



Effective Educational Practices and Students' Well-being: The Mediating Role of Students' Self-efficacy

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Abstract

Effective educational practices aim to promote students' academic achievement; however, they also have an impact on students' well-being which is a growing topic of interest in educational research. In a sample of 2242 students (5th to 10th grades) nested in 104 classrooms from Spanish schools, we have tested the mediating role of students' self-efficacy on the relationship between effective educational practices and both students' well-being and academic performance. Analyses were run at student and class levels, by performing a multilevel mediation structural equation model with cross-sectional data. Results supported a partial mediation model at the individual level, in which effective educational practices had a direct and indirect effect on students' well-being, and indirect effect on academic performance in math and language through self-efficacy. At the group level, results support a full mediation model of the effect of effective educational practices in class well-being and in class math performance (but not in language), mediated by the group mean of self-efficacy. These findings suggest the importance of educational practices in increasing self-efficacy beliefs on their students, as a source to increase students' well-being and academic performance.

Keywords Academic performance · Effective educational practices · Self-efficacy beliefs · Students' self-efficacy

Introduction

Research has extensively focused during the last decades on analyzing what an effective teacher does in classroom, and its effect on students' achievement. This research has provided a range of 'effective educational practices' (i.e., EER: Educational Effectiveness Research), positively related with cognitive outcomes (Kyriakides et al., 2013). The

educational practices underlined include providing frequent feedback and high-quality direct instructions, managing the class to maximize students' attention, establishing supportive teacher-student relationships, and promoting students' engagement (Harbour et al., 2015; Muijs et al., 2014). However, the effect of these educational practices on non-cognitive outcomes, for example, psychological variables such as students' well-being, need to be more fully explored, and especially when the goal of education includes the development of the whole child.

Although the importance of children well-being has been a mandate since the United Nations' (UN) Convention on the Rights of the Child in 1989, there has been little research focusing on the role of teacher educational practices in fostering students' well-being (Kyriakides et al., 2013). In addition, sometimes the reliability and validity when measuring non-cognitive outcomes suffers from a lack of consistency (e.g., Muijs et al., 2014; Opendakker & Van Damme, 2000; Saab & Klinger, 2010).

These findings can be explained because the relevant research includes weak points in terms of different methodological perspectives. For instance: (1) effective educational practices have been frequently assessed through class

"Current Themes of Research" Teacher efficacy, its effect on student's psychological wellbeing, and psychosocial interventions in order to improve teaching effective practices.

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observation by an expert, making it more difficult to analyze the impact of those practices on individual student outcomes. However, when educational practices have been rated individually through each student's perceptions, results show that they are powerful predictors of students' learning and achievement outcomes (Fauth et al., 2014); (2) instruments used to assess educational practices may have focused on one or two factors, ignoring the multidimensional nature of the construct, which according to the literature should include at least three dimensions. These includes classroom management, instruction, and motivation or emotional support (see Muijs et al., 2014, for a review); (3) testing the indirect effects of effective educational practices on students' well-being considering other mediator variables is lacking and should be undertaken because it may contribute to explore underlying mechanisms that may explain why direct associations are weak; and (4) the differences between classroom and individual level should be analyzed using multilevel models. The use of structural equation models is not recommended for testing cross-level effects, because interpreting cross-level effects may be misleading if one infers that regression means at classroom/group level direct predict individual ones (González-Romá, 2019; González-Romá & Hernández, 2017). Therefore, it is necessary to empirically corroborate that students' share their perceptions about a certain phenomenon and use multilevel models that aggregate students' ratings at the group level (i.e., students' ratings of the same teacher about their educational practices) to analyze their impact on individual level variables (i.e., students' well-being or academic performance).

In response, this study tries to contribute to this research area by exploring the association between effective educational practices (assessed by students perception with a multidimensional instrument) and their well-being.

Educational Practices and Student's Well-being: need for Multilevel Models

Considering that students spend an important percentage of their time in school contexts, from a developmental and educational perspective, schools play a relevant social role: Hence, given the pivotal social role of schools, there are voices advocating for incorporating students' well-being in schools' agendas (Graham et al., 2017; Tejada-Gallardo et al., 2020). Besides, students' well-being should be considered a multidimensional construct covering students' physical and mental health (e.g., positive affect and lack of psychological distress), socio-cognitive development (e.g., autonomy and positive social relationships both with parents and peers), and school environment as the social context in which they participate actively (Erhart et al., 2009;

Ravens-Sieberer et al., 2010). From this perspective, studying the impact of teaching educational practices on students' academic achievement and well-being appears value-added.

