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Predictive variables of resilience in young Moroccan immigrant

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Abstract

The immigration of young people from Morocco has increased considerably in Spain. However, there are few studies on this particular subpopulation of immigrants. The objective of this study was to evaluate the level of resilience in young immigrants and to determine what differences there were compared to the young non-immigrant population, analysing the sociodemographic and psychosocial variables that are most predictive of resilience in these young people from Morocco. The total sample comprised 326 young men (M = 19.63 years; SD = 1.13), 154 were Moroccan immigrants aged between 18 and 22 (M = 19.33; SD = 1.28) and 172 non-immigrant Spanish men aged between 18 and 23 (M = 20.1; SD = 1.06). The results showed a higher level of resilience in young immigrants than in young people from the general population, with negative inverse relationships in both samples between all the protective variables (optimism, hope, self-efficacy and social support) and anxiety and depression, and positive relationships with resilience. In addition, a predictive model of resilience in young Moroccan immigrants was found with adequate goodness of fit indices ($R^{2adj} = .81$; $F = 126.54$; $p < .001$) made up of age, work, religion, hope, self-efficacy and social support. This study provides a useful characterization of resilience and vulnerability in young Moroccan immigrants. It is essential to promote the modulating factors that predict high levels of resilience in order to improve the early adaptation of this group to the destination country.

Keywords Resilience · Young immigrants · Protective variables · Anxiety · Depression

Immigration is not a new phenomenon, but the large movement of people seen at the beginning of the twenty-first century has no historical precedent (Motti-Stefanidi and García-Coll 2018). Spain has become one of the ten main destination countries for international migratory flows (International Organization for Migration-IOM 2018), and immigration into Spain has increased exponentially in recent decades (Consejo Económico y Social-CES 2019). The most recently published data show that 40.50% (1,741,945) of the total immigrant population in Spain (4,300,723 people) are Moroccans, who make up the largest group of foreigners from non-EU areas (Instituto Nacional de Estadística-INE 2019). A quarter of Moroccan immigrants are concentrated in the south of the country (Andalusia) (142,033–22.95%), a significant proportion of whom are young men under 18 years of age (Observatorio Permanente Andaluz de Migraciones-OPAM 2018).

Immigration is an adverse situation that can produce high levels of stress (Korenblum et al. 2005) and involves some degree of mourning lost ties, pain, and frustration, which can lead to worse mental health (Loayza-Rivas and Fernández-Castro 2020). Immigrants exhibit more psychological disturbances such as symptoms of depression or anxiety compared to the native population (Rousseau and Frounfelker 2019). In addition, the most vulnerable groups, such as children and young people, also develop a strong sense of social uprootedness that can lead to notable emotional disturbance (Elgorriaga et al. 2019). However, there have been studies which have also found that some of the immigrant population has a high degree of resilience (Miller et al. 2019; Motti-Stefanidi and Masten 2017). In fact, it seems that despite the risks young immigrants experience, most will avoid mental health and behavioural problems and demonstrate positive life trajectories (Longobardi et al. 2017; Kogan and Walsh 2020).

Resilience produces better adaptation to adverse situations and is modulated by the interaction between internal and external protective factors (Sánchez-Teruel and Robles-Bello 2014). However, these protective factors are in turn modulated by sociodemographic variables (sex, age, religion, educational

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level) and by the type of adverse situation a person suffers, which depends on sociocultural factors (Ungar 2008). In fact, the type of adverse situation triggers the interaction of specific (internal and external) factors, which can lead to different outcomes, producing psychopathological results, moderate adaptation, or resilient results associated with post-traumatic growth (American Psychological Association-APA 2018; Motti-Stefanidi and Masten 2020). All of these aspects make it difficult to know what kind of protective factors should be reinforced in immigrants to increase their adaptation to the host country, minimizing possible risk factors. There is still no consensus on whether psychosocial resilience is a process or an outcome (Southwick et al. 2014), although positive neurobiological effects of resilience to a traumatic experience have already been found (Mehta et al. 2020). The American Psychological Association (2018) defined resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress (pp. 4)". Hence, resilience can be understood as an outcome in which there is an absence of psychopathological symptoms (e.g. Bonanno et al. 2006), or as a more complex process involving the individual's adaptive (cognitive, emotional and behavioural) reactions (e.g. Masten 2014; Masten and Cicchetti 2016), and is not as common as originally thought (Infurna and Luthar 2018). From this perspective, the individual has resources (e.g., different protective factors) that promote flexible adaptation to changing conditions that act as demands (Masten 2016). Some factors are common, associated with adaptive adjustment during or following various adverse experiences, although they vary in form and importance across age and context. Others appear to be relatively unique to a particular culture or context, such as the ability to forgive or spiritual practices (Masten 2019).

