

Parents' Support and Achievement in a Mexican Elementary School: Child's Perception and Parents' Self-Evaluation

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Abstract

This study investigated the influence of family support on the academic performance of 131 fifth graders attending elementary school in Mexico. Perceptions of parental support were assessed using questionnaires administered to students and their parents regarding four components of support: 1) Assisting with homework; 2) Providing time and adequate space; 3) Communicating with teachers; and 4) Carrying out review and assessment activities. Children's written language was assessed using an instrument linked to the curriculum. Following exploratory and confirmatory factorial analysis, an instrument was obtained to measure written language with good convergent and divergent validity for three aspects of written language: ability to reflect on language, text production, and vocabulary communication. Results support the hypothesis that the written language achievement of fifth graders is largely explained by the family support made available to them.

Keywords: achievement, Mexican students, parents, reading, support

1. Introduction

Parental support is an important contextual factor influencing the relationship between family and school, and affecting the processes and learning outcomes of students, especially in basic education (Desforges & Abouchaar, 2003; Epstein, 1995; Epstein & Sheldon, 2006; Sheldon & Epstein, 2005). The parent support describes the process in which parents or guardians responsible for a child promote actions that supplement and reinforce the knowledge, skills, competencies and interactive styles that the school intends to develop. According to Reglin (2002), in this way, parents complement the didactic practice by: 1) Providing assistance or support to the students for homework; 2) Providing time and adequate study space; and 3) Maintaining regular communication with the staff of the school.

On the other hand, students' perceptions about the support received from their parents (father and/or mother) at both home and school has been a core topic in studies concerning the relationship between family support provided to children and their academic achievement. The type and amount of parents' support perceived by the students have significantly predicted their academic achievement. Several studies carried out in different countries have focused on the relationship between family support (as perceived by the student) and their academic achievement, specifically in elementary school and in the first grade of junior high school.

Grolnick, Ryan and Deci (1991) conducted a research with approximately 500 American children in Grades 3-6 of elementary school in urban and suburban areas near New York. The children represented a range of social classes, and were mostly white with farm-worker parents. These authors found:

- a) When fathers are perceived to be more involved in students' learning than mothers, there is a greater positive impact on students' self-reported levels of knowledge regarding what they have learned at school and on their self-perceived control and autonomy. These perceptions have a direct impact on academic performance and achievement.
- b) Students' perception about the support received in autonomous or independent tasks from their mother, rather than from their father, explains variables reported by the children regarding their motivation.
- c) Student self-perception of mother's involvement is negative and significantly associated with the indicators of

school achievement, and

d) Three motivational variables were evaluated. It was noted that among them, the children's self-assessed level of study competence (the assessment of their ability and knowledge of curriculum content) is the one that had greatest predictive power on school achievement.

Cervini (2002) studied 32,289 Argentinean students, all in the first grade of junior high school (Grade 7 in Basic General Education) and from diverse socio demographic contexts. The research analyzed the relationship between students' perceptions of family involvement (interest and participation in school activities from parents) and the academic achievement in Mathematics at the end of one school year. The results were obtained at the end of 1997 on a 40-item standardized Mathematics test administered by the Ministry of Culture and Education. When students perceived a high level of family involvement, it was more likely that they perform at a high level. In summary, Cervini concluded that family support affects achievement, beyond the effect of socioeconomic factors themselves.

In a study of 270 adolescents attending secondary school in Hong Kong, Chen (2005) aimed at identifying the differential effect of school grade on the relationships between the student's perceived family support (from parents, teachers and peers) and their academic achievement. In Form 4 (second grade of secondary school), perceived parental support was negatively linked to academic achievement, whereas in Form 3 (first grade of secondary school) family support was positively associated with academic achievement mediated through their perceived academic performance.

Abd-El-Fattah (2006) investigated 255 Egyptian students in their first year of high school. Structural equation modeling was used to analyze the relationship between the students' perception of parental support and their academic achievement. This study used the construct achievement goals, which refers to goal-oriented performance, as the mediating variable. Results showed that the achievement goals and the performance approach were the best predictors of a student's academic achievement. Parental involvement both at home and at school had an indirect effect on students' academic achievement through mastery goals. Parental involvement at school had a positive indirect effect on academic performance mediated through a performance-approach goal, but a negative indirect effect on the performance mediated through performance-avoidance goals.

