Perceived social support and school engagement in secondary students

Apoyo social percibido e implicación escolar del alumnado de educación secundaria

Oihane FERNÁNDEZ-LASARTE, PhD. Lecturer. Universidad del País Vasco (oihane.fernandezl@ehu.eus).
Eider GOÑI, PhD. Assistant Professor. Universidad del País Vasco (eider.goni@ehu.eus).
Igor CAMINO, PhD. Lecturer. Universidad del País Vasco (igor.camino@ehu.eus).
Estibaliz RAMOS-DÍAZ, PhD. Assistant Professor. Universidad del País Vasco (estibaliz.ramos@ehu.eus).

Abstract:

Secondary education is a stage in which many changes occur, including evolution in students’ relationships with teachers, family, and peers. Despite adolescents’ need for independence from adults, these processes continue to affect students’ adjustment. Therefore, perceived social support can be an important contextual variable in school engagement to prevent high levels of educational failure and school dropout. Consequently, the main aims of this study are: to examine the relationship between perceived social support (from teachers, family, and peers) and the dimensions of school engagement (behavioral engagement, cognitive engagement, and emotional engagement); to analyse differences in perceived social support and school engagement by sex and age; and to test the predictive capacity of perceived social support on school engagement. A total of 1468 Basque secondary school students (51% female; 49% male), aged between 12 and 17, participated in the study ($M = 14.03; SD = 1.36$). The Social and Family Support Scale (AFA), the Teacher and Classmate Support Scale (TCMS), and the School Engagement Measure (SEM) were administered. Student’s t-test, correlations and regression analyses were performed. The results indicate positive relationships between...
perceived social support and school engagement. Secondly, significant differences in perceived social support and school engagement by sex and age are also observed. Thirdly, perceived social support has explanatory power for school engagement, particularly emotional engagement. Finally, the results are discussed and directions for future research are proposed.

**Keywords:** perceived social support, perceived support from teachers, perceived support from families, perceived support from peers, school engagement, secondary education.

**Resumen:**

La educación secundaria es una etapa en la que acontecen muchos cambios, entre ellos la evolución de las relaciones del alumnado con el profesorado, la familia y las amistades. A pesar de la necesidad adolescente de independencia respecto a las figuras adultas, estas continúan influyendo sobre el ajuste escolar del alumnado. Por ello, el apoyo social puede ser una variable contextual relevante en la implicación escolar del alumnado, para poder afrontar las amenazas de fracaso y abandono escolar. Así, los objetivos de este estudio son: examinar la relación entre el apoyo social percibido —apoyo del profesorado, apoyo familiar y apoyo de amistades— y las dimensiones de la implicación escolar conductual, cognitiva y emocional; analizar las diferencias en el apoyo social percibido y en la implicación escolar en función del sexo y la edad del alumnado; y comprobar la capacidad predictiva del apoyo social percibido sobre la implicación escolar. En la investigación participan 1468 estudiantes de educación secundaria del País Vasco con edades entre 12 y 17 años \(M = 14.03; DT = 1.36\), 51% chicas y 49% chicos. Se emplean la escala de Apoyo Familiar y de Amistades (AFA), la subescala de Apoyo de Profesorado del instrumento (TCMS, del inglés Teacher and Classmate Support Scale) y el Cuestionario de Implicación Escolar (SEM, del inglés School Engagement Measure). Se procede con análisis estadísticos de comparación de medias \(t\) de Student, correlaciones y regresiones. Los resultados indican relaciones positivas entre el apoyo social percibido y la implicación escolar del alumnado. Además, existen diferencias significativas tanto en el apoyo social percibido como en la implicación escolar atendiendo al sexo y la edad. Por último, el apoyo social percibido tiene capacidad explicativa sobre la implicación escolar, destacando el efecto del apoyo del profesorado sobre la implicación escolar del alumnado y, en especial, sobre la implicación emocional. Finalmente, se discuten los resultados y se proponen futuras líneas de investigación.

**Descriptores:** apoyo social percibido, apoyo del profesorado, apoyo familiar, apoyo de amistades, implicación escolar, educación secundaria.
1. Introduction

Various academic disciplines, including sociology, psychology, and pedagogy, have shown an interest in social support and school engagement (González, 2010; Gracia, 2011).

