



## Parental involvement and family motivational climate from the parents' perception: cross-cultural validation of the CMF-P questionnaire

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**Título:** Implicación parental y clima motivacional de la familia desde la percepción de los padres: validación transcultural del cuestionario CMF-P.

**Resumen:** Este estudio tiene dos objetivos. Primero, estudiar la validez del modelo de clima motivacional de la familia como indicador de implicación parental, cuando se evalúa con el cuestionario de Clima Motivacional de la Familia para padres (CMF/P). Y, segundo, hacerlo en población española y cubana con el fin de determinar las diferencias en la percepción del CMF de los padres de ambos países. Participaron 892 padres, 400 españoles y 492 cubanos. Se realizaron análisis factoriales confirmatorios, de validez cruzada y multigrupo, y análisis de fiabilidad. Los resultados muestran, tanto en España como en Cuba, la validez del Modelo teórico que subyace al cuestionario. Las ayudas que ofrecen los padres sirviendo como ejemplo a sus hijos y la estructuración del trabajo escolar en casa por parte de los padres son los factores de mayor peso en la definición del CMF. Sin embargo, la cultura moderó la configuración del CMF en varios indicadores del Modelo, mostrando diferentes maneras de actuar entre padres españoles y cubanos en la configuración de un clima familiar motivador.

**Palabras clave:** Implicación parental. Clima Motivacional de la Familia. Motivación escolar. Cultura.

**Abstract:** This study has two objectives. First, to study the validity of the family motivational climate model as an indicator of parental involvement, when it is evaluated with the Family Motivational Climate questionnaire for Parents (CMF / P). Second, to do it in the Spanish and Cuban population in order to determine the differences in the CMF perception of the parents of both countries. A total of 892 parents participated in the study, 400 from Spain and 492 from Cuba. Confirmatory factor analyses, cross-validation and multi-group analyses performed, as well as reliability analysis. The results show, both in Spain and in Cuba, the validity of the theoretical model that underlies the questionnaire. The help offered by parents serving as an example to their children, and the way in which parents structure the schoolwork at home are the most important factors in the definition of the CMF. However, culture moderated the configuration of the CMF in several indicators of the Model, showing different ways of acting between Spanish and Cuban parents in the configuration of a family motivating climate.

**Keywords:** Parental involvement. Family Motivational Climate. School Motivation. Culture.

### Introduction

One of the most important issues in education to understand what motivates students to achieve success and to persist in their studies (Litaliena, Morinb & McInerney, 2017). The interest and effort shown by students to learn is favored or hindered to a greater or lesser degree by different factors both in formal learning contexts -school- as well as in non-formal contexts -family, community, etc.) (Hernández, Cárdenas, Romero & Hernández, 2017; Villasana & Alonso-Tapia, 2015). In formal contexts, the study of the factors alluded has focused on the classroom motivational climate, on the different persons that act inside it -student, group and teachers-, and on the processes that occur in it -motivation, social relations and learning-. Likewise, in non-formal contexts, factors that affect the interest and motivation to learn when visiting museums or doing extracurricular activities, such as music and sports, have been studied (Harris & Robinson, 2016; Madjar, Shklar & Moshe, 2016; Tang, 2015). However, there are not many studies on the role of processes related to study taking place in the family micro-context affect children's motivation to learn.

It is true that studies on parental involvement have shown that the degree and quality of it profoundly influence the motivation to learn and the performance of children, (Boonk, Gijsselaers, Ritzen & Brand-Gruwel, 2018; Wilder, 2014). However, the two works cited have also shown that the positive effects of parental involvement depend on the specific characteristics of the same, since the effects found have not always been positive.

The fact that the effects of parental involvement have not always been positive seems partly due to the limitations of assessment instruments (Wilder, 2014). The need to have an adequate measure of parental involvement led Alonso-Tapia, Simón and Asensio (2013) to develop the Family Motivational Climate questionnaire (FMC), whose validity has also been revealed in a cross-cultural study (del-Prado, Simón-Rueda, Aguirre-Camacho & Alonso-Tapia, 2020). However, this instrument only allows evaluating the family motivational climate from the perspective of children. Because of this limitation, the first of the objectives of this work is to determine if the family's motivational climate model validated through the responses of the children is equally valid from the parents' perspective. With this objective in mind, what is the model from which the FMC questionnaire for children was developed, and from which to develop a similar questionnaire for parents?

The *Family Motivational Climate* (FMC) is a theoretical construct similar to that of the Classroom Motivational Climate (Alonso-Tapia & Fernández, 2008; Ames, 1992), but takes the family environment as a setting for the motivation-

