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Scale of Perceptions of Future Primary School Teachers on Unaccompanied Foreign Minors: Exploratory and Confirmatory Analysis

Jennifer Serrano-García *[ID], Fátima Zahra Rakdani-Arif Billah, Eva María Olmedo-Moreno [ID] and Jorge Expósito-López [ID]

Department of Reseach Methods and Diagnosis in Education, Faculty of Education Sciences, University of Granada, 18012 Granada, Spain; rakdani@ugr.es (F.Z.R.-A.B.); emolmedo@ugr.es (E.M.O.-M.); jorgeel@ugr.es (J.E.-L.)
* Correspondence: jenniserrano@ugr.es

Abstract: Unaccompanied foreign minors (UFMs) face stigmatisation and social exclusion in Spanish territory. Given their growing presence in schools, it is crucial that trainee teachers have valid and real information about these students in order to provide equitable, personalised, and quality education to all their students in the near future and to mitigate any uninformed prejudices and stigma developed before they enter the classroom. This study seeks to validate a scale designed to assess the perceptions of pre-service teachers about UFMs (n = 169). The objective of this study was to validate a scale designed to assess the perceptions of pre-service teachers about UFMs (n = 169). All participants were studying primary education at the University of Granada (Spain) [♂ = 131 (77.5%); ♀ = 37 (21.9%)]. Methodology: A quantitative, descriptive, cross-sectional, ex post facto, and quantitative study was conducted. The data were analyzed with IBM SPSS® 28.0 and IBM Amos Graphics® 23.0 programs. Results: A multidimensional scale was developed with a Cronbach's alpha of 0.858 and McDonald's omega of 0.859, consisting of a total of 26 indicators divided into three factors: socio-educational characteristic (n = 13), social threat (n = 7), and physical and emotional well-being (n = 6). The general scale showed high reliability and acceptable fit ($p < 0.001$; KMO = 0.880; GFI = 0.832; IFI = 0.925; NFI = 0.816; CFI = 0.924; SMSR = 0.058). CFA reports that the items with the highest factor loadings are related to determining whether these minors respect cultural differences, are involved in drug trafficking, and arrive in Spanish territory with significant malnutrition. However, the items with the lowest factor loadings are linked to understanding the type of academic education these minors have, whether they consume alcohol, or if they require teachers with intercultural competencies to help them integrate socially. Conclusions: A reliable and robust scale was developed to assess the perceptions of pre-service primary school teachers about unaccompanied foreign minors. This instrument can be used to identify the knowledge of teachers in training, which allows training actions to be implemented in the context of higher education to raise awareness, detect biases, and make this vulnerable group visible.

Keywords: instruments; exploratory analysis; confirmatory analysis; university students; perception; unaccompanied foreign minors (UFMs)

1. Introduction

The growing international influx of unaccompanied migrant minors has accelerated in the last decade. This reality makes it especially necessary to prioritize the care and protection of migrants, which, in the case of minors, presents specific challenges (Benassi et al. 2022).

Taking into account that this migratory movement of minors involves crossing borders without the accompaniment of a legal guardian, the number of minors emigrating to Spain has not stopped increasing since the beginning of the 21st century. Likewise, migratory

flows integrate a diversity of profiles, with sub-Saharan, Algerian, Mauritanian, Tunisian, and Libyan populations being the most present in the Iberian Peninsula (Albalá-Genol et al. 2022; López-Ulla 2022).

The migration process of this vulnerable group is characterized by a variety of intrinsic psychological symptoms, such as post-traumatic and intercultural post-migration struggles, along with extrinsic social challenges such as racial discrimination, isolation, and racism (Unterhitzenberger et al. 2019; van Es et al. 2021). In this sense, the integration of migrant minors in the host country is undoubtedly hindered by political and social discourses, as they live xenophobic, discriminatory, and racist realities (van Es et al. 2021).

Similarly, dehumanizing discourse around immigration is prevalent in public discourse in a variety of contexts, from education to politics. This translates into the promotion of negative emotions, such as hatred and fear, and contributes to hate speech and hate crimes towards unaccompanied migrant minors, leading to increasingly reluctant and restrictive public policies when it comes to serving this vulnerable group (Gonçalves 2023; Said-Hung et al. 2024). In fact, multiple studies have revealed that the most commonly observed hate words are associated with the migrant's country of origin (Castellanos et al. 2023b).

In this sense, public debate and the treatment of the issue of migration by the media can have a major impact on public attitudes towards immigration (Jakob-Moritz et al. 2018). In general, unaccompanied minors are overrepresented in the media compared to the respective number of citizens residing in the country (Jacobs et al. 2018). Generally speaking, adolescents are seen as a threat to the country's economy, culture, and social well-being. This poses a risk by promoting a perpetuated and simplified discourse on immigration.

