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Modelling the Effect of School Engagement on Attendance to Classes and School Performance[☆]



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ABSTRACT

This study seeks modelling the structure that relates school engagement with a direct effect on the dependent variables: attendance to classes and school performance. The indirect effect of contextual variables (Family, Teachers and Classmates) on the dependent variables through school engagement. A sample of 1170 students of 12–17 years old was used. Two questionnaires are answered by every student to assess school engagement and contextual variables. Information about school performance and percentage of attendance to classes is provided by holders of municipal schools. School engagement is considered as conformed by three subtypes of engagements (affective, cognitive and behavioural). Structural equation modelling is performed to determine the fit of model to data. The mediation model proposed presented a good fit (RMSEA = .045; CFI = .944, TLI = .940). Cognitive engagement has a direct positive and moderated effect on school performance. Affective engagement has a direct positive and moderated effect on attendance to classes. School engagement is a variable to consider affecting the dependent variables school performance and attendance to classes. An important issue is that school engagement and contextual variables are modifiable aspects of a student life. Because of that, intervention programmes who seek to improve the school performance could consider it.

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Modelización del efecto del compromiso escolar sobre la asistencia a clases y el rendimiento escolar

RESUMEN

El presente estudio busca modelizar la estructura que relaciona el compromiso escolar con un efecto directo sobre las variables dependientes: asistencia a clases y rendimiento escolar. Además, se considera el efecto indirecto de variables contextuales (Familia, Profesores y Pares) sobre las variables dependientes, a través del compromiso escolar. Se utiliza una muestra de 1170 estudiantes con edades entre 12 y 17 años. Dos cuestionarios son respondidos por cada estudiante para evaluar el compromiso escolar y las variables contextuales. La información sobre el rendimiento escolar y el porcentaje de asistencia a las clases es proporcionada por los sostenedores municipales de los establecimientos escolares. Se considera el compromiso escolar como formado por tres subtipos de compromiso (afectivo, cognitivo y conductual). Se realiza un análisis de modelo de ecuaciones estructurales para determinar el grado de ajuste del

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modelo a los datos. El modelo de mediación presenta un buen ajuste (RMSEA = .045; CFI = .944; TLI = .940). El compromiso cognitivo tiene un efecto directo, positivo y moderado sobre el rendimiento escolar. El compromiso afectivo tiene un efecto directo, positivo y moderado en la asistencia a las clases. El compromiso escolar es una variable que presenta un efecto sobre el rendimiento escolar y la asistencia a clases. Una característica importante de este modelo es que las variables Compromiso escolar y los factores contextuales son aspectos modificables de la vida de un estudiante, por lo que pueden ser consideradas por programas de intervención escolar en busca de afectar positivamente la asistencia y rendimiento escolar.

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Introduction

School engagement (SE) is considered internationally a fundamental theoretical model to both understand the phenomenon of dropping out and to promote successful educational trajectories (Christenson, Reschly, & Wylie, 2012). It is related to a student's active participation in academic and extracurricular activities (Appleton, Christenson, & Furlong, 2008), and it is a variable heavily influenced by contextual and relational factors, such as peer relationships, relationships with the teachers and the influence of the family at school (Blumenfeld, Kempler, & Krajcik, 2006; Shernoff, 2013).

Educational (or school) trajectories can be analyzed from two perspectives: the study of the theoretical trajectories and/or the study of the real trajectories. According to Terigi (2014), the theoretical trajectories are "routes that follow the linear progression anticipated by the system in the times marked by a standard periodization" (p. 73), whereas the real or unchannelled trajectories are "pathways that do not follow the course designed by the system" (p. 74).

In the case of Chile, the expected educational trajectories are established through 12 years of mandatory education. In practice, however, every student's route can be different, with great diversity in the real trajectories. Thus, although under the Chilean Constitution elementary and secondary education is obligatory, 90,884 students left their schools in 2013 and did not return in 2014, constituting a dropout rate of 3.1%, particularly in the first year of high school (MINEDUC Study Centre, 2013), equivalent to the third year of Obligatory Secondary Education (OSE) in Spain. Academic delay is a risk factor for dropping out of the Chilean education system; nearly half a million students under 17 years of age are lagging behind by at least one year (Asociación Chilena de Municipalidades et al., 2013).

