Academic Self-Efficacy in Unaccompanied Foreign Minors: Structural Equation Modelling According to Schooling

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Abstract: (1) Background: New migratory flows taking place in Europe and the USA are categorised by a huge arrival of unaccompanied foreign minors (UFM), requiring appropriate attention to schooling in order to guarantee their integration. In facing this situation, the various political and educational administrations of the European Union (EU) have promoted an action plan for schools. Despite this, it has been shown that schooling does not totally guarantee social integration, encouraging the development of a new social model to generate new ways of understanding the learning process. (2) Methods: The aim of the present study is to adapt and validate Bandura's academic self-efficacy scale (2006) within a sample of UFM. This scale is composed of 18 items distributed according to three underlying constructs. (3) Results: The validation analysis consisted of an exploratory factorial analysis using principal component analysis with varimax rotation, followed by confirmatory factorial analysis using structural equations (root mean squared error of approximation (RMSEA) = 0.052; normalised fit index (NFI) = 0.90; incremental fit index (IFI) = 0.91; confirmatory fit index (CFI) = 0.91). Reliability and internal consistency of the instrument was also tested with values being higher than 0.7 for all dimensions. (4) Conclusions: The final instrument was reduced to 12 items which were grouped into three dimensions (effort, self-confidence and understanding). Finally, the conducted multi-group analysis showed a stronger relationship between understanding, self-confidence and effort within UFM who had resided in Spain for a longer time. This could be linked to the more prolonged schooling process received.

Keywords: unaccompanied foreign minors (UFM); academic self-efficacy; confirmatory factor analysis; residence; schooling

1. Introduction

Unaccompanied immigrant minors (UFM) constitute a group whose number is increasing every day in border cities in the south of Europe. Ceuta and Melilla, which represent two autonomous cross-border cities in Spain, specifically stand out due to their strategic position in the African continent as the first access route to the EU [1].

According to information provided by Spain's Ministry of Interior in 2018, 11,164 UFM were registered across the entire territory of Spain. From these data it can be suggested that there is a need to generate hybrid and cross-border educational proposals, which help to democratically address cultural differences in order to create a socio-culturally integrated citizen [2]. Europe continues to be

"the golden dream" for many children and young people faced with a lack of opportunities and an uncertain future in their countries of origin. In this sense, the cities of Ceuta and Melilla represent their closest entry point. This means that border crossings here occur out of step with other potential locations, giving them a special visibility [3].

The majority of UFM set out on their journey with the aim of inserting themselves into the labour market. However, when they arrive, they suffer a dissonance between the expectations that they held and the reality that they are met with. Amongst the possible reasons, those that stand out include a series of never-ending administrative processes, systems of protection with which UFM are not accustomed and the perception of being rejected by their new society [4].

Protection centres are not the answer to the many needs of the UFM. Internment into such centres is seen as a means of seclusion and a waste of time. As a consequence of this, many of these UFM run away from these centres because for some, going into the system did not form part of the expectations they had when they arrived. Integration of unaccompanied minors constitutes a priority in the framework of the Asylum, Migration and Integration Fund (AMIF) 2014-2020 [5]. The European Union has extolled the importance of education and training as "tools for improving the level of achievements that are essential for immigrants to actively participate in society", as stated by the Commission of the European Communities [6]. On the 23rd of March 2017, the Secretary General of the European Council on Migration and Refugees noted key measures to include early and efficient access to inclusive formal education, with education and health provision from early infancy. This is one of the most important and powerful tools for the integration of minors, promoting linguistic competencies, social cohesion and mutual understanding.

Empirical research has widely demonstrated that academic self-efficacy is more predictive of academic performance than other cognitive variables [7,8]. It is also capable of better predicting subsequent success [9,10], which is an important cognitive mediator of competence and performance favouring cognitive processes [11,12]. In this sense, it is interesting to define what is meant by self-efficacy. Bandura [7] represents one of its greatest exponents and defines it as the belief or representation that a person has of his abilities to overcome situations and goals. In fact, feelings play an important role about a goal or task related to daily life. The concept of self-efficacy is a central element in psychology, as it highlights the role of observational learning, social experience and the impact on a person's personal development [8]. Therefore, this concept can be applied to the educational context, since those students who develop higher levels of academic self-efficacy will achieve greater inclusion in the system and more meaningful learning [10].

Along these lines, Gans et al. [13] proposed that children with high levels of self-efficacy demonstrate certainty in themselves in social contexts and also tackle any academic task regardless of its difficulty. On the contrary, the student who considers themself to be ineffectual loses their passion for learning. As stated by Bandura [7], the concept of academic self-efficacy does not refer to the abilities held by the individual, or to the personal resources that allow them to dominate the ever-changing circumstances of the academic environment. Instead it refers to the opinion that one has about what they can or cannot do with them. From the theoretical postulates of this author, "self-efficacy is defined as the thoughts of a person which refer to their ability to organise and enact the courses of action necessary for achieving determined goals" [8,14]. According to these authors, this influence can be exerted upon a wide variety of events, being applied to thought processes, affective states, putting thoughts into action, changing environmental conditions and the self-regulation of motivation [15].

In line with this and in order to support the learning development of UFM and their socio-educational inclusion, it is crucial to not only attend to the teaching of intellectual work skills but also to develop beliefs and self-regulation skills, which enable individuals to control their learning throughout their entire life [16].