The social support construct took shape in the 1970s through the work of authors like Caplan (1974), Cassel (1976), and Cobb (1976). These authors refer to social support as an individual’s perception of feeling valued, loved, and like part of a social network with shared responsibilities. Social support, therefore, has various functions and sources, and there is a distinction between perceived support and the support actually received (Gracia, 2011): social support received is objective, while the perceived support is subjective and fundamental in the adjustment of the person (Landero & González, 2006). In fact, the perceived availability of the social network and satisfaction with the support received are important aspects of the conceptualisation of social support (Sarason, Levine, Barsham, & Sarason, 1983), and the network’s quality being more important than its size (Gottlieb, 1985).

Lin (1986) offers one of the most comprehensive definitions of social support: real or perceived interactions with the community, social network, and close people, providing feelings of belonging, links, and commitment, and they have expressive or emotional and instrumental —material and informational— functions. Although research has focussed on the emotional function of social support and its value, there is evidence for the importance of the informational function and of teachers as important sources of informational support (Hombrados-Mendieta, Gómez-Jacinto, Domínguez-Fuentes, García-Leiva, & Castro-Travé, 2012).

In Bronfenbrenner’s ecological perspective (1979, 2005), the family and school are important contexts for the development and adjustment of students. Consequently, during adolescence, social sources of support from family, friends, and teachers stand out (Hombrados-Mendieta et al., 2012), contributing to the school adjustment of adolescent students (Lam et al., 2012).

School engagement, an indicator for educational adjustment, also does not have a single definition and form. One definition of school engagement is students’ experience of centripetal connection with the school (Veiga, 2016).

The academic community currently has a consensus on the multidimensional structure of school engagement, ranging from two to four components, with a tripartite structure being most widely-accepted (Ros & Zuazagoitia, 2015). However, school engagement was conceptualised in the 1980s using a one-dimensional structure of participation by students in school activities (Mosher & MacGowan, 1985; Natriello, 1984).

Authors such as Finn (1989, 1993) then formulated the participation-identification model, adding the emotional element of school engagement, understood as a sense of identification with or belonging to the school, the feelings of valuing and
accepting the school, the teachers, and classmates. These two dimensions—behavioural and emotional—influence each other mutually and have an effect on school achievement (Willms, 2003).

Later on, the three-dimensional proposal of Fredricks, Blumenfeld, and Paris (2004) included the cognitive dimension, which requires motivation, effort, and the use of learning strategies. In Spain, subsequent research has examined school engagement considering its tripartite structure—behavioural, emotional, and cognitive—(Ros, Goikoetxea, Gairín, & Lekue, 2012), dimensions that relate to each other (Li & Lerner, 2013) and will be considered in the present work.

In addition, approaches that add a fourth, academic dimension (Appleton, Christenson, Kim, & Reschly, 2006; Reschly & Christenson, 2012) or a dimension relating to capacity for action (agency) to the constructive contribution by students, that involves initiative, dialogue, questions, and suggestions. However, this overview of the theory shows that the different dimensions duplicate concepts, overlap with each other, and are not entirely clear.

In any case, the academic literature reflects the growing interest in a problem that affects educational systems and brings with it the risk of school dropout (Wang & Fredricks, 2014): lack of school engagement among students (González, 2010). School engagement is related to contextual factors such as the family, teachers, and classmates (Gutiérrez, Tomás, Romero, & Barrica, 2017; Veiga, Burden, Appleton, Taveira, & Galvão, 2014).

There are works with adolescents that show the positive relationship between school engagement and sources of perceived social support (Azpiazu, Esnaola, & Ros, 2014; Lam et al., 2012, 2016), as well as the influence of perceived social support on the dimensions of school engagement (Fredricks-Zabala, Goñi, Camino, & Zulaika, 2016; Ramos-Díaz, Rodríguez-Fernández, Fernández-Zabala, Revuelta, & Zuazagoitia, 2016; Rodríguez-Fernández et al., 2016). The works cited concur that support from teachers is especially important for students’ school engagement and is followed by family support, with support from classmates in last place.

Similarly, existing studies show significant differences in perceived social support and school engagement by sex and age. The highest scores in classmate support (Hombrados-Mendieta et al., 2012), behavioural engagement, and emotional engagement correspond to girls, while for cognitive engagement, teacher support and family support do not show significant differences between boys and girls (Fredricks-Zabala et al., 2016).

As for age, students aged 14 or under report higher levels of school engagement—behavioural, emotional, and cognitive—(Ramos-Díaz, Rodríguez-Fernández, Ros, & Antonio-Agirre, 2017), teacher support, and
family support than students aged over 14. In classmate support, however, the differences between the two age groups are not significant (Fernández-Zabala et al., 2016).