Research reveals that some of the main reasons for dropping out relate to the school experience. Rumberger (2001) argues that there are two necessary and complementary lines of enquiry on the issue of dropping out of school. First, a perspective that focuses on structural risk factors: high-risk environments, family structures and education policies that promote the exclusion of students. Second, a perspective that seeks to delve more deeply into the factors linked to the student's experience that influence their dropping out from the school system, in the main the attitudes and behaviours that reveal the student's engagement with their studies.

There are two basic approaches to the study of engagement. On the one hand, some authors have chosen to use the term *student engagement*, focusing on the learner and his internal experience (Appleton et al., 2008; Christenson et al., 2012), while on the other hand, other authors refer to *school engagement* where the emphasis is not only on the student per se, but also that the contextual variables must be considered as key elements for their conceptualization (Jimerson, Campos, & Greif, 2003). This study is built on the latter approach, where SE is conceived as an internal component that places the focus on the student, but which at the

same time and with the same relevance envisions the student undertaking his educational experience within a certain context (Fredricks, Blumenfeld, & Paris, 2004). This context presents specific characteristics that involve interaction and information exchange, and it changes to the extent that it interacts with the student (Shernoff, 2013).

Engaged students consider that their learning is significant and they are motivated and involved in their learning and their future. SE drives students towards learning, which can be achieved by all. Several researchers (Appleton et al., 2008; Bowles et al., 2013; Fredricks et al., 2004; Jimerson et al., 2003) agree that SE is a key variable in dropping out of school, as leaving school tends not to be a sudden action, but rather supposedly the final step in a dynamic and cumulative process of loss of engagement with one's studies. By contrast, when students engage positively with their studies, they are more likely to graduate with low levels of risk behaviours and a high academic performance.

With respect to the components of SE, there is consensus in conceiving it as a multidimensional construct comprised of emotional, behavioural and cognitive components (Appleton et al., 2008; Fredricks, Filsecker, & Lawson, 2016; Fredricks et al., 2004). First, *emotional engagement* is defined as the student's level of emotional response to the school and his/her learning process, characterized by a feeling of involvement with the school and a consideration of it as a place that is valuable to him/her. Emotional engagement offers the necessary incentive to participate and persevere with school activities. Thus, emotionally engaged students feel part of a school community and consider school to be significant in their lives, and recognize that it provides the tools to achieve outside it. It includes reactions to the teachers, classmates and the school. The presumption is that it creates a bond with the school and disposes the students to school work. On the other hand, *behavioural engagement* is based on the idea of participation in the academic area and social or extracurricular activities. It includes the student's interactions and responses in the classroom, in and outside school. This aspect of SE is a continuum that goes from universally expected involvement (daily attendance) that consists of low behavioural engagement to more intense involvement (e.g., participation in student government). Finally, *cognitive engagement* is based on the idea of psychological involvement in studying; it incorporates the awareness and willingness to make the effort needed to understand complex ideas and develop difficult skills. It is the conscious investment of energy aimed at comprehension and analysis in order to go beyond the minimum requirements, making the student willing to face highly complex challenges. It also reflects the student's willingness to invest cognitive skills in the learning and mastery of new skills. It also involves putting into practice self-regulation strategies, as well as a preference for the challenge and the will to stick to goals and make the effort to achieve learning goals and self-regulation.

SE is affected by contextual factors, in particular family and school. Recent studies suggest that families, peers and teachers are the three main relational contexts associated with school