As self-efficacy is a construct that is highly correlated with a number of domains, in particular those which relate to the academic context, there exists a number of ways to measure it. That being said, the majority correspond to general perspectives and were developed in different cultures to the

reference culture of the UFM who reside in our country. These UFM follow academic trajectories linked to their reference countries which differ somewhat from the countries in which academic self-efficacy both generally and specifically, has been studied. This is evidenced in the work of Bandura [9,17] and Zimmerman et al. [18].

Considering the principle of relativism of the constructs in reference to the context of their measurement and what has been suggested by Bandura [17] himself about the need to distance ourselves away from general measurements of self-efficacy, the present study aims: (a) to develop and validate an academic self-efficacy scale in UFM based on the previous Bandura model; (b) to carry out a confirmatory analysis of the scale in order to check its level of adjustment based on the residence time of the UFM in Spain (at least nine months, which implies schooling).

2. Materials and Methods

2.1. Design and Participants

The sample was selected using proportional stratified sampling, as a function of the length of stay in the host country: less than nine months and more than nine months. This period is determined from the moment at which the minor had finished their initial phase and the educational development phase at the Temporary Relocation Centre for Vulnerable Groups. These phases last for at least one month and typically endure for at least nine months. During this period the minor manages to adapt to their educational group and to their centre. They dedicate time to focus on their situation at an educational, familial and health level, amongst other things, in order to develop a personalised educational program. This program seeks to comply with the norms and objectives proposed by the institution to the minor (hygiene habits, behaviour and conduct of the centre), to develop the formative learning and/or work process taking into account their personal needs and resources, to strengthen relationships with social support groups (school, friends, others) and to make individuals responsible for their own program of learning.

Table 1 shows the distribution of the sample that participated in the study. A total of 340 participants were selected who fulfilled requirements for inclusion of the UFM centres from Ceuta [60.7% (n = 206)] and Melilla [39.3% (n = 134)]. All the respondents were male, since this was predominant in UFM institutions. Statistical significance of the sample was determined with a confidence level of 0.01, with a level of precision (d) of 3% and a variance of 5%. Of the overall sample of minors, 63.4% (n = 216) corresponds to the group of individuals who had stayed in the Centre for less than nine months and 36.6% (n = 124) who had stayed for more than nine months. Considering age, most of the sample was between 14 and 16 years old [42.2% (n = 144)] and over 17 years old [41.6% (n = 141)]. The main country of birth of the UFM was Morocco [75.3% (n = 256)].

Table 1. Sample description.

		Frequency (n)	Percentage (%)
Gender	Male	100.0%	340
	Female	0.0%	0
Age	8–10 years	1.9%	6
	11–13 years	14.3%	49
	14–16 years	42.2%	144
	17 or more	41.6%	141
City of residence	Ceuta	60.7%	206
	Melilla	39.3%	134
Time in Spain	Less than nine months	63.4%	216
	More than nine months	36.6%	124

Table 1. *Cont.*

		Frequency (n)	Percentage (%)
	Not Available	22.4%	76
Country of birth	Guinea	1.9%	6
	Morocco	75.3%	256
	Algeria	0.3%	2

2.2. Measures

The self-efficacy of school children scale (ACAES) validated by Galleguillos-Herrera et al. [15] contains 18 items. All items are directed towards evaluation of the variable of self-efficacy, which is defined for the purpose of the present work as "the beliefs (conduct, cognitions and affects) of students about their own capacities to achieve determined results of entrusted tasks (academic and non-academic)". Responses are rated on a continuum of 1 to 5 from "I never can" to "I always can". (See Appendix A).

2.3. Procedure

For development of the instrument and its subsequent validation, the instrument was administered to an experimental sample. It was independently completed within each centre from which agreement to participate had already been received from the centre's management and the relevant governmental institution. Likewise, the study received a positive evaluation from the Ethical Committee for Psycho-educational Research of the University of Granada (201-300 Academic Ranking of World Universities, Shanghai, 2018), being approved with code 742/CEIH72018.

2.4. Data Analysis

Basic descriptive analysis (mean, asymmetry, variance and kurtosis) was analysed using the software IBM SPSS® version 24.0. Exploratory factorial analysis (AFE) was conducted using the software FACTOR Analysis® 9.3.1, employing principle component analysis with varimax rotation. Reliability of the global scale and the obtained factors was determined through perusal of the Cronbach alpha coefficient, fixing the reliability index at 95%. Finally, for the confirmatory factorial analysis (AFC) the program IBM Amos Graphics® was used, with which multi-group analysis of the two developed structural models was also conducted.

Model fit was checked with the purpose of verifying compatibility of the model with the empirical information obtained. Reliability of fit was examined according to the goodness of fit criteria described by Kock [19]. In the case if the chi-squared analysis, non-significant values associated with "p" indicate good adjustment of the model. Values for the confirmatory fit index (CFI) were considered acceptable when values were greater than 0.90 and excellent when greater than 0.95. Values for the normalised fit index (NFI) should be greater than 0.90. The value of the incremental fit index (IFI) were considered to be acceptable when greater than 0.90 and excellent for values greater than 0.95. Further, the value of root mean squared error of approximation (RMSEA) was considered excellent if it was lower than 0.05 and acceptable if it was lower than 0.08. Finally, it must be highlighted that bi-directional arrows (covariance) associate the exogenous variables, whilst the uni-directional arrows reveal the effects between the employed variables. Error terms for the predictive power of the endogenous variables were also associated. Estimation of the parameters was conducted through the maximum likelihood method (ML) as this method is coherent, unbiased and not influenced by scale type.