Studies carried out in different countries show that both perceived social support —family, teachers, and classmates—and school engagement are higher for girls than for boys, and that the scores fall in secondary education (Lam et al., 2012, 2016; Ros, 2014; Ros et al., 2012; Tuominen-Soini & Salmela-Aro, 2014; Wang, Chow, Hofkens, & Salmela-Aro, 2015; Wang & Eccles, 2012).

Ultimately, although academic literature suggests the existence of positive relationships between perceived social support and school engagement, as well as the influence of the first variable on the second, along with higher scores for girls and the reduction of both variables in secondary education, these results are not always statistically significant for all dimensions and they do not always match across the different studies.

2. Method
2.1. Objectives
Having seen this theoretical review of the variables being analysed, the objectives of this study are:

1) To analyse the relationship between perceived social support —support from teachers, family support, and support from friends— and the dimensions of school engagement (behavioural, emotional, and cognitive).

2) To verify the differences in the perceived social support and school engagement variables by sex and age.

3) To examine the predictive capacity of perceived social support on school engagement.

2.2. Hypothesis
The hypotheses formulated in accordance with the stated objectives are as follows:

a) Perceived social support is positively related to the dimensions of school engagement, and the strength of the association between support from teachers and students’ school engagement is especially notable.

b) Perceived social support and school engagement vary depending on sex and age: the highest scores are for girls and younger adolescent students.

c) Perceived social support has explanatory power for school engagement of students, with the predictive power of teacher support standing out.

2.3. Design
This is a comparative cross-sectional research study covering natural groups from the same culture, in other words, more than one dependent variable is compared at a time in the groups of participants, in which there are different levels in the variables such as sex and age (Ato, López, & Benavente, 2013). Use of a correlational study makes it possible to analyse the dependent variable (school engagement) and the independent variables (perceived social support from teachers, perceived social support from the family, and perceived...
social support from friends). It should be noted that this is not a non-experimental study, but rather an ex post facto one in which the variables are not manipulated, but are analysed after they occur. Finally, when speaking about the predictive or explanatory power of the predictor variable on the criterion variable, it is worth noting that it is statistical causality.

2.4. Procedure

The sample was selected randomly. In other words, the schools were picked at random from the official list of the Department of Education of the Basque Government, as were the age groups for each school. Next, the schools were contacted so the research could be presented to the teaching staff and their voluntary participation requested, with the agreement that they would be notified of the results when the research was finished. After the teachers had agreed to participate, consent from the students’ families was requested with an information letter. Once written permission had been obtained from the families, the researchers travelled to the schools to administer the set of questionnaires on paper. The students were asked to give voluntary consent and their anonymity was guaranteed to ensure they would give honest answers. In addition, the single blind procedure was used, in which students do not know the aim of the study so they are not affected by expectations, reactions, and social desirability. In addition, it was simultaneously administered to all of each group in a class to ensure equal conditions and uniformity. The researchers were in the classroom to clarify doubts and check all of the texts were completed. The time did not exceed half an hour so that the participating students would not get tired.

2.5. Participants

This research featured 1468 students from 9 secondary schools selected at random in the Basque Autonomous Region (BAR), 5 of which are public and 4 state-funded independent. Of the participating students, 49% are male and 51% female, with ages between 12 and 17 ($M = 14.03; SD = 1.36$). Two age groups were established: 60% of the students are from early adolescence (ages 12-14) and 40% intermediate adolescence (ages 15-17) (Feldman, 2007). The total number of participants in Table 1 is 1457, as 11 cases are missing values in the sex and age variables.

2.6. Measurement instruments

This study considers perceived social support in a broad sense as it covers its three dimensions: teacher support, family support, and classmate support. Likewise, school engagement is analysed in its three dimensions: behavioural, emotional, and cognitive.

Support from teachers is evaluated through the Teacher and Classmate Support Scale (TCMS) (Torsheim, Wold, & Samdal, 2000), which presents 4 items using a Likert scale of 5 points (from $1 = disagree fully$ up to $5 = agree fully$). The items measure fair treatment, help, interest, and friendliness from teachers to students. The internal consistency of the scale in the original validation is $.81$ and $.77$ for ages 13 and 15 respectively. The reliability obtained in this study is $a = .747$. 
Family and classmate support are measured using the reduced family and classmate support scale (AFA-R) (González & Landero, 2014), which comprises 14 items and 5 answer choices (from 1 = never to 5 = always) and two dimensions: family support (7 items) and classmate support (7 items). The items evaluate the perception of support from family and classmates regarding availability to talk, receive help and affection when needed. The internal consistency in the validation of the instrument for the family support dimension $\alpha = .923$ and for classmate support $\alpha = .895$. In the current work, the reliability scores are as follows: family support $\alpha = .854$ and classmate support $\alpha = .831$.