In Holland, Ahmed, Minnaert, van der Werf and Kuyper (2008) carried out a modeling study with 238 seventh graders (mean age 13.2 years). The students were predominantly of native Dutch origin and middle socioeconomic status. The study focused on the relationship between the students' perception of the social support received (from parents, peers and teachers) and Mathematics achievement, mediated through motivational variables (beliefs about their competence) and emotional variables (anxiety and enjoyment). Results showed that the motivational beliefs and emotions jointly mediated the effect of the social support on academic achievement. Nevertheless, the proportion of the mediating effects varied across the support sources from 55 to 75. The authors suggest that their results support theoretical assumptions in the literature regarding the importance of social support for students whose academic achievement is mediated through motivational and affective variables.

Regner, Loose and Dumas (2009) worked with a sample of 503 French students aged 13-16 years in 26 public junior high schools in France (urban and suburban areas). They found that students' perception of parental support is positively related to the domain goals and expectations (curriculum content), but not to students' goals and expectations of achievement. The children's perception of the academic follow-up and monitoring provided by their parents regarding their studies and homework was significantly associated with the students' goals in terms of achievement, their domain goals and mastery of the topics. Similarly, average school achievement was significantly associated with their achievement expectations, but not with their domain expectations or the knowledge they expected to acquire.

Olatoye and Agbatogun (2009) carried out a study with 480 Nigerian students in public and private elementary schools to determine the relationship between the participation (involvement) of parents and the children's academic achievement in Mathematics and Science. A self-report scale was used to measure the perceived family support, together with other reliable assessments. Results showed that parental participation is a significant predictor of elementary students' achievement in both subject areas. Similarly, significant differences were noted in the level of parental involvement when private and public school settings were compared. Students in private schools perceive greater involvement and support from their parents, compared with those in public schools.

In the Mexican context, Bazán, Sánchez and Castañeda (2007) tested a structural equation model using the constructs of parent (family) support perception (by the students, their parents and teachers), parents' educational level, teacher's characteristics and school achievement in written language. Participants were 167 students in

third grade of an elementary school in the Mexican Northeast zone. The results showed equally significant, positive and direct relationships among the perceived family support, teacher's characteristics and the students' achievement in written language, as well as an indirect but positive relationship between the parental education level and the students' achievement through family support. Bazán, Castellanos and López (2010) carried out a structural model to determine the effect of family support perceived by students, their parents and the teacher, the family's education level, teacher variables and academic achievement, with 139 fourth graders (aged 10-11 years). The resulting model showed that family support perceived by students is the best predictor of their achievement (significant and positive relationship), followed by the teacher's perception about the family support provided. The self-perceived family support from both parents had a significant and negative effect on students' achievement. Parents' education level significantly influenced only the self-perceived family support of the parents.

Most of the studies described here have addressed the relationship between perceived family support and academic achievement of students using mediational models, in which family support had an indirect effect on both academic achievement and variables related to the competencies of academic achievement. Some of the studies, for instance those by Cervini (2002), Olatoye and Agbatogun (2009) and Bazán and collaborators (2007, 2010), have suggested more direct relationships between perceived family support and academic achievement indicators. Bazán et al. (2007, 2010) included parents' educational levels and variables related to the teachers' domain and knowledge of teaching and learning contents provided to the children. Nevertheless, there are very few studies that include a greater variety of aspects related to family support variables and their perception by students and parents, as separate groups, as well as the variables related to parental schooling and family structure.

1.1 The Present Study

The study derived from the perspective of parental support investigations and sought to empirically demonstrate whether perceived family support influences the academic achievement of fifth graders at the end of the academic year.

The research focused on the Spanish Language competencies of the students that were attending urban public elementary schools in Cuernavaca (in South-Central region of Mexico). A hypothetical model of structural relations among three constructs of family support was proposed (See Figure 1).