3. Results

Table 2 presents the descriptive analysis of the influence of the different items that make up the questionnaire on academic self-efficacy. The questionnaire was based on the version validated

by Galleguillos-Herrera et al. [15] in school students and follows the suggestions of Bandura [14]. The main dispersion tests are considered including asymmetry and kurtosis, with the purpose of establishing the normality of the data. From this, no items were eliminated from the initial version as no values equal to or greater than 2 were obtained following application of the aforementioned statistics, as has been recommended by Hu et al. [20] and Schmider et al. [21].

Table 2. Descriptive analysis of self-efficacy questionnaire.

Items	Mean	Confidence Interval (95%)	Variance	Skewness	Kurtosis
I.1. Trabajar con cualquier compañero y lograr buenas notas [Work with any partner and achieve good marks].	3.893	[3.68–4.11]	1.882	−0.991	−0.329
I.2. Hacer una tarea con éxito [Do a task successfully]	3.767	[3.56–3.98]	1.721	−0.745	−0.602
I.3. Entender lo que enseña cualquier profesor [Understand what any teacher teaches]	3.702	[3.50–3.91]	1.659	−0.582	−0.838
I.4. Realizar bien cualquier tarea que me den [Do well any task that teachers give me]	3.893	[3.69–4.10]	1.630	−0.904	−0.267
I.5. Aportar buenas ideas para hacer las tareas [Provide good ideas to do the tasks]	3.958	[3.74–4.18]	1.880	−1.084	−0.158
I.6. Esforzarme más que mis compañeros para tener éxito en las tareas [Work harder than my partners to succeed in tasks]	3.981	[3.77–4.19]	1.805	−1.141	0.059
I.7. Realizar cualquier tarea que los profesores den, aunque sea difícil [Do any task that teachers give me, even if it is difficult]	3.893	[3.70–4.09]	1.477	−0.921	−0.031
I.8. Organizar mi tiempo para hacer todo lo que los profesores piden [Organize my time to do everything that teachers ask]	4.038	[3.84–4.24]	1.579	−1.162	0.244
I.9. Sacar buenas notas en pruebas difíciles [Get good marks in difficult test]	3.592	[3.40–3.79]	1.494	−0.566	−0.521
I.10. Trabajar más tiempo cuando tengo tareas difíciles [Work more time when I have difficult tasks]	3.996	[3.80–4.19]	1.546	−1.021	−0.054
I.11. Esforzarme más para resolver tareas difíciles [Try harder to solve diffult tasks]	4.137	[3.95–4.32]	1.355	−1.304	0.761
I.12. Repetir una tarea hasta lograr hacerla bien [Repeat a task until I get it right]	4.305	[4.12–4.49]	1.350	−1.655	1.665
I.13. Entender bien la idea que explica el profesor o el libro [Understand the idea explained by the teacher or the book]	3.901	[3.70–4.10]	1.555	−0.926	−0.211
I.14. Esforzarme en trabajar bien con otros compañeros en tareas en grupo [Strive to work well with other partners in group tasks]	4.275	[4.09–4.46]	1.306	−1.647	1.821
I.15. Estudiar solo para sacar buenas notas [Study alone and get good marks]	3.885	[3.69–4.09]	1.590	−0.918	−0.219
I.16. Expresar mi opinión aunque no esté de acuerdo con el profesor [Give my opinion even if I do not agree with the teacher]	3.469	[3.22–3.72]	2.539	−0.450	−1.380
I.17. Entender lo que dice el profesor cuando hay ruido en clase [Understand what the teacher says when there is noise in class]	2.672	[2.42–2.92]	2.518	0.365	−1.411
I.18. Estudiar primero y hacer otras cosas luego [Study first and do other things later]	3.874	[3.64–4.11]	2.232	−0.886	−0.804

Table 3 reveals the psychometric properties of the evaluation of the 18-item ACAES scale conducted via the use of a rotation factor matrix and the load dimensions of the different factors, carried out using the program FACTOR Analysis® 9.3.1. [22,23]. The Bartlett statistic reveals an excellent fit [936.4; df = 152; $p < 0.001$], whilst the value obtained from the Kaiser-Meyer-Olkin test (KMO) was acceptable [KMO = 0.828]. Further, the product of the three developed factors explained 50.12% of the variance, reflecting an acceptable percentage. Likewise, other indices of fit were employed with the aim of contrasting the reliability of the conducted analysis. Comparative fit index (CFI) obtained an acceptable value of 0.90. The goodness of fit index (GFI) and the adjusted goodness of fit index (AGFI) obtained excellent values of 0.98 and 0.96, respectively. In addition, the root mean square error

(SMSR) obtained a value of 0.049, reflecting an acceptable value. Thus, based on the fit indices it can be concluded that the items of the model show good fit.

Table 3. Rotated factor matrix and load factor dimensions of self-efficacy.