However, as stated above, research needs to overcome previous methodological flaws. On the one hand, the few studies that have aggregated students' ratings at the group level have found small to moderate effects on students' well-being (Muijs et al., 2014). For example, Opdenakker & Van Damme (2000), using longitudinal data from the LOSO project in Flanders, found that effective educational practices -referring to instruction and knowledge acquisition- impact both students' achievement and well-being indicators. However, they found a weak effect on students' well-being considering the class level. Furthermore, such effects were even smaller when school level was considered as the predictor of students' well-being (e.g., Konu et al., 2002; Opdenakker & Van Damme, 2000; Saab & Klinger, 2010).

One plausible explanation for these weak effects is that educational practices have been assessed including only one factor (e.g., instruction), while most of the valid observational instruments to assess teaching quality or effective educational practices include, at least, three factors such as classroom management, instruction, and motivation or emotional support (Kane et al., 2014; Muijs et al., 2014; Pianta et al., 2008; Praetorius et al., 2018). Thus, research need to check whether the three-dimensional measurement is a more robust predictor of students' achievement compared to simpler measures.

On the other hand, an interesting research stream has focused on the teacher-student relationship -assessed by each student individually- and its association with students' positive academic experiences and well-being. In this vein, Guay et al., (2019) reported that teacher-student relationships that are perceived by students as supportive and emotional secure are related to improved intrinsic motivation and self-concept for reading in 6-year-old students that took part of the Quebec Longitudinal Study of Child Development (QLSCD) (Guay et al., 2019). Furthermore, self-concept for reading (rated by students) was, in turn, related to reading achievement (rated by teachers). Murray-Harvey (2010) found similar results in a sample of 888 students nested in 58 classrooms from 21 South Australian schools. She concluded that the student-teacher relationship influences both students' academic and well-being outcomes (Murray-Harvey, 2010). Also, there is some evidence connecting effective educational practices with increased students' well-being (Suldo et al., 2009) and less psychological distress (Lazarides & Buchholz, 2019).

These results highlight that there are differences among students' ratings in the same classroom, which may result from the differences in the teacher-student relationship.

Furthermore, it also points out the need for multilevel models that test the association between effective educational practices and students' well-being both at individual and at class level and considering the assessment of teacher practices from each student in the class as the best way to explore the individual differences across students for the question at hand.

Educational Practices and Student's Well-being: the role of self-efficacy beliefs

The relationship between educational practices and students' well-being may be better explained when third variables are included in the model. Based on Bandura's Social Cognitive Theory (SCT: Bandura 2001), we hypothesize that self-efficacy plays a fundamental role in the relationship between educational practices and students' well-being. In educational contexts, self-efficacy beliefs have been related to students' ability to persevere in the face of difficulties, to achieve their goals, and to meet their goal expectations, resulting in more effective managing academic activities and achieving better academic outcomes (Bassi et al., 2007; Caprara et al., 2011).

According to the SCT (Bandura, 2001, 2012), self-efficacy beliefs are mostly derived from experience and reciprocal interactions with the social environment. Given that learning occurs in a dynamic social context, educational practices must influence students' self-efficacy, and could become a relevant source of them. In this regard, findings from educational studies following correlational and experimental designs suggest that students, who are in classroom environments that help them setting learning goals and support their progress and mastery, reported more positive self-efficacy (Kikas & Tang, 2019; Klassen & Usher, 2010; Mitchell & Dellamattera, 2010; Olivier et al., 2019; Pajares & Schunk, 2001; Schunk & Meece, 2006; Schunk & Mullen, 2012). Even more, students who perceived their teachers as supportive experience higher self-efficacy levels compared to those who perceived their teachers as not supportive. These latter students developed a low sense of self-efficacy, which led them to doubt their abilities and be more prone to avoid demanding tasks (by giving up quickly when facing with difficulties), thus creating a negative spiral of failures that reinforced low self-efficacy beliefs (Kikas & Tang, 2019; Mitchell & Dellamattera, 2010; Schunk & Meece, 2006). These findings are in line with a meta-analysis of 49 studies carried out with samples of adolescent students, which confirmed that promoting classroom organization and management is associated with higher levels of students' self-efficacy and competence (Rolland, 2012).

Therefore, these findings suggest that the link between effective educational practices, students' achievement, and their well-being can be understood better by considering the role of students' self-efficacy. In this regard, Diseth and colleagues concluded that effective educational practices (in terms of improved students' satisfaction of autonomy, relatedness, and competence) are associated with higher students' self-efficacy levels, which in turn predicted better academic achievement and increased well-being (life satisfaction) (Diseth et al., 2012).

