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Predicting approach to homework in Primary school students

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Abstract

Background: The goal of this research was to study the weight of student variables related to homework (intrinsic homework motivation, perceived homework instrumentality, homework attitude, time spent on homework, and homework time management) and context (teacher feedback on homework and parental homework support) in the prediction of approaches to homework. **Method:** 535 students of the last three courses of primary education participated in the study. Data were analyzed with hierarchical regression models and path analysis. **Results:** The results obtained suggest that students' homework engagement (high or low) is related to students´ level of intrinsic motivation and positive attitude towards homework. Furthermore, it was also observed that students who manage their homework time well (and not necessarily those who spend more time) are more likely to show the deepest approach to homework. **Conclusions:** Parental support and teacher feedback on homework affect student homework engagement through their effect on the levels of intrinsic homework motivation (directly), and on homework attitude, homework time management, and perceived homework instrumentality (indirectly). Data also indicated a strong and significant relationship between parental and teacher involvement.

Keywords: Approach to homework, student engagement, parental support, teacher feedback, primary education.

Resumen

Predicción del enfoque de trabajo en los deberes escolares en estudiantes de Primaria. **Antecedentes:** el objetivo de esta investigación fue estudiar el peso de variables del alumno relacionadas con los deberes escolares (motivación intrínseca, percepción de utilidad, actitud, tiempo dedicado y gestión de ese tiempo) y del contexto (feedback del profesor y apoyo parental) en la predicción de los enfoques de trabajo en los deberes. **Método:** participaron 535 estudiantes de los tres últimos cursos de Primaria. Los datos fueron analizados en base a modelos de regresión jerárquica y path analysis. **Resultados:** los resultados sugieren que la mayor o menor implicación del alumno en la realización de sus deberes escolares está relacionado con el grado de motivación intrínseca y una actitud positiva hacia ellos. También se observa que los estudiantes que gestionan bien su tiempo dedicado a los deberes (y no necesariamente los que dedican más tiempo) son quienes más profundamente trabajan en ellos. **Conclusiones:** el apoyo parental y el feedback del profesor inciden sobre la implicación de los estudiantes a través de su efecto sobre los niveles de motivación intrínseca (directamente), y de la actitud, gestión del tiempo y percepción de utilidad (indirectamente). También sugieren una relación fuerte y significativa entre la implicación parental y de los profesores en los deberes escolares.

Palabras clave: enfoque de trabajo en los deberes, compromiso de los estudiantes, apoyo parental, feedback del profesor, Educación Primaria.

Although there is plenty of information on the relationship between the amount of homework done (or time spent on homework) and students' academic achievement in the different educational stages, researchers are still far from reaching a consensus on whether or not homework should be assigned. Still, and despite the fact that this issue is not new, homework is relevant both at the academic level and from a social perspective (Bempechat, 2004). As noted by Epstein and Van Voorhis (2001), regarding homework, "more is not always better." The discussion on this issue does not seem to be centered on *how much* homework should be assigned, or on how much time children should spend doing it, but on the homework process, namely on *how* homework it is done (Fernández-Alonso, Suárez-Álvarez, & Muñiz, 2015; Trautwein, 2007), or on how the time spent on homework is managed (Núñez et al., 2015; Xu, Yuan, Xu, & Xu, 2014).

Three decades ago, Marton and Säljö (1976) described two different approaches used by students when studying academic texts. That investigation started an important line of research focused on what was termed as "students' approaches to learning" (Barca, Peralbo, & Brenlla, 2004; Entwistle, 2009). The authors identified a deep level and a surface level of processing, depending on the students' approach to the task (Rosário et al., 2010; Rosário et al., 2013). The metaphor "surface versus deep" constitutes a quickly perceived conceptual framework of the approach to a task, both in the classroom setting and in other educational settings (i.e., doing homework at home). This metaphor has been shown, qualitatively and quantitatively, to be a powerful tool for parents, teachers, and students analyzing the process of learning (Biggs, 1993).

