UNDERSTANDING PERCEIVED ACADEMIC PERFORMANCE: THE INFLUENCE OF SCHOOL CLIMATE, POSITIVE PSYCHOLOGY, AND LIFE SATISFACTION

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ABSTRACT

Learning and accomplishment are critical activities that adolescents spend a significant amount of time at school, where they lay the groundwork for future academic success and employment prospects. Nonetheless, research shows that adolescence is a time of marked decline in both pleasure and performance. In this study, we will examine four theoretical models that are based on prior research in order to understand the dynamics of the relationships between contextual (school climate), psychological (emotional intelligence and resilience), life satisfaction, and perceived academic performance. Our model will be based on the ecological model. An example: From the Autonomous Community of the Basque Country in northern Spain, we drew a sample of 1,397 adolescents ranging in age from twelve to sixteen. For this analysis, we used the robust maximum likelihood approach and the Equations 6.2 software to estimate the measurement and structural models. The results showed that a positive school atmosphere and overall happiness had a direct effect on students' perceptions of their own academic success, while EQ and resilience had an indirect effect via life happiness as a mediator. Results: These findings have significant ramifications for education since they provide light on preexisting relationship dynamics, which should underpin the efficient rollout of educational initiatives. In addition, they show that teenagers' academic performance is greatly affected by their level of psychological adjustment and life satisfaction. Adolescence, emotional intelligence, perceived academic achievement, resilience, life satisfaction, school climate—these are the keywords for this cross-sectional research.

I. INTRODUCTION

Perceived academic performance (PAP), which refers to students' cognitive perception of their grades and the attitudes and procedures involved in their school achievement (de la Fuente et al., 2008, 2017), is an academic variable about which there is currently a high level of concern, principally due to its association with maladaptive school behaviours, such as truancy (OECD, 2014), as well as its impact on school grades (Ferla et al., 2010; Respondek et al., 2017). However, previous studies have reported a significant decrease in school performance during adolescence (Serna & Martínez, 2019). Given that a large part of adolescents' lives takes place at school, several authors have emphasized the need to focus on specific personal and educational variables (Clement, 2010; Konu et al., 2002), an aspect that has largely been overlooked in previous research. The present study aims to redress this situation, in line with Bronfenbrenner's Ecological Model (Bronfenbrenner, 2005; Garbarino, 2014). This model suggests that the first subsystem, the microsystem, is the layer closest to the individual and, consequently, the one with which he/she has the most contact. Therefore, one of the structures of this microsystem that most influences

adolescents, in terms of both the environment and the relationships that occur in it, is the school (friends, teachers, feeling of belonging, etc.). In other words, school climate seems to be a fundamental contextual factor (Kutsyuruba et al., 2018) that is directly derived from the educational environment in this first microsystem. Certain positive psychological variables, such as resilience and perceived emotional intelligence, are known to impact PAP (Escalante et al., 2021; MacCann et al., 2020), and life satisfaction is also associated with this variable (Bücker et al., 2018; Ng et al., 2015). However, there is a notable lack of multi-causal studies that include these variables as explanatory factors of real or perceived academic performance (de la Fuente et al., 2017; Rodríguez-Fernández et al., 2018). It is, therefore, important to clarify the associations that exist among all these variables and to analyse them from a multivariate perspective, an incipient type of approach that still requires further scientific inquiry (Aldridge & McChesney, 2018).