The three constructs considered as explanatory or predictor variables were: student's perception of family support, mother's self-assessed family support and father's self-assessed family support. These were considered in relation to achievement in written language, with indicators for three linguistic competencies developed throughout the academic year (reflection about language, text production and vocabulary).

Four direct indicators were also included in the model as predictor variables of the students' academic achievement: parental schooling (educational level); the time either the mother or father spends away from home and an indicator of the child's expectation about their Spanish content domain in fifth grade.

In summary, this study aimed at describing and explaining the influence of family support perceived by three different information sources (students, fathers and mothers) on children performance in three written language competencies, at the end of fifth grade of primary school.

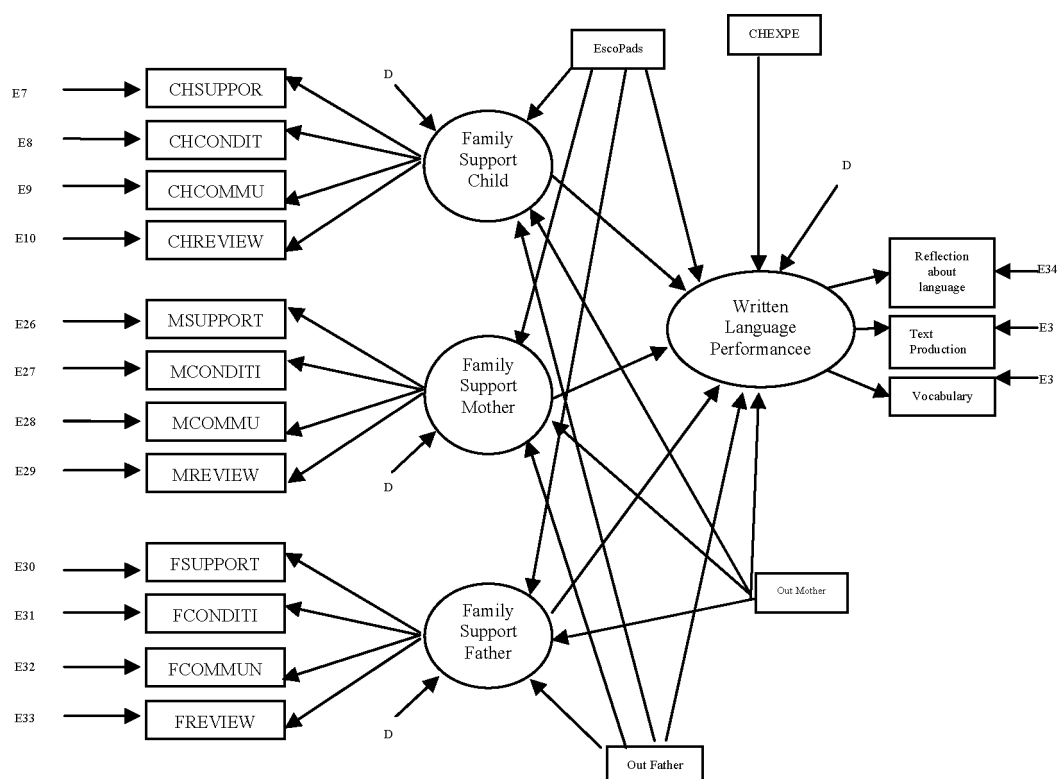


Figure 1. A hypothetical model of structural family variables and student performance on written language in fifth grade students

DESCRIPTORS: parent support refers to three latent variables related to the family support reported by the child (Family support child), by the mother (Family support mother) and by the father (Family support father), in four factors: assistance (support) with school tasks; provision of time and space conditions to study, maintenance of regular communication with the teacher(s), and review and assessment. Assessment performance in **Written Language**, latent variable confirmed by performance indicators with assessment in accordance with the curriculum in: reflection on language, text production and vocabulary. **Out Father** and **Out Mother** are the indicators of the time that the father or mother spends away from home. **ExcoPads** refers to education level measured by number of years of schooling for both parents. **CHEXPE** is the indicator of the child's expectation about their learning of written language (Spanish).