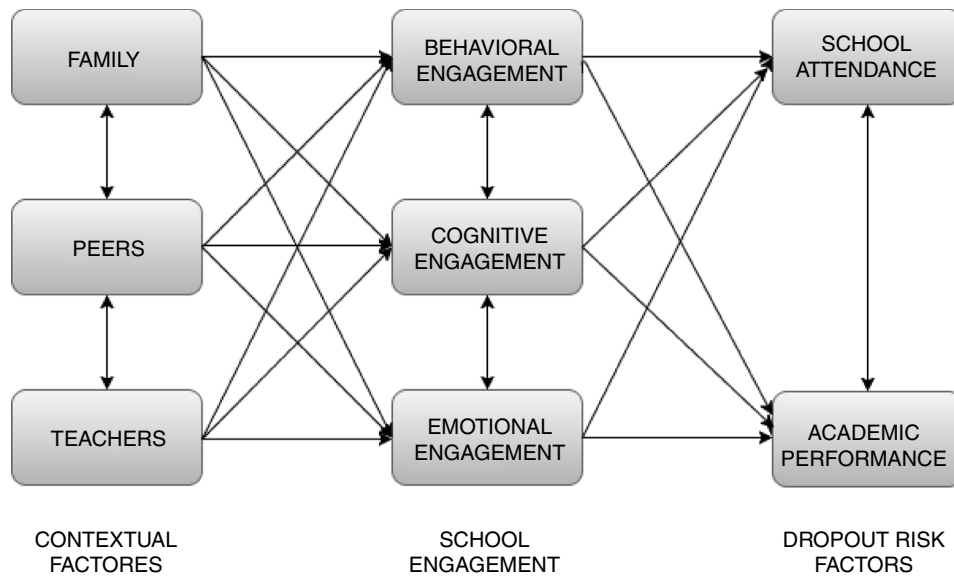


Figure 1. Routing diagram of the theoretical mediation model of school engagement.

engagement (Ansong, Okumu, Bowen, Walker, & Eisensmith, 2017; Fernández-Zabala, Goñi, Camino, & Zulaika, 2016; Ramos-Díaz, Rodríguez-Fernández, Fernández-Zabala, Revuelta, & Zuazagoitia, 2016). However, studies conducted in different sociocultural, political or economic contexts could reveal important differences in the impact of these factors. For example, a study that analyzed the influence of peers, teachers and family on school engagement in Ghana, Ansong et al. (2017) reported that peer support, first, and family, next, were the variables with the greatest explanatory weight in the results, whereas the support of teachers did not exert any significant influence in this case. Beyond the difficulties of introducing structural changes, intervening in the school environment where the students develop, SE may be a concept that can be modified or adapted (Dotterer, McHale, & Crouter, 2007) as information is gleaned regarding how these factors affect SE (Lam, Wong, Yang, & Liu, 2012; Reschly & Christenson, 2012).

School engagement and educational trajectories: conceptual background for the construction of a predictive model

SE is considered a fundamental concept to both understand the phenomenon of dropping out and to promote successful educational trajectories (Christenson et al., 2008). Researchers in different fields (Appleton et al., 2008; Bowles et al., 2013; Fredricks et al., 2004; Jimerson, Egeland, Sroufe, & Carlson, 2000) agree that SE is a key variable in the phenomenon of dropping out of school. Likewise, SE is a statistically significant predictor of the variables that account for the success of educational trajectories, particularly in high-risk schools (Archambault, Janosz, Fallu, & Pagani, 2009), and this is reflected in results such as academic performance (overall grade average) and attendance (each student's percentage of attendance during the school year). In the same vein, SE is considered a relevant predictor of the academic performance students may achieve (Appleton et al., 2008; Weiss, Carolan, & Baker-Smith, 2010), as well as of the degree of involvement they have with their school and their school work (Jimerson et al., 2003; Jimerson, Renshaw, Stewart, Hart, & O'Malley, 2009).

Therefore, and given that SE is considered an important predictor of academic performance, valid and reliable information about it would aid schools and government bodies in preventing school dropouts (Fall & Roberts, 2012). In addition, the measurement of SE would also make it possible to identify highly engaged students

resulting in more successful educational trajectories in terms of movement between education cycles in the school system, graduation and/or transition to higher education.

There is abundant scientific literature on the Chilean (Contreras, Gallegos, & Meneses, 2009; Meneses & Toro, 2012) and the international context (Geiser & Studley, 2002; Hoffman & Lowitzki, 2005) that shows indicators based on academic performance and students' interest in their studies are of greater predictive validity of academic performance and educational trajectory than academic performance alone.