Perceived academic performance and school climate

Despite its complex nature (Escalante et al., 2020), school climate may be defined as 'the quality and nature of school life' (Cohen, 2013; p. 413), including interpersonal relationships between teachers and students, behavioural rules and feelings of safety and belonging (Bradshaw et al., 2014). Whereas some school climates are friendly, welcoming and supporting, others are excluding, hostile and unsafe, which is why school climate may foster both favourable and unfavourable educational and psychological outcomes, becoming, in the latter case, an impediment to learning and academic performance (Kutsyuruba et al.,

2015). In general, studies focusing on secondary education have found a significant positive association between school climate and both perceived (Daily et al., 2019; Escalante et al., 2021; Pérez et al., 2020) and real academic performance (Bhat & Mir, 2018; Demirtas-Zorbaz et al., 2021). Given that school climate has a strong educational and experiential component, it is likely to have a direct influence not only on PAP, but also on life satisfaction (Aldridge et al., 2016; Lombardi et al., 2019; Varela et al., 2019), particularly in multi-causal studies that include personal / psychological variables. Indeed, the results reported by some previous studies that analysed school climate alongside personal variables suggest a direct influence on life satisfaction (Steinmayr et al., 2018) and PAP (Escalante et al., 2021). Nevertheless, these associations require further research.

Some studies that have analysed school climate and academic performance in association with personal variables have focused on, among others, resilience and perceived emotional intelligence (PEI) (Ramos-Díaz et al., 2019). The few studies of this kind we were able to find suggest links between school climate and adolescents' ability to regulate their emotions (Lázaro-Visa et al., 2019), as well as a direct and (particularly) indirect impact of this skill (emotion regulation) on academic performance (Guzmán-González et al., 2016; Usán & Quílez, 2021). Similarly, safe school environments that foster prosocial abilities have been found to positively contribute to the development of resilience skills (Aldridge et al., 2016, 2020; Morrison & Allen, 2009), which are in turn linked to better psychological well-being and enhanced PAP (Rodríguez-Fernández et al., 2018).

Perceived academic performance and positive psychological variables But what exactly is known about the relationship between psychological variables and PAP? Are the links between them clear or do they require further research? Do PEI, resilience and life satisfaction affect each other? Resilience, understood as a positive and effective means of dealing with a challenging situation, recovering from it and growing stronger despite being exposed to a highly stressful event (Masten, 2018; Masten & Cicchetti, 2016; Southwick et al., 2014), constitutes one of the principal psychological variables associated with subjective and school well-being (Noble & McGrath, 2016; Yıldırım & Tanrıverdi, 2020). In the school environment, resilience facilitates higher levels of both real (Liew et al., 2018) and perceived academic performance (Escalante et al., 2021). Moreover, studies that analyse resilience among children suggest that this variable has both short and long-term associations with learning and academic achievement (Kwok et al., 2007; Liew et al., 2018). In relation to secondary school students, one study found a positive association between resilience and PAP (Sandín-Esteban & Sánchez-Martí, 2015). However, little is known about what happens to these associations when other variables are included also in the analysis. The study carried out by de la Fuente et al. (2017) suggests that the influence of resilience disappears when third variables are included, whereas Rodríguez-Fernández et al. (2018) found a relationship between resilience and PAP mediated by subjective well-being, a construct that encompasses life satisfaction (Diener et al., 2017) and school engagement. It has, therefore, yet to be determined whether or not the association between resilience and PAP is maintained when mediated by life satisfaction, and if it is, whether the mediation in question is full or partial in nature.

PEI could be defined as the inherent subjectiveness of the emotional experience and beliefs linked to emotional attention and clarity and emotion regulation skills (Mayer et al., 2000; Salovey et al., 2002). PEI follows a progressive pattern in which a certain level of emotional attention is necessary in order to ensure a clear understanding of emotions, and consequently, the ability to regulate negative feelings (Gascó et al., 2018; Joseph & Newman, 2010; Vergara et al., 2015). Although PEI is known to be closely linked to resilience (García-Martínez et al., 2021; Ramos-Díaz et al., 2019) and specific emotional clarity and emotion regulation skills have been found to significantly influence resilience (Ramos-Díaz et al., 2019), the role of paying attention to feelings in relation to resilience is less clear. Some authors report a positive influence, since a certain level of attention is required in order to understand and control emotions adequately (Lischetzke & Eid, 2003; Vergara et al., 2015). Others, however, argue that excessive attention to one's own feelings may be maladaptive (Pena & Losada, 2017), with some studies observing a negative influence of emotional attention on resilience (Ramos-Díaz et al., 2019).