Items	Rotated Factor Matrix			Items	Factor Dimensions		
	Factor 1	Factor 2	Factor 3		Factor 1	Factor 2	Factor 3
I.1	0.072	0.225	0.241	*I.1*			
I.2	−0.047	−0.139	0.672	*I.2*			0.672
I.3	0.209	0.017	0.290	*I.3*			
I.4	−0.037	−0.078	0.764	*I.4*			0.764
I.5	0.195	0.284	0.027	*I.5*			
I.6	−0.090	0.481	0.158	*I.6*		0.481	
I.7	0.108	0.271	0.282	*I.7*			
I.8	0.179	0.179	0.335	*I.8*			0.335
I.9	0.453	0.080	0.104	*I.9*	0.453		
I.10	0.466	0.175	0.055	*I.10*	0.466		
I.11	−0.093	0.514	0.070	*I.11*		0.514	
I.12	−0.189	0.727	0.083	*I.12*		0.727	
I.13	0.157	0.177	−0.032	*I.13*			
I.14	0.047	0.554	−0.256	*I.14*		0.554	
I.15	0.492	−0.116	0.222	*I.15*	0.492		
I.16	0.214	0.244	−0.201	*I.16*			
I.17	0.624	−0.203	−0.146	*I.17*	0.624		
I.18	0.417	0.235	0.013	*I.18*	0.417		
					$\alpha = 0.812$ $\alpha = 0.701$	$\alpha = 0.733$	$\alpha = 0.721$

The final scale was formed by three factors (factor 1, factor 2 and factor 3). Factor 1 (Understanding) is described by five items [I.9; I.10; I.15; I.17; I.18], factor 2 (Effort) combines four items [I.6; I.11; I.12; I.14] and Factor 3 (Self-confidence) consists of a total of three items [I.2; I.4; I.8]. In this sense, starting with the 18 items that made up the initial scale, a total of six items had to be suppressed because they presented factorial loads lower than 0.400 [I.1, I.3, I.5, I.7., I.13 y I.16] [20,22]. Next, internal consistency of the overall scale with the eliminated items was checked through examination of the Cronbach alpha coefficient. This obtained greater reliability than the outcomes obtained prior to eliminating these aforementioned items and denoted an acceptable value [$\alpha = 0.812$]. Further, acceptable values of internal consistency (Cronbach alpha) were obtained for each one of the factors despite the fact that they were composed of a reduced number of items (factor 1 (Understanding) = 0.701; factor 2 (Effort) = 0.733; factor 3 (Self-confidence) = 0.721).

Next, with the purpose of testing internal consistency of the preliminary exploratory factorial analysis we proceeded to conduct confirmatory factorial analysis through a structural equation model (SEM). This grouped the obtained factors as latent variables and the different items associated to each factor as observable variables. In relation to the fit indices of the structural model elaborated, a significant outcome from the chi-squared test was observed [$X^2 = 87.526$; df = 51; $p < 0.001$]. However, the chi-squared value presents high sensitivity to sample size. For this reason, it was decided to employ other fit indices with the aim of comparing models. In this sense, the normalised fit index (NFI), the incremental fit index (IFI) and the comparative fit index (CFI) revealed acceptable values [NFI = 0.906; IFI = 0.917; CFI = 0.914]. In addition, the root mean square error of approximation (RMSEA) reflected an adequate value of 0.052, this interpretation being suggested by Jöreskog et al. [24].

Table 4 and Figure 1 present the standardised regression weights for the associations between the different factors and those given between the factors and their indicators for the structural model proposed. Specifically, a positive direct relationship is shown between the factors describing "Understanding" and "Effort" (b = 0.59; $p < 0.001$), "Self-Confidence" and "Effort" (b = 0.67; $p < 0.001$), and "Self-Confidence" and "Understanding" (b = 0.64; $p < 0.001$).

Table 4. Regression weights for the confirmatory analysis.

Relationships between Factors and Items			R.W.				S.R.W.
			Estimate	S.E.	C.R.	*p*	Estimate
I.2	←	Self-Confidence	1.000	-	-	***	0.420
I.4	←	Self-Confidence	1.426	0.285	5.007	***	0.617
I.8	←	Self-Confidence	1.493	0.295	5.067	***	0.658
I.6	←	Effort	1.000	-	-	***	0.489
I.11	←	Effort	0.876	0.180	4.871	***	0.498
I.12	←	Effort	1.090	0.206	5.283	***	0.623
I.14	←	Effort	0.542	0.150	3.613	***	0.314
I.9	←	Understanding	1.000	-	-	***	0.534
I.10	←	Understanding	1.150	0.187	6.161	***	0.607
I.15	←	Understanding	0.987	0.176	5.621	***	0.513
I.17	←	Understanding	0.634	0.192	3.309	***	0.258
I.18	←	Understanding	1.445	0.231	6.262	***	0.630
Effort	↔	Understanding	0.245	0.061	4.021	***	0.588
Effort	↔	Self-Confidence	0.234	0.062	3.771	***	0.667
Self-Confidence	↔	Understanding	0.225	0.057	3.970	***	0.644