2. Method

2.1 Participants

Participants were 131 students (aged 10-11 years) from three schools in Cuernavaca city in Morelos State, México, their mothers and fathers; the latter were their last semester of fifth grade of elementary school. Four groups of students were selected in a non-probabilistic way. The inclusion criteria included that teachers know and use the textbook provided by the Secretary of Public Education (SEP) for at least 75% of the time, and knowing and using the current curriculum for Spanish teaching for at least 75% of the time. The students were enrolled in the urban public schools and came from families of low-middle and low socioeconomic status.

2.2 Instruments and Materials

2.2.1 Family Support

A questionnaire for family support perception was developed with three versions based on the source of information: the student, the mother or father. The questionnaires included the same indicators and valuation criteria. Each questionnaire consisted of 19 questions classified into four dimensions or scales: 1) Assistance or support with homework, 2) Time and space provided for study, 3) Regular communication with the teacher and, 4) Review and assessment. Additionally, questions related to schooling for both parents were included. All the questions about family support were evaluated using a hierarchical scale from 0 (never or absence of occurrence) to 4 (always or maximum occurrence). Seventeen questions had to be answered with one of five options: Never,

Rarely, Sometimes, Often, and Daily. Two questions found out exact numbers of occurrence.

2.1.2 Achievement in Written Language

To evaluate the academic achievement in written language, an assessment instrument was developed in accordance with the curriculum of SEP, implemented since 2007 for the fifth grade of elementary school. The task includes 35 exercises grouped into twelve series or group of tasks. The assessment considered up to five hierarchical options for grading a student's performance in each task (see Figure 2).

1. <i>Organize and label sets of materials in a library</i> , which in turn include 3 assessment exercises, after reading a short text.
2. <i>Identify structural elements of a news</i> , which consists of 2 exercises, after reading a short text.
3. <i>Regulations drafting</i> , consisting of an exercise, from an instruction to draft a short text.
4. <i>Tale drafting</i> , consisting of two exercises, from an instruction to draft a short text.
5. <i>Develop messages using synonyms</i> , includes two exercises, from an instruction to draft a short text.
6. <i>Organize and complete the elements of a formal letter</i> , consisting of two exercises, in accordance with the structure of a formal letter.
7. <i>Complete the elements on a letter envelope</i> , consisting of two exercises, in accordance with the structure and elements to be included on a letter envelope.
8. <i>Interpret idiomatic expressions</i> , consisting of 5 exercises, after reading a short text.
9. Write synonyms, consists of six exercises, from a short text.
10. <i>Identify the parts of a sentence</i> , three exercises, based on the reading of a short text.
11. <i>Transform the meaning of the sentences by using commas</i> , two exercises, based on the reading of a short text.
12. <i>Identify the verb and the pronoun in the sentence</i> , five exercises, based on the reading of a short text.

Figure 2. Exercise series for domain assessment of written language in the fifth grade of elementary school

2.3 Design

A non-experimental, cross-sectional study aimed at explaining the relationships between family support and achievement in written language assessment in the fifth grade of elementary school.

2.4 Procedure

At the end of the academic 2007, the instrument for written language assessment (Spanish) was administered to each of the four groups. This took place in a group session that lasted 45-70 minutes. In a subsequent session each child completed a scale regarding perceived family support. Family support questionnaires were then sent home with instructions for these to be answered independently by each parent, with the exception of children who lived with only one parent. Each questionnaire also included a letter to both parents, requesting informed consent.

Once the instruments were collected, they were reviewed to identify those exercises that had not been completed by the child and/or those exercises that were not answered by a large proportion of the children, so that these could be amended. Evaluation of instruments was performed according to the categories and assessment criteria previously established. Each instrument was assessed by two evaluators, and reviewed further on by a third person who made a final decision regarding any discrepancies.

3. Results

3.1 Family Support

Internal consistency indices (Cronbach's alpha) for the scale of family support from each source of information (student, mother and father) are shown in Table 1. One hundred and thirty-one questionnaires were answered by the students, but only 101 mothers and 68 fathers sent back the completed questionnaires. Acceptable internal consistency indices were found for each of the four dimensions of family support in their three versions. Taking into account each one of the three sources of information, the Alpha's Cronbach coefficients for Factor 2 (Time and space dedicated to study) and Factor 3 (Regular communication with teachers), fluctuated from 0.59 and 0.75. Meanwhile, for factors 1 and 2 (Assistance or homework support, and Review and Evaluation respectively) internal consistency ranged between 0.80 and 0.90, excepting in one of six factors.