At home, the homework process focuses on what students do when dealing with homework, that is, how they approach their work and how they manage their personal resources and homework settings. Students' approach to homework not only

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influences homework completion but also the quality of the homework process. Students who adopt a deeper, rather than a superficial, approach are more likely to engage in homework with the intention of learning and reinforcing the knowledge discussed in class. To achieve these goals, for example, these students will try to overcome academic difficulties while doing homework, and to relate the homework to the contents previously learned. It therefore involves an intention to understand the ideas and the use of strategies to construct meaning.

This study aimed at determining which variables are significantly associated with a deep and high-quality approach to homework. For this purpose, we followed the theoretical model of Trautwein et al. (e.g., Trautwein & Köller, 2003). This model identifies three blocks of variables: academic achievement, student homework engagement, and influence of the environment. Student homework engagement is related to the motivational component (which stimulates, directs, and maintains the homework behaviors), the cognitive-behavioral component (the cognitive strategies used), and the behavioral component (e.g., time spent on homework and its effective management). The influence of the environment is related to the involvement of parents and teachers.

Based on this theoretical model, our goal was to analyze students' behaviors while doing homework. Like in the tradition of learning approaches, this variable was operationalized as the cognitive approach used by the student when doing homework, and following these same tradition, we termed it as *approach to homework*. This variable expresses the extent to which the student uses a deep or a surface approach to homework.

Drawing from the model of Trautwein et al. (e.g., Trautwein & Köller, 2003), we selected predictor variables of the approach to homework, considering the three actors of the homework process as follows: students (intrinsic motivation, perceived instrumentality, attitude, time spent, and time management), teachers (teacher feedback), and family (parental support). Students' age, gender and prior academic achievement were used as adjustment variables. Thus, the goal of this study was to analyze the relationship of the predictor variables (student, teacher and family variables) with the students approach to homework in primary education.

Method

Participants

The study enrolled 535 students from four public schools of primary education in the province of A Coruña. Concerning gender, 49.3% (n = 264) are boys and 50.7% (n = 271) are girls. Their ages ranged between 9 and 13 years (M = 10.32, SD = 0.99), 40.4% (n = 216) were enrolled in 4th grade of primary education, 35.1% (n = 188) were in 5th grade of primary education, and 24.5% (n = 131) were in 6th grade of primary education.

Instruments

Criterion variable (*approach to homework*)

To measure the process of doing homework, we used an adaptation of the Students' Approaches to Learning Inventory (Rosário et al., 2010; Rosário, Núñez, Ferrando et al., 2013) to homework, taking into account both the students' age and the homework contexts. For the purpose of this research, we used only the six items of the deep approach (α = .80). Students responded on a 5-point Likert-type scale ranging from 1 (*not at all deep approach*) to 5 (*completely deep approach*).

Student predictors (*student homework variables*)

- *Time spent on homework*. This variable was assessed with three items (α =. 70), (in general, during a typical week, on a typical weekend), followed by "How much time do you usually spend on homework?" Response options were: 1 = *less than 30 minutes*, 2 = *from 30 minutes to an hour*, 3 = *from one hour to an hour and a half*, 4 = *from an hour and a half to two hours*, 5 = *more than two hours*.
- *Homework time management*. This variable was assessed with three items (α = .78), (in general, during a typical week, on a typical weekend), in which students indicated how well they managed the time normally spent on homework, on a 5-point scale ranging from 1 (*I waste it completely*) to 5 (*I take advantage of it completely*).
- *Perceived homework instrumentality*. This variable was assessed with an item asking students to what extent they considered the homework assigned by their teachers to be useful. The response scale ranged from 1 (*completely false*) to 5 (*completely true*).
- *Intrinsic motivation to do homework*. This variable was assessed with eight items (α = .79), referring to the reasons involving enjoyment, satisfaction, and learning that motivate student homework engagement. Students responded on a 5-point Likert-type scale ranging from 1 (*completely false*) to 5 (*completely true*).
- *Homework attitude*. This was assessed with four items, (α = .73), asking students about their attitudes toward homework. Students responded on a 5-point Likert-type scale ranging from 1 (*completely false*) up to 5 (*completely true*).