Although studies analysing the specific dimensions of PEI report that the construct as a whole has a direct impact on life satisfaction (Blasco-Belled et al., 2020; Di Fabio & Kenny, 2016), in the case of emotional attention and clarity, this relationship is indirect, since it is mediated by resilience (Cejudo et al., 2016; Liu et al., 2013; Ramos-Díaz et al., 2019). As regards emotion regulation, although a few studies report a direct influence on life

satisfaction, since the relationship is also mediated by resilience (Ramos-Díaz et al., 2019), this influence is small, and other studies failed to find any direct influence at all (Limonero et al., 2012). Finally, whereas some studies have observed an association of some kind between PEI and academic performance (MacCann et al., 2020), the results fail to support the existence of a direct relationship between PEI and PAP (García-Martínez et al., 2021; Serrano & Andreu, 2016), although they do suggest an indirect influence through other variables such as resilience (Trigueros et al., 2019) and life satisfaction (García-Martínez et al., 2021).

Perceived academic performance and life satisfaction

The association between life satisfaction, the cognitive component of subjective hedonic well-being (Diener et al., 2017) and school performance, both perceived and real, is widely accepted (Bücker et al., 2018), although its intensity and directionality has yet to be clarified (Bücker et al., 2018). Although the longitudinal study by Ng et al. (2015) found a bidirectional association between life satisfaction and academic performance in a pre-adolescent sample, some years later, when Wu et al. (2020) analysed these same relationship dynamics in an adolescent sample over a 14-month period, they found no evidence indicating that the association was bidirectional. Moreover, this same study found more solid evidence of the effect of life satisfaction on academic performance than vice versa, results that are supported by the Engine Model of Subjective Wellbeing (Jayawickreme et al., 2012) and the Broaden-andbuild Theory of Positive Emotions (Fredrickson, 2001). The extant literature, therefore, indicates that, during adolescence, life satisfaction influences

PAP (Arslan et al., 2021; Rodríguez-Fernández et al., 2018; Wu et al., 2020) and the performance of school activities (López-Rodríguez et al., 2018; Putwain et al., 2020). However, the mediator role played by life satisfaction in the association between resilience and PAP has yet to be clarified.

The present study

In sum, the bivariate relationships that exist among all the variables described above (school climate, PEI, resilience, life satisfaction and PAP) seem to be clear, but little is known about the multivariate relationships that may emerge when they are studied together. In light of the above, the principal aim of the present study is to analyse the influence of a school context variable (school climate) and positive personal variables (PEI and resilience) on perceived academic performance, through life satisfaction, by exploring four different models based on previous evidence (Figure 1). The study aims to contribute to the scientific research being carried out within the framework of Positive Education (Seligman et al., 2009; Waters & Loton, 2019), the goal of which is to detect factors that foster adolescent well-being at school (Herrera et al., 2020; Kong et al., 2019; Varela et al., 2019). It also aims to help clarify, from a conceptual perspective, the direct or indirect influence of school climate on life satisfaction and PAP, mediated by PEI and resilience (comparing between model 1 and 2). Finally, the third aim of the present study is to determine the full or partial nature of the mediating effect of life satisfaction, analysing this variable in conjunction with resilience and PAP (comparing 'a' models and 'b' models).

II.   METHOD Participants

Participants were 1397 adolescents from both public (831 students) and semi-private (566 students) schools (i.e., private schools that also receive some state funding) in the [Autonomous Community of the
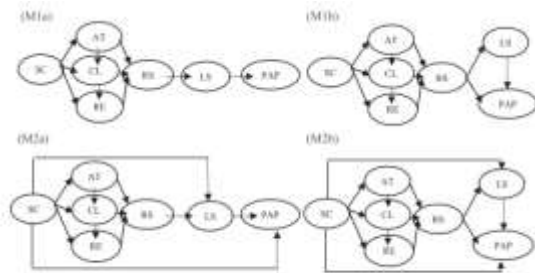

FIGURE 1   Hypothesized theoretical models. AT, emotional attention; CL, emotional clarity; LS, life satisfaction; PAP, perceived academic performance; RE, emotion regulation; RS, resilience; SC, school climate.