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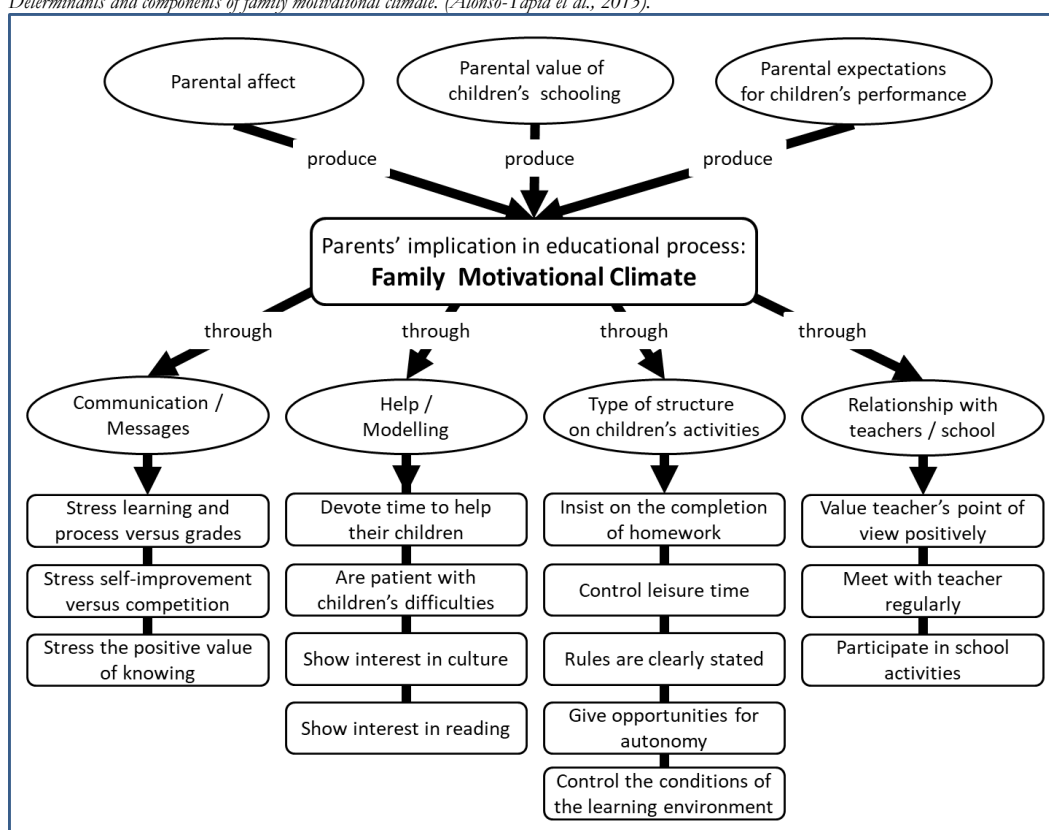
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al orientation of the students. Its construction relies heavily on the works of Pomerantz, Grolnick & Price (2005), Jeynes (2007) and Wilder (2014). The FMC construct refers to how the different daily actions that parents carry out with their children configure an environment—a climate- that facilitates or hinders their interest and effort, so that their motivation focus on learning (mastery goals) or on outcomes (grades). Among the actions to which we refer are: 1) the messages or comments that parents say to the children in relation to their school work, 2) the time they devote to help children, and the type of aid that provide to them, 3) the limits and struc-

ture that they impose with respect to schedules and extracurricular activities, and 4) the way they value their children's teachers, the expectations they convey about them, and the link established with the school institution. It is considered that these patterns of parental actions are an expression of the interaction of three factors that determine them: the affective relationship established between parents and children, the academic expectations of parents regarding their children, and the value that parents attribute to learning (Alonso-Tapia et al., 2013) (Figure 1). Next, each of these factors will be briefly described following Figure 1.

**Figure 1**  
Determinants and components of family motivational climate. (Alonso-Tapia et al., 2013).



*Messages from parents.* Starting, for example, with the results of an exam, when parent receive them, they can make comments such as "If you do not try, you will not get anywhere: all your classmates will beat you," or "Let's see what went wrong. in the test: remember that a failure doesn't matter if it helps you to learn". Examples like these show that verbal messages of parents about academic results, about effort, and about the learning process, focus their children's attention on different sources of value -grades, competition, learning, etc.-. These factors can influence expectations, interest, willingness to strive, and the actions that children will take to achieve their goals (García, 2005; Madjar, et al 2016).

*Structure and limits.* To set clear limits at an early age is the basis on which the child can learn to self-regulate his behav-

ior. It is difficult for adolescents to accept the limits that norms establish. However, an environment with clear and consistent norms will provide security to them. If norms are established through dialogue and not in a taxing or controlling manner, if they allow a certain degree of choice, they favor the students' autonomy, responsibility and self-determination for learning (García, 2005; Froiland & Worrell, 2017). Hence, any pattern of parental actions aimed at supervising and organizing the structure of the activity at home, the leisure time and the study conditions, will probably favor the development of intrinsic motivation in children, as they recognize (Alonso-Tapia et al., 2013; del-Prado et al., 2020).

*Support and example.* When parents help their children with patience, devote them time, and are example and model for them showing a with a variety of interests and concerns on culture, art, reading and knowledge in general, they will be usually intrinsically interested in learning (Harris & Robinson, 2016; Froiland et al, 2017).

*Relationship with teachers and school.* There are many studies showing that an adequate relationship between family, teachers and school can generate an environment that favors motivation, good academic performance and student competency (Epstein, 2011). This occurs, above all, in the process of transition from Primary to Secondary Education, where students often not only change from a school to another, but also find that the structure of education, the number of teachers, and peers are different (Becker & Neumann, 2017; Duchesne, Ratelle & Feng, 2017; Madjar & Chohat, 2017). Because of these changes, the more or less positive evaluation that parents do of teachers and of the contents they teach, the expectancies they convey about teachers' suitability, and the degree of involvement in school activity will influence students' motivation and self-efficacy (Affuso, Bacchini & Concetta, 2017; Bolívar, 2006).