Note 1: ***, *p* < 0.001. Note 2: R.W., regression weights; S.R.W., standardized regression weights; C.R., critical ratio; S.E., estimation error.
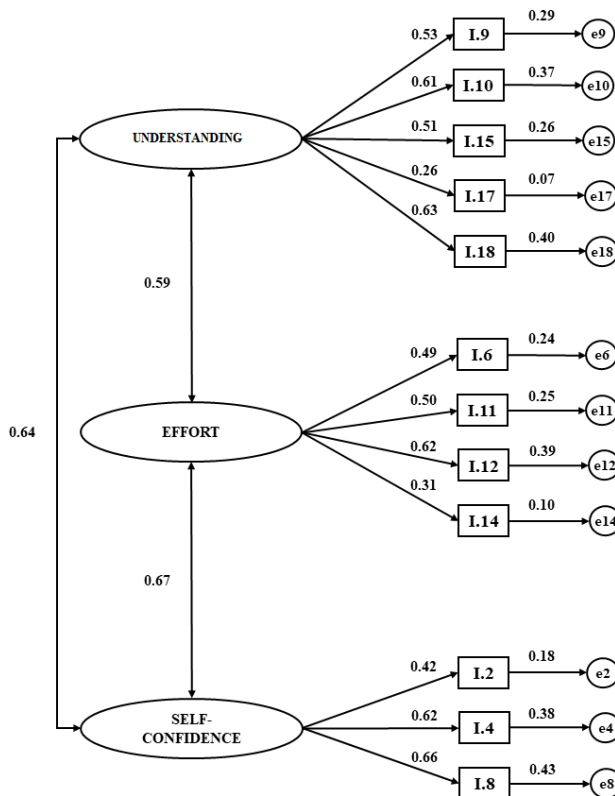

Figure 1. Confirmatory analysis.

Analysing the influence of each item on its associated factor, it can be observed that in the case of "Understanding", the item with the largest regression weight was I.18 (b = 0.63; *p* < 0.001) followed by I.10 (b = 0.61; *p* < 0.001). In contrast, the item with the smallest regression weight was I.17 (b = 0.23; *p* < 0.001). When considering factor 2 (Effort), the item with the largest regression weight was I.12 (b = 0.62; *p* < 0.001), with I.14 (b = 0.31; *p* < 0.001) presenting the least influence. Finally, "Self-Confidence" reflected the largest regression weight I.8. (b = 0.66; *p* < 0.001), followed by I.4. (b = 0.62; *p* < 0.001) and I.2 (b = 0.42; *p* < 0.001).

Kock [19] states that model fit can vary depending on certain characteristics that confer heterogeneity to the analysed sample. Considering this premise and given that the present study sought to validate a scale of academic self-efficacy in unaccompanied minors, it was considered necessary to develop a confirmatory analysis according to length of residence in the country. This is due to the consideration that the length of time participants spent residing in Spain, which may or may not have produced schooling of those individuals. In this sense, multi-group analysis of the proposed structural model was conducting specifying the groups of analysis according to the length of residence in Spain: "Less than nine months" and "Nine months or more.

In relation to the fit indices of the structural model developed through multi-group analysis, a significant chi-squared value was observed [X^2 = 142.311; df = 87; $p < 0.001$]. However, the chi-squared value presents high sensitivity to sample size. For this reason, it was decided to employ other fit indices with the purpose of contrasting the model. In this sense, the normalised fit index (NFI), the incremental fit index (IFI) and the confirmatory fit index (CFI) revealed acceptable values [NFI = 0.901; IFI = 0.923; CFI = 0.923]. Likewise, root mean square error of approximation (RMSEA) analysis produced a value of 0.049, which is suggested by Jöreskog et al. [24] to be excellent.

Table 5 and Figure 2 reflect the structural model developed for those participants who had resided in Spain for less than nine months. In this case, statistically significant associations are shown ($p < 0.001$) between the three obtained factors. Positive and direct associations are seen between "Effort" and "Understanding" (b = 0.587; $p < 0.001$), "Self-Confidence" and "Understanding" (b = 0.611; $p < 0.001$) and "Self-Confidence" and "Effort" (b = 0.675; $p < 0.001$).

Table 5. Regression weights for respondents living less than nine months in Spain.

Relationships between Factors and Items			R.W.				S.R.W.
			Estimate	S.E.	C.R.	p	Estimate
I.2	←	Self-Confidence	1.000	-	-	***	0.510
I.4	←	Self-Confidence	1.162	0.246	4.712	***	0.654
I.8	←	Self-Confidence	1.141	0.247	4.621	***	0.611
I.6	←	Effort	1.000	-	-	***	0.424
I.11	←	Effort	1.192	0.296	4.023	***	0.609
I.12	←	Effort	1.337	0.326	4.101	***	0.673
I.14	←	Effort	0.483	0.200	2.409	**	0.253
I.9	←	Understanding	1.000	-	-	***	0.540
I.10	←	Understanding	1.102	0.226	4.876	***	0.608
I.15	←	Understanding	0.939	0.216	4.339	***	0.492
I.17	←	Understanding	0.427	0.220	1.943	*	0.186
I.18	←	Understanding	1.336	0.271	4.931	***	0.625
Effort	↔	Understanding	0.231	0.075	3.075	***	0.587
Effort	↔	Self-Confidence	0.272	0.087	3.141	***	0.675
Self-Confidence	↔	Understanding	0.279	0.082	3.388	***	0.611

Note 1: *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$. Note 2: R.W., regression weights; S.R.W., standardized regression weights; C.R., critical ratio; S.E., estimation error.