An example of the problem discussed above is that the news often focuses on myths related to the economic impact or numbers of immigrants, which legitimizes ethnocentric and nationalist rhetoric and, in this way, hinders the introduction of policy measures related to the social inclusion of the migrant population (Gonçalves 2023; Said-Hung et al. 2024). In particular, the media have acted to amplify the dissemination of more radical perspectives, allowing hate speech to infiltrate different spheres, such as politics and education, encouraging group differentiation, prejudice, and exclusion of hateful individuals. Thus, negative discourse leads young people to experience a cognitive imbalance (Crawford and Brandt 2020; Paz-García et al. 2020).

Thus, adolescents describe their personal experiences through emotional and psychological reactions such as anxiety, stress, and depression, and also describe the physical problems resulting from their journey (Ann-Karina and Torbenfeldt 2018; Changwook and Wooyeol 2022). The violence perpetuated by the mass media with respect to Spanish society is, therefore, omnipresent in the lives of citizens. No place is truly safe, as every environment in which they spend time is steeped in violence. In addition, the migratory itinerancy has consequences on the needs of intervention with these adolescents, but the Protection System has not designed joint state actions to address their specific situation, which translates into deficient institutional protection. On the other hand, the interventions are not adapted to the UFMs, but, on the contrary, they are differentiated. Public policies are designed in a social context hostile to the presence of migrant children and, within the framework of public discourse, are not conducive to the defense of their rights. Moreover, in Spain, some government practices act as an obstacle to the consequence of the objectives of transition to the life of these young people, therefore, as a consequence, the public administration establishes bureaucratic barriers that hinder the social inclusion of migrant adolescents, an example being the administration of immigration legislation, where the administration designs legal instruments that do not favor labor insertion processes (Skott 2023).

Specifically, in the educational setting, unaccompanied foreign minors (UFMs) experience harassment, physical and psychological abuse, racism, and discrimination. Their lives are governed by a sense of fear and insecurity that permeates their lives, dictating their movements from the moment they wake up to the time they go to sleep (Skott 2023). In addition, in educational institutions, hate speech is common as a result of the effects

of the media. In this sense, the vulnerability that many adolescents experience as a result of their migrant status should not be minimized. In this sense, in this complex social context, educational institutions must design intervention strategies that allow disadvantaged young people to overcome the objectives of the transition to adult life. Therefore, social engagement is decisive, as it is the only human support available to this population, i.e., professional involvement is fundamental and decisive, despite the fact that social policy has deficits from a socio-educational perspective (Castellanos et al. 2023a).

As can be seen, there is a large amount of international research that addresses the way in which young migrants are portrayed by the media and the consequences of this in the political and social spheres. However, in the case of unaccompanied minors, it is important to note that the media are not the only source of information on the situation of unaccompanied minors in Spain. Unfortunately, studies on the perception of future professionals in the field of education are scarce (Bravo and Santos-González 2017). Therefore, it is important to be aware that hate speech towards these minors is still the order of the day. This has detrimental effects on the critical thinking and perceptions of Spanish citizens and, therefore, on that of the teachers in training who, one day, will attend to the needs of UFMs. For all the above reasons, this study was carried out with the aim of building a reliable and rigorous instrument to measure the perceptions of primary education teachers in training about UFMs. To this end, the following specific objectives were established: (a) to explore the validity of the instrument for assessing the perceptions of future teachers on unaccompanied foreign minors (EPFD-UFMs) through exploratory factor analysis (EFA) for its administration with higher education students; and (b) to determine the items corresponding to each of the factors of the EPFD-UFM scale by means of confirmatory factor analysis (CFA).

2. Materials and Methods

2.1. Design and Participants

The present research used a quantitative, descriptive, and cross-sectional approach based on an ex post facto design and employed a single group measurement. In addition, non-probabilistic and intentional sampling was used. As a result, the study population was made up of 168 higher education students enrolled at the University of Granada ($\male$ = 131 [77.5%]; $\female$ = 37 [21.9%]). All of them were taking the Tutorial Action course as part of the Degree in Primary Education during the 2022/2023 academic year. Participants were aged 20 to 25 years (n = 158, 93.5%), 26 to 31 years (n = 7, 4.1%), 32 to 37 years (n = 2, 1.2%), and 38 years and older (n = 1.0.6%). In relation to work experience, 66.3% reported having no work experience in the education sphere (n = 112), 32.5% had some experience in the educational sphere but they had not worked with UFMs (n = 55), and 0.6% reported that they had experience in the educational sphere and they had worked with these minors at risk of social exclusion (n = 1). Finally, the previous training of university students (workshops, talks, extracurricular, non-formal and informal training) on unaccompanied foreign minors was taken into account. In this case, 24.3% had never heard of this population (n = 41), 72.2% had not received training on working with UFMs but had received training on this population (n = 122), and, finally, 3% had received some training on the management of this population (n = 5).