Accordingly, in this study a model is proposed that directly links SE (*emotional, cognitive and behavioural*) to academic performance (*grade average*) and attendance in class (*percentage of attendance*). On the other hand, contextual factors (*family, teachers and peers*) are considered that have a direct influence on some type of SE, which acts as a mediator on the indirect effect of the *contextual factors* on performance and attendance. Thus, the general objective of this study is to determine the degree of fit of the proposed theoretical model to the data regarding Chilean students (Figure 1). The aim is to establish the direct influence that SE exerts on the attendance and academic performance variables which is our specific objective 1, for which we consider hypothesis 1: SE is a statistically significant explanatory factor of attendance and academic performance, exerting a direct influence on these variables. Additionally, another aim is to determine the direct effect that *contextual factors* exert on some of the SE subtypes, which constitutes our specific objective 2, for which we propose hypothesis 2: The *contextual factors* exert an indirect effect on the variables attendance and academic performance, mediated by some of the SE subtypes. The fulfilment of both specific objectives makes it possible to determine the indirect effect that the *contextual factors* have on the variables attendance and academic performance through some of the SE subtypes, giving an account of the mediating role of SE.

Method

This study uses a correlational cross-sectional design based on structural equation models to assess the fit of the theoretical SE mediation model of the effect of *contextual factors* on *dropout risk factors* (academic performance and school attendance) in the recorded empirical data.

Participants

Nonprobability convenience sampling was used, with 1170 students from municipal schools in the Region of La Araucanía and the Region of Libertador Bernardo O'Higgins, which both have a high and similar School Vulnerability Index (JUNAEB, 2015). The students were in 7th and 8th grade elementary and 1st year secondary school (corresponding to the 1st, 2nd and 3rd years of the OSE), given that it is in the transition between 8th grade elementary and 1st year secondary school where the highest number of dropouts occurs (MINEDUC Study Centre, 2013). Ages ranged between 12 and 17 years of age.

Instruments

School engagement questionnaire. Questionnaire created by Lara et al. (2018). Consisting of 29 items on a 5-point Likert scale, designed to evaluate the three types of SE: *Emotional engagement* (10 items), *cognitive engagement* (12 items) and *behavioural engagement* (7 items). There is evidence in favour of the structural validity, and the model has good levels of fit to the data ($\chi^2 = 548.52$; $df = 374$; RMSEA = .045; CFI = .939; TLI = .934) and good levels of reliability through the ordinal alpha coefficient for each of the subscales (.83 for *emotional engagement*, .86 for *behavioural engagement*, and .87 for *cognitive engagement*), as well as for the total scale (.95). SE is understood as a biopsychosocial phenomenon (Hazel, Vazirabadi, & Gallagher, 2013) that alludes to a student's level of involvement with his/her school surroundings. The SE subtypes are conceptualized as follows: (1) *emotional engagement* is the student's level of emotional response to teachers, peers, the school and his/her own learning process, characterized by a feeling of involvement in the school and a consideration of the school as a place that is valuable and worth the effort; (2) *Behavioural engagement* is based on the student's participation and adherence to the rules of co-existence. It includes the student's interactions and responses in the classroom, the school and extracurricular environments. (3) *Cognitive engagement* is based on the idea of involvement and incorporates the awareness and willingness to make the effort needed to understand complex ideas and develop difficult skills.

Contextual factors questionnaire. Questionnaire registered by the Universidad de la Frontera and Universidad Autónoma de Chile (2016) consisting of 18 items on a 5-point Likert scale aimed at assessing the *contextual factors*: *family* (3 items), *teachers* (8 items) and *peers* (7 items). There is evidence in favour of the structural validity, with acceptable levels of fit of the model to the data ($\chi^2 = 263.01$; $df = 132$; RMSEA = .070; CFI = .922; TLI = .911) and suitable levels of reliability, with Cronbach's alpha values of .69 for *family*, .83 for *teachers* and .83 for *peers*, while the reliability of the total scale is .88. The *contextual factors* are the elements in the student's family and school environment that can influence his/her level of engagement. It includes the following elements: (1) *family* covers the activities that occur in the home to support the child's education. It includes activities like conversations with the child about his/her school day, help with homework, creation of a space and time to study in the home. (2) *Teachers* includes the student's positive attitudes towards the teacher and the school, the positive relationships among members of the teaching staff and the positive bond between the teachers and the person responsible for the student. (3) *Peers* includes attitudes of support, respect and collaboration among students.