Context predictors (*parent and teacher homework variables*)

- *Teacher feedback on homework*. This variable was assessed by three items (α = .56). The response scale ranged from 1 (*completely false*) to 5 (*completely true*). The reliability is low, however, it is acceptable due to the reasonable unidimensionality of the measure (see Schmitt, 1996).
- *Parental support on homework*. This variable was assessed with seven items (α = .76) used by Song and Hattie (1984). The response scale ranged from 1 (*completely false*) to 5 (*completely true*).

Procedure

The data was collected during regular school hours, after obtaining the consent of the school directors and the students' teachers. The questionnaires were administered in a single session by research assistants.

Data analyses

The data was analyzed in several stages. Firstly, the correlations matrix and the usual descriptive statistics (mean, standard deviation, kurtosis, skewness) were calculated and analyzed. Secondly, to address the first goal, a hierarchical regression analysis

was conducted. The adjustment variables (age, gender, and prior academic achievement) were entered first, giving rise to Model 1. Then, the student variables (intrinsic homework motivation, homework attitude, perceived homework instrumentality, homework time spent, and homework time management) were entered in the equation, giving rise to Model 2. Finally, the two variables related to the context (parental homework support and teacher feedback on homework) were entered, leading to Model 3. Thirdly, to study the second goal, a path analysis was designed and fitted to the empirical data.

To assess the fit of the path analysis, in addition to chi-square (χ^2) statistics, we used, as recommended by Byrne (2009): (a) two absolute indices, the goodness-of-fit-index (GFI) and the adjusted goodness-of-fit-index (AGFI); (b) a relative index, the Tucker Lewis Index (TLI) and the comparative fit index (CFI); and (c) a close-fit parsimony-based index, the root mean square error of approximation (RMSEA), and its 90% confidence intervals. According to these authors, the model fits well when: GFI, AGFI, and TLI > .90, CFI > .95, and RMSEA ≤ .05.

Results

Preliminary analyses

Table 1 presents the Pearson correlation matrix, as well as the descriptive statistics corresponding to the eleven variables included in the model of approach to homework. A visual examination of the correlation matrix shows that most of the correlations are statistically significant (67.3%), and 89.2% of them are significant at $p<.001$. From a statistical point of view, the results of Bartlett's sphericity test showed that the variables found were sufficiently intercorrelated ($\chi^2(55) = 1348.90$; $p<.001$). In the same vein, the Kaiser-Meyer-Olkin value (KMO = .808) indicated that the sampling was appropriate. On the other hand, the skewness and kurtosis data indicated that, in general, the variables show a normal distribution.

Predicting approach to homework

In order to analyze the predictive capacity of the different variables included in the investigation, stepwise hierarchical regression analysis was conducted, including variables in three stages (or blocks). The results of the hierarchical regression analysis are shown in Table 2.

In the first stage of the analysis, two of the adjustment variables (age and prior academic achievement) showed a significant predictive capacity for approach to homework (see Model 1 in Table 2), jointly explaining 8.3% of the total variance of the criterion variable.

In the second stage, controlling for the effect of the adjustment variables, we estimated the predictive capacity of student homework variables (see Model 2), finding that four of the five variables were powerful predictors of the approach to homework: intrinsic homework motivation ($b = .471$, $p<.001$), homework attitude ($b = .230$, $p<.001$), homework time management ($b = .175$, $p<.001$), and perceived homework instrumentality ($b = .084$, $p<.01$). Time spent on homework was not statistically associated with approach to homework. As a result of entering these variables, the relationship of the adjustment variables with the criterion variable ceased to be statistically significant. Finally, when entering student homework variables in the equation, 57.6% of the variance of approach to homework was explained.

Lastly, we entered parent and teacher variables (see Model 3), finding that parental homework support was significantly associated with approach to homework ($b = .223$, $p<.001$, 3.9% of explained variance), but it had no relationship with teacher feedback on homework. Upon entering parental homework support in the equation, student homework variables continued to predict approach to homework, explaining a total of 61.5% of the variance of the criterion variable.