2.2. Instruments

An instrument entitled Scale of Perceptions of Future Teachers of Unaccompanied Foreign Minors (EPFD-UFM) was designed and validated. This scale allows to evaluate the perspectives of higher education students enrolled in the Primary Education Career of the University of Granada, with the aim of knowing the opinions of future teachers of UFMs. The scale comprises of a total of 27 items (e.g., I2. Most UFM teens are trained to secondary education level/I20. Most of the UFM adolescents consume alcohol regularly), of which 6, 11, 12, 13, 17, 18, 19, 20, 21, 22, 23, 24, 25, and 26 are negatively framed. The items are scored on a Likert-type scale with four response options, where 1 = "strongly

disagree" and 4 = "strongly agree". This scale is made up of a total of three factors. The first, socio-educational characteristics (items 3, 9, 8, 7, 14, 10, 15, 16, 2, 4, 5, 1, and 6) produced a Cronbach's alpha (α) of 0.911 and a McDonald's omega (ω) of 0.914. The second, the social threat (items 25, 18, 20, 22, 26, 23, 24, and 27) reported a Cronbach's alpha (α) of 0.774 and a McDonald's omega (ω) of 0.844. Finally, the third factor, physical and emotional well-being (13, 21, 19, 12, 17, and 11), showed a Cronbach's alpha (α) of 0.656 and a McDonald's omega (ω) of 0.666. Thus, it can be concluded that the EPFD-UFM scale exhibits a strong internal consistency, with a Cronbach's alpha (α) of 0.858 and a McDonald's omega (ω) of 0.859 for the general scale.

2.3. Procedure

This scale was digitised using the Google Forms tool prior to data collection. Subsequently, it was administered in a mixed format at the Faculty of Education Sciences of the University of Granada, overseen by researchers assigned to the projects ProyExcel_00104 and FPU20/04914. In this way, the correct online completion of the scale was guaranteed and any doubts that arose throughout the process could be resolved. This process was carried out without significant setbacks. Lastly, it should be noted that data protection regulations were adhered to at all times to ensure privacy, confidentiality, and the appropriate use of the data collected. In this regard, all responses were completely anonymous. Additionally, it is worth mentioning that this work also conformed to the ethical principles of research established by the Declaration of Helsinki (1975) and subsequently ratified in Brazil (2013). Ethical approval was obtained from the Ethics Committee of the University of Granada (reference number: 1858/CEIH/2020).

2.4. Data Analysis

The IBM SPSS® version 28.0.1.0 and JASP version 0.18.3 software programs were utilized to conduct basic descriptive and exploratory factor analyses (EFAs). Factor loadings and the rotated matrix were obtained using principal component analysis and varimax rotation. To assess the internal consistency of the scale, Cronbach's alpha (α) and McDonald's omega (ω) coefficients were calculated, achieving a 95% reliability index. Confirmatory factor analysis (CFA) was performed using IBM Amos Graphics® software, applying the goodness of fit criteria according to Kock (2014).

Factor loading and the rotated matrix were obtained. For this purpose, EFA used principal component analysis and varimax rotation. Cronbach's alpha (α) and McDonald's omega (ω) coefficients were developed to determine the internal consistency of the scale (95% reliability index). Confirmatory factor analysis (CFA) was performed with IBM Amos Graphics® software. In this case, goodness of fit criteria were applied according to Kock (2014). For the chi-square results, non-significant p-values indicate a good fit of the model. With respect to the comparative fit index (CFI), values above 0.90 are acceptable and values above 0.95 are excellent. The normalized fit index (NFI) should be above 0.90. For the incremental fit index (IFI), values above 0.90 are acceptable, while values above 0.95 are excellent. Finally, Root Mean Square Error of Approximation (RMSEA) values below 0.05 and 0.08 are considered excellent and acceptable, respectively. Parameter estimation was carried out through principal component analysis because this method is consistent, unbiased, and invariant regarding the type of scale.

3. Results

Table 1 presents the means and basic descriptive results of the twenty-seven items of the scale for the evaluation of future teachers' perceptions of unaccompanied foreign minors (EPFD-UFM). The scale was conceived and examined for content validity by a panel of content experts. Construct validity was examined using EFA and CFA. In this sense, a series of dispersion measures were applied to examine kurtosis and asymmetry in order to establish whether the response data to the items met the assumption of normality when the scale items were finally distributed according to the factors identified in the first steps

of the analysis. This analysis was performed in accordance with the recommendations of Hu and Bentler (1998) and Schmider et al. (2010), who consider that items associated with lower asymmetry and kurtosis values can be considered suitable for measurement at scale.

Table 1. Basic descriptive results for the items of the EPFD-UFM scale.