In summary, the first objective of our study is to determine the structural validity of the Family Motivational Climate questionnaire (FMC-P) when it is answered by parents, and at the same time, the validity of the theoretical model underlying it. However, the present work has a second objective that we justify next.

The objective of the evaluation of parental involvement using the family motivational climate as an indicator of it is to provide a basis on which to develop psychoeducational prevention programs aimed at parents, on the base of the evaluation of each factor of the model shown in Figure 1, and in the different relationships established between them. However, intervention planning must take into account another factor: cultural differences in the way parents conceive and value how to act in relation to the learning processes of their children. Beyond the theoretical Model and the generalizations that can be made of it, every intervention should take into account the needs, interests and priorities of each family system, and should respect the cultural context that contributes to define it (Svetaz, Garcia-Huidobro & Allen, 2014), as the investigations and facts commented next suggest.

Cross-cultural studies on achievement motivation in Eastern and collectivist cultures contradict some of the ideas developed in Western cultures, or also called WEIRD Cultures (Western, Educated, Industrialized, Rich, and Democratic) (King, McInerney & Nasser, 2017). These studies have shown that goals may have different effects depending on the context (Cheng & Lam 2013; Elliot, Chirkov, Kim & Sheldon, 2001). Because of this possibility, the others of such studies authors develop the *theory of personal investment*, to deepen the dynamics of the goals of cultures or societies that are not WEIRD. King et al, (2017) state that the theory of personal investment focuses on how people choose to invest

their energy, talent and time in specific tasks, and on the reasons that they have for it. Thus, this theory becomes a useful paradigm for the study of motivation in cross-cultural environments, as it does not assume that students invest their effort for the same reasons or goals (Maehr & Braskamp, 1986; Maehr & McInerney, 2004). The new goals included in this theory, in addition to mastery and success, are social and extrinsic. Therefore, depending on whether or not the culture is WEIRD, it is possible that there are differences in the FMC, since culture, instead of encouraging students towards achieving learning goals, may stimulate the achievement of social acceptance.

In the light of the ideas just presented, it seems appropriate to compare how the FMC is perceived in a culture of each type. In the present study it has been decided to do it comparing Spanish families (WEIRD culture) and Cuban families (collectivist culture, not WEIRD). This election was based on the following facts.

Spain and Cuba share cultural elements as important, for example, as language. However, they have a different social and economic system. Cuba has a collectivist culture, while Spain has a rather individualistic culture. Likewise, Cuba has strong family and social support networks, with very resilient parental models (Bocija, 2015). It has also an education system in which the investment made in terms of GDP and the quality obtained exceeds Spain and is similar to that of countries such as Finland, Singapore, China (Shanghai), Republic of Korea, Switzerland, the Netherlands and Canada, in elementary education (Calero & Gil, 2014; Lamrani, 2015; Treviño, Valdés, Castro, Costilla, Pardo & Donoso, 2006; World Bank, 2018). These marked cultural differences between Cuba and Spain support the choice made. However, there is another fact that supports the potential usefulness of comparing the two countries. In the last two decades, in Cuba as in Spain, education of students 12 to 16 years old has been marked by a notable degree of school failure. In many cases, it has led many students to drop out (Acosta, 2017; D'Alessandre & Mattioli, 2015; Fernández, Mena & Rivière, 2010; Luiz, 2010; Morentin & Ballesteros, 2018; UNESCO, 2013). Therefore, it is important to know the potential role of families with different social systems in such results.

Taking into account the facts just described –The importance of the FMC, the possibility that the FMC may vary depending on the culture, and the absence of instruments that show the parents' perspective on it–, this study has two objectives: a) to design and study the validity of the FMC/ P questionnaire for Spanish and Cuban population, and, b) to determine whether there are differences in the way in which Spanish and Cuban parents perceive the FMC.

## Method

### Participants

This study involved 892 parents, 400 Spaniards (297 women and 103 men) and 492 Cubans (364 women and 128

men), whose children studied in three Secondary and High Public Schools, one from Madrid, one from Santiago de Cuba (336 parents) and one of Baracoa 156 parents). The distribution of the children of these families by courses was: a) in Cuba: 1st: 134, 2nd: 116, 3rd: 99, 4th: 37, 5th: 44, 6th: 18; and b) in Spain: 1st: 118, 2nd: 98, 3rd: 109, 4th: 108; 5th: 99, 6th: 51. The schools were chosen for reasons of convenience, but parents accepting to participate voluntarily in the study.

The relatives' age ranged between 19 and 78 years (Spain:  $M = 44.35$ ;  $SD = 4.81$ ; Cuba:  $M = 41.30$ ,  $SD = 8.14$ ).

In Spain, 69.8% of the families participating in the study are mothers, 20.8%, fathers, 5.8% are couples of the mother or father, 1% are grandparents and 2% are other relatives who are in charge of the students surveyed. The 31.3% of the Spanish sample has high school studies (Baccalaureate), 18% are university graduates and 9.5% have primary studies. The 46.3% of families work temporarily for the private sector, 7.5% are public servants and 49.1% have no employment.

In the Cuban sample, 64.8% are mothers, 17.7%, fathers, 11.2% couples of the father or mother, 3.7% grandparents and 2.6% are other relatives. Regarding the level of schooling, 1.5% of Cuban relatives who participated in the study are graduates of secondary education (Baccalaureate), 24.2% have a university degree, and 4.7% have primary education.

47.4% are public officials, 5.9% are private sector employees, and 31.5% are not employed.