Table 1
Pearson correlations matrix, means, standard deviations, skewness, and kurtosis for variables of approach to homework model

	1	2	3	4	5	6	7	8	9	10	11
1. Age (min = 9; max = 13)	1.000										
2. Gender (1 = male; 2 = female)	.011	1.000									
3. Prior Academic Achievement	-.220***	.017	1.000								
4. HW Intrinsic Motivation	-.277***	.066	.191***	1.000							
5. HW Attitude	-.331***	.006	-.034	.537***	1.000						
6. Perceived HW Instrumentality	-.295***	.105**	.130***	.435***	.355***	1.000					
7. HW Time Spent	.145***	.028	-.007	.008	-.018	-.002	1.000				
8. HW Time Management	-.192***	.077*	.237***	.389***	.292***	.315***	-.019	1.000			
9. HW Parental Support	-.195***	-.073*	-.008	.420***	.301***	.187***	.103**	.164***	1.000		
10. HW Teacher Feedback	-.017	.003	.051	.398***	.246***	.174***	.050	.169***	.341***	1.000	
11. HW Approach	-.276***	.003	.139***	.698***	.566***	.423***	-.026	.450***	.488***	.368***	1.000
M	10.329	1.506	3.135	4.288	3.212	4.383	2.507	4.070	4.003	4.466	4.020
SD	.998	.500	1.190	.638	1.024	.900	1.151	.931	.774	.651	.804
Skewness	.347	-.026	-.235	-1.097	-.132	-1.574	.609	-1.188	-.751	-1.679	-.887
Kurtosis	-.598	-1.987	-.905	1.292	-.589	2.105	-.335	1.601	.265	3.570	.620

Note: All variables have the same scale: min = 1 (*not at all*); max = 5 (*completely*)
* $p<.05$. ** $p<.01$. *** $p<.001$.

Table 2
Predicting approach to homework: Results from hierarchical regression analyses

	Model 1		Model 2		Model 3	
	B	**SE(B)**	**B**	**SE(B)**	**B**	**SE(B)**
Adjustment Variables						
Age	-.258***	.034	-.007	.026	.018	.025
Gender (1 = *male*; 2 = *female*)	.004	.067	-.051	.046	-.029	.044
Prior Academic Achievement	.082*	.029	.004	.021	.027	.020
Student' Homework Variables						
HW Intrinsic Motivation			.471***	.047	.385***	.047
HW Attitude			.230***	.028	.217***	.027
Perceived HW Instrumentality			.084**	.029	.087**	.028
HW Time Spent			-.019	.020	-.046	.019
HW Time Management			.175***	.028	.172***	.026
Parents and Teachers Variables						
HW Parental Support					.223***	.032
HW Teacher Feedback					.054	.037
Variance						
Explained Variance	8.3%		49.3%		3.9%	
Explained Total Variance			57.6%		61.5%	

* $p<.05$, ** $p<.01$, *** $p<.001$

Ancillary analysis: A homework path model

The results provided by hierarchical regression analysis showed that four of the five student homework variables (not time spent on homework) and parental homework support were directly linked to approach to homework, but teacher feedback on homework was not. In relation to this last variable, although there was no direct relationship with approach to homework, it is foreseeable that these variables will be related through student variables. Therefore, as a second goal of this investigation, we proposed the analysis of the relationship between the studied variables as predictors of approach to homework.

To address this goal, we developed a homework path model. As there are no previous studies investigating the prediction of approach to homework, initially, we used a general homework path model in which it was proposed that: (a) approach to homework is directly predicted by student homework variables (intrinsic homework motivation, homework attitude, perceived homework instrumentality, time spent on homework, and homework time management); and (b) student homework variables are predicted by parent and teacher variables (parental homework support and teacher feedback on homework).