Articles	M	SD	THERE	V	S	Towards
I1. Most UFM adolescents have the following academic background:	1.80	0.720	1.69–1.91	0.518	0.313	−1.023
I2. Most of the adolescents at the UFM are trained to secondary education level.	2.23	0.909	2.09–2.37	0.826	0.394	−0.575
I3. Most UFM teenagers want to continue their studies at university.	2.62	0.914	2.48–2.76	0.836	−0.120	−0.783
I4. Most UFM teenagers know how to do a job when they arrive in Spain.	2.43	0.873	2.30–2.56	0.761	0.140	−0.635
I5. Most UFM teenagers work in the same way (time management, group work, work and rest hours, etc.) as Spaniards.	2.45	0.978	2.30–2.60	0.956	0.193	−0.955
I6. Most UFMs prefer to associate with people of the same ethnic group.	2.42	0.892	2.29–2.56	0.796	−0.071	−0.773
I7. Most UFMs want to establish social relations with Spaniards.	2.99	0.770	2.88–3.11	0.593	−0.149	−0.887
I8. Most men at UFM treat women equally.	2.45	0.894	2.32–2.59	0.800	−0.109	−0.764
I9. Most UFMs respect cultural differences.	2.87	0.837	2.74–3.00	0.701	−0.182	−0.749
I10. Most UFMs are predisposed to interact with Spaniards.	2.88	0.810	2.76–3.00	0.656	−0.189	−0.652
I11. In Spain, most UFMs live on the street.	2.98	0.738	2.87–3.10	0.545	−0.515	0.302
I12. Most of the UFMs come from countries at war.	2.32	0.884	2.19–2.46	0.782	0.162	−0.686
I13. Most of the UFMs come from poor countries.	1.84	0.814	1.72–1.96	0.663	0.776	0.142
I14. Most UFMs respect the rules in Spain.	2.85	0.734	2.73–2.96	0.539	−0.117	−0.397
I15. Most of the UFMs know how to live and behave in Spanish territory.	2.92	0.754	2.80–3.03	0.568	−0.286	−0.258
I16. Most UFMs are open about their opinions and behavior.	2.70	0.778	2.58–2.82	0.606	0.112	−0.628
I17. Most UFMs need a teacher with intercultural competencies to help them integrate socially.	1.80	0.688	1.69–1.90	0.474	0.287	−0.876
I18. Most UFM adolescents regularly use illegal psychoactive substances (cocaine, cannabis, heroin).	3.20	0.760	3.08–3.31	0.578	−0.678	0.049
I19. Most of the UFMs present trauma and develop psychophysical pathologies (depression, anxiety, sleep disorders, eating disorders...) upon arrival in Spain.	2.36	0.753	2.24–2.47	0.566	−0.014	−0.378
I20. Most UFM teens consume alcohol regularly.	3.07	0.770	2.95–3.19	0.594	−0.441	−0.334
I21. Most of the UFMs arrive in Spain in a notable state of malnutrition.	2.51	0.766	2.39–2.62	0.587	−0.101	−0.339
I22. Most UFMs are willing to commit crimes to improve their quality of life.	3.01	0.830	2.88–3.13	0.689	−0.393	−0.595

Table 1. *Cont.*

Articles	M	SD	THERE	V	S	Towards
I23. Most UFMs are willing to commit crimes in order to eat.	2.80	0.823	2.67–2.92	0.677	−0.064	−0.740
I24. Most teen boys believe they can sexually abuse women.	3.22	0.738	3.10–3.33	0.544	−0.647	0.005
I25. Most UFMs are involved in drug trafficking.	3.21	0.757	3.09–3.32	0.573	−0.619	−0.207
I26. Most UFMs are in conflict with the police.	2.93	0.798	2.81–3.06	0.636	−0.240	−0.618
I27. The UFMs that enter Spanish territory illegally are a threat to the population.	1.57	0.731	1.46–1.68	0.534	1.241	1.323

Note 1. S: Asymmetry; K, Kurtosis.

Subsequently, a stony diagram was developed in order to identify the number of factors most suitable for the factorial solution. This pointed to the existence of three dimensions or factors (Figure 1).
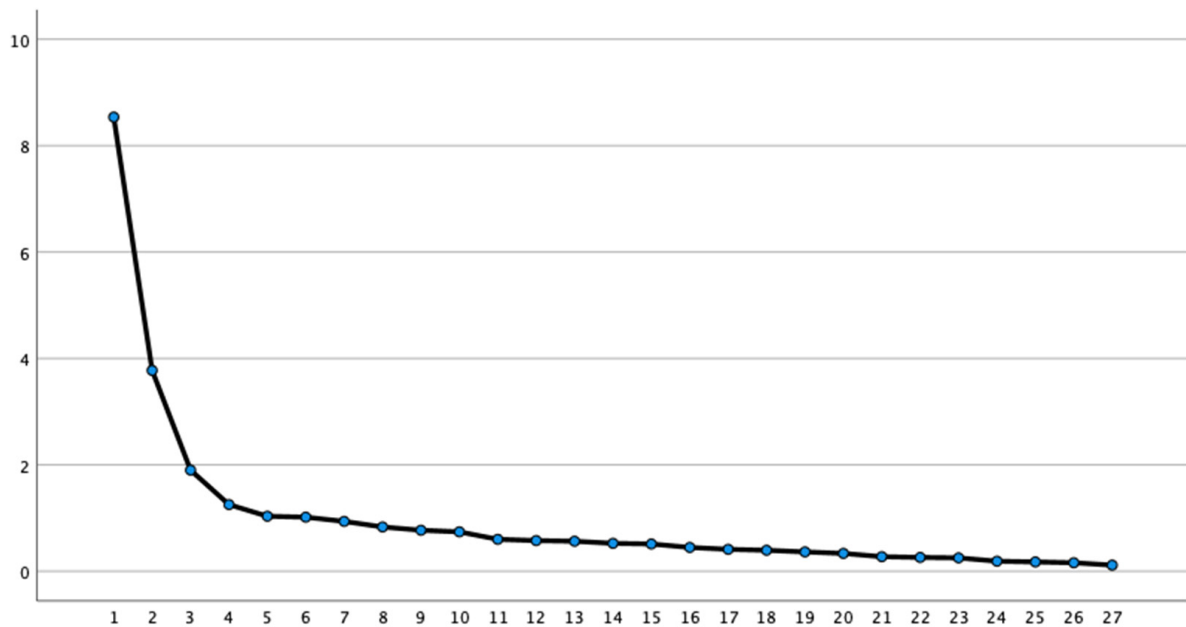