The Questionnaire was not answered by both parents, but by that person with whom the student lived and from whom he/she received more support in his studies.

Parents of each country were randomly divided into two subsamples, one for the initial analyzes and one for the cross-validation studies.

## Instruments

### *Family Motivational Climate Questionnaire for parents (FMC-P)*

This questionnaire, whose development and validation is the objective of this study, has a structure similar to that of the Family Motivational Climate Questionnaire for children (FMC-Ch) (Alonso-Tapia et al., 2013), but each item was rewritten to assess parents' perception of FMC. Parents perceive. It contains 28 items that describe the actions of parents, which, according to theory, can affect in a positive or negative way the motivation of students to learn. Items are grouped into 14 variables, each with two items, a positive and a negative one. Parents should respond pointing the degree to which they agree or not with the content of each item on a 5-point Likert scale, in which 1 means totally disagree and 5 totally agree. An example of the items that make up each category is included in Table 1.

**Table 1**  
*Parenting patterns assessed by the FMC-P, with item-examples<sup>1</sup>.*

Scales and variables	Item examples
<b>1. Messages.</b> Parents...	
...stress learning and process vs grades	When my child arrives home with the results of their exams, what I give more importance are his/her grades (-) <sup>2</sup>
...stress self-improvement vs competition	When it comes to studies, I do not like to compare my child with others.
<b>2. Structure.</b> Parents...	
...insist on homework completion	I am usually aware of whether my child has done his school or homework.
...control leisure time	When my child gets tired or bored doing homework or school work, I let him go play or change his activity (-)
...state rules clearly	My child knows that when they get home the first thing they should do is their homework.
...give opportunities for autonomy	If my children do not know how to do a task, I do not mind doing it. (-)
...control that environmental learning conditions are adequate	At home we are a little careless with the noise or the volume of the television while my child is studying (-)
<b>3. Help/modelling.</b> Parents...	
...devote time to help with academic tasks	My child doesn't usually ask me for help if he doesn't know how to do something, because I don't usually have time to help him (-)
...are patient with children difficulties	I recognize that if my child does not understand quickly, I have no patience to explain it as many times as necessary (-)
...demonstrate interest on culture	It bores me to visit museums, exhibitions, theaters, so I go little (-)
...demonstrate interest and motivation for reading	My children do not see that we read at home, and perhaps that influences that they do not read often (-)
<b>4. Relationship with teachers.</b> Parents...	
...value positively teachers' point of view	As a matter of fact, I do not have great confidence in the way teachers teach (-)
...meet with teacher regularly	I go to meetings with my child's teachers whenever I can.
...participate in school activities	Whenever I can, I try to collaborate with the school, because I consider that it is important to do it.

<sup>1</sup> FMC-P = Family Motivational Climate, Parents version.

<sup>2</sup> (-) = Items scoring negatively.

## Procedure

The study was approved by the ethics committees of the Universidad Autónoma of Madrid and of the Universidad de Oriente, de Cuba. After contacting with the schools, they sent information to the families explaining the purpose, value and conditions of the study, and asking for their collaboration. Once parents expressed their acceptance and signed of the informed consents, the children took the FMC-Q to their parents who, once answered it, sent it back to the tutor or educational counselor. The questionnaires were anonymous.

## Data Analysis

*Factor analyses.* Three types of factor analysis were carried out. First, confirmatory factor analysis (CFA) with the objective of verifying to what extent the data provided by the CMF-P questionnaire fit the Family Motivational Climate model that supports it. Second, multi-group analysis using two subsamples of parents from the same country (CFA-MG) to test the cross-validity of the results of the previous analysis. This analysis was carried out twice, once with the parents of each country. Third, multi-group analysis comparing data from parents in Spain and Cuba (CFA-MG-SC). All the analyses were carried out using the AMOS program (Arbuckle, 2003). Estimates were obtained using the maximum

likelihood method, once it was verified that the conditions for its use were met (Mardia index:  $31.50 < .70$ ) (Rodríguez & Ruiz, 2008). To assess model fit, absolute fit indexes ( $\chi^2$ ,  $\chi^2/df$ , GFI, SRMR), relative fit indexes (IFI) and indexes of non-centrality (CFI, RMSEA) were used, as well as the criteria of acceptance or rejection proposed by Hair, Black, Babin and Anderson (2010):  $\chi^2/df \leq 5$ ; GFI, IFI, TLI, and CFI  $\geq .90$ ; RMSEA  $\leq .08$ ). Finally, to analyze the differences in slopes between the groups in Spain and Cuba, the Z statistic of Clogg, Petkova and Haritou (1995) was used.

*Reliability analyses.* The internal consistency indexes of FMC-P questionnaire were calculated using the coefficient McDonald's  $\omega$  (1999).