Therefore, we carried out a study to test the following hypotheses: (1) Effective educational practices are positively related to students' school achievement and to students' subjective well-being at both the class and student levels; and (2) The positive relationship between effective educational practices and students' school achievement, and subjective well-being, are both mediated by students' self-efficacy, at both the class and student levels.

Method

Procedure and participants

After signing an agreement with the School Council, headmasters informed their teachers verbally about the study. Then, information sheets explaining the purpose of the project were given through teachers to the students and their parents, who gave their written consent to participate in the study. Some research assistants under the supervision of the first author collected the data in each classroom during the school schedule as part of routine schoolwork. Participation was voluntary and confidentiality was guaranteed.

Participants were 2242 students nested in 104 classrooms and enrolled in primary (28.1% over total) and secondary schools (71.9% over total) located in two Spanish regions (Andalusia, 52.4% of students, and Basque Country, 47.6%). Regarding their sex, 48.4% of the students were girls. The students' ages were between 9 and 18 years ($M = 12.64$, $SD = 1.85$). Also, 19.3% of the sample reported having repeated a course (i.e., retaken a year).

This study was performed in line with the principles of the Declaration of Helsinki and ethical approval was granted to the first author. All participants gave their consent to participate, starting with the process of signing an agreement with the School Council, where the headmasters informed their teachers verbally about this study. Then, information sheets explaining the purpose of the project were given to the students and their parents through their teachers, who received all written consent to participate. Several research assistants -under the supervision of the first author- collected the data in each classroom during the school schedule as part of the

routine schoolwork. Participation was voluntary and confidentiality was guaranteed.

Measures

Variables were individually assessed for all scales. Then, the dual-level measures (i.e., those that can be aggregated according to multilevel models) were used both individually (individual level) and grouped (class level) in our models.

Single-level measures

Participants self-reported their sex (boys vs. girls), age, and the educational stage in which they were enrolled (primary vs. secondary).

Dual-level measures

Effective Educational Practices This variable was measured with a scale that adapts the teaching practices included in the Teacher Efficacy Scale (TES: (Tschannen-Moran & Hoy, 2001) to be answered by students and therefore represents students' individual perceptions of their teachers' educational practices. This new scale is called Students' ratings of Teachers' Educational Practices Scale and has been validated in the Spanish context, showing adequate psychometric properties at both individual and group level of analysis (STEPS: Lera et al., 2021). Students rated in a Likert scale ranging from 1 ('nothing') to 5 ('absolutely') the degree in which their teachers use different educational practices (e.g., 'Does your teacher get you and your classmates to follow classroom rules?'; 'Does your teacher craft good questions in class?'; 'Does your teacher help you and your classmates value learning?'). Particularly, students were asked to rate the leading teacher in their class (i.e., in this context is the teacher who teaches some subjects but also is in charge of such class or group and therefore coordinates the teachers who all teach their subjects or sections of the same class, keeps track of students' absences and is in contact with students' parents), who usually is the teacher who knows them well and spends more time with the class-group (i.e., tutor or class coordinator). This scale comprises 24 items organized in three factors (classroom management, instruction, and motivation or teacher emotional support) that offer a general mean score of effective educational practices ($\omega_w = 0.86$, $\omega_b = 0.98$).

Academic Self-efficacy We selected the 10 items with higher loadings in the 'academic self-efficacy' dimension of the Spanish version of the Children Perceived Self-Efficacy scale (CPSE: Carrasco Ortiz & del Barrio Gandara, 2002)

that gives a general score of students' efficacy beliefs about their academic skills (e.g., "how confident are you to learn mathematics?"). Response categories range from 1 ('very unconfident') to 5 ('very confident'). Higher values indicate higher academic-related self-efficacy levels ($\omega_w = 0.87$, $\omega_b = 0.97$).

Subjective Well-being This variable was measured with an adaptation of the KIDSCREEN-10 Index in its Spanish version (Erhart et al., 2009; Ravens-Sieberer et al., 2010). It is a self-report scale composed by 10 Likert-type items with 5 response categories (from 'never' to 'always') measuring health and positive well-being indicators in children and adolescents between 8 and 18 years old (e.g., "Thinking about the last week... Have you felt lonely? / Have you had fun with your friends? / Have you felt fit and well?"). Our adaptation consisted in discarding three items (i.e., "Have you had enough time for yourself?"; "Have you been able to do the things that you want to do in your free time?"; "Have your parent(s) treated you fairly?") because they do not fit with the school context in which we asked students how they feel (i.e., "considering your time in the school during the last week..."). After recoding inverted items, the scale provides a total mean score (from 1 to 5) in which higher values indicate better well-being ($\omega_w = 0.54$, $\omega_b = 0.95$).