Figure 1. Plot of stony ground.

Table 2 analyzes the psychometric properties of the EPFD-UFM scale and its 27 items. It was revealed that the scores reported for all items on the scale followed a normal distribution, with results of asymmetry and kurtosis producing values below two in all cases. The rotated factor matrix and weights relating all dimensions to the three different factors were examined using IBM SPSS Statistics version 28.0.1.0 software, employing principal component analysis (Abdi and Williams 2010). The adequacy of the correlation matrix was acceptable, with the Bartlett statistic showing an acceptable fit (2420.473; df = 351; $p < 0.001$) and the Kaiser–Meyer–Olkin test (KMO) result being very good (KMO = 0.880). In addition, the three-factor solution generated explained 52.65% of the total variance of the model, which corresponds to a large extent.

Table 2. Rotated factorial matrix and factor loads.

Article	Factor 1—Socio-Educational Characteristics	Factor 2—Social Threat	Factor 3—Physical and Emotional Well-Being
I3.	0.834		
I9.	0.787		
I8.	0.769		
I7.	0.746		
I14.	0.732		
I10.	0.730		
I15.	0.730		
I16	0.671		
I2.	0.636		
I4.	0.627		
I5.	0.541		
I1	0.528		
I6.	**0.302**	0.416	
I25		0.781	
I18		0.766	
I20		0.757	
I22		0.754	
I26		0.727	
I23		0.699	
I24		0.693	
I27		−0.622	
I13			0.647
I21			0.640
I19			0.600
I12			0.575
I17			0.560
I11			0.404
Cronbach's alpha (α)	$\alpha = 0.911$	$\alpha = 0.774$	$\alpha = 0.656$
McDonald's omega (ω)	$\omega = 0.914$	$\omega = 0.844$	$\omega = 0.666$

Finally, other indices were used to examine the goodness of fit of the rotated solution. The comparative fit (CFI) and incremental fit (IFI) indices were excellent, being 0.924 and 0.925, respectively. In addition, the goodness of fit (GFI) and normalized fit (NFI) indices were acceptable, being 0.832 and 0.816, respectively. Thus, from the data presented above, it can be concluded that the factorial solution produced for the model demonstrated an acceptable fit. Likewise, Table 2 presents the factor loads for all items, ordered from highest to lowest. Factor loads less than 0.300 are omitted as is the case with item 27.

Five dimensions were proposed for the construction of the scale, namely, educational aspects, social aspects, personal aspects, health, and social threat. However, in the new rotated solution, only three dimensions or factors were determined to constitute the final model. First, factor one, called "socio-educational characteristics", included items I3, I9, I8, I7, I14, I10, I15, I16, I2, I4, I5, I1, and I6. Although it was found that item 6 is more loaded in factor two (b = 0.416), it makes more sense to place this item within factor one (b = 0.302), since it refers to the preferences of the UFMs around social interactions.

Second, factor two, called "social threat", groups items I25, I18, I20, I22, I26, I23, I24, and I27. Finally, factor three is defined by items I13, I21, I19, I12, I17, and I11. Subsequently, the internal consistency of the global scale according to Cronbach's alpha and McDonald's omega coefficients was examined, indicating high reliability ($\alpha = 0.858$, $\omega = 0.859$). Specifically, high values of internal consistency were produced for factors one ($\alpha = 0.911$, $\omega = 0.914$) and two ($\alpha = 0.774$, $\omega = 0.844$) and, to a lesser extent, for factor three ($\alpha = 0.656$, $\omega = 0.666$) (Table 2). Although the reliability indices for factor three were not as strong, the reliability of the overall construct was supported by its strong internal consistency.