With regards to the associations produced between each item and each factor, for the dimension describing "Understanding" the largest regression weight was obtained for I.18 (b = 0.625; $p < 0.001$), followed by I.10 (b = 0.608; $p < 0.001$), whilst the items to exert the least influence was I.17 (b = 0.186; $p < 0.05$). In the case of the dimension describing "Effort", the item with the greatest influence was I.12 (b = 0.673; $p < 0.001$), followed by I.11 (b = 0.609; $p < 0.001$) and then I.14 (b = 0.253; $p < 0.01$), which had the smallest regression weight. Finally, the dimension describing "Self-Confidence" reflected the greatest regression weight in item I.4 (b = 0.654; $p < 0.001$), with item I.2 (b = 0.510; $p < 0.001$) exerting the smallest influence.
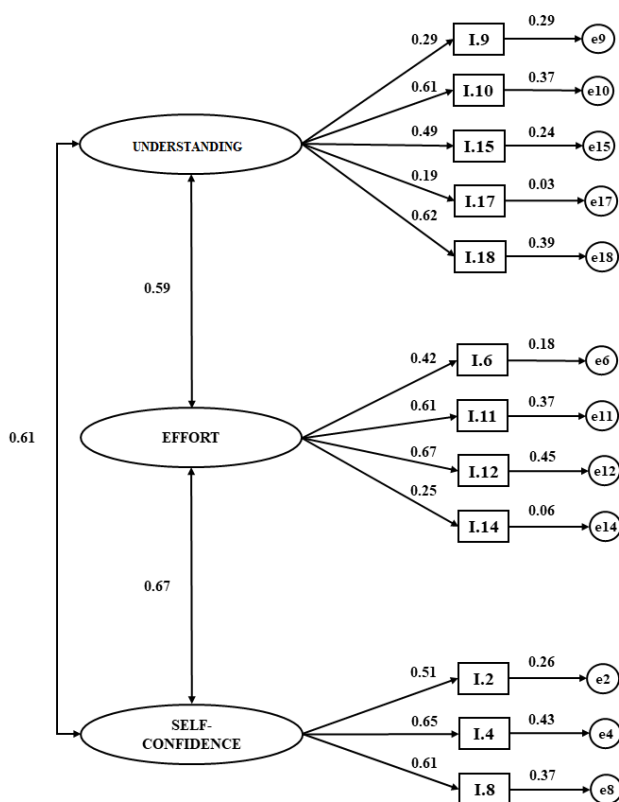
Figure 2. Multi-group analysis: less than nine months in Spain.

Table 6 and Figure 3 show the structural model developed with the sample of minors who had spent nine months or more residing in Spain. Addressing the association between the different dimensions (factors) that make up the questionnaire, statistically significant associations are shown between "Effort" and "Understanding" (b = 0.630; $p < 0.01$), "Self-Confidence" and "Understanding" (b = 0.672; $p < 0.01$), and "Self-Confidence" and "Effort" (b = 0.571; $p < 0.01$).

Table 6. Regression weights for respondents living more than nine months in Spain.

Relationships between Factors and Items			R.W.				S.R.W.
			Estimate	S.E.	C.R.	*p*	Estimate
I.2	←	Self-Confidence	1.000	-	-	***	0.301
I.4	←	Self-Confidence	2.288	0.999	2.291	**	0.623
I.8	←	Self-Confidence	2.264	0.983	2.302	**	0.701
I.6	←	Effort	1.000	-	-	***	0.635
I.11	←	Effort	0.293	0.231	2.109	*	0.201
I.12	←	Effort	0.921	0.248	3.706	***	0.665
I.14	←	Effort	0.668	0.206	3.238	***	0.470
I.9	←	Understanding	1.000	-	-	***	0.528
I.10	←	Understanding	1.197	0.320	3.736	***	0.587
I.15	←	Understanding	1.087	0.299	3.636	***	0.559
I.17	←	Understanding	1.044	0.372	2.803	**	0.381
I.18	←	Understanding	1.631	0.419	3.892	***	0.640
Effort	↔	Understanding	0.253	0.096	2.618	**	0.630
Effort	↔	Self-Confidence	0.128	0.070	2.519	**	0.571
Self-Confidence	↔	Understanding	0.146	0.073	2.266	**	0.672