Consequently, a reliable instrument to assess family support through self-report using four dimensions (assistance or support for homework, study time and space, regular communication with the teaching figure, and review and assessment tasks) was available.

Table 1. Internal consistency indices of Family Support with averages obtained on a 0-4 scale

Statements of family support activities by subscale or dimension	Internal consistency index		
	Students	Mothers	Fathers
1. Assistance or homework support	0.80	0.88	0.90
	Means		
Average time (each day) that parents spend on helping their children with their Spanish homework.	1.57	1.20	.89
Parents ask their child if they have Spanish homework to be done at home.	3.15	3.20	2.70
Parents ask the child about their performance in the Spanish class.	2.72	2.66	2.41
Parents take a look at the exercises that the child is doing in the Spanish class.	2.21	2.37	1.79
Parents and their children study Spanish subject topics at home.	1.92	2.07	1.60
Parents take a look at the books and workbooks of the Spanish subject.	2.41	2.42	1.92
2. Time and space dedicated to study	Students	Mothers	Fathers
	0.65	0.59	0.64
	Means		
Parents make their children have a place to study at home without distractions.	2.81	2.78	2.58
Parents have assigned a special schedule for their children to do their Spanish homework at home.	1.99	2.60	2.20
Parents will provide the materials for their children to do "my Spanish homework" at home.	3.09	3.61	3.37
At home, parents have additional material to support their children's learning.	1.70	1.54	1.49
3. Regular communication with teachers	Students	Mothers	Fathers
	0.66	0.68	0.78
	Means		
Parents go to school without an appointment, to inquire about their children's academic performance	1.81	2.06	1.37
Parents send messages or make phone calls to the school to ask the teacher to report on their children's learning.	.95	.66	.45
Parents know how their children get along with their Spanish teacher.	2.36	2.23	1.79
Parents attend information meetings, sign report cards, etc.	3.46	3.60	2.21
Parents know how their children get along with their classmates.	2.65	2.69	2.00
4. Review and evaluation	Students	Mothers	Fathers
	0.75	0.84	0.89
	Means		
Parents support their children with additional reading and writing material.	2.81	2.58	2.35
Parents spend time to assess the proficiency in their children's Spanish subject.	2.21	1.94	1.59
Parents and their children do exercises to strengthen their learning in Spanish.	1.94	1.79	1.49
Parents give their children additional exercises of Spanish to work at home.	1.94	1.59	1.34

3.2 Performance in Written Language

Prior internal consistency indices were obtained. The factor structure of the assessment instrument for written language was analyzed. For Exploratory Factor Analysis (EFA), twelve indicators of written language performance were obtained, based on averaging the points scored from each of the twelve activity series. EFA generated three factors, each one consisting of four indicators or evaluation series, that allowed the elaboration of an hypothetical model de Confirmatory Factorial Analysis (CFA), which was tested to obtain both convergent and divergent construct validity among the three factors. Figure 3 shows CFA resultant model, which obtained both convergent and divergent construct validity and acceptable goodness of fit regarding the hypothetical model ($P = 0.11$; $CFI = 0.97$; $RMSA = 0.04$). It should be noted that the variable “identify news” in EFA loaded on the second factor, proved a reliable indicator of the third factor in the CFA. Each factor was labeled based on the concept of proximity of these indicators: F1 = Reflection about Language, F2 = Text Production, F3 = Vocabulary and Communication.