Finally, school engagement is measured using the School Engagement Measure (SEM) instrument (Fredricks, Blumenfeld, Friedel, & Paris, 2005), which has 19 items and 5 alternative answers (from 1 = never to 5 = always) to analyse its three dimensions: behavioural engagement (5 items), emotional engagement (6 items), and cognitive engagement (8 items). In the validation of the Spanish version with a sample of adolescents from the Basque Country, the instrument has the following reliability scores: $\alpha = .74$ for behavioural engagement, $\alpha = .81$ for emotional engagement, and $\alpha = .77$ for cognitive engagement (Ramos-Díaz, Rodríguez-Fernández, & Revuelta, 2016). The Cronbach’s Alphas for this study are similar to those found in the cited sample, as both samples share similar characteristics: $\alpha = .736$ in behavioural engagement, $\alpha = .819$ in emotional engagement, and $\alpha = .777$ in cognitive engagement.

### 2.7. Data analysis

First, the assumptions of normality and homogeneity of variance of the general linear model were tested. The Kolmogorov-Smirnov and Shapiro-Wilk tests indicate that the data in the variables do not follow the normal distribution, and the Levene test shows the existence of heterogeneous groups. However, visual inspection of the graphs shows the fit of the points to the normal plot and its similarity to the Gaussian distribution. Likewise, the skew and kurtosis values show that most of the groups do not exceed the value of $|1|$ and even for the variables that do exceed this value, there is not a large skew $|2|$ or high kurtosis $|3|$. Consequently, the decision to use parametric tests was taken. These are robust tests when the assumptions are violated, provided that the variables are not highly skewed (Chok, 2010; Montilla & Kromrey, 2010; West, Finch, & Curran, 1995). Furthermore, the tolerance levels and variance inflation factors guarantee the absence of colinearity between the regressors. It is also possible

<table>
<thead>
<tr>
<th>Sex</th>
<th>12-14</th>
<th>15-17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>429 (29.4%)</td>
<td>278 (19.1%)</td>
<td>707 (48.5%)</td>
</tr>
<tr>
<td>Female</td>
<td>451 (31%)</td>
<td>299 (20.5%)</td>
<td>750 (51.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>880 (60.4%)</td>
<td>577 (39.6%)</td>
<td>1457 (100%)</td>
</tr>
</tbody>
</table>
to assume the normality and homoscedasticity of the residuals from a visual inspection of the histograms, the normal P-P plots, and the scatter plots, as well as the Kolmogorov-Smirnov test. On these grounds, regression analysis was chosen.

The statistical analyses were then performed using the SPSS 24 program. Specifically, the Pearson correlations make it possible to test the linear association between the dimensions of the perceived social support and school engagement variables, as well as its direction and strength; Student’s t test compares the means of the variables being studied by sex and age; and the multiple linear regression, stepwise method, to measure the dependence between the variables, in other words, the contextual variable’s explanatory capacity for the educational variable. Cases with missing values in the variables analysed were excluded in all of the analyses mentioned.

3. Results

3.1. Relationship between perceived social support and school engagement

Table 2 shows the Pearson correlation coefficients between perceived social support (teacher support, family support, and classmate support) and school engagement (behavioural, emotional, and cognitive), as well as Cronbach’s Alpha for each factor.

The relationship between the perceived social support dimensions and the school engagement scales is statistically significant and positive, apart from the association between classmate support and cognitive engagement, which is not statistically significant. Regarding the intensity of the relationship, teacher support and emotional engagement are the social support and school engagement dimensions with the strongest relationship. In fact, the relationship between teacher support and emotional engagement is moderately strong. These dimensions are followed by