Subsequently, a confirmatory factor analysis (CFA) was performed in order to compare the results in terms of the consistency of the scale with those produced by exploratory factor analysis (EFA). To this end, a structural equation model (SEM) was developed that composed the three established factors and the items corresponding to each of them. This model was composed of a total of three latent variables that represent the dimensions

obtained, along with a total of 26 observed variables that correspond to the items included in the final scale. First, the fit indices of the model are reported, with significant chi-square values (X^2 = 453.124; df = 1.557; $p < 0.001$). However, it should be noted that this test is very sensitive to sample size. For this reason, it was decided to use other adjustment indices. To achieve this, the incremental fit (IFI), normalized fit (NFI) and comparative fit (CFI) indices were calculated, producing discrete values (IFI = 0.925; IFN = 0.816; CFI = 0.924; GFI = 0.832). In addition, the result of the mean square error of approximation (RMSEA) reflected a good fit with an acceptable value of 0.058.

Table 3 and Figure 2 present standardized regression weights calculated from the structural model developed for the global sample for the relationships between the three factors and their corresponding indicators. The results reveal significant ($p < 0.05$) and positive relationships for the associations between all indicators and their relevant factors. Regarding regression weights, the most influential indicator for factor one, socio-educational characteristics, was item 9 (most of the UFMs respect cultural differences) (b = 0.868; $p < 0.005$), with item 1 being the least influential item (most UFM adolescents have the following academic background) (b = 0.343; $p < 0.005$). In the case of factor two, social threat, it was found that the highest regression weight was for item 25 (most UFMs are involved in drug trafficking) (b = 0.849; $p < 0.005$), and the lowest coefficient occurred for item 20 (most UFM adolescents consume alcohol regularly) (b = 0.597; $p < 0.005$). Finally, in relation to factor three, physical and emotional well-being, item 21 (most of the UFMs arrive in Spain in a state of notable malnutrition) was the one with the greatest explanatory power within the dimension (b = 0.681; $p < 0.005$), with item 17 (most of the UFMs need a teacher with intercultural competencies to support their social integration) being the least influential (b = 0.343; $p < 0.01$). Finally, the structural model via CFA was examined to identify associations belonging to the dimensions generated from the empirical data. In this case, the strongest relationship emerged between factor one and factor two (b = 0.512; $p < 0.005$), followed by factor two and factor three (b = 0.298; $p < 0.01$) which had a low-medium strength ratio. In both cases, a positive relationship was found. On the contrary, it was found that factor three, linked to physical and emotional well-being, was negatively related to factor one, socio-educational characteristics (b = -0.265; $p < 0.05$).

Table 3. Standardized regression weights for the model developed for the EPFD-UFM scale.

Association between Items and Their Relevant Factor			RW				SRW
			Estimation	SE	CR	P	Estimation
I3	←	1SE	1.000	-	-	***	0.806
I9	←	1SE	0.986	0.074	13.325	***	0.868
I8	←	1SE	0.908	0.084	10.832	***	0.748
I7	←	1SE	0.815	0.071	11.456	***	0.780
I14	←	1SE	0.794	0.067	11.797	***	0.797
I10	←	1SE	0.929	0.073	12.785	***	0.845
I15	←	1SE	0.812	0.069	11.735	***	0.794
I16	←	1SE	0.790	0.073	10.823	***	0.748
I2	←	1SE	0.545	0.094	5.803	***	0.442
I4	←	1SE	0.667	0.088	7.574	***	0.563
I5	←	1SE	0.700	0.099	7.069	***	0.527
I1	←	1SE	0.343	0.076	4.534	***	0.351
I6	←	1SE	0.491	0.093	5.291	***	0.406
I25	←	2ST	1.000	-	-	***	0.849
I18	←	2ST	0.738	0.087	8.446	***	0.624
I20	←	2ST	0.716	0.089	7.999	***	0.597
I22	←	2ST	0.925	0.092	10.049	***	0.716
I26	←	2ST	0.925	0.087	10.627	***	0.745

Table 3. *Cont.*

Association between Items and Their Relevant Factor			RW				SRW
			Estimation	SE	CR	P	Estimation
I23	←	2ST	0.899	0.092	9.771	***	0.702
I24	←	2ST	0.839	0.081	10.361	***	0.731
I13	←	3PEWB	1.000	-	-	***	0.455
I21	←	3PEWB	1.408	0.301	4.675	***	0.681
I19	←	3PEWB	1.356	0.292	4.650	***	0.667
I12	←	3PEWB	1.046	0.275	3.809	***	0.438
I17	←	3PEWB	0.636	0.197	3.234	**	0.343
I11	←	3PEWB	0.712	0.214	3.333	***	0.357
1SE	↔	2ST	0.241	0.047	5.086	***	0.512
2ST	↔	3PEWB	0.071	0.027	2.618	**	0.298
1SE	↔	3PEWB	−0.072	0.029	−2.447	*	−0.265