Note 1: *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$. Note 2: R.W., regression weights; S.R.W., standardized regression weights; C.R., critical ratio; S.E., estimation error.
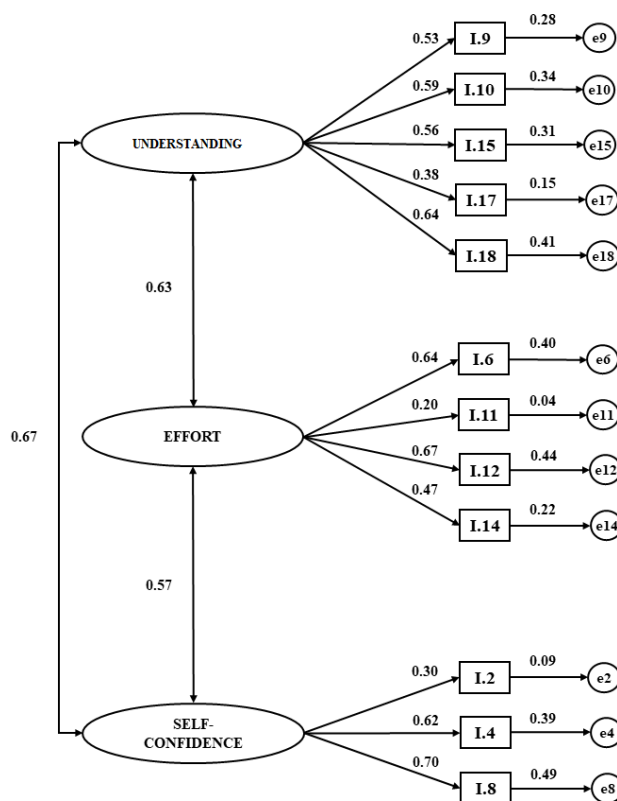
Figure 3. Multi-group analysis: more than nine months in Spain.

In relation to the associations found between each item and each factor, for the dimension describing "Understanding/Effort" a greater regression weight was obtained for I.18 (b = 0.640; $p < 0.001$), followed by I.10 (b = 0.587; $p < 0.001$), whilst the item exerting the weakest influence was I.17 (b = 0.381; $p < 0.05$). In the case of the dimension describing "Effort", the item with the largest influence was I.12 (b = 0.635; $p < 0.001$), followed by I.12 (b = 0.635; $p < 0.001$) and then I.11 (b = 0.201; $p < 0.05$), which was associated with the smallest regression weight. Finally, the dimension describing "Self-Confidence" reflected the largest regression weight for item I.8 (b = 0.701; $p < 0.001$), with item I.2 (b = 0.301; $p < 0.001$) exerting the least influence.

4. Discussion

The present study pursued the objective of analysing the psychometric properties of the academic self-efficacy scale [14,15] within a sample of unaccompanied foreign minors who are residents in Spain. This is highly relevant for several reasons. The first is related to the need to have a valid instrument that allows knowing the perception of foreign minors about their own ability to carry out successful academic actions, which will help regulate and adapt the teaching-learning process. The second, that a previous diagnosis of academic self-efficacy in this group, and their subsequent action to improve it, will allow for their full inclusion in the educational system and later in the social and labor world. Thus, this study provides a validation of this scale within this important group. To this end, confirmatory analysis of the scale was developed, carrying out multi-group analysis as a function of length of residence. This is similar to other studies conducted in a national and international context, with the aim of providing a more appropriate understanding about the influence of each scale item on its corresponding dimension-factor [8,14,25].

With regards to the exploratory factorial analysis, administering the academic self-efficacy scale within the study sample and the production of descriptive statistics did not result in the elimination of a single item. This was the case after consideration of the values of asymmetry, variance and kurtosis, found them to be adequate following the suggestions of Kock [19] and Byrne [25]. Further,

the proportion of explained variance was acceptable (values around 50%) [26], whilst the factorial loads obtained for the groupings of the different items in each factor resulted in the suppression of a total of six items, due to them presenting loads inferior to 0.400 [22]. In this case, the items 1, 3, 5, 7, 13 and 16 were suppressed.

In relation to the above, it is interesting to emphasise the groupings of the items obtained, since several of them loaded differently onto the theoretical model established for academic self-efficacy by Bandura [14] and Stajkovic et al. [8]. In this sense, the factor describing "Understanding" was related with the items 9, 10, 15, 17 and 18. This was because inclusion of the terms "success" and "good grades" was essential for unaccompanied foreign minors in the statements that made up this dimension. In a similar way, the factor describing "Effort" contained the items 6, 11, 12 and 14. All of these gave a special meaning to the term "effort", considering it as the capacity to maintain a certain conduct over a prolonged period of time in order to achieve an objective, regardless of the content value of this objective [27]. Finally, the factor pertaining to "Self-Confidence" grouped different items within the theoretical model. These included items 2 and 4, with item 8 also being added. In this final dimension the term "capacity" becomes relevant, giving importance to the value bestowed by the participant on their competence to carry out tasks and develop learning strategies, such as management of study time [28].

Confirmatory analysis of the factors described in the exploratory factorial analysis revealed adequate fit indices, according to the recommendations proposed by Kock [19]. This reveals that the developed structural model enables measurement of academic self-efficacy, via the 12 variables that form its three dimensions. Likewise, the multi-group analysis demonstrates higher fit indices for the confirmatory analysis [25]. This enables the associations between the dimensions and their indicators to be defined with greater specificity, considering the role of the length of residence in Spain of the studied participants.

Attending to the multi-group analysis, it can be observed that the relationship between "Self-Confidence" and "Understanding" was greater in unaccompanied foreign minors who had spent more time residing in Spain. This was also the case for the associations found between "Effort" and "Understanding". It can be assumed that a greater length of residence in Spain is associated with longer schooling, which leads to a greater strength of the aforementioned associations. In fact, Núñez et al. [29] and Zee et al. [12] report that those adolescents who had passed the greatest length of time in school also demonstrated better academic performance, which could explain these findings. On the contrary, the association between "Effort" and "Self-Confidence" was stronger amongst the minors who had spent less time residing in Spain. This seems logical given that these factors support academic achievements when the level of involvement and effort is higher, since these individuals possess less knowledge of the education system, utilise fewer learning strategies and report lower levels of adaptation to the school climate [30,31].