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teacher support</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Family support</td>
<td>.280***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Classmate support</td>
<td>.065*</td>
<td>.314***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Behavioural engagement</td>
<td>.376***</td>
<td>.296***</td>
<td>.052*</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Emotional engagement</td>
<td>.474***</td>
<td>.323***</td>
<td>.194***</td>
<td>.475***</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>6. Cognitive engagement</td>
<td>.318***</td>
<td>.242***</td>
<td>.024</td>
<td>.396***</td>
<td>.439***</td>
<td>–</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td>.747</td>
<td>.854</td>
<td>.831</td>
<td>.736</td>
<td>.819</td>
<td>.777</td>
</tr>
</tbody>
</table>

Note: Correlation coefficients (Bisquerra, 2004): <.20 very low, .20-.39 low, .40-.59 moderate, .60-.79 high, >.80 very high. *p < .05. ***p < .001.
Source: Own elaboration.
family support and behavioural engagement. The classmate support and cognitive engagement scales have the weakest connection. Consequently, the data suggest that the higher the perceived social support, the greater the school engagement, and vice versa: the lower the perceived social support, the lower the school engagement.

3.2. Perceived social support and school engagement: differences by sex and age

In order to test the existence of differences by sex and age, Tables 3 and 4 show the results of Student’s $t$ test for independent samples corresponding to perceived social support and school engagement respectively.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Sex</th>
<th>n</th>
<th>M</th>
<th>ST</th>
<th>t</th>
<th>p</th>
<th>$d_{\text{Cohen}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher support</td>
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<td>710</td>
<td>13.44</td>
<td>3.26</td>
<td>-1.07</td>
<td>.286</td>
<td>.056</td>
</tr>
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<td>753</td>
<td>13.62</td>
<td>3.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support</td>
<td>Male</td>
<td>710</td>
<td>29.34</td>
<td>4.56</td>
<td>-.71</td>
<td>.477</td>
<td>.037</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>753</td>
<td>29.52</td>
<td>5.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classmate support</td>
<td>Male</td>
<td>710</td>
<td>27.10</td>
<td>4.52</td>
<td>-10.13</td>
<td>.000***</td>
<td>.534</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>753</td>
<td>29.42</td>
<td>4.22</td>
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<table>
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<tr>
<th>Dimensions</th>
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<th>M</th>
<th>ST</th>
<th>t</th>
<th>p</th>
<th>$d_{\text{Cohen}}$</th>
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<tbody>
<tr>
<td>Teacher support</td>
<td>12-14</td>
<td>882</td>
<td>13.86</td>
<td>3.29</td>
<td>4.93</td>
<td>.000***</td>
<td>.273</td>
</tr>
<tr>
<td></td>
<td>15-17</td>
<td>578</td>
<td>13.03</td>
<td>3.03</td>
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</tr>
<tr>
<td>Family support</td>
<td>12-14</td>
<td>882</td>
<td>29.85</td>
<td>4.71</td>
<td>3.93</td>
<td>.000***</td>
<td>.206</td>
</tr>
<tr>
<td></td>
<td>15-17</td>
<td>578</td>
<td>28.83</td>
<td>4.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classmate support</td>
<td>12-14</td>
<td>882</td>
<td>28.34</td>
<td>4.50</td>
<td>.57</td>
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<td></td>
<td>15-17</td>
<td>578</td>
<td>28.21</td>
<td>4.55</td>
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<td></td>
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</tr>
</tbody>
</table>

Source: Own elaboration.

The results suggest there are significant differences in classmate support by sex, favouring the girls. In other words, girls receive more social support from friends than their male counterparts do. Furthermore, the effect size is small ($d = .534$). With teacher support and family support, the differences are not significant by sex, but are statistically significant by age. Specifically, students perceive the greatest support from their teachers and families in early adolescence. This perceived support falls in middle adolescence. Nonetheless, the effect size is small for both types of support by age: teachers ($d = .273$) and family ($d = .206$). Classmate support does not differ significantly between the two age groups.
In relation to school engagement, there are significant differences between boys and girls in the behavioural and emotional dimensions, while the differences are not significant for cognitive engagement. Again, girls that report greater emotional and behavioural engagement, and younger adolescents are more engaged behaviourally, emotionally, and cognitively. And again, as adolescence progresses, the scores in the three dimensions for school engagement decrease. Finally, the effect size is small ($d = .280$ for emotional engagement by sex; $d = .302$ and $d = .334$ for behavioural engagement and cognitive engagement by age, respectively) and on occasion the average effect is approached ($d = .403$ for behavioural engagement by sex and $d = .408$ for emotional engagement by age).

### 3.3. Prediction of perceived social support on school engagement

Finally, Table 5 contains the results found in the multiple linear regression analysis with the aim of discovering the influence of perceived social support on the school engagement dimensions.