As the model did not fit well, $\chi^2(12) = 365.34$, $p<.001$, *GFI* = .830, AGFI = .490, TLI = .271, CFI = .688, RMSEA = .235, 90% CI [.214, .256], $p<.001$, the model was respecified taking in consideration the modification indices and the theoretical framework, achieving a fitting model, $\chi^2(7) = 7.25$, $p>.05$, GFI = .996, AGFI = .985, TLI = .999, CFI = 1.000, RMSEA = .008, 90% CI [.000, .054], $p>.05$. The most relevant modifications included were: (a) elimination of the insignificant regression coefficients, (b) estimation of significant relationships between variables, and (c) elimination of the variable time spent on homework (not significantly related to any of the others). The final model (see Figure 1), is a parsimonious model, with good fit to the empirical data and high probability of replication in other independent samples [ECVI (default model) = .092; ECVI (saturated model) = .105; ECVI (Independence model) = 2.177)]. The results for this model are presented in Figure 1 and Table 3.

The results support the two major hypotheses of the student homework model: (a) approach to homework is mainly explained by student homework variables, and (b) student homework variables are explained by parental and teacher variables (i.e., perceived parental homework support and teacher feedback on homework). However, other outcomes of interest complement the aspects already discussed when analyzing the data provided by the hierarchical regression analysis as follows:

1. It was observed that both perceived parental homework support and teacher feedback on homework were positively and significantly associated with intrinsic motivation to do homework. Students who perceive higher parental support and teacher feedback on homework also display higher intrinsic motivation to do homework.
2. Intrinsic motivation connected parental and teacher variables with student homework variables (i.e., attitude, instrumentality, and time management), also positively and significantly. Positive intrinsic motivation to do homework leads to a positive attitude towards doing homework, a higher perception of utility, more effective homework time management and, finally, to a deeper and more comprehensive approach to homework.
3. Approach to homework was also explained by the other three student variables related to homework (attitude, perceived instrumentality, and time management), as well as by perceived parental involvement (parental homework support).