Basque Country]. All students were in compulsory secondary education and were aged between 12 and 16 years (M = 13.88; SD = 1.27). Educational centres offered curricula following the guidelines of Royal Decree 1105/2014, of December 26. In terms of gender distribution, 670 (48%) were male and 727 (52%) female. Finally, 831 (59.5%) were in the first 2 years of secondary education and 566 (40.5%) were in the second 2 years. Pearson's chi-squared test revealed no differences in the distribution of each sex between the educational cycles [$\chi 2$ (1) = .465, p = .497]. Respondents had no learning disabilities or other special needs. The families attending the schools had a mid-level socioeconomic and cultural status. The sampling technique used was incidental, with participants being recruited from schools and classrooms on the basis of availability. The balance between public and semi-private schools and gender and age of the participants were accurately pursuit.

Procedure

We contacted the principals and deputy principals of the participating schools to inform them of the study aims and request their authorization and the informed consent of parents. The letter requesting participation was sent to all known and available educational centres, and they were incorporated into the study as they accepted to participate until the stipulated sample size was reached. With all the centres that agreed to participate, an admission list was created in order of response. When a centre did not offer the possibility of participation of all secondary school grades or only offered some classes, its participation was rejected and the next centre on the list was contacted so that it could participate. The questionnaires were administered before the pandemic generated by COVID-19 and were administered by qualified researchers in pencil and paper format with written instructions. Questionnaires were distributed during class time and each group or class completed them in approximately 40minutes. The single blind criterion was applied and, in order to obtain honest answers and avoid social desirability bias, students were assured of both the anonymity of their responses and the voluntary nature of their participation. The study complies with the ethical criteria established by the [University of the Basque Country].

Instruments

To assess school climate, we used the Perception of the School Environment scale (Klinger, 2011), translated into Spanish by Moreno et al. (2011). This questionnaire comprises 16 items rated on 5-point Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree) and measures respondents' perceptions of support from teachers (8 items) and school climate (8 items). The goodness of fit indexes for the two-correlated-factor structure was: TLI = .926, CFI = .937, IFI = .937, RMSEA[CI] = .053[.049–.058],

SRMR = .041 and χ2 / df = 4.9. In the present study, only the school climate subscale was used, referring to the support provided by members of the school community, students' sense of belonging and rules ('most of my teachers are friendly' and 'The rules in this school are fair'). The reliability indexes were: α = .817, H coefficient = .830. Perceived emotional intelligence was assessed using the Trait Meta Mood Scale-12 (Salguero et al., 2009), the Spanish and reduced version of the TMMS by Salovey et al. (1995), which measures PEI through: (1) emotional attention: the degree to which someone thinks about their emotions and feelings ('I am usually very conscious of what I feel'); (2) clarity of feelings: the degree to which people are sure about what they feel and how they perceive these emotions ('I can usually define my feelings'); and (3) emotional repair: the degree to which individuals are able to reduce negative feelings and increase positive ones ('I usually have an optimistic outlook, even though I sometimes feel sad'). Items are rated on a 5-point Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree). Adequate indexes were obtained for the present study: TLI = .914, CFI = .935, IFI = .935, RMSEA[CI] = .064[.058–.071], SRMR = .067 and χ2 /df = 6.74; and the reliability indexes were as follows: emotional attention: α = .812, H coefficient = .806; clarity of feelings: α = .777, H coefficient = .795; and emotional repair: α = .696, H coefficient = .800.