In the three explanatory models for school engagement —behavioural, emotional, and cognitive— teacher support, firstly, and family support, secondly, appear as significant predictor variables. Classmate support, however, while it is in third place for both emotional engagement and cognitive engagement, is excluded from the model for behavioural engagement.

### Table 4. School engagement by sex and age.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Sex</th>
<th>n</th>
<th>M</th>
<th>ST</th>
<th>t</th>
<th>p</th>
<th>d_{Cohen}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural engagement</td>
<td>Male</td>
<td>710</td>
<td>3.73</td>
<td>.60</td>
<td>−7.62</td>
<td>.000***</td>
<td>.403</td>
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<tr>
<td></td>
<td>Female</td>
<td>753</td>
<td>3.96</td>
<td>.55</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Emotional engagement</td>
<td>Male</td>
<td>710</td>
<td>3.50</td>
<td>.70</td>
<td>−5.35</td>
<td>.000***</td>
<td>.280</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>753</td>
<td>3.69</td>
<td>.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive engagement</td>
<td>Male</td>
<td>710</td>
<td>2.84</td>
<td>.73</td>
<td>−.47</td>
<td>.640</td>
<td>.025</td>
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<table>
<thead>
<tr>
<th>Dimensions</th>
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<th>n</th>
<th>M</th>
<th>ST</th>
<th>t</th>
<th>p</th>
<th>d_{Cohen}</th>
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<td>Behavioural engagement</td>
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<td>.59</td>
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<td>.57</td>
<td></td>
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<td>Emotional engagement</td>
<td>12-14</td>
<td>882</td>
<td>3.71</td>
<td>.69</td>
<td>7.79</td>
<td>.000***</td>
<td>.408</td>
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<td>15-17</td>
<td>578</td>
<td>3.43</td>
<td>.65</td>
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<td>Cognitive engagement</td>
<td>12-14</td>
<td>882</td>
<td>2.93</td>
<td>.73</td>
<td>6.08</td>
<td>.000***</td>
<td>.334</td>
</tr>
<tr>
<td></td>
<td>15-17</td>
<td>578</td>
<td>2.71</td>
<td>.66</td>
<td></td>
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<td></td>
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</tbody>
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Note: $d$ effect size (Cohen, 1988): .200 small, .500 medium, and .800 large. ***$p < .001$.
Source: Own elaboration.
Table 5. Prediction of perceived social support on school engagement.

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>$R$</th>
<th>$\Delta R^2$</th>
<th>Standard error</th>
<th>Constant</th>
<th>$\beta$</th>
<th>$t$</th>
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<tbody>
<tr>
<td>Behavioural engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Teacher support</td>
<td>.141</td>
<td>.140</td>
<td>.54</td>
<td>2.92</td>
<td>.318</td>
<td>12.89***</td>
</tr>
<tr>
<td>Family support</td>
<td>.181</td>
<td>.179</td>
<td>.53</td>
<td>2.33</td>
<td>.207</td>
<td>8.41***</td>
</tr>
<tr>
<td>Emotional engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Teacher support</td>
<td>.224</td>
<td>.224</td>
<td>.60</td>
<td>2.23</td>
<td>.419</td>
<td>18.05***</td>
</tr>
<tr>
<td>Family support</td>
<td>.264</td>
<td>.263</td>
<td>.59</td>
<td>1.54</td>
<td>.170</td>
<td>6.97***</td>
</tr>
<tr>
<td>Classmate support</td>
<td>.275</td>
<td>.274</td>
<td>.59</td>
<td>1.19</td>
<td>.114</td>
<td>4.86***</td>
</tr>
<tr>
<td>Cognitive engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher support</td>
<td>.101</td>
<td>.100</td>
<td>.67</td>
<td>1.89</td>
<td>.270</td>
<td>10.62***</td>
</tr>
<tr>
<td>Family support</td>
<td>.127</td>
<td>.125</td>
<td>.66</td>
<td>1.32</td>
<td>.183</td>
<td>6.84***</td>
</tr>
<tr>
<td>Classmate support</td>
<td>.129</td>
<td>.127</td>
<td>.66</td>
<td>1.48</td>
<td>-.051</td>
<td>-1.98*</td>
</tr>
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</table>

Note: $\Delta R^2$ effect size (Cohen, 1988): .020 small, .130 medium, and .260 large. *p < .05. ***p < .001.
Source: Own elaboration.