Academic Performance This outcome was assessed through the official grades in two school subjects (mathematics and language) in the first evaluation of the year (December). The grades range from 0 (min.) to 10 (max.). The evaluation was carried out by the teachers following the official procedure described in their curricula programs.

Data analysis

A multilevel mediation model (1-1-1) was chosen as the most appropriate tool. It was performed in RStudio, Version 1.2.5042 with R version 4.0.0 (R Core Team, 2020), by using the "lavaan" package (Rosseel et al., 2017). The suitability of our variables for multilevel analyses was assessed through computing ICC(1) and ICC(2) indexes, which are, respectively, indicators about the proportion of variance explained by group membership and reliability (Bliese, 2000). Then, a two-level SEM (Structural Equation Modeling) mediation model was undertaken, with educational practices as predictor, academic self-efficacy as mediator and three outcomes (well-being and performance in two subjects, math, and language). A robust estimator was used (MLR, Robust Maximum Likelihood). Due to the individual nature of all variables, we chose a 1-1-1 model to test the multilevel hypotheses. This means that measurement

and structural parameters are simultaneously computed at level-1 (individuals/students) and at aggregated level-2 (teacher/class).

Results

Preliminary analyses

Table 1 shows descriptive statistics, reliability, ICC, and product-moment correlations among study variables. As we can observe, ICC(1) values were all above 0.10, thus supporting the use of a multilevel approach (Bliese, 2000). According to the ICC(1) interpretation, 31% of the educational practices variance, 19% of the academic self-efficacy variance, 16% of the well-being variance, 49% of the math grades variance, and 53% of the language grades variance may be due to group membership. ICC(2) values were 0.90 for educational practices, 0.81 for academic self-efficacy, 0.79 for well-being, 0.95 for math grades, and 0.96 for language grades, indicating acceptable reliability values and adding support for the choice of a multilevel approach.

Prior to the hypotheses testing, group differences on well-being, performance, and academic self-efficacy were tested. Independent sample t-tests were performed, by comparing differences based on sex, educational level, and region-based groups. Results showed that boys scored significantly lower than girls on academic self-efficacy [$t(1841) = -4.11, p < .01$], math grades [$t(2054) = -3.35, p < .01$] and language grades [$t(2071) = -6.22, p < .01$], and significantly higher than girls on well-being [$t(1938) = 2.72, p < .01$]. For educational stages (primary vs. secondary), primary students showed higher levels on academic self-efficacy [$t(1865) = 14.31, p < .01$], well-being [$t(1912) = 13.52, p < .01$], math grades [$t(2106) = 21.30, p < .01$], and language grades [$t(2114) = 15.31, p < .01$]. For region (Andalusia vs. Basque Country), students from the Basque Country reported higher levels of academic self-efficacy [$t(1926) = -12.75, p < .01$], well-being [$t(1978) = -12.10, p < .01$], math grades [$t(2165) = -11.56, p < .01$], and language grades [$t(2182) = -9.91, p < .01$].

Hypotheses testing

To test the mediation hypotheses (which stated that educational practices will be related to well-being and performance through academic self-efficacy, at both individual and class level), we ran three SEM models with the same structural relations at both levels (educational practices – academic self-efficacy – well-being; educational practices – academic self-efficacy – math performance; educational practices – academic self-efficacy – language performance).

The overall fit (for both the measurement and structural components) was acceptable for the model with well-being as outcome ($\chi^2/df = 2.65, CFI = 0.88, TLI = 0.88, RMSEA = 0.04, SRMR_{within} = 0.04, SRMR_{between} = 0.14$), acceptable for the model with math performance as outcome ($\chi^2/df = 0.8, CFI = 1, TLI = 1, RMSEA = 0.00, SRMR_{within} = 0.04, SRMR_{between} = 0.11$), and also acceptable for the model with language performance as outcome ($\chi^2/df = 1.98, CFI = 0.93, TLI = 0.92, RMSEA = 0.03, SRMR_{within} = 0.04, SRMR_{between} = 0.11$).