Resilience was assessed using the Spanish language version (Notario-Pacheco et al., 2014) of the Connor-Davidson Resilience Scale (CD RISC-10; Campbell-Sills & Stein, 2007). This 10-item scale measures respondents' overall perception of their ability to adapt to change and emerge strengthened from adversity ('I am able to adapt to change'). Items are rated on a 5-

point Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree). The indexes obtained were: TLI = .939, CFI = .959, IFI = .959, RMSEA[CI] = .052[.039–.064], SRMR = .033, χ2 /df = 4.7, α = .734 and H coefficient = .750. Life satisfaction was measured using the Satisfaction with Life Scale (SWLS; Diener et al., 1985), validated in Spanish by Atienza et al. (2000). This scale assesses respondents' cognitive and overall perception of their life cycle through 5 items ('In most ways my life is close to my ideal'). Items are rated on a 7-point Likert-type scale ranging from 1 = strongly disagree to 7 = strongly agree. The indexes obtained in this study were: TLI = .966, CFI = .983, IFI = .983, RMSEA[CI] = .059[.040–.081], SRMR = .023, χ2 /df = 5.8, a = .826 and H coefficient = .858.

Perceived academic performance was assessed using the Escala Breve de Ajuste Escolar [Brief School Adjustment Scale] (EBAE; Moral de la Rubia et al., 2010). The questionnaire comprises 10 items rated on a 6-point Likert-type scale (1 = completely disagree, 6 = completely agree) and measures respondents' perception of their academic expectations (2 items), academic performance (3 items) and school integration problems (5 items). The three-correlated-factor model obtained adequate indexes in this study: TLI = .986, CFI = .992, IFI = .992, RMSEA[CI] = .030[.017–.043], SRMR = .022 and χ2 /df = 3.23. Of the three scales, only the academic performance one was used in the present study, referring to respondents' perception of their performance as students: α = .745 and H coefficient = .883.

Data analysis

Missing values (2.1%) were calculated using the expectation maximization (EM) algorithm and the Markov chain Monte Carlo (MCMC), both offered by the LISREL 8.8 program. Outliers were also eliminated using the SAS program (n = 273 participants, 14% of the sample). The KS test and Mardia's coefficient (Mardia = 189.38, Z = 71.58) indicated the absence of a normal distribution in the sample. The SPSS 22 program was used to obtain the descriptive statistics and Pearson correlations between the observed measures. These are parametric tests that remain robust in the event of the normality assumption not being met (Montilla & Kromrey, 2010). The Equations 6.2 program and the maximum likelihood with robust standard errors (MLR) procedure were used to estimate the measurement model and the structural models hypothesized in Figure 1. Diverse indexes were used to test the models' goodness of fit (Hair et al., 2018): the CFI, TLI and IFI comparative fit indexes, for which values of over .90 are considered to indicate an acceptable model; the $\chi2$ /df absolute fit index, for which values of under .03 are considered adequate (except in circumstances with larger samples or models with a high level of complexity, such as in this case); and the RMSEA and SRMR error measures, for which values lower than .08 are deemed indicative of a plausible model. To compare the nested models, the Chi-squared statistics and AIC and CAIC comparative indexes were calculated and compared, with lower values being taken to indicate greater parsimony of the model (West et al., 2014).

III.   RESULTS

Measurement model

After calculating the means, standard deviations and correlations between variables (Table 1), a CFA was performed of the measurement model. The results revealed adequate indexes ($\chi2$ [df] = 1583.11[537], $\chi2$ / df = 2.95, TLI = .914, CFI = .922, IFI = .922, SRMR = .050, RMSEA[CI] = .037[.035–.039]) and significant factor loadings

Structural equations models:

Although M1a and M1b returned satisfactory fit indexes, both the comparative indexes (AIC and CAIC) and the $\chi2$ difference test indicated the greater adequacy of M2a and M2b (Table 2), which included the direct influence of school climate on life satisfaction and perceived academic performance. As regards M2a and M2b, hardly any differences were observed in the absolute and incremental fit indexes or in terms of parsimony. No differences were found either in the comparative fit indexes or the $\chi2$ difference test ($\Delta\chi2$ = 5.17, p>.001), indicating a high degree of similarity between the models. Consequently, M2a was selected since it was the most parsimonious and the one that best represented the data (Byrne, 2006). In other words, the models' goodness of fit values indicated that the least constrained model of school climate according to which life satisfaction fully mediated the influence of resilience on

TABLE 1   Descriptive statistics and correlations

TABLE 2. *Nested models comparison*

FIGURE 2. Standardized solutions of the final structural model. *Note* *p < .01, **p < .01.