Likewise, the standardised beta coefficients’ values confirm that the variable with the greatest weight in the three models is teacher support, which has a considerable difference from family support and classmate support. So, faced with the increase in teacher support, the increase in emotional engagement stands out at .419.

In turn, the adjusted coefficients of determination show that the emotional engagement model has a high explanatory power, and that the behavioural engagement and cognitive engagement models have moderate predictive power. Accordingly, the sources of social support explain 27.4% of the variance in emotional engagement, 17.9% for behavioural engagement in, and 12.7% for cognitive engagement.

4. Conclusions and discussion of the results

The first hypothesis, proposing positive and significant relationships between perceived social support and school engagement, is almost wholly proven, in line with previous research (Gutiérrez et al., 2017), apart from the relationship between classmate support and cognitive engagement, which is not significant. This also matches previous studies (Fernández-Zabala et al.,...
Furthermore, the association between teacher support and school engagement stands out. Teacher support is followed in intensity by family support with classmate support in last place. In fact, the strongest relationship is between teacher support and emotional engagement. These results correspond with earlier works (Azpiazu et al., 2014; Fernández-Zabala et al., 2016; Lam et al., 2012; Ramos-Díaz, Rodríguez-Fernández, Fernández-Zabala et al., 2016; Rodríguez-Fernández et al., 2016).

Likewise, the third hypothesis is confirmed. This relates to the explanatory power of perceived social support on students’ school engagement. The predictive power of teacher support for school engagement stands out, especially for emotional engagement. It is followed by family support, with classmate support in last place. While classmate support has a positive influence on emotional engagement —in other words on the students’ sense of identification or belonging— its influence on behavioural engagement —student participation— is not significant, and it negatively affects cognitive engagement, in other words, investment in learning. These findings concur with previous analyses which found a larger effect on school engagement from teachers than from the family and found that classmate support does not have an effect (Lam et al., 2012; Ramos-Díaz, Rodríguez-Fernández, Fernández-Zabala et al., 2016) or that it has a negative effect on cognitive engagement (Fernández-Zabala et al., 2016; Rodríguez-Fernández et al., 2018). It should also be noted that there is evidence for a lack of predictive power for peers along with a greater influence for the family than teachers on school engagement (Gutiérrez et al., 2017).

In any case, even though adolescent students need support and care in their relationships with family, teachers, and classmates (Wonglorsaichon, Wongwanich, & Wiratchai, 2014), support from the first two groups is more important than support from classmates in for students to achieve school engagement in secondary education (Lam et al., 2016): the family provides emotional and instrumental support and teachers provide informational support (Hombrados-Mendieta et al., 2012). During adolescence —a stage marked by numerous changes and the need for independence from parents (Feldman, 2007)— teachers are a source of adult support providing guidance, advice, and information. Therefore, teachers can be a highly effective source of support to meet the need for frequent information during adolescence.

For their part, prosocial friendships can have a positive influence on adolescent students’ school engagement, while antisocial friendships or problematic ones have a negative influence (Li, Lynch, Kalvin, Liu, & Lerner, 2011; Wang &
Eccles, 2012). In addition, the greater time invested in friendships during adolescence (Hernando, Oliva, & Pertegal, 2013) can have a detrimental impact on school engagement, as it can take time away from school work.

Similarly, the second hypothesis, regarding differences in perceived social support and school engagement by sex and age, is supported. The differences in classmate support favour girls, as has been found in previous works (Hombrados-Mendieta et al., 2012). This is also the case for the behavioural and emotional dimensions of school engagement. They also favour younger adolescent students in teacher and family support, and in the three dimensions of school engagement (Fernández-Zabala et al., 2016; Ramos-Díaz et al., 2017). In general, the results of this work concur with the existing academic literature, which provides evidence for a greater perception of social support and school engagement by girls and a reduction in both variables during secondary education (Lam et al., 2012, 2016; Ros, 2014; Ros et al., 2012; Tuominen-Soini & Salmela-Aro, 2014; Wang et al., 2015; Wang & Eccles, 2012).

The differences observed could relate to differing socialisation by sex and different expectations by families and teachers. Girls tend to be educated more for emotional, expressive, communicative, and bonding development, and boys receive more encouragement to be independent and autonomous. Consequently, girls might regard friendship as more important and have a larger number of closer and more intimate friends (Martínez & Fuentes, 1999). As a result, they might perceive greater social support from friends.