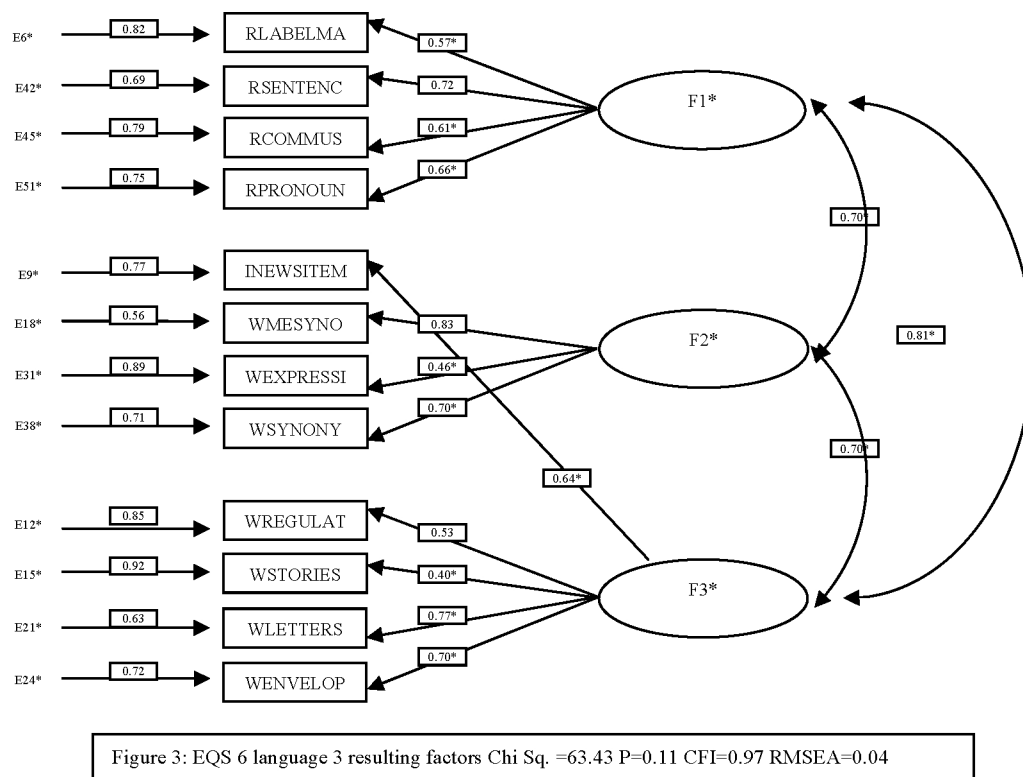


Figure 3. Confirmatory factor analysis of written language performance of fifth grade students in elementary school

DESCRIPTORS: RLABELMATT, to label groups of materials; RSENTENCE, to recognize parts of a sentence; RCOMMUSE, the use of the comma; RPRONOUN, to identify verbs and pronouns within sentences; INEWSITEMS, to identify elements of pieces of news; WMESYNON, to write messages with synonyms; WEXPRESSIO, to link idiomatic expressions; WSYNONYM, to write synonyms; WREGULATT, to write rules; WSTORIES, to write stories; WLETTERS, to complete a formal letter; WENVELOPE, to complete data on card envelopes.

To measure the student's academic achievement in Spanish, an instrument with acceptable convergent and divergent construct validity was obtained based on activities in accordance with the curriculum. Thus, there is now a precise measure of the linguistic competencies expected from students within an academic year, instead of relying solely on grades from the teacher and the student's scholastic record. A valid and reliable instrument to assess written language in three factors in fifth grade of elementary school is available. The reflection about language included reading and short text completion tasks covering syntactic and semantic aspects; text production entailed writing paragraphs from instructions with a base, synonyms and idiomatic expressions; finally, vocabulary and communication consist of completing tasks involving news, regulations, narratives,

letters and envelopes.

3.3 Models of Structural Relationships

Figure 4 shows the model which was obtained with acceptable Goodness of Fit (CFI = 0.95) in contrast to the hypothetical model shown in Figure 1. In our study sample, the family support reported by the mother explains the children's achievement in the written language assessment (reflection about language, text production and vocabulary) in a significant way. However, the family support perceived by the student has a negative but significant factor loading on the student's written language performance.