Right column (top):

regulation on life satisfaction and PAP, with the influence of emotional clarity being particularly noteworthy due to the degree to which it was found to contribute to life satisfaction ($\beta_i = .31$, p

IV. DISCUSSION

Special attention should be paid to school learning and achievement during adolescence, due to the significant decrease observed in students' academic performance and satisfaction during this period (Serna & Martínez, 2019), despite the key role played by these variables in their future educational success and career prospects (Crede et al., 2015). The aim of the present study was to verify, from the perspective of Positive Education (Seligman et al., 2009; Waters & Loton, 2019) and based on Ecological Systems Theory (Bronfenbrenner, 2005; Garbarino, 2014), a theoretical model that allows explaining perceived academic performance through a contextual variable (school climate), positive psychological variables (PEI and resilience) and life satisfaction. One particularly novel and relevant result was the direct and total influence of school climate on life satisfaction and PAP, when analysed in conjunction with the psychological variables emotional intelligence and resilience. This finding is consistent with that reported by the few multivariate studies to have been carried out to date and supports the existence of this particular relationship dynamics (Escalante et al., 2021; Steinmayr et al., 2018). Being a variable with a strong experiential component that is directly derived from the school, school climate appears to have a strong influence on the way in which students perceive their life satisfaction (Aldridge et al., 2016; Lombardi et al., 2019; Varela et al., 2019) and their academic performance (Aldridge &

Left column (lower):

academic performance was the one that best represented the relationship dynamics among the variables studied. The specific pathways of the model were statistically significant and the modification indexes (LM test and Walt test) indicated no additional structural links resulting from adding or removing parameters. The final structural model with its standardized regression coefficients is shown in Figure 2, along with its significance levels and degree of variance explained.

Direct, indirect and overall effects:

The results presented in Table 3 reveal the moderate direct effect of life satisfaction on PAP ($\beta_d = .39$, p<.01).

TABLE 3. *Direct, indirect and total effects*

The results also reveal the indirect effect of emotional clarity and emotion

McChesney, 2018; Daily et al., 2019), even when analysed alongside other key variables such as PEI and resilience, since, as our results reveal, the total explanatory power of school climate in relation to PAP is similar to that observed for life satisfaction.

Consistently with the findings reported by previous studies (Guzmán-González et al., 2016; Usán & Quílez, 2021), our results also reveal that school climate has a direct effect on all three dimensions of PEI (emotional attention and clarity and emotion regulation), and an indirect one on resilience through these same dimensions. Consequently, a motivating and supportive context seems to influence people's ability to understand and regulate their emotions, even if only slightly (as in the case of emotional attention). In sum, the relationship dynamics observed in connection with school climate suggest that this variable has a direct and/or indirect influence on different internal individual psychological variables (PEI and resilience), as well as on adolescents' life satisfaction and perceived academic performance. This in turn confirms the importance of school climate in adolescent development (Kutsyuruba et al., 2018). The results of the study also reveal that PEI has an indirect influence on PAP, as indeed has been reported previously by other authors (García-Martínez et al., 2021; Trigueros et al., 2019). MacCann et al. (2020) argue that PEI is a variable that affects PAP through complex personal processes that require further exploration (Sánchez-Álvarez et al., 2020) and the present study clarifies this by showing that intelligent emotional management is vital to the good development of resilience and life satisfaction (García-Martínez et al., 2021; Ramos-Díaz et al., 2019), both of which in turn influence the generation of positive self-perceptions regarding one's

ability to perform well in the school context (Escalante et al., 2021; Rodríguez-Fernández et al., 2018).