Subjective well-being

For our first outcome, at level 1, (individual level) all parameters for the measurement model (items loading on their corresponding factors) were significant ($p < .01$)¹. For the structural model, educational practices were meaningfully related to academic self-efficacy ($\beta = 0.37, p < .01$), academic self-efficacy was meaningfully related to well-being ($\beta = 0.64, p < .01$) and, even when introducing self-efficacy into the equation, educational practices was still meaningfully related to well-being ($\beta = 0.11, p < .01$). Both the total ($\beta = 0.35, p < .01$) and indirect ($\beta = 0.24, p < .01$) effects turned out to be significant (see Fig. 1).

At level 2, (class level), items from all scales were significantly loaded on their corresponding factors (measurement model; $p < .05$). For the structural model, educational practices were meaningfully related to academic self-efficacy ($\beta = 0.62, p = .01$), academic self-efficacy was meaningfully related to well-being ($\beta = 0.99, p < .01$) and, when introducing self-efficacy into the equation, educational practices was not meaningfully related to well-being ($\beta = -0.03, p = .76$). Both the total ($\beta = 0.58, p = .02$) and indirect ($\beta = 0.61, p = .03$) effects turned out to be significant (see Fig. 2).

Overall, we found a partial mediation at the individual level and a total mediation at the class level. This means that, at the individual level, the effect of teachers' educational practices over student's well-being is partially depending on the effect of academic self-efficacy over well-being. At the class level, the effect of teachers' educational practices (students' mean rating) over the group mean of well-being is no longer significant when we introduced group aggregated or collective self-efficacy, which means that the relationship between the educational practices and the well-being depends on the relationship through the academic self-efficacy.

¹ Except for the first item loading on each factor, which was fixed to 1 in all models.

Table 1 Mean, standard deviation, omega reliability, ICC values and correlations among study variables

Variable	M (SD)	ω^w	ω^b	ICC ¹	ICC ²	Skew	Kurt	1	2	3s	4	5	6	7	8
1-Sex	1.52 (0.50)	-	-	-	-	-0.07	-2	-	-	-	-	-	-	-	-
2-Age	12.76 (1.95)	-	-	-	-	0.05	-0.29	-0.01	-	-	-	-	-	-	-
3-Educational stage	-	-	-	-	-	2.25	9.19	-0.00	0.71**	-	-	-	-	-	-
4-Region	-	-	-	-	-	0.09	-1.99	-0.00	-0.52**	-	-	-	-	-	-
5-Educational Practices	3.90 (0.81)	0.86	0.98	0.31	0.90	-0.81	0.71	-0.04	-0.24**	0.19**	-	-	-	-	-
6-Academic Self-efficacy	3.58 (0.76)	0.74	0.97	0.19	0.81	0.27	1.95	-0.10**	-0.31**	-0.23**	0.27**	0.37**	-	-	-
7-Well-being	2.91 (0.45)	0.71	0.98	0.16	0.79	-0.96	1.03	0.06**	-0.33**	-0.26**	0.26**	0.30**	0.53**	-	-
8-Performance (math)	18.03 (8.46)	-	-	0.49	0.95	0.79	3.11	-0.07**	-0.31**	-0.30**	0.24**	0.15**	0.34**	0.27**	-
9-Performance (language)	18.2 (7.68)	-	-	0.53	0.96	0.28	-0.43	-0.14**	-0.23**	-0.24**	0.21**	0.15**	0.32**	0.21**	0.87**

* $p < .05$; ** $p < .01$; N = 2031M = Mean; SD = Standard Deviation; ω^w = Omega Reliability Within Groups; ω^b = Omega Reliability Between Groups; ICC = Intraclass Correlation Coefficient; Skew = Skewness; Kurt = Kurtosis

Academic performance

Our second outcome was composed by two indicators of performance, as were grades in two basic subjects: math and language.

In the case of math grades, at level 1, (individual level) all parameters for the measurement model (items loading on their corresponding factors) were significant ($p < .01$). For the structural model, educational practices were meaningfully related to academic self-efficacy ($\beta = 0.38, p < .01$), academic self-efficacy was meaningfully related to math grades ($\beta = 0.36, p < .01$) and, even when introducing academic self-efficacy into the equation, educational practices was still meaningfully related to math grades ($\beta = -0.01, p = .02$). However, just the indirect ($\beta = 0.25, p < .01$), but not the total effect ($\beta = 0.04, p = .22$), turned out to be significant (see Fig. 1).