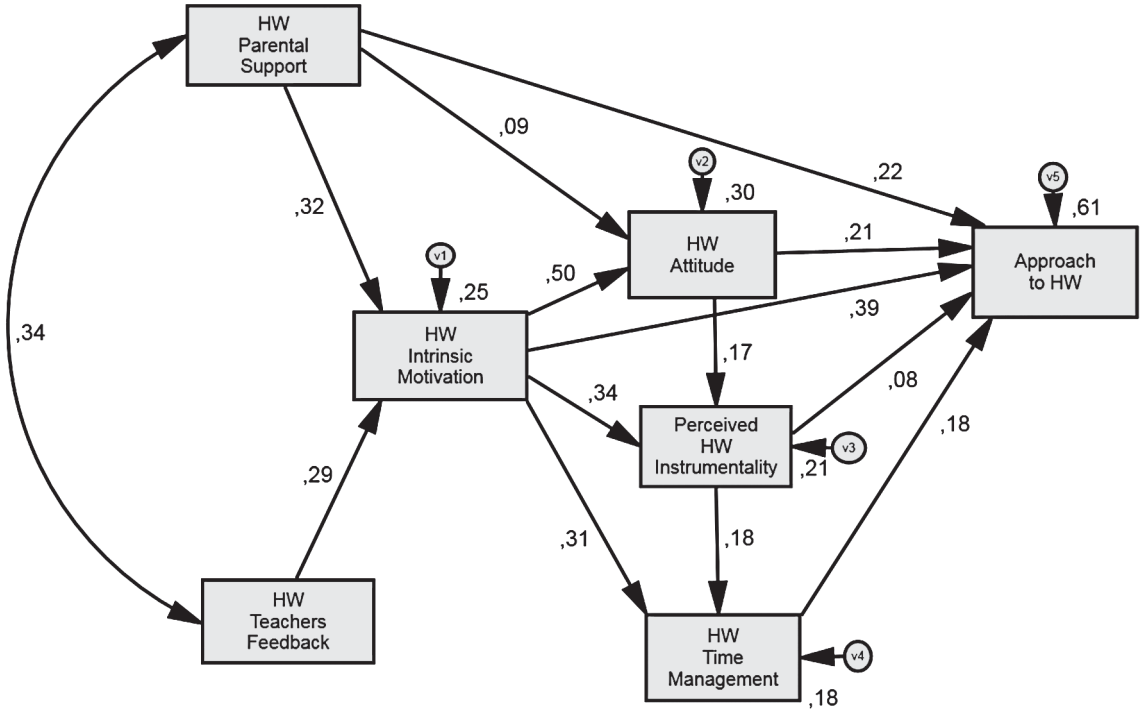

Figure 1. *Relationship between students' homework variables, parental and teacher homework involvement, and students' approach to homework. Note: All coefficients are statistically significant at p<.001, except HW Parental Support on HW Attitude (p<.05) and Perceived HW Instrumentality on Approach to HW (p<.01)*

Table 3
Standardized and unstandardized regression weights, standard errors, z values, and associated p-values for approach to homework path model

			SRW	URW	SE	SRW/SE	p-value
HW Teacher Feedback	→	HW Intrinsic Motivation	.288	.282	.039	7.225	.000
HW Parental Support	→	HW Intrinsic Motivation	.322	.265	.033	8.077	.000
HW Parental Support	→	HW Attitude	.091	.121	.053	2.282	.022
HW Intrinsic Motivation	→	HW Attitude	.499	.801	.064	12.460	.000
HW Intrinsic Motivation	→	HW Instrumentality	.344	.485	.064	7.543	.000
HW Attitude	→	HW Instrumentality	.171	.150	.040	3.740	.000
HW Instrumentality	→	HW Time Management	.180	.186	.045	4.123	.002
HW Intrinsic Motivation	→	HW Time Management	.310	.453	.064	7.116	.000
HW Parental Support	→	Approach to Homework	.217	.225	.031	7.264	.000
HW Attitude	→	Approach to Homework	.211	.166	.026	6.480	.000
HW Instrumentality	→	Approach to Homework	.083	.074	.028	2.692	.007
HW Intrinsic Motivation	→	Approach to Homework	.390	.490	.046	10.649	.000
HW Time Management	→	Approach to Homework	.176	.152	.026	5.910	.000

Note: SRW (Standardized Regression Weights), URW (Unstandardized Regression Weights), SE (Standard Error)

Discussion

The present study provides novel information on the relevance of variables implicated on students' decision to engage more or less deeply in homework. Our data suggest that students' deep engagement in homework is closely related to their degree of intrinsic motivation and positive attitude towards homework. These data are in line with those obtained in studies of classroom learning and achievement (e.g., Inglés, Martínez-González, & García-Fernández, 2013; Regueiro, Suárez, Valle, Núñez, & Rosário, 2015; Valle et al., 2015). On the other hand, our data also indicate that students who show better homework time management (and not necessarily those who spend more time on homework) are those who show the deepest approach to homework. Prior research had already reported a positive relation between study time management and academic achievement (Núñez, Suárez, Cerezo, Rosário, & Valle, 2015; Xu & Wu, 2013), nevertheless, to our knowledge this is the first study that explicitly addresses the relationship between time management and cognitive strategies used when doing homework.

Our findings also provided information about the relationship between students' homework behaviors and parent and teacher involvement. As suggested by the literature, most of the teachers assign homework because they consider that homework helps to improve academic achievement (Cooper, 1989), and also because they perceive that homework increases students' motivation and self-regulated learning (Cunha, et al., 2015; Hoover-Dempsey et al., 2001) and helps to establish a positive relation between home and school (Epstein & Van Voorhis, 2001; Trautwein, Niggli, Schnyder, & Lüdtke, 2009). What do the results of our study say about this topic?

In general terms, the results of the path analysis show that parental support and teacher feedback on homework influence student homework engagement by impacting on the levels of intrinsic homework motivation (directly), and homework attitude, homework time management, and perceived homework instrumentality (indirectly). Findings also suggest a strong and significant relationship between parental and teacher involvement in homework.