In this area, teachers should make an effort to combat the influence of stereotypes, including lower academic engagement by boys (Heyder & Kessels, 2015), as expectations can be activated but not necessarily applied (Glock & Krolak-Schwerdt, 2014). To achieve equitable treatment of students at school, teachers must be aware of and monitor possible unwanted influences from their thoughts, ensuring they judge students according to their individual characteristics and not because they belong to a particular group.

On the other hand, the fall in scores in mid-adolescence could be because this is the most critical stage in adolescence, when the desire for independence from adult figures grows (Feldman, 2007). Despite this, perceived family support continues to be vital for adolescent adjustment (Musitu & Cava, 2003). Secondary education might involve a bigger school and more teachers, circumstances that can worsen the quality of the relationship between teachers and students. Furthermore, the increase in control and discipline in a stage characterised by the need for autonomy, more academic pressure, and competitiveness could be factors that lead to the loss of school engagement and valuing of learning (Wang & Eccles, 2012; Wang et al., 2015).

In any case, it is important to identify the first signs of the process of lack
of school engagement in order to intervene and prevent it by improving support relationships between teachers and students (Ang, Huan, Chan, Cheong, & Leaw, 2015). Possible antidotes for a lack of school engagement among students, include proposing that teachers awaken students’ interest and offer a stimulating education with opportunities for analysis and critical thinking about the academic context, in other words, an education that involves students as active agents of change (Yonezawa, Jones, & Joselowsky, 2009).

On this line, teachers should support the students’ need for autonomy, exercise less restrictive control, help reduce pressure from evaluations and competitive work, and increase the students’ motivation and school engagement (Raufelder et al., 2014). Teachers can also encourage students to participate in extracurricular activities that are a source of motivation and enjoyment.

In short, teachers should be aware of their great influence on the students’ school engagement and, in particular, on their emotional engagement. This is why it is important to work on positive emotions towards students’ work and school (Wang, et al., 2015). Ultimately, teachers must be engaged in improving interpersonal relationships, participation, valuation, and learning in the school setting and also engage the students and their families in these factors.

That said, this study has limitations deriving from it being transversal, and so there is a need to perform future longitudinal studies that make it possible to study the two variables —perceived social support and school engagement— throughout adolescence. Furthermore, it would be a good idea to study other stages such as childhood, late adolescence, and young adulthood, which coincide with primary and university education, to test the relationship between the variables and differences by sex and age.

With a view to future research, it would also be useful if, as well as students, other sources of information were considered, such as teachers and families. This way, it would be possible to use not only self-reports but also other information collections methods such as interviews. Similarly, it would be a good idea to continue this line of research including other variables such as the educational styles of families and teachers, as well as studying the sociometric status of the peer group. Again, other educational variables could be included, such as academic performance, measured through self-reports and objective tests like the students’ grades. Finally, more complex analyses could be performed to provide as accurate an explanation as possible for the complexity of human behaviour through models of structural equations that simultaneously examine the relationships between the contextual-educational factors and which enable the integration of psychological variables such as self-concept and emotional intelligence.
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Authors’ biographies

Oihane Fernández-Lasarte is a PhD in Psychodidactics and Professor in the Department of Didactics and School Organization in the Faculty of Education and Sports of the Universidad del País Vasco (UPV/EHU). Her research focuses on school adjustment linked to contextual and psychological variables in adolescence and youth.

https://orcid.org/0000-0003-3558-7027

Eider Goñi is a PhD in Psychology and Professor in the Department of Evolutionary and Education Psychology of the UPV/EHU in the Faculty of Education and Sports. Her research activity, linked to the Psikor research group, encompasses self-concept and psychosocial adjustment. She currently teaches in the Master of Psychodidactics and directs several doctoral theses.

https://orcid.org/0000-0003-1821-6144

Igor Camino is a Doctor in Pedagogy from the Universidad del País Vasco (UPV/EHU). He develops his teaching and research work in the Department of Theory and History of Education. His research activity has been developed within the Psikor research group, following lines related to teaching coordination and the use of active methodologies.

https://orcid.org/0000-0002-5279-1612

Estibaliz Ramos-Díaz is a PhD in Psychology and Professor in the Department of Evolutionary and Education Psy-
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chology of the UPV/EHU in the Faculty of Education and Sports. His research work addresses resilience and psychosocial adjustment.

https://orcid.org/0000-0002-7493-2973
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