## Results

### Factor analysis corresponding to data of Spanish parents

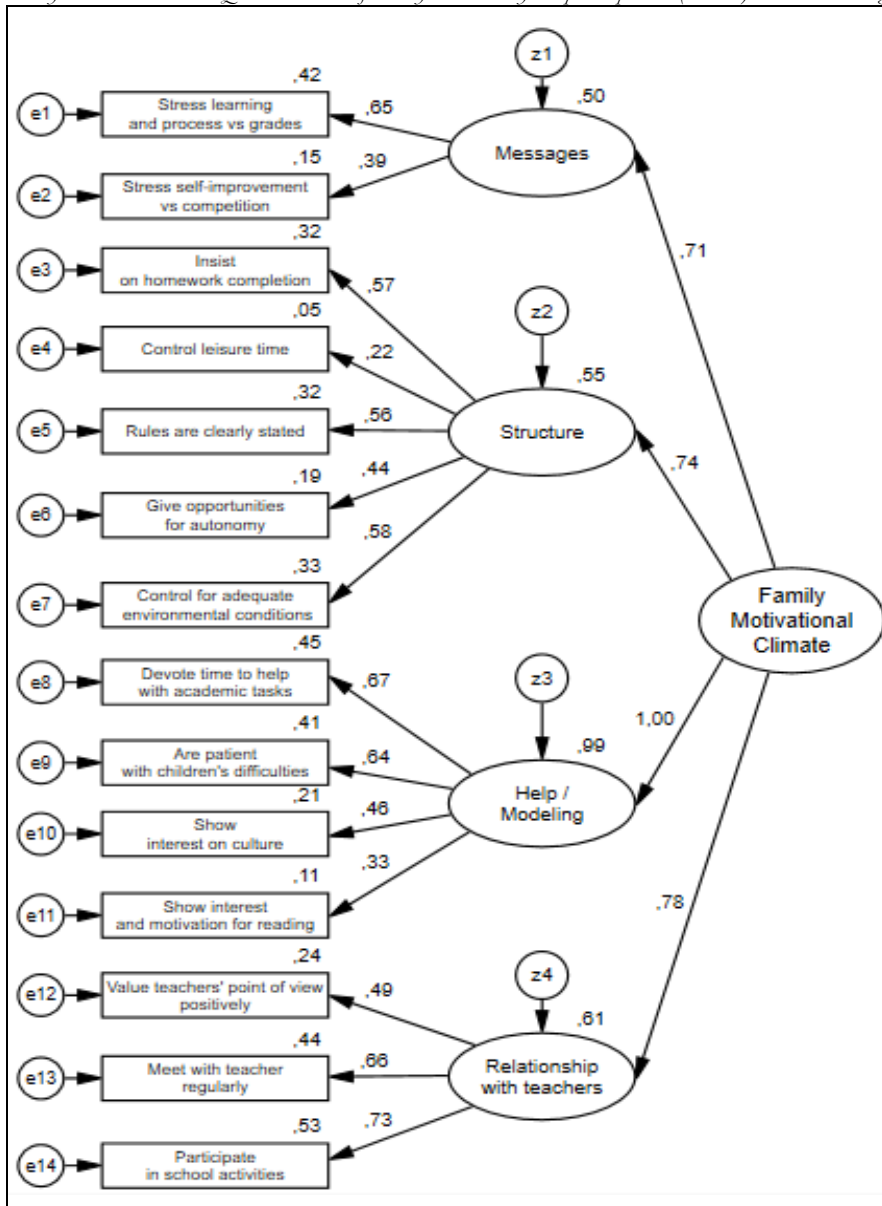
*Confirmatory Factor Analysis (CFA-1).* Table 2 shows fit indexes of the proposed model, and Figure 2, the standardized parameter estimates of the confirmatory model in the Spanish sample. All estimated weights ( $\lambda$ ) were significant ( $p < .001$ ). The statistic  $\chi^2$  is significant, probably due to sample size (Hair, Black, Babin, Anderson & Tathan, 2010), but the ratio  $\chi^2/df$ , as well as the rest of the indices a clearly within the limits that allow the acceptance of the model.

**Table 2**

*Goodness of fit statistics of confirmatory factor analysis (CFA), cross validation (CV) and multi-group (MG) analyses by country of the basic model.*

Analyses	$\chi^2$	df	p	$\chi^2/df$	GFI	IFI	TLI	CFI	RMSEA	SRMR
<i>Spanish parents</i>										
CFA-1 (N=200) Basic model	120.23	74	> .001	1.63	.92	.90	.88	.90	.06	.0628
CFA-2. Cross Validity (N=200, 200)	337.42	179	> .001	1.89	.90	.82	.82	.82	.05	.0730
<i>Cuban parents</i>										
CFA -3 (N=220) Basic model	160.34	75	> .001	2.14	.91	.91	.89	.91	.068	.0578
CFA-4. Cross Validity (N: 220, 272)	371.42	168	> .001	2.21	.90	.90	.89	.89	.047	.0645
<i>Spanish/Cuban parents</i>										
CFA-5. MG (N=400, 492)	463.81	148	< .001	3.13	.93	.89	.86	.89	.049	.0476

**Figure 2**  
Family Motivational Climate Questionnaire. Confirmatory Factor Analysis. Spanish parents. (CFA-1). Measurement weights, structural weights and explained variance.



Cross validation: Multi-group analysis with Spanish subsamples (CFA-2, CV). In this analysis, the fit indexes  $\chi^2/df$ , GFI, RMSEA and SRMR fall within acceptable limits, but IFI, TLI and CFI fall just short of them (Table 2, CFA-2). However, the comparison statistics of the model presented in Table 3 (CFA-2) show that the fit does not decrease even if restrictions of parameter equality are imposed on measurement weights, structural weights, structural covariances, structural residuals and measurement residuals. These results reinforce the conclusion that the model is well estimated.

**Table 3**  
AFC-2. Cross validation analysis (CV) of the basic model of FMC questionnaire with two samples of Spanish parents. Differences in  $\chi^2$  in model comparisons with restrictions against the model without restrictions of parameter equality.