Our data also corroborates other research showing that the benefits of doing homework increase when it is corrected in class (Dettmers, Lüdtke, Trautwein, Kunter, & Baumert, 2010; Núñez, Suárez, Rosário, Vallejo, Cerezo et al., 2015) and that the students make a greater effort to do homework when they perceive teacher control (Trautwein et al., 2009), and it may even be counterproductive if students do not perceive their errors to try to improve in the future. However, it is necessary to take into account that teachers' different ways of responding to homework lead to different a quantity and quality of student homework engagement.

In relation to the role of parental involvement in homework, Patall, Cooper, and Robinson (2008) observed positive effects of parental involvement, among other variables, in student homework attitude. In three longitudinal studies, Van Voorhis (2011) found a positive relation between parental involvement guided by a systematic intervention and student achievement in mathematics, science, and language. On the other hand, while some studies using structural equation models (SEM) reported a positive relationship between parental involvement and achievement (Cooper, Jackson, Nye, & Lindsay, 2001), others found a negative relation, or mixed results (Dumont et al., 2012). In particular, Dumont et al. found both positive and negative relationships depending on the quality of parental involvement and on the different measures of educational outcome (achievement, self-concept, and attitudes). Moreover, they obtained a stronger positive relationship with student motivation than with achievement. The relationship is also different depending on the type of parental involvement (Cunha et al., 2015; Karbach, Gottschling, Spengler, Hegewald, & Spinath, 2013; Núñez, Suárez, Rosário et al., 2015; Suárez, Regueiro, Tuero, Cerezo, & Rodríguez, 2014). In the present study, we found that homework parental support was positively associated with intrinsic motivation and deep student engagement in homework.

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References

Barca, A., Peralbo, M., & Brenlla, J. C. (2004). Atribuciones causales y enfoques de aprendizaje: la escala SIACEPA [Causal attributions and learning aproaches in secondary education students: The Siacepa scale]. *Psicothema, 16*(1), 94-103.

Bempechat, J. (2004). The motivational benefits of homework: A social-cognitive perspective. *Theory Into Practice, 43*,189-196.

Biggs, J.B. (1993). What do inventories of students' learning processes really measure? A theoretical review and clarification. *British Journal of Educational Psychology, 63*, 3-19.

Byrne, B.M. (2009). *Structural equation modeling with AMOS: Basic concepts, applications, and programming.* New York: Psychology Press.

Cooper, H. (1989). *Homework*. New York: Longman.

Cooper, H., Jackson, K., Nye, B. A., & Lindsay, J. J. (2001). A model of homework's influence on the performance evaluations of elementary school students. *Journal of Experimental Education, 69,* 181-199.

Cunha, J., Rosário, P., Macedo, L., Mourão, R., Súarez, N., & Fuentes, S. (2015). Parents' conceptions of their homework involvement in elementary school. *Psicothema*, *27*(2), 159-165.

Dettmers, S., Lüdtke, O., Trautwein, U., Kunter, M., & Baumert, J. (2010). Homework works if homework quality is high: Using multilevel modeling to predict the development of achievement in mathematics. *Journal of Educational Psychology, 102,* 467-482.

Dumont, H., Trautwein, U., Lüdtke, O., Neumann, M., Niggli, A., & Schnyder, I. (2012). Does parental homework involvement mediate the relationship between family background and educational outcomes? *Contemporary Educational Psychology,3*, 55-69.

Entwistle, N. J. (2009). *Teaching for understanding at University: Deep approaches and distinctive ways of thinking.* Basingstoke, UK: Palgrave Macmillan.

Epstein, J. L., & Van Voorhis, F. L. (2001). More than minutes: Teachers' roles in designing homework. *Educational Psychologist, 36*, 181-193.

Fernández-Alonso, R., Suárez-Álvarez, J., & Muñiz, J. (2015). Adolescents' homework performance in mathematics and science: Personal factors and teaching practices. *Journal of Educational Psychology*. doi: 10.1037/edu0000032.

Hoover-Dempsey, K. V., Battiato, A. C., Walker, J., M.T., Reed, R. P., De Jong, J. M., & Jones, K. P. (2001). Parental involvement in homework. *Educational Psychologist, 36,* 195-209.