Procedure

Prior to data collection, consent was obtained from the students' families, informing them of the conditions of confidentiality and application of the assessment instruments. Every student signed

a consent form establishing their willingness to participate in the study. The procedure of this study was endorsed and approved by the Scientific Ethics Committee of the Universidad de La Frontera, Temuco, Chile.

The validated instruments (Lara et al., 2018; Universidad de la Frontera and Universidad Autónoma de Chile, 2016) to assess the students' level of SE and their *contextual factors* were applied in the schools. The school authorities provided access to the information regarding the students' performance, specifically the overall grade average for every subject and the percentage of attendance for each student during the school year.

Data analysis

The analyses were done with a total of 1170 participants in the sample using multiple allocation to manage lost data. Thus, for each analysis, only the cases with lost data in all the variables were excluded.

The descriptive analyses and multiple allocation of data were done with the statistics programme SPSS v. 21. The Mplus v. 7.3 programme was used for the confirmatory factor analyses (CFA) and the analysis of the structural equation models. In these two last cases, given the ordinal measurement scale of the measurement variables, work was done on the polychoric correlations matrix, using the robust weighted least squares (WLSMV) estimator according to the proposal by Li (2016).

Saturations with values below .40 were considered low (Pituch & Stevens, 2016), and therefore the items had to be reviewed. In this study, these items were not used in subsequent analyses. For the modification of relations between model variables the modification indices were considered with values over 3.84, as long as the suggested modification generated, in addition to an improvement in the chi-square, an improvement in the goodness-of-fit indices noted in the following paragraph.

It is considered that a model has a good fit to the data when it presents a statistically nonsignificant chi-squared statistic, even though it must be taken into account that this statistic is heavily influenced by the sample size (Ong & Van Dulmen, 2007). Therefore, the goodness-of-fit index root mean square error of approximation (RMSEA), for which values equal to or less than .05 indicate a good fit (Kline, 2005), the Tucker-Lewis index (TLI), which requires values over .90 to indicate a good fit (Bentler & Bonett, 1980) and the comparative fit index (CFI), which requires values close to .95 to indicate an acceptable fit (Hu & Bentler, 1999), were also included. To determine the reliability of the scales as internal consistency, the Omega coefficient (ω) was calculated. In addition, the results of the calculations of the Cronbach's alpha (α), composite reliability (CR) and average variance extracted (AVE) are provided.

Results

The CFA of the *school engagement questionnaire* showed that the model had a poor fit to the data ($\chi^2 = 2993.87$; $p < .01$; RMSEA = .078; CFI = .892; TLI = .883) that improved to a good fit ($\chi^2 = 1009.25$; $p < .01$; RMSEA = .046; CFI = .919; TLI = .912) when items 11 and 16 of *behavioural engagement* were not included in the analyses. The first of these had a factor saturation below .40 (Table 1) and the second a modification index of 1204.38 when defining the item as part of *cognitive engagement*, which has no theoretical support. The items indicated were not used for the subsequent analyses. The reliability of the *school engagement questionnaire* was good, presenting high values of internal consistency for the global scale ($\alpha = .99$; $\omega = .96$; CR = .96; AVE = .48) and for each of the factors: *emotional engagement* ($\alpha = .98$; $\omega = .88$; CR = .88; AVE = .44), *cognitive*

Table 1
Standardized factor saturations of the school engagement questionnaire

Item number	Emotional engagement	Cognitive engagement	Behavioural engagement
1	.559		
5	.459		
7	.693		
8	.596		
12	.729		
15	.813		
19	.609		
22	.777		
27	.609		
29	.682		
2		.568	
6		.539	
10		.735	
13		.626	
14		.612	
17		.703	
18		.597	
20		.774	
21		.676	
24		.718	
25		.709	
26		.725	
3			.898
4			.891
9			.605
11			.250 ^a
16			.794 ^b
23			.685
28			.846

^a Standardized factor saturation below .40.

^b Modification index over 10.

Table 2
Standardized factor saturations of the contextual factors questionnaire

Item number	Family	Teachers	Peers
1	.740		
2	.832		
3	.806		
4		.783	
5		.773	
6		.789	
7		.797	
8		.737	
9		.793	
10		.704	
11		.779	
12			.808
13			.779
14			.819
15			.704
16			.802
17			.727
18			.734

engagement ($\alpha = .99$; $\omega = .91$; $CR = .91$; $AVE = .45$) and behavioural engagement ($\alpha = .98$; $\omega = .89$; $CR = .89$; $AVE = .63$).