Note 1: RW: regression weight; SRW: Standardized Regression Weight; SE: standard error; CR: critical relationship. Note 2: *, statistically significant differences from p-level < 0.05; **, statistically significant differences from p-level < 0.01; ***, statistically significant differences from p-level < 0.005. Note 3: F-1, factor one [1SE]—Socio-educational characteristics; F-2, factor two [2nd]—Social threat; F-3 [3PEWB], factor three—Physical and emotional well-being.
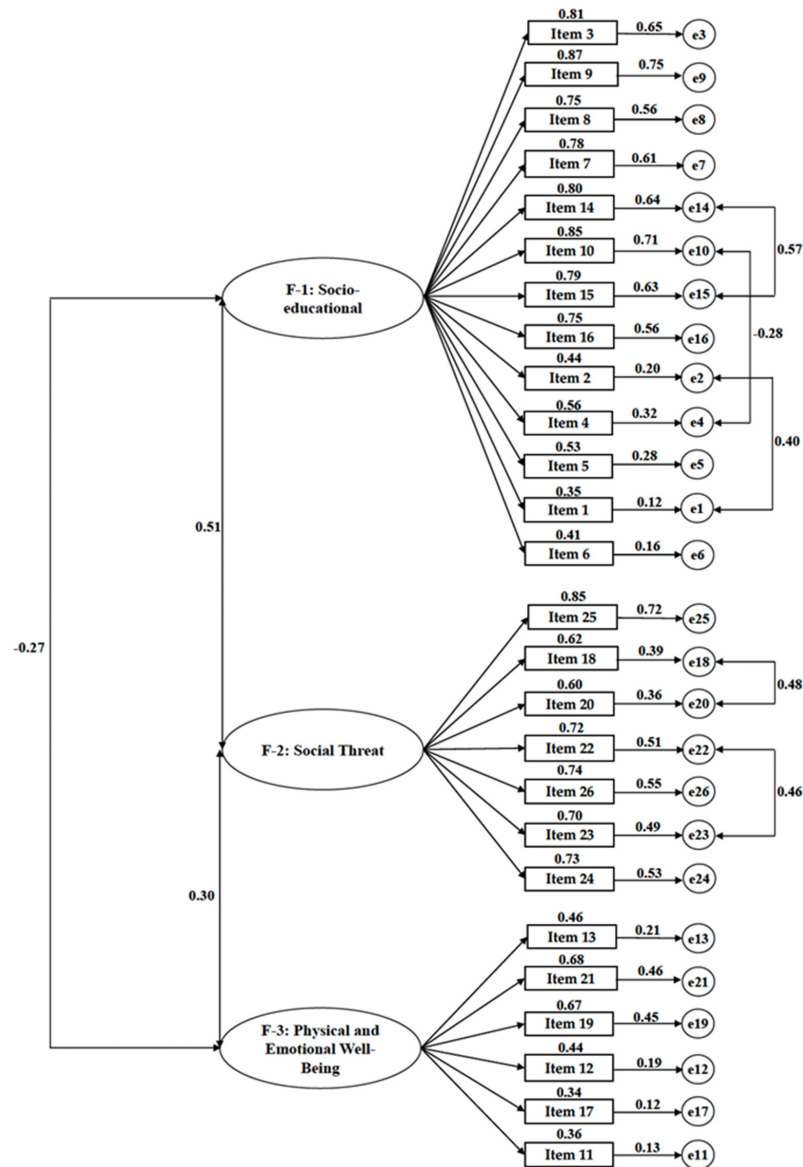

Figure 2. Structural model developed from confirmatory analysis.

4. Discussion

The objective of this research work was to analyze the psychometric properties of the perceptions of future primary school teachers on the scale of unaccompanied foreign minors (UFMs) through exploratory and confirmatory factor analyses. The findings obtained are of great relevance since there are no validated scales for use in this context. Similarly, there is a need for such tools to be brief and parsimonious, according to the works published by Olmedo-Moreno et al. (2023), Romero-Díaz de la Guardia et al. (2022), and Parejo-Jiménez et al. (2022), as this is essential for their administration in the context of higher education.

To this end, a confirmatory factor analysis was performed using a structural equation model that grouped the 26 items of the questionnaire (observed variables) into three factors (latent variables), namely, socio-educational characteristics, social threat, and physical and emotional well-being. Subsequently, a validation study of the instrument was proposed, which was based on previous work carried out by Maggiori et al. (2017), Martínez-Martínez et al. (2019), Rania et al. (2014), and Olmedo-Moreno et al. (2023).

In relation to exploratory factor analysis, basic descriptive analysis, and the examination of asymmetry, variance, and kurtosis, according to Kock (2014) and Byrne (2016), revealed that all items on the scale for assessing future teachers' perceptions of unaccompanied foreign minors could be retained. In addition, a substantial proportion of it was explained, exceeding the 40% threshold established by George and Mallery (2003). This indicates that all the factors established for the model are relevant and play a key role in explaining the variability observed in the data. The factor loads for the three-factor solution calculated through principal component analysis were sufficient in all cases, and all values were greater than 0.300. Therefore, it was not necessary to discard any of the items selected for inclusion in the final global scale (Ferrando and Lorenzo-Seva 2014).