Inglés, C. J., Martínez-González, A. E., & García-Fernández, J. M. (2013). Prosocial behavior and learning strategies in a sample of Spanish students of Compulsory Secondary Education. *European Journal of Education and Psychology, 6,* 33-53.

Karbach, J., Gottschling, J., Spengler, M., Hegewald, K., & Spinath, F. M. (2013). Parental involvement and general cognitive ability as predictors of domain-specific academic achievement in early adolescence. *Learning and Instruction, 23*, 43-51.

Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I – Outcome and process. *British Journal of Educational Psychology, 46*, 4-11.

Núñez, J. C., Suárez, N., Cerezo, R., Rosário, P., & Valle, A. (2015). Homework and academic achievement across Spanish Compulsory Education. *Educational Psychology, 35*(6), 726-746.

Núñez, J. C., Suárez, N., Rosário, P., Vallejo, G., Cerezo, R., & Valle, A. (2015). Teachers' feedback on homework, homework-related behaviors and academic achievement. *Journal of Educational Research, 108,* 204-216.

Núñez, J. C., Suárez, N., Rosário, P., Vallejo, G., Valle, A., & Epstein, J. L. (2015). Relationships between parental involvement in homework, student homework behaviors, and academic achievement: Differences among elementary, junior high, and high school students. *Metacognition and Learning*. doi: 10.1007/s11409-015-9135-5

Patall, E. A., Cooper, H., & Robinson, J. C. (2008). Parent involvement in homework: A research synthesis. *Review of Educational Research, 78*, 1039-1101.

Regueiro, B., Suárez, N., Valle, A., Núñez, J. C., & Rosário, P. (2015). Homework motivation and engagement throughout compulsory education. *Revista de Psicodidáctica, 20*(1), 47-63.

Rosário, P., González-Pienda, J. A., Pinto, R., Ferreira, P., Lourenço, A., & Paiva, O. (2010). Efficacy of the program "Testas's (mis)adventures" to promote the deep approach to learning. *Psicothema*, *22*, 828-834.

Rosário, P., Núñez, J. A., Ferrando, J. P., Paiva, O., Lourenço, A., Cerezo, R., & Valle, A. (2013). The relationship between approaches to teaching and approaches to studying: A two-level structural equation model for Biology achievement in high school. *Metacognition and Learning, 8,* 47-77.

Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment, 8,* 350-353.

Song, I. S., & Hattie, J. (1984). Home environment, self-concept, and academic achievement: A causal modeling approach. *Journal of Educational Psychology, 76*, 1269-1281.

Suárez, N., Regueiro, B., Tuero, E, Cerezo, R., & Rodríguez, C. (2014). Family involvement in education as a tool for working towards academic success. *Revista de Psicología y Educación, 9*(2), 83-93.

Trautwein, U. (2007). The homework-achievement relation reconsidered: Differentiating homework time, homework frequency, and homework effort. *Learning and Instruction, 17*, 372-388.

Trautwein, U., & Köller, O. (2003). The relationship between homework and achievement—still much of a mystery. *Educational Psychology Review, 15*, 116-155.

Trautwein, U., Niggli, A., Schnyder, I., & Lüdtke, O. (2009). Between-teacher differences in homework assignments and the development of students' homework effort, homework emotions and achievement. *Journal of Educational Psychology, 101*, 176-189.

Valle, A., Regueiro, B., Rodríguez, S., Piñeiro, I., Freire, C., Ferradás, M., & Suárez, N. (2015). Motivational profiles as combination of self-efficacy expectations and academic goals in university students, *European Journal of Education and Psychology, 8*(1), 1-8.

Van Voorhis, F. L. (2011). Adding families to the homework equation: A longitudinal study of mathematics achievement. *Education and Urban Society, 43*, 313-338.

Xu, J., & Wu, H. (2013). Self-regulation of homework behavior: Homework management at the secondary school level. *The Journal of Educational Research, 106*, 1-13.

Xu, J., Yuan, R., Xu, B., & Xu, M. (2014). Modeling students' time management in math homework. *Learning and Individual Differences, 34,* 33-42.