The contextual factors questionnaire (Table 2) showed evidence in favour of the structural validity ($\chi^2 = 547.47$; $p < .01$; $RMSEA = .067$; $CFI = .981$; $TLI = .977$) and good levels of reliability for the global scale ($\alpha = .99$; $\omega = .96$; $CR = .96$; $AVE = .60$) and for each of the factors: family ($\alpha = .96$; $\omega = .84$; $CR = .84$; $AVE = .63$), teachers ($\alpha = .99$; $\omega = .92$; $CR = .92$; $AVE = .59$) and peers ($\alpha = .99$; $\omega = .91$; $CR = .91$; $AVE = .59$).

The structural model that relates the contextual factors, SE and the dependent variables grades and attendance (Figure 2) presents a good fit to the data ($\chi^2 = 3377.33$; $p < .01$; $RMSEA = .045$; $CFI = .944$; $TLI = .940$). In regard to the objectives supported in this model, the following may be noted: with respect to specific objective 1, a positive, moderate and statistically significant effect of cognitive

engagement on grades was demonstrated ($\beta = .35$; $p < .05$) as well as a positive, moderate and statistically significant effect of emotional engagement on attendance ($\beta = .35$; $p < .05$). Worth noting is the negative, albeit small, but statistically significant effect that cognitive engagement had on attendance ($\beta = -.19$).

With respect to specific objective 2, the evidence showed that all the contextual factors had a positive effect on some SE subtypes, although not all were significant on all the SE subtypes and also presented different effect sizes. The contextual factor teachers had a positive, high and statistically significant effect on emotional engagement ($\gamma = .61$; $p < .05$) and a positive, moderate and statistically significant effect on cognitive engagement ($\gamma = .38$; $p < .05$). The contextual factor family had a positive, low and statistically significant effect on the three subtypes of student engagement, with $\gamma = .32$ ($p < .05$) on cognitive engagement, $\gamma = .22$ ($p < .05$) on behavioural engagement and $\gamma = .10$ ($p < .05$) on emotional engagement. Finally, the contextual factor peers showed a positive, low and statistically significant effect on emotional engagement ($\gamma = .20$; $p < .05$).

The variance of the SE subtypes explained by the contextual factors was 69.3% for emotional engagement, 46.6% for cognitive engagement and 6.2% for behavioural engagement. In the case of the dependent variables of the model (grades and attendance), the percentage of variance explained by the SE subtypes was 10.8% for grades and 6.2% for attendance.

Given these results, in terms of the evidence of effects of contextual factors on a SE subtype and the effect of that SE subtype on grades or attendance, a mediating role of SE is demonstrated between the contextual factors and the risk factors for dropping out. In particular, and as described in the evidence for the satisfaction of specific objectives 1 and 2, the contextual factor family had a positive, low direct influence ($\gamma = .32$; $p < .05$) on cognitive engagement and this showed a positive, moderate and direct influence ($\beta = .35$; $p < .05$) on grades. In addition, the contextual factor teachers had a positive, high and direct influence ($\gamma = .61$; $p < .05$) on emotional engagement and this had a positive, moderate and direct influence on attendance ($\beta = .35$; $p < .05$). Finally, the contextual factor peers demonstrated a positive, low and direct influence ($\gamma = .20$; $p < .05$) on emotional engagement and this, as already indicated, had a positive, moderate and direct influence on attendance.