Although previous studies have found that resilience facilitates higher levels of academic performance (Escalante et al., 2021), it seems that this direct association disappears when life satisfaction is included as an explanatory variable of PAP. This is something that was suggested by the results reported in previous studies (de la Fuente et al., 2017), but which nevertheless required confirmation. Interestingly, the indirect influence observed in this study is similar to the direct one found in previous research (Escalante et al., 2021). In an increasingly stressful school environment, having resilient students who feel able to cope with difficult situations means having students who feel happier and more satisfied with their lives, something which in turn fosters greater self-perceived academic competence and, possibly, a higher-performing student body (Arslan et al., 2021; Haktanir et al., 2018; Noble & McGrath, 2018; Rodríguez-Fernández et al., 2018).

But what about life satisfaction and perceived academic performance? Consistently with that reported previously (Bücker et al., 2018; Putwain et al., 2020; Rodríguez-Fernández et al., 2018), the results of the present study indicate a direct influence of life satisfaction on PAP. Moreover, the importance of life satisfaction for PAP is confirmed by the fact that this variable fully mediates between resilience and PAP, with the effect of resilience on life satisfaction being particularly strong (Ramos-Díaz et al., 2019; Yıldırım & Tanrıverdi, 2020).

The present study contributes to the existing body of multi-causal research, which aims to detect factors that foster

performance and promote well-being among adolescents at school (Herrera et al., 2020; Kong et al., 2019; Varela et al., 2019) by focusing on specific psychological and educational measures and exploring associations between variables that require further analysis (Moksnes et al., 2016). These results support the Positive Education perspective, as intervention in the school environment is expected to exert positive effects on both academic achievement and student well-being (Lombardi et al., 2019).

These results have important practical implications. Firstly, they point to the need to focus on the key role played by schools in terms of implementing measures and/or strategies designed to ensure a safe school climate that generates trust and fosters learning, since this may in turn promote greater life satisfaction and help adolescents not only see themselves as better students, but also cope better with the challenges that will inevitably arise in the school environment (Casas et al., 2013). Moreover, an understanding of these dynamics will help ensure the effective implementation of school programs and serves to highlight how important it is to have a good school environment that fosters psychologically well-adjusted adolescents who feel satisfied with their lives, as a means of ensuring their optimal academic performance (López-Rodríguez et al., 2018; Putwain et al., 2020).

The present study has some limitations that should be taken into consideration. Firstly, only self-report measures were used. Future studies should strive to include objective measures of performance, since this may provide useful additional information (Crede et al., 2015). Secondly, the relatively low level of variance explained in relation to PAP may indicate the existence of variables that were not included in this study and that may provide valuable information if analysed in conjunction with those that were. In light of the findings reported by other studies in this field, possible variables may be academic resilience (Liew et al., 2018) and/or school engagement (Rodríguez-Fernández et al., 2018), since both have been found to be associated with the variables analysed here.

A third limitation is that the sample has been chosen incidentally and the use of a random sampling could be more appropriate. Moreover, the sample is not representative of every socioeconomic situation, despite its size, because it has been focused strictly on the middle-class population; and therefore, generalizations cannot be claimed. Likewise, the results were obtained with a sample of secondary school students. Future studies may wish to include participants outside this age range, broadening the sample to encompass other educational stages such as primary school and further and higher education. In addition, it would be useful to check whether the model (Figure 2) is plausible in students with and without learning difficulties and also to conduct a multigroup analysis in order to see whether this relationships dynamic is equally maintained despite the gender. Finally, the cross-sectional nature of the sample precludes any conclusions being drawn regarding dependence between the variables. Consequently, when we talk here about influence or effect, we refer only to statistical influence or effect, and all associations need to be subjected in the future to empirical confirmation using experimental designs.

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