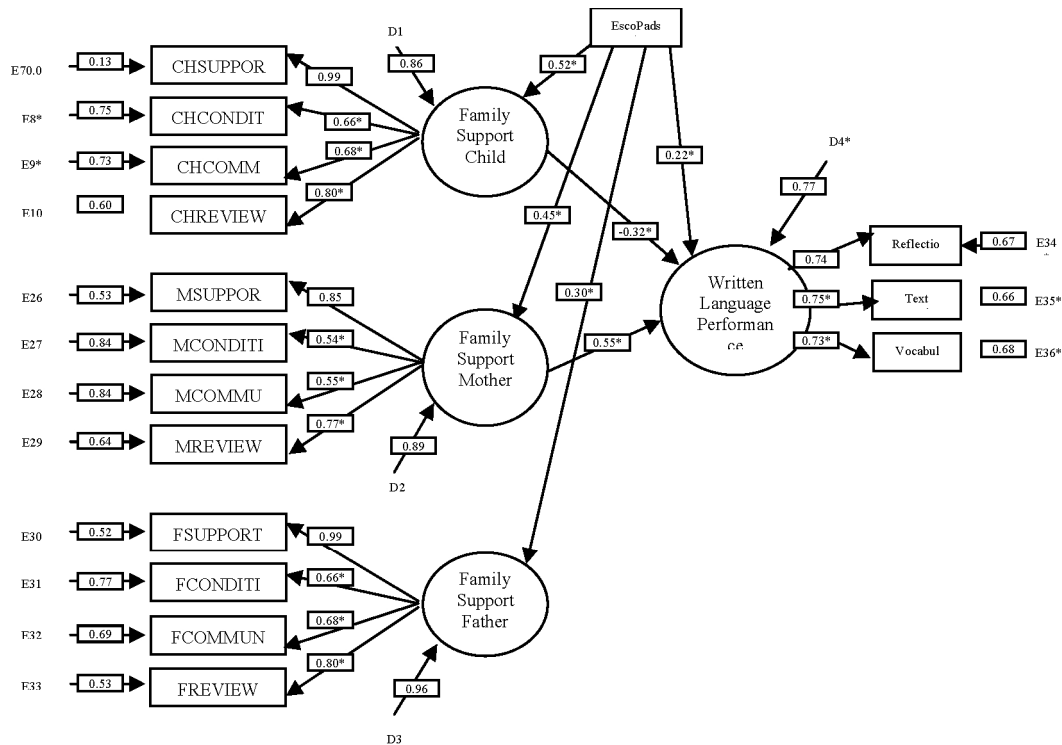


Figure 4. Model resulting from the structural relationships between family variables and the student's achievement in written language in the fifth grade of elementary school

A further aspect to point out is that parent's schooling (reported in years) is a good predictor of the student's achievement (albeit at a lower level than the mother's self-assessed family support) and it also has a positive and significant impact on the perception of the family support provided, from all three perspectives (student, mother and father). The time that parents are away from home has no effect on children's learning nor on the perceptions of support. Additionally, the variable child's expectation about their performance in the academic achievement assessment was removed as it did not reflect any relationship and affected the model's Goodness of Fit.

4. Discussion

We consider the inclusion of perceptions regarding family support as an important aspect for predicting the academic achievement of students in basic education. Our data from this study concurs with data obtained from other Mexican studies as well as work undertaken in other countries. Perceived family support significantly influences school performance and/or achievement (Abd-El-Fattah, 2006; Bazán et al., 2007; Bazán et al., 2010; Cervini, 2002; Chen, 2008; Grolnick, Ryan, & Deci, 1991; Olatoye & Agbatogun, 2009; Régner, Loose, & Dumas, 2009). The present research builds on these previous studies by using a multidimensional questionnaire that comprehensively measures perceptions of family support in four factors, uses supportive academic achievement tasks as a complement to school learning and the support provided to the child: support with homework, provision of time and adequate space, maintenance of regular communication with the teacher, and review and assessment tasks. This questionnaire proved to be reliable with acceptable levels of both convergent

and divergent construct validity to track family support. Several factors were used, as a family support measure cannot be one-dimensional.