At level 2, (class level), all items used in this study were significantly loaded on their corresponding factors (measurement model; $p < .05$), except for item 5 in the educational practices scale ($p = .21$, *the teacher tells you how to behave*). For the structural model, educational practices were meaningfully related to academic self-efficacy ($\beta = 0.65, p = .01$), academic self-efficacy was meaningfully related to math grades ($\beta = 0.51, p < .01$) and, when introducing self-efficacy into the equation, educational practices was not meaningfully related to math grades ($\beta = 0.05, p = .71$). Both the total ($\beta = 0.38, p = .01$) and indirect ($\beta = 0.33, p = .04$) effects turned out to be significant (see Fig. 2).

For language grades, at level 1, (individual level) all parameters for the measurement model (items loading on their corresponding factors) were significant ($p < .01$). For the structural model, educational practices were meaningfully related to academic self-efficacy ($\beta = 0.37, p < .01$), academic self-efficacy was meaningfully related to language grades ($\beta = 0.38, p < .01$) and, even when introducing academic self-efficacy into the equation, educational practices was still meaningfully related to language grades ($\beta = -0.09, p = .03$). However, just the indirect ($\beta = 0.14, p < .01$), but not the total effect ($\beta = 0.05, p = .11$), turned out to be significant (see Fig. 1).

At level 2, (class level), all items were significantly loading on their corresponding factors (measurement model; $p < .05$), except, again, for the item 5 in the educational practices scale ($p = .22$). For the structural model, educational practices were meaningfully related to academic self-efficacy ($\beta = 0.65, p = .02$), but neither academic self-efficacy was meaningfully related to language grades ($\beta = 0.27, p = .11$), nor educational practices was meaningfully related to language grades, once introduced academic self-efficacy into the equation ($\beta = 0.17, p = .26$). In this case,

Student level

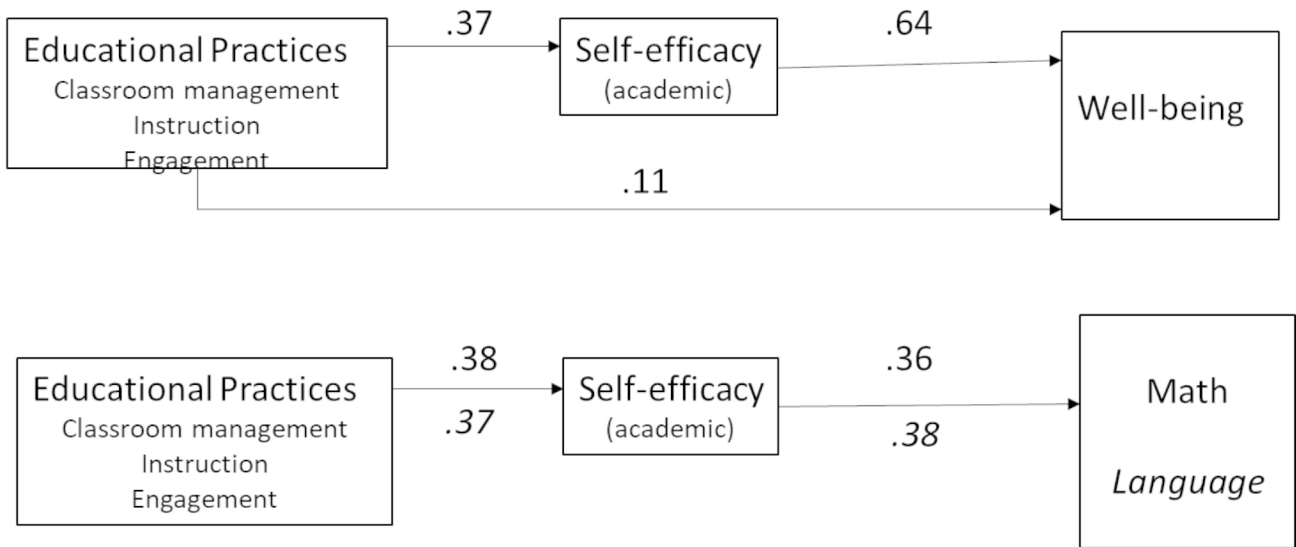


Fig. 1 Effect of educational practices on both well-being, and math and language grades, mediated through self-efficacy at student level (Beta coefficients)