Discussion

This study contributes to evidence in favour of the validity of the theoretical model that directly links contextual factors (family, teachers and peers) to SE (emotional, cognitive and behavioural), and SE, to academic performance and attendance. It also confirms the mediating role of SE in relation to the influence of contextual factors on the academic performance and attendance variables in students in 7th grade elementary (corresponding to 1st year of OSE), 8th grade elementary (corresponding to 2nd year of OSE) and 1st year secondary (corresponding to 3rd year of OSE) in municipal schools. Thus, we can state that SE is an important variable that directly impacts on the dependent variables indicated (that constitute risk factors for dropping out) and that it plays a mediating role in the effect that contextual factors have on the dependent variables. The results agree with the review of the state of the art and previous studies inasmuch as student engagement is affected by contextual factors, where families, classmates and teachers are the three main associated relational contexts (Ansong et al., 2017; Fernández-Zabala et al., 2016; Gutiérrez, Tomás, Romero, & Barrica, 2017) and that SE is also considered a fundamental and predictor variable of the phenomenon of dropping out as well as of educational trajectories (Appleton et al., 2008; Bowles et al., 2013; Christenson et al., 2008; Fredricks et al., 2004; Jimerson et al., 2000; Serrano & Andreu, 2016).

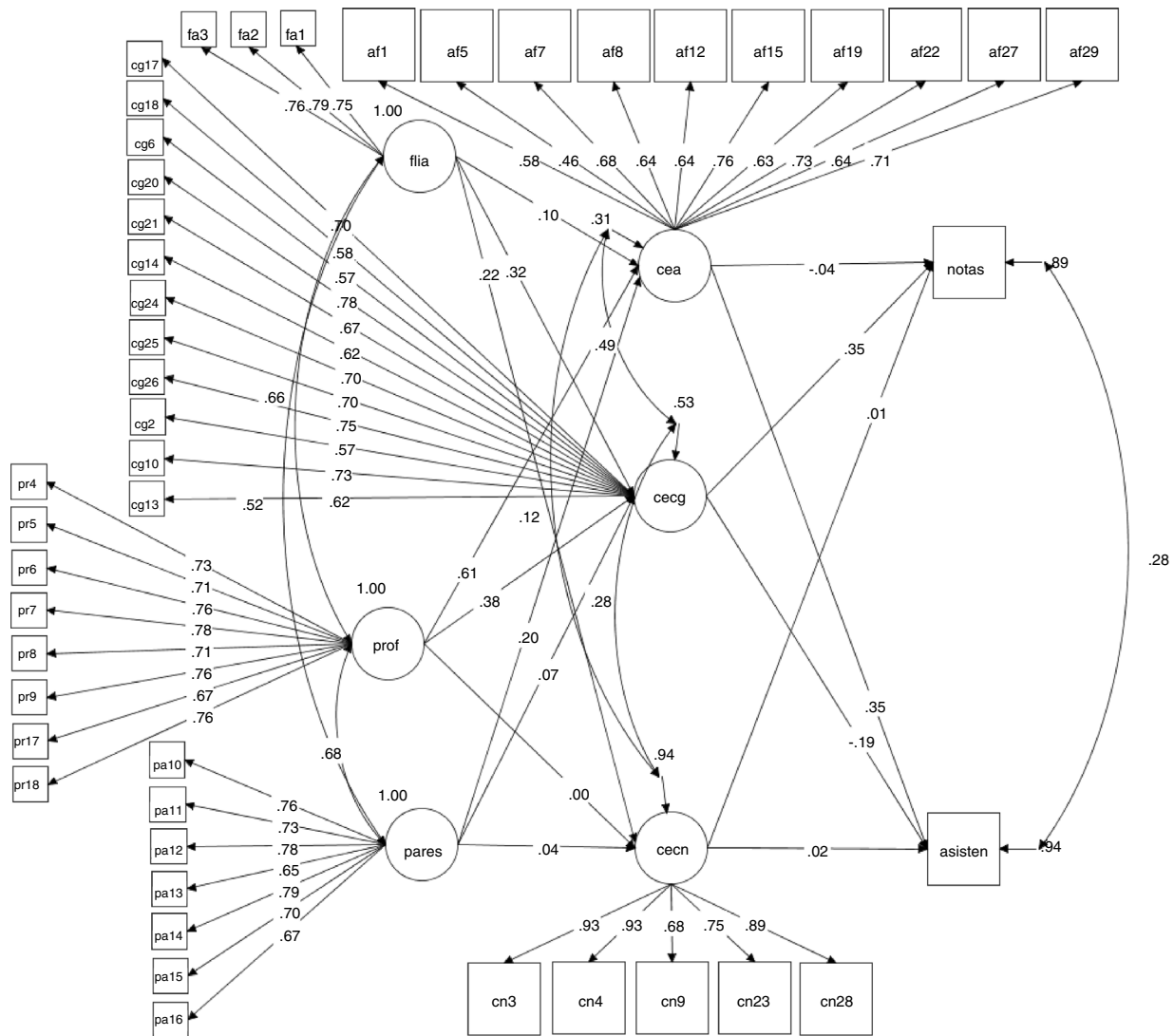


Figure 2. Routing diagram of the model fit to the data.
 Note. asisten: percentage of attendance; cea: emotional engagement; cecg: cognitive engagement; cecn: behavioural engagement; flia: family; grades: average of grades; pares: peers; prof: teachers.

With respect to the contextual factors, this study shows that the contextual factor *teachers* has the greatest positive influence on SE, specifically on *emotional engagement*, in second instance the contextual factor *family* on *cognitive engagement* and finally the contextual factor *peers* on *emotional engagement*.

With regard to the influence of the components of SE on the dependent variables, this study shows a positive influence of *emotional engagement* on *attendance* and a positive influence of *cognitive engagement* on *grades*. In general terms, these results support previous studies that have described SE as a statistically significant predictor of the variables that account for the success of students' educational trajectories, mainly for schools at high social risk (Archambault et al., 2009), and this is reflected in results such as academic performance, attendance and moving between education levels and cycles. In the same vein, SE is considered a relevant predictor of the academic performance that students may achieve (Appleton et al., 2008; Weiss et al., 2010), as well as of the degree of involvement they have with their school and their school work (Jimerson et al., 2003; Jimerson et al., 2009). Finally, it must be noted that *cognitive engagement* has a negative effect, albeit small, on attendance. Possible explanations for this result may include the link that is observed at times between discontentment or boredom

at school and high academic performance. In this case, the possible lack of more challenging tasks that foster greater interest from the student could be behind this negative relation between cognitive engagement and attendance.