Subsequently, the confirmatory analysis of the factors outlined through exploratory factor analysis revealed adequate adjustment indices, in line with the guidelines established by Kock (2014). The results supported the existence of a structural model capable of measuring 26 observed variables, in a multidimensional way, grouping the variables into three latent variables in order to provide a robust measure of the perceptions that primary school teachers in training in Spain have about unaccompanied foreign minors.

When reviewing the influence of the different items when explaining each of the dimensions of the scale, it was found that the greatest weight of regression in the dimension that describes socio-educational characteristics corresponds to cultural attitudes. Other indicators that also exert a strong influence on the scale are oriented to university students' perceptions of how this vulnerable group of children adapts to the sociocultural context. This finding is supported by Escarbajal-Frutos et al. (2023) and Aguaded-Ramírez et al. (2020). Regarding the dimension of social threat, the greatest weight of regression occurred for the items related to participation in criminal activities, such as drug trafficking, and other illegal activities, such as gender violence and criminal activities. This finding is echoed by García-Spain et al. (2021), Bañón-Castellón (2024), Gil-Ramírez and Gómez-de Travesedo Rojas (2022) and the Spanish Catholic Migration Commission Association (ACCEM n.d.). These authors discuss the way in which society attributes a distorted and stigmatized image to these minors, mainly due to the influence of the media. This fact irremediably influences the way in which pre-service primary school teachers are likely to act towards this group and, consequently, will impact their willingness to care for these children in the future (Moreno-Fernández et al. 2020).

Finally, with regard to the dimension of physical and emotional well-being, the highest regression weights were produced for items related to the nutritional status of the UFMs and psychological traumas, such as stress and anxiety. This finding is consistent with those reported by studies conducted by Fontana et al. (2023) and Sastre (2016). Indeed, it is logical that these variables acquire great relevance when it comes to understanding university students' perceptions of these minors, since, in the near future, one of their professional obligations will involve the complete and adequate integration and inclusion of all students, including unaccompanied foreign minors (Beckman 2023; Fontana et al.

2023; Gil-Ramírez and Gómez-de Travesedo Rojas 2022). To this end, it is necessary for professionals to know the way in which this vulnerable group interacts in Spain and to identify important characteristic features and their nutritional and psychological status.

On the contrary, the items assigned to the lowest regression weights and, therefore, with less influence on the results of the scale were related to the level of academic training received by the UFMs, corresponding to the factor of socio-educational characteristics. Actions characterized by patterns of consumption of toxic substances, such as alcohol, related to factors defined as social threat and physical and emotional well-being, in which teachers played a leading role in the introduction of these actions in schools and in society. It makes sense that these three variables would be of lesser importance to the group under study for several reasons. First, the participants stated that the educational level of the UFMs is not of crucial importance in their context. Second, different cultural sensitivity may mean that the interpretation of actions with patterns of substance use, such as alcohol use, may be affected by different cultural norms and perceptions within the study group. Finally, given the diversity of individual experiences, the perceived importance of teachers for integration into school and society can vary considerably among participants. When considering the fact that students are not fully aware of the relevance of these aspects or that they may lack detailed information about them, as well as the fact that the items in question may not be aligned with their beliefs, values, or priorities, it is understandable that these items are of lesser importance in influencing the results of the overall scale.

Finally, it is particularly important to discuss the main limitations of the present research. The first of these concerns the sample size used, which was limited by accessibility issues. However, it was similar to that commonly found in instrument validation studies and it can be argued that valuable information was still produced. Second, it should be noted that the lack of knowledge of the university students recruited for the present study could have introduced biases due to misinformation about the care of migrant populations and UFMs, which could decrease the reliability and internal consistency of the scale.

5. Conclusions

The main finding of this study was the development of a valid scale for the assessment of the perceptions of prospective teachers of unaccompanied foreign minors in Spain, which obtained adequate fit indices through both exploratory and confirmatory analysis. The evaluation of the scale supported the maintenance of the original 26 items of the scale, which were grouped into three dimensions describing socio-educational characteristics, social threat, and physical and emotional well-being. Acceptable kurtosis, skewness, and variance values were obtained, as well as adequate KMO, NFI, GFI, and CFI coefficients, while the IFI was excellent. It is worth noting that the indicators that most affected the scale were cultural attitudes, criminal activities such as drug trafficking and the nutritional status of UFMs, while the indicators that least affected the scale were the level of academic education, the consumption of toxic substances such as alcohol and the perception of the importance of teachers for the social integration of UFMs. Thus, a suitable, reliable, and robust scale is provided to assess the perceptions of prospective primary school teachers about unaccompanied foreign minors, a population at risk of exclusion.

Ethics Committee of the University of Granada (reference number: 1858/CEIH/2020 and date of approval: 2/11/2022).

Informed Consent Statement: Authors obtained the informed consent of all participants.

Data Availability Statement: Data will be available on request due to privacy reasons. They are not publicly accessible to protect the confidentiality of participants. Requests for access will be evaluated to ensure that confidentiality is maintained in accordance with regulations and ethical principles. Information will only be shared with persons or entities that have a legitimate purpose and comply with the necessary security measures.

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

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