Class level

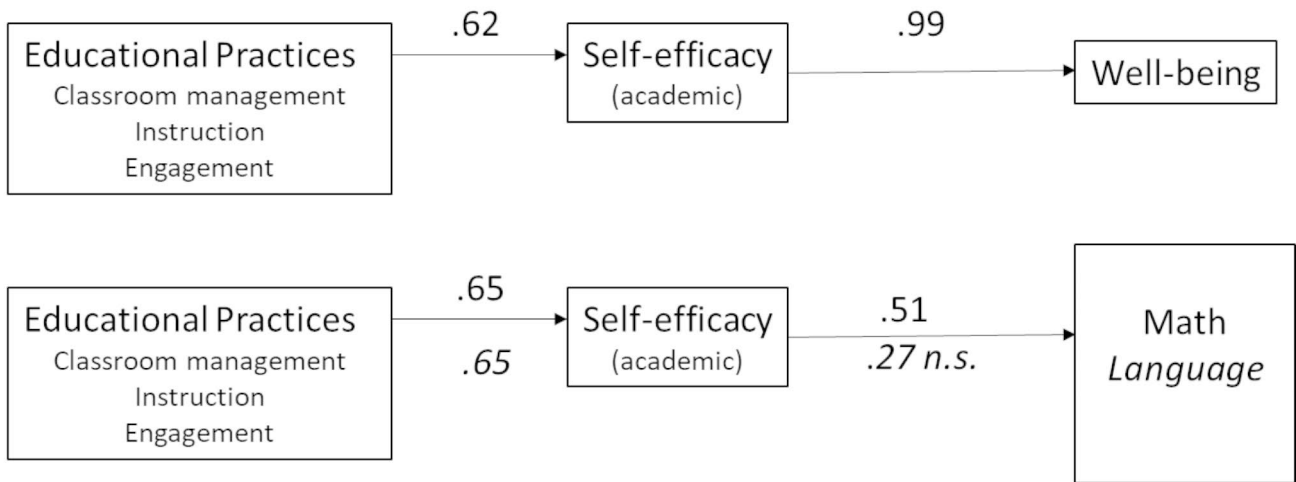


Fig. 2 Effect of educational practices on both well-being, and math and language grades, mediated through self-efficacy at class level (Beta coefficients)

just the total ($\beta = 0.34, p = .01$), but not the indirect ($\beta = 0.17, p = .19$), effect turned out to be significant (see Fig. 2).

Overall, for both performance indicators -math and language-, we found support for a partial mediation at the individual level. At the class level, support for a total mediation was found for the model with math grades as outcome, but no meaningful indirect effect was found for the model with

language grades. This means that, at the individual level, the effect of educational practices over student performance (in both math and language subjects) is partially depending on the effect of individuals' perceptions of academic self-efficacy over performance. At the class level, the effect of educational practices over the group mean performance in math is no longer significant when we introduced group

aggregated or collective academic self-efficacy, which means that the relationship between the educational practices and math performance totally depends on the relationship through the self-efficacy (mediator). This result was not replicated when tested over performance in language.

Discussion

This study addressed the relationship between teachers' effective educational practices (rated by students) and both students' academic achievement and well-being, mediated by students' self-efficacy, which is viewed as a potential mechanism that may help explain such educational practices-outcomes relationship. In this regard, we describe our results from a multilevel mediation model according to the two levels that have been explored: individual or student level, and group or class level.

Regarding sociodemographic variables, in this study the boys scored significantly lower than girls on academic self-efficacy, math and language grades, and significantly higher than girls on well-being. In this line, our results are opposite to the results from a meta-analysis containing 247 independent studies that indicated a significant difference in self-efficacy in favor of boys, although the effect size was small (Huang, 2013). In contrast, like in our study, Diseth and colleagues (2012) also found that boys reported higher life satisfaction than girls; however, in the general population, a recent meta-analysis has shown no significant gender differences in subjective well-being (Batz-Barbarich et al., 2018). Considering that contradictory findings have been reported in the literature, future research should shed some light on the potential contextual variables that may explain possible gender differences in these variables.

The decrease of levels for academic and nonacademic outcomes as students grow is also confirmed in this study, probably because they must take more responsibility in other domains, or they get less motivated as they advance in their school levels (Harter, 1996). Also, the data points out that students from the Basque Country reported higher levels of both outcomes than Andalusian students, suggesting that lower socioeconomic background, which is a general differentiating factor in these regions, is associated with lower general school outcomes (Muijs et al., 2014).

Regarding the analysis of the effect of educational practices on students' well-being, at individual level, our results suggest that there is a significant relationship between teachers' effective educational practices and students' well-being. Hence, although this direct effect is weak, taking into consideration the indirect effect, it exists through mediation. In other words, as expected, when students perceive their teachers as competent in managing the class, giving direct

and clear instructions, and being supportive to them, those students reported higher levels of self-efficacy, which, in turn, is associated with higher well-being.