Our data suggest that mothers' self-perceived support provided to the child explains in a coherent and significant way the children's achievement on written language assessment. This stands in contrast to the non-effect of the self-perceived parent support provided to the child on their achievement. This finding can be related to the mothers' commitment and interest in supporting their children, in contrast to that of fathers. When mothers support their children, the children are likely to achieve better academic outcomes. These data coincide with findings reported in other studies carried out with Latin American children in their hometowns regarding the value of family support actions and the mother's motivation and interest in the student's education (Barber, 1988; Bazán, Castellanos, & López, 2010; Castro, Lubker, Bryant, & Skinner, 2002; Mella & Ortiz, 1999). Similarly, in the United States, despite involvement barriers, Latin American mothers have developed activities and experiences to support and reinforce their children's learning, which positively influences the educational process (Kreider, 2011; Quiñones, 2009; Salinas-Sosa, 1997).

There was a significant, negative relationship between the perception of the students about their family support and their written language academic achievement. Essentially, the more parental involvement the child perceives, the lower the level of achievement will be. These data coincide with the references of the study reported by Chen (2008) with students from Hong Kong, who found that parental support perceived by 13-14 year old students was negatively linked to their academic achievement.

A limitation of both, this study and the study reported by Chen (2009) is that perceived family support focuses on a general variable in which both parents are included. In that regard, the study of Grolnick, Ryan and Deci (1991) constitutes an important contribution because the child's perception about the support they receive from the mother was separated from that of the father. In that study, the mother's support was negatively perceived and significantly associated with the indicators of school achievement.

Despite cultural differences among parents participating in different studies at different points in time and in different contexts, the fact is that family support is associated negatively with academic achievement. One possible explanation may be that parents offer more support when they realize their child has difficulty learning. For example, in this study where the assessment was administered at the end of the academic year, parents could have decided to increase their support and interest in their child's homework and learning as the end of the year and final evaluations were approaching and when they perceived difficulties.

Analysis of results from the Program for International Student Assessment (PISA, OECD) tests carried out by Klieme and Stanat (2002) seems to support the previous assumption. In most of the 32 countries (including Mexico), parental support as reported by the students was significantly associated with indicators of academic achievement only in cases of insufficient achievement in Mathematics. The authors suggest that in most of the countries, parents are concerned about their children's academic achievement when it is compromised.

A final point to highlight is the influence of parent's schooling, which explains both the children's achievement and the family support reported by each of the parties. In this research, the parent's schooling was a good predictor of academic achievement. Although it was a weaker predictor than the mother's self-perceived support and the support perceived by the students, it also had a significant influence on the family support perceived by students, mothers and fathers. This means that parental schooling is a variable that must be taken into consideration in a model that intends to explain a student's academic achievement as it has been shown to have direct and indirect explanatory power for academic outcomes.

In this study, the participants came from public schools of middle-low and low socioeconomic status where both parents typically work. However, the indicators (in the resulting model) of the time that both the mother and father spend away from home did not influence either the children's academic achievement or the family support perceived. Future investigations will need to include finer aspects of expectations, interest and commitment of parents, as well as cases of students with single parents or with an absent parent due to migration issues or work outside the city. A likewise, subsequent studies have to examine in depth the differences regarding the perception of support received by the students from each of their parents (separately), as well as to relate the perceived support to the indicators of academic achievement in the last months of the academic year.

With regard to the Goodness of Fit of the structural model resulting from the relationships between family variables and the student's achievement in written language in the fifth grade of elementary school, it has to be pointed that although neither a $P > 0.05$, nor a $RMSA < 0.10$ could be reached because of the children sample size (131) and taking into account that only a few fathers completed the questionnaires in contrast with the number of mothers that did it the CFI (comparative fit index) reported indicates that the resulting model obtained

is similar (fits) to the hypothetical model that was initially postulated. This finding is supported by the results of Bentler and Yuan (1999), McDonald and Ho (2002), Bazán, Sánchez and Castañeda (2007), and Hooper, Coughlan and Mullen (2008). Nevertheless, it is necessary to realize this kind of modeling with larger samples of students and an equal number of mothers and fathers. This represents a major challenge because it is a constant that not all the parents answer this type of self-reports which relates to the support provided to their children in their tasks, and in general, to the educational processes.

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