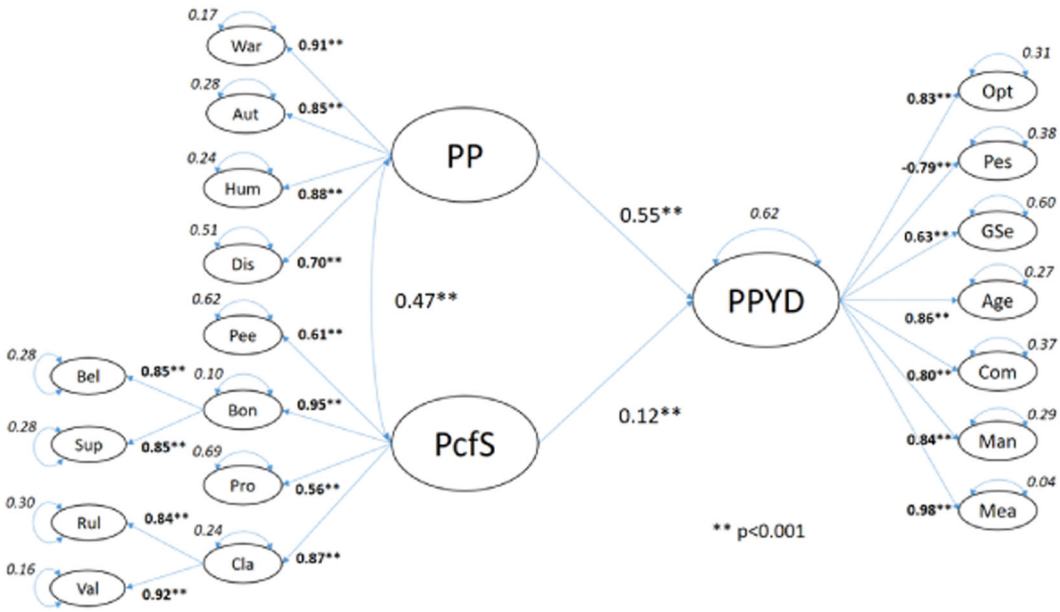

FIGURE 2 *Final structural model for PPYD (Personal Positive Youth Development) in function of PP (Positive Parenting) and PcfS (Perception of the Climate and Functioning of the School).* Constructs associated with *PP*: *Warmth* (War), *Autonomy* (Aut), *Humor* (Hum), and *Self-disclosure* (Dis). Constructs associated to PcfS: (1) *Peer relations* (Pee); (2) *Bonds* (Bon): *Belonging* (Bel) and *Support* (Sup); (3) *Activities proffered* (Pro); and (4) *Clarity* (Cla): *Rules* (Rul) and *Values* (Val). Constructs associated to *PPYD*: *Optimism* (Opt), *Pessimism* (Pes), *General Self-efficacy* (GSe), *Agency* (Age), *Comprehensibility* (Com), *Manageability* (Man), and *Meaningfulness* (Mea). Numbers beside the rows are standardized estimates for linear relations and covariance; straight arrows correspond to direct relationships, curve arrows correspond to the covariance between constructs

Previous research has shown that the perception of assets can be considered as a predictor of better development of competencies among students (Scales et al., 2000), mainly between parenting styles and PPYD (Balaguer, Orejudo, et al., 2020). Similarly, other studies have found that family is the most important contextual factor for PYD. For example, an authoritative parenting style favors a better adjustment among adolescents (Bowers et al., 2014; Oliva et al., 2007; Parra & Oliva, 2015; Steinberg, 2001). In fact, family as a factor is more important than school variables such as school climate or social support

(Oliva, Reina, et al., 2011) and teachers' responsiveness (Marchant et al., 2001), which is consistent with our results.

While the main factor influencing PPYD is the family context, there is also an association between the school and PPYD. This was also found by other studies on PYD (e.g., Årdal et al., 2018; Blum & Libbey, 2004; Pertegal & Hernando, 2015). Marchant et al. (2001) noted that verbal communication with parents and with teachers increased students' perception of individual competence because a better perception of assets predicts a better development of competencies among students (Scales et al., 2000).

Furthermore, these results have shown a positive correlation between the perception of the family and the school environments—two external regulatory essential contexts—, as other studies have found (Marchant et al., 2001; Paulson et al., 1998). This would imply that the effect is more powerful if it occurs jointly, and in the same direction of positive development.

4.1 | Limitations and future directions

In the first place, we only have the adolescent's point of view. In this regard, other types of instruments might be used in addition to self-reports to improve the quality of the measure. Perceptions might be assessed not only from the student's but also from the parents', teachers', and peers' point of view. This would be an improvement because adolescents usually internalize values transmitted through significant relations (parental values, teacher caring, and peer support) to a greater extent than parents' or teachers' external behaviors (Marchant et al., 2001; Wentzel, 1998).

Regarding the study design, a longitudinal study might help a broader understanding of the changes along with adolescence. Furthermore, a more representative sample, with proportional rates of different populations (public/private schools) would probably lead to more robust results. In this line, it would be interesting to collect samples that include proportional sizes in terms of demographic variables such as sex, age, grade, or different academic trajectories.

PPYD models exploring different contexts contribute to a broader perspective in understanding positive development. They provide valuable evidence to build more complex and complete models. In this regard, future research should continue to explore how these contextual factors are associated with the students' personal competencies. Specifically, through longitudinal designs, the reciprocal relationships between individual and context might be better known. Furthermore, formal, nonformal and informal educative contexts should be addressed, since adult figures, that is, both parents and educators, are constantly teaching a wide range of competencies—for example, emotional, civic, ethical, social, and intellectual—, not always intentionally (Higgins-D'Alessandro, 2012).

Regarding the sample, we do not see a reason why our results would not be generalizable to some populations (other countries, or adolescents with specific characteristics), but this should be tested with new studies. An example of this might be to study the different motivations of students among more or less structured contexts, with different levels of demandingness.

Finally, research is needed regarding the evolution through the different stages of adolescence to relate developmental and academic trajectories. Current models of educative inclusion need evidence to provide low-performance students with enriching contexts. While our results suggest contextual assets are important in improving individual competencies, it is also relevant to know at what ages each context is more relevant. The applied field needs clear programs to improve youth's opportunities.

The applied field needs more clarity in the proposal of programs aiming to improve adolescents' opportunities (Phelps et al., 2009) and educational professionals need to be able to assimilate the valuable information provided by research. This way, evidence adds orientations to better serve the needs of each educative realm. This will allow professionals to help create better relational contexts, both within the schools and in family orientation. “The key to ensuring the positive development of youth rests on developing research-based policies that strengthen in

diverse communities the capacities of families to raise healthy, thriving children" (R. M. Lerner, Almerigi, et al., 2005, p. 15).

It would also be necessary to compare samples from optimal development contexts (regulatory educational contexts) with samples in which the family context is not very regulatory (a-regulatory) or pathological (de-regulatory). Only then will we know the full equation of the effect that different types of contexts have on positive development (de la Fuente, 2017; Pachón-Basallo et al., 2021).

4.2 | Practical implications

In addition to the new empirical evidence supplied, this study has some practical implications. On the one hand, the role of the family context on personal development is reassured: the family seems to be the primary educative context in the development of positive character (Parra & Oliva, 2015; Steinberg & Silk, 2002). On the other hand, the need for coherence between family and school context arises to promote a balanced perception of educative resources for positive socio-personal development among adolescents (Durlak et al., 2007; Oliva, Pertegal, et al., 2011).

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