Considering class level, the direct effect of effective educational practices on students' well-being is not significant. However, there is a significant mediation of the educational practices through self-efficacy that reveals a moderate indirect effect. In other words, the effect of effective educational practices at the class level on students' well-being is totally mediated by students' self-efficacy.

In sum, although these results need to be interpreted with caution, it seems that the impact of effective educational practices on students' well-being through self-efficacy is significant both at the individual and group level, suggesting not only that teachers need to pay individual attention to students and establish positive dyadic interactions, but also educational practices need to consider the group as a potential source for developing collective self-efficacy beliefs, which may contribute to better students' well-being (Usher & Pajares, 2008). In this regard, studies conducted with samples of adolescents have shown that self-efficacy beliefs facilitate emotions management, and establish positive interpersonal relationships, which contribute to experiencing positive emotions and life satisfaction, and being less vulnerable to stress and depression as well (Caprara et al., 2006; Steca et al., 2014).

Finally, regarding the relationship between educational practices and students' performance, at individual level, the results support our hypotheses suggesting that effective educational practices are associated with better students' self-efficacy, which may result in better performance in math and language. In other words, in this study, self-efficacy beliefs were associated with better outcomes in math and language, confirming the relevance of this variable for both the academic and psychological outcomes, and the importance of teaching practices as a valuable source for increasing self-efficacy beliefs in students.

At the class level the picture is a bit different. Overall, at the class level, our findings are in line with Opdenakker and Van Damme's conclusions (2000): classes have an important influence on students' achievement and well-being; however, achievement and well-being need to be considered as two different outcomes. In that sense, our study affirms that those classes in which teachers' educational practices were highly rated by their students were associated with higher levels of collective self-efficacy, which, in turn, is related to an increase in the average outcomes of the class in math but not in language. The lack of relationship with language performance in these regards could be explained by stating that teaching practices and self-efficacy may affect more math than language, as has been shown in previous research (Sammons et al., 2008). Language can be

more influenced by other external factors, such as quality of home education, whereas math is more directly affected by teaching practices. In addition, it is possible that academic self-efficacy is more related to math because students persevere more in this difficult subject, whereas language is the result of socialization; future studies need to shed light on this finding.

Limitations and further research

Several limitations need to be considered when interpreting and generalizing these findings. First, the cross-sectional and self-reported nature of our data prevents us from making causal inferences. Future studies may benefit from replicating our results over time with longitudinal designs that include other sources of information and measures (e.g., external observers measuring teachers' effective educational practices or including other academic outcomes reported by teachers). Second, given that the correct form of reading cross-level effects is to explain that the group-level scores are related to the group-level aggregated individual means (González-Romá, 2019; González-Romá & Hernández, 2017), we opted for testing a 1-1-1 multilevel mediation model instead of a 2-1-1 model to avoid misinterpretations. In other words, all structural relations were simultaneously estimated and discussed at both individual and group level (by aggregating those individual-in-nature variable scores for the level 2 estimation). However, future studies might consider testing alternative models and explore how shared perceptions emerge in educational contexts.

Practical implications and conclusion

Despite the limitations inherent to the design and its associated methodological issues, these results have interesting implications for practice. For example, teacher training program designs may benefit from an integrative approach that include training teachers to be sensitive with each student's particular needs and competences, while considering the group and its social dynamics as a source for developing collective resources that can improve students' academic achievement and well-being. Teachers could promote students' self-efficacy when providing supportive close relationships and a positive climate and learning environment. In doing so, teachers need to provide positive feedback, avoid comparison with other classmates, encourage students to carry on, help them to success, and facilitate collective positive self-efficacy beliefs for the whole group, as it has been promoted by certain educational European programs (e.g., Lifelong Learning Programme, 2009).

In addition, in the educational arena, until now, most of the attention has been paid to improve academic outcomes,

investing more time in curricula contents, giving quality instruction, including good classroom management and good teacher-student's relations. However, when psychological outcomes have been considered, educational practices are relevant, too, especially regarding the role of teachers promoting self-efficacy (individual and collective) and its association with well-being. Our results suggest that policy-makers should consider including students' well-being and other non-cognitive variables as relevant outcomes when assessing teaching quality and schools' performance.

In conclusion, children spend an important amount of their time in school contexts and, therefore, their experiences with teachers and peers have a pivotal role in their socio-cognitive development and well-being. Our results highlight that implementing effective educational practices, like managing the classroom to provide clear instructions, feedback, and a supportive teacher-student relationship, can improve students' well-being through the development of their self-efficacy beliefs.

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