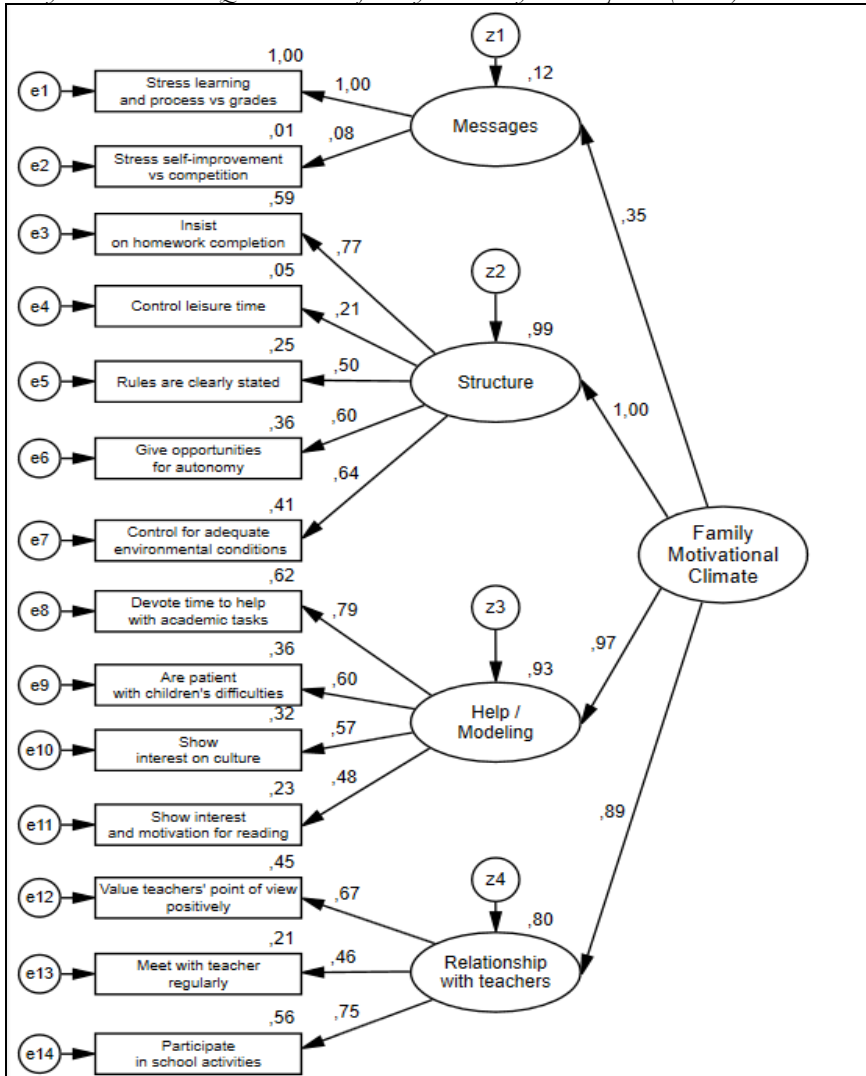
Analysis	Model	df	$\chi^2$	p
CFA-2: CV	Measurement weights	10	7.98	.630
	Structural weights	13	13.39	.418
	Structural covariances	14	14.78	.393
	Structural residuals	17	16.12	.515
	Measurement residuals	31	32.12	.411

**Factor analysis corresponding to data of Cuban parents**

Confirmatory Factor Analysis with Cuban population (CFA-3). Figure 3 shows the standardized estimates of parameters of

the confirmatory model in the Cuban population. As in the Spanish population, estimated weights were significant. The results of this analysis are shown in Table 2 (CFA-3, Base Model). As can be seen, except  $\chi^2$ , all adjustment indexes are acceptable. Therefore, the model can be accepted.

**Figure 3**  
Family Motivational Climate Questionnaire. Confirmatory Factor Analysis. Cuban parents. (CFA-1). Measurement weights, structural weights and explained variance.



Cross validation: Multi-group analysis with Cuban subsamples (AFC-4, CV). To validate the initial results, a multi-group analysis was performed with the two subsamples of Cuban parents (Table 2, CFA-4). Results indicate that  $\chi^2/df$ , GFI, IFI, RMSEA and SRMR show a good fit, but the rest of the indices (TLI and CFI) are just short of the standard levels of significance. However, group comparison shows that fit does not decrease even if restrictions on equality of parameters is imposed for measurement weights, structural weights and structural covariances (Table 4. CFA-4). Therefore, the model is well estimated and can be accepted.

**Table 4**  
AFC-4. Cross validation analysis (CV) of the basic model of FMC questionnaire with two samples of Cuban parents. Differences in  $\chi^2$  in model comparisons with restrictions against the model without restrictions of parameter equality.

Analysis	Model	df	$\chi^2$	p
CFA-4: CV	Measurement weights	10	11.63	.311
	Structural weights	13	15.79	.261
	Structural covariances	14	15.82	.324
	Measurement residuals	28	57.62	.001

### Spain-Cuba multi-group analysis

When comparing the Spanish and Cuban parents through multi-group confirmatory factor analysis (Table 2. CFA-5 MG), the following results were obtained:  $\chi^2/df$ , GFI, RMSEA and SRMR show a good fit, but the rest of indexes (IFI, TLI, CFI) are just below the standard levels of significance. In this case, group comparison shows that model adjustment does decrease if equality restrictions are imposed on the different parameters (Table 5. CFA-5).