Following this, the influence exerted by the items/variables on each dimension was reviewed. For the dimension describing "Understanding", the item that exerted the greatest influence in both groups is I.18 [*To study first and to do other things afterwards*], whilst the item with the least influence was I.17 [*To understand what the teacher says when there is noise in the classroom*]. This seems logical given the relevance of time management and study habits on school performance [32], with the understanding of ideas and concepts in the presence of disruptive behaviour being pushed into the background, something that happens sporadically as opposed to habitually [33].

In the case of the dimension of "Effort", the item with the largest regression weight was I.12 [*To repeat a task until I manage to perform it well*] for both groups. The item exerting the least influence for residents of less than nine months was I.14 [*To push myself to work well with other colleagues when set group tasks*] and I.11 [*To push myself harder to resolve difficult tasks*] for those individuals who had spent more than nine months residing in Spain. Specifically, the latter mentioned association moves from a small regression weights to a moderately high regression weights when considering the two determined groups. These findings can be explained by the findings presented by Komarraju et al. [27]. These

authors demonstrate that the ability to repeat a task or activity favours learning through trial and error, with this being associated with the capacity for effort and tenacity. On the other hand, the item with the weakest regression weight for minors who had spent less time being schooled in the Spanish system was associated with group work. This is explained by a lack of competence for collaborative work due to these individuals not being used to the dynamics required [34,35].

The factor "Self-Confidence" reflected the largest regression weight for item I.4 [*To carry out efficiently any task given to me*], with I.2 [*To carry out a task successfully*] exerting the weakest influence for residents of less than nine months. In the case of schooled minors, the largest influence was linked to I.8 [*To organise my time in order to carry out everything that teachers ask*], and the weakest was linked to I.2, though with higher coefficients in all cases. It is of special interest that those minors who had spent more time at school give greater value to time management for studying. This suggests an essential learning strategy and a basic component in effort regulation [27,36]. In exchange, those young people who had spent less time at school possessed a low mastery of this ability. Instead they gave a greater value to the outcome of "carrying out a task well", rather than to the process of "management in order to achieve an objective". This denotes the relevance of the schooling process for the development of metacognition [28,37,38].

Finally, it is important to outline the main limitations encountered by the present research study. The first is found in the sample size used, which was not very high in consideration of those used in studies that have validated instruments. Further, it should be mentioned that the number of unaccompanied foreign minors that made up the study sample represents a representative sample of overall residents in the cross-border cities of Ceuta and Melilla (Spain), though it is assumed that this value is rising. Secondly, the low command of the Spanish language by the participants in the present study should be mentioned. This could have led to mistakes when making sense of questionnaire items, reducing reliability coefficients and internal coherence. Based on this there is a patent need to carry out validation of the academic self-efficacy scale within a similar group.

5. Conclusions

The present study shows as main findings the adaptation of the academic self-efficacy scale in a sample of unaccompanied foreign minors who were residents in Spain, obtaining good fit indices in the exploratory and confirmatory analysis. Validation reduced the scale to a total of 12 items, with these being grouped according to three dimensions which were derived from the initial theoretical model: effort, self-confidence and understanding. It should be highlighted that in some cases the items loaded on different factors due to the specific perception of academic self-efficacy possessed by the examined group. This led us to rename the factor "Understanding" to "Understanding". Likewise, the multi-group analysis conducted shows a stronger association between understanding, self-confidence and effort in UFM who had spent more time residing in Spain. This could be linked to a longer time spent at school.

Author Contributions: E.M.O.-M. and J.E.L. conceived the hypothesis of this study. E.M.O.-M., J.E.L. and M.d.C.O.-G. participated in data collection. E.M.O.-M., M.S.M. and R.C.-C. analysed the data. All authors contributed to data interpretation of the statistical analysis. All authors read and approved the final manuscript.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Validated version of the academic self-efficacy scale in unaccompanied foreign minors:

I.1. Hacer una tarea con éxito [*Carry out a task successfully*]

I.2. Realizar bien cualquier tarea que me den [*Carry out well any task given to me*]

I.3. Esforzarme más que mis compañeros para tener éxito en las tareas [*Work harder than my peers to succeed in tasks*]

I.4. Organizar mi tiempo para hacer todo lo que los profesores piden [*Organise my time to do everything that the teachers ask*]

I.5. Sacar buenas notas en pruebas difíciles [*Get good marks in difficult tests*]

I.6. Trabajar más tiempo cuando tengo tareas difíciles [*Spend more time working when I have difficult tasks*]

I.7. Esforzarme más para resolver tareas difíciles [*Try harder to solve difficult tasks*]

I.8. Repetir una tarea hasta lograr hacerla bien [*Repeat a task until I get it right*]

I.9. Esforzarme en trabajar bien con otros compañeros en tareas en grupo [*Strive to work well with other peers in group tasks*]

I.10. Estudiar solo para sacar buenas notas [*Study alone in order to get good marks*]

I.11. Entender lo que dice el profesor cuando hay ruido en clase [*Understand what the teachers says when there is noise in class*]

I.12. Estudiar primero y hacer otras cosas luego [*Study first and do other things later*]

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