In the introduction, reference was made to the study by Ansong et al. (2017) in relation to the incidence of the *contextual factors* studied on engagement, where the support of peers is the factor with the strongest relation to SE, understood in this case as *student engagement*. The family also exerts a significant influence on engagement. However, in contrast to the results obtained here, as in other similar studies (Lam et al., 2012), the support of teachers bears no relation to engagement. In this sense, Ansong et al. (2017) argue that traditional education systems are teacher-focused, which could explain this absence of a significant relation. This result provides a glimpse into the relevance of each of the factors studied in the configuration of SE and how this is susceptible to modifiability in terms of sociocultural and educational contextual factors.

It is worthy of note that, in this study, the *contextual factors* have no influence on *behavioural engagement* and that this has no effect on the dependent variables (*risk factors for dropping out*), which may be due to this type of SE being assessed through actions at school,

i.e., it requires the student to have been on the school grounds and attendance in itself is not related to the students' behaviour within the school. This result could also be explained by longitudinal studies that seek to identify specifically the relation between contextual factors, types of engagement and educational trajectories over time. In this regard, for example, the structural equations model in the study by Wylie and Hodgen (2012) conducted in New Zealand showed that results in academic/cognitive competence contribute significantly to explaining attitudinal competency in the next age group. Thus, for example: in reading, greater competency at the age of 10 increases perseverance, curiosity and communication at the age of 12, whereas engagement with school work and the feeling of belonging correlates significantly with students' perception of having learning opportunities which develop their self-regulation.

In line with the scientific literature review, school engagement is a concept that can be modified through intervention (Dotterer et al., 2007). This is why, when focusing on the variables on which some effect can be exerted, teachers can offer students a more optimistic alternative in order to achieve positive results (Appleton et al., 2008).

Finally, guidelines are established for future studies, which it is suggested should include procedures that can overcome some of the limitations of this study, such as broadening the geographic scope and the sample size, using probability sampling in order to establish a broader view of what occurs in the national context and using a different indicator of academic performance, such as the standardized test of the Chilean government's Education Quality Measurement System (SIMCE). Furthermore, with respect to the SE instrument, the behaviour of items 11 and 16 must be verified in a factor analysis of a probability sample, since the poor behaviour of these items may be due to characteristics inherent to the sample.

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Conflict of interest

The authors have no conflict of interest to declare.

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