This does not imply that the model is not valid, but that the degree to which parents give motivational value to the different action patterns, even going in the same direction, is different. Therefore, to determine in which factors of the Model there were significant differences between the two groups, differences between parameters was analyzed using the Z test of Clogg, Petkova & Haritou (1995), analysis whose results are shown in Table 6.

**Table 6**

*Analysis of differences in regression weights on the scales of the Motivational Family Climate questionnaire between Spanish and Cuban parents<sup>1</sup>.*

Dimensions and scales	Cuba		Spain		Z Clogg
	Regression weight	SD	Regression weight	SD	
Importance of parents' messages	1.00		1.00		.00
Emphasis on learning versus emphasis grades	1.00		1.00		.00
Emphasis on self-improvement versus competition	.05	.22	1.09	.25	-3.64
<i>Importance of structure and established limits</i>	2.44	.41	1.36	.24	2.32
Parents' insistence on completing homework	1.00		1.00		.00
<i>Parental control of leisure time</i>	.42	.10	.69	.16	-2.13
<i>Clear rules and standards established by parents</i>	.87	.08	1.58	.20	-5.94
Parental help facilitates students autonomy	.84	.07	.82	.13	.18
Control of environmental conditions affecting study	.98	.07	1.06	.14	-.81
Importance of parental help and example	2.91	.49	1.75	.31	1.99
Parents spend time helping their children to study	.00		1.00		.00
Parents are patient with their children's difficulties	.73	.06	.89	.11	-2.26
Parents show interest in culture	.85	.06	.74	.11	1.53
Parents show interest in and motivation for reading	.82	.08	.55	.12	2.89
<i>Importance of parents-teachers relationship</i>	2.00	.36	.96	.20	2.59
Positive assessment of teacher's opinions	1.00		1.00		.00
<i>Parents meet with teachers regularly</i>	1.01	.11	1.57	.24	-3.23
Parents participate in school activities	1.19	.10	2.02	.31	-4.17

<sup>1</sup> In italics values significant statistically.

As can be seen, significant differences were obtained in 10 of the 18 Model coefficients. Of the four general factors of the same, there are differences between the Spanish and the Cuban sample in three of them: 1) importance of the structure and limits established by parents ( $Z = 2.32$ ), 2) importance of parental help and example ( $Z = 1.99$ ) and, 3) importance of the relationship between parents and teachers ( $Z = 2.59$ ). In these three factors and in the interest shown by children in reading based on the motivation and interest of the parents to read ( $Z = 2.89$ ), the weights are higher in the Cuban sample. This result means that, for the Cuban parents, the degree to which they carry out these guidelines

**Table 5**

*CFA-5. Multi-group (MG) analysis with two samples, Spain and Cuba. Differences in  $\chi^2$  in model comparisons with restrictions against the model without restrictions of parameter equality.*

Análisis	Modelo	df	$\chi^2$	p
CFA-5: MG.	Measurement weights	10	40.97	.000
	Structural weights	13	54.01	.000
	Structural covariances	14	69.79	.000
	Structural residuals	17	75.40	.000
	Measurement residuals	31	202.73	.000

with their children defines a motivational climate that favors learning largely than for the Spanish parents.

However, as we can also see in Table 6, the opposite occurs in other indicators of the Model that show that Spanish parents perceive, to a greater degree than Cuban parents do, that carrying out the guidelines to which these indicators refer favors more a learning oriented FMC. We refer to the emphasis that parents place on self-improvement messages compared to competition messages ( $Z = -3.64$ ), to the control of leisure time ( $Z = -2.13$ ), to the establishment of clear rules ( $Z = -5.94$ ), to the patience they show with their children's difficulties ( $Z = -2.26$ ), to attending regular meetings



with teachers ( $Z = -3.23$ ) and to participating in school activities ( $Z = -4.17$ ).

### Reliability analysis

McDonald's 1999 coefficients (1999) were calculated for all scales of the Questionnaire:  $\omega_{\text{CMF}} = .95$ ;  $\omega_{\text{messages}} = .69$ ;  $\omega_{\text{structure}} = .91$ ;  $\omega_{\text{help}} = .75$ ;  $\omega_{\text{teacher relationship}} = .93$ . As can be seen, all the reliability values are acceptable, although in the message factor, the omega coefficient was lower than in the rest of the factors.

### Discussion and conclusions

The main objective of this study was to describe the Configuration of the family motivational climate from the perspective of Spanish and Cuban parents, through the validation of the FMC/P questionnaire. In addition, it sought to determine the differences in parental action patterns that make up the FMC, carried out by the parents of both countries, and their educational implications.

Regarding the structural validity of the questionnaire, both in Spain and in Cuba, our data support the validity of the theoretical Model that underlies the FMC/P. The four dimensions implicit in this questionnaire contribute significantly learning motivation: the higher the scores, the greater the orientation of the FMC/P to learning.

The model supported by the results implies that a parental environment of motivation oriented to learning is configured, first, through *the messages, the aids, the structure and the limits established at home, and in the relationship that parents establish with the school and with the teaching staff*. As already noted in previous studies, these four dimensions of the FMC model manifest in the types of messages that parents transmit to their children, emphasizing either the positive value of learning and self-improvement rather than of grades, or the comparison with classmates.

Second, the structure that parents impose on children activities that affect to homework has an important weight in FMC. Thus, the insistence of the parents in that their sons and daughters dedicate time to do their schoolwork, the clarity and coherence of the norms that they establish at home, the control of the leisure time and of the environmental conditions in which their children study, are actions that facilitate the construction of a positive FMC.

Third, the dimension "help" is also important for the FMC. It manifests in the time and patience with which parents support their children when they do their schoolwork, and in the interest shown by parents in learning, culture and reading. These results are in line with those found by other authors (Madjar, et al, 2016).

Finally, according to the results, the relationship that parents establish with the school has also a great weight in the configuration of the FMC. The valuation, trust and respect that parents have in the type of education that teachers and school institution offer to adolescents, to the extent that it is

positive, contributes to the creation of a motivational climate oriented to learning. This happens both in Spain and in Cuba.

The results just commented coincide with the results obtained in the study of del-Prado, Alonso-tapia and Simón (2020), in which the configuration of the CMF was described on the base of the children's perception of it assessed both, in Spain and in Cuba. It also coincides with the results of studies that show that parents' attitudes are similar to students' perceptions about school (del-Prado et al., 2020; Madjar et al, 2016), perceptions that predicted the degree to which children consider that their interest, effort and expectations are favored when the CMF is oriented to learning.

The current study did not assess the predictive validity of parental actions on school success or other motivational factors of their children. However, in previous studies conducted with students from both countries on the configuration of FMC, participants reported that the as far their interest, effort, resilience, satisfaction, expectations of effectiveness and success had improved, this improvement was due to the way parents act assessed through the FMC-Q (Alonso-Tapia et al, 2013, del-Prado, Simón & Alonso-Tapia, 2020).

In the current study, parents attribute great importance in the configuration of the CMF to the relationship with the school and teachers. However, this factor does not have the greatest weight in the definition of FMC. For parents of both countries the most important factors in the definition of the CMF are: the aid offered by them, as examples or models to their children, and the degree and type of structure they provide to children for doing their schoolwork at home. This result coincides with the evidence of other studies that show that the involvement that parents have with their children's learning is not so much related to the presence of the father in school, as to the motivational scenario created at home, a scenario that is positively related to children's achievement motivation (Madjar et al, 2016).

Another important finding that our results have shown is that, although the FMC model is equally valid for the two countries, the degree to which different patterns of parental action contribute to defining the CMF is different. The parental guidelines that most favor the learning orientation of FMC in Cuba compared to Spain, are: a) The way parents structure the learning environment at home –the routines they establish-; b) the aid that parents offer to their children, especially being an example in the interest and motivation for reading; and, c) the relationship they establish with the institution and the teachers of their children.

Within the general guidelines indicated, there have been, in addition, differences between Spanish and Cuban parents in some specific variables. For example, they differ in the role attributed to the example of interest in reading they give to their children. In the case of Cuban parents, the perception that the degree to which they read influences the interest in reading that their children show is superior to the perception of the relationship that Spanish parents have. This result is parallel to that found when analyzing the differences

in the perceptions that the children have of the FMC in Cuba and Spain (Del Prado et al., 2020). This result could be due either to cultural differences between Spanish and Cuban families or to the fact that in Spain the interest shown by students in reading is not related to their parents' interest, but to other motivational factors or other extrinsic or social goals (King, et al 2017).

Other specific variables in which there are differences between Cuban and Spanish parents are parental control of leisure time, clearly established norms, patience with the different difficulties of children, attending regular meetings with teachers and participating in school activities systematically. In relation to this last point, a fact apparently contradictory is that in Cuba, being a non-WEIRD (collectivist) culture and where participation in institutional activities is given so much weight, participation in school activities contributes less to the configuration of the FMC than in Spain.

Another variable in which, according to the results, Spain and Cuba differ is that in Spain, considered a WEIRD culture (individualist), the degree in which messages point to the need of self-improvement and not to the need of overcome others in competition contributes more to defining the FMC more than in Cuba. The highly competitive learning environment existing in this last country could explain this difference. This result could imply that in Cuba, instead of stimulating learning goals, performance and social acceptance goals are being stimulated.

The results of this study point to the need of clarify the relationship between culture and motivation. It shows that

some factors work in a certain way in some cultures and in a different one in others. Therefore, it is not only necessary to study the psychological processes that configure achievement motivation, but also, how culture moderates this relationship.

This study has some limitations. It does not assesses in a direct way the effect of the FMC and its dimensions on motivational factors such as the need of achieve a good academic performance, self-efficacy, satisfaction or expectations of children's success. However, the FMC model is parallel to that found when evaluating the perceptions of the children, perceptions whose predictive validity is known. Therefore, it can be expected that, to the extent that the climate perceived by the parents is similar, its effects will be the same (Del Prado et al., 2020). Another limitation is that it does not evaluate the influence of some sociodemographic variables (socioeconomic, sociocultural level, family type) as modulators in the CMF Configuration in both countries.

Regarding the moderating effect of culture, a limitation of this study is that differences have been established on very general indicators of the FMC. As for the discussion of result we have used the categories of WEIRD (individualist) and non-WEIRD (collectivist) cultures, it would be interesting to compare more than two cultures that share these characteristics (individualist and collectivist), as well as deepen other types of motivational goals (social or extrinsic) that can be favored from the environment.

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