In this regard, there are encouraging results on the modulation of immigrants' social support (de Terte et al. 2014; Feeney and Collins 2015; Guilaran et al. 2018; Logie et al. 2016) and self-efficacy (Straiton et al. 2017). It also appears that optimism and hope are key modulators in a resilient outcome (Alegría et al. 2017). Hope refers to a state of positive motivation based on the interaction between self-efficacy (goal-directed energy) and successful trajectories (planning to achieve goals) (Snyder et al. 1991, p. 287). Likewise, dispositional optimism can be defined as the tendency to positively evaluate the occurrence of future events (possible or otherwise), a characteristic which is stable over time and situations, and which produces a tendency to persist in a task when it is directed towards a goal (Carver et al. 2010). Furthermore, optimism seems to correlate with personality traits such as emotional stability and responsibility (Kam and Meyer 2012); it is an important protective factor against depression (Leising et al. 2013) and modulates the relationship between negative life events and suicide attempts (Sánchez-Teruel et al. 2020a). However, why some young immigrants develop resilience and flourish, adapting to their host country while others do not, remains an interesting question (Motti-Stefanidi and Masten 2020).

Therefore, the aim of this study is to evaluate the level of resilience in young Moroccan immigrant in Spain and to determine whether there are differences compared to the non-immigrant population of young people. We will also attempt to analyse which sociodemographic and psychosocial variables are more predictive of a high level of resilience in young Moroccan immigrant. We expect young Moroccans to demonstrate a higher level of resilience (i.e., a higher level of social support, self-efficacy and hope compared to young non-immigrants and we expect them to exhibit lower levels of anxiety and depression).

Method

Participants

The sample consisted of 326 people, with a mean age of 19.63 years and a standard deviation (SD) of 1.13. Almost half (154) were Moroccan immigrants, who were all men aged between 18 and 22 (M = 19.33; SD = 1.28). The remaining participants were 172 Spanish men from the general population, aged between 18 and 23 years old (M = 20.1; SD = 1.06). The inclusion criteria were: voluntary participation, having signed informed consent, completing all the tests and, in addition for the young immigrant sample, having arrived irregularly (unaccompanied foreign minors) in Spain while under 18 years old, and being able to understand written Spanish. Potential participants were excluded if they did not wish to participate, if they did not sign their informed consent, if they failed to complete any of the tests, or if they did not understand written Spanish. One variable that was not measured, but for which information was requested, was the age at which they arrived in Spain. It should be noted that all of the immigrants arrived in Spain irregularly as minors (aged between 13 and 15). Specifically, unaccompanied foreign minors (known by the acronym MENA in Spanish) are considered to be in an irregular situation because they usually arrive at the Spanish coast in various types of boats managed by people-smugglers, not accompanied by adults or guardians and they lack documentation allowing them to enter the country legally. The Spanish government considers them to be a particularly vulnerable group and affords them greater legal protection (CES 2019). The sociodemographic characteristics of the two samples are given in Table 1. There were no significant differences between the groups (young immigrants and young people from the general population) in the sociodemographic variables except in the variables education and religion. In terms of effect size, eta squared was between .65 and .90.

Table 1 Description of socio-demographic data for both samples

	I n(%)	G n(%)	Contrast	d.f.	η^2
Marital status					
Single	150 (97.4)	168 (97.7)			
Married	4 (2.6)	3 (1.7)	2.31^{ns}	2	.77
Other	0 (0)	1 (0.6)			
Living arrangements					
Alone	18 (11.7)	10 (5.8)			
Couple	5 (3.2)	7 (4.1)	.39*	3	.84
Friends	131 (85.1)	87 (50.6)			
Parents	0 (0)	68 (39.5)			
Level of completed education					
None	41 (26.6)	43 (25.1)			
Primary Education	48 (31.2)	46 (26.7)	4.32^{ns}	3	.90
VET/HNC/High school diploma	63 (40.9)	79 (45.9)			
University Degree	2 (1.3)	4 (2.3)			
Occupation					
None	56 (36.4)	61 (35.5)			
Studying/Internships	62 (40.3)	59 (34.3)	3.67^{ns}	2	.82
Work	36 (23.3)	52 (30.2)			
Religion					
Non-practicing believer	39 (25.3)	36 (20.9)			
Practicing believer	87 (56.5)	10 (5.9)	.23**	3	.85
Agnostic	26 (16.9)	25 (14.5)			
Atheist	2 (1.3)	101 (58.7)			
Stressful situation (last year)					
Yes	91 (59.1)	40 (23.3)	1.19^{ns}	1	.65
No	63 (40.9)	132 (76.7)			
Physical problems					
Yes	70 (45.5)	81 (23.3)	3.56^{ns}	1	.73
No	84 (54.5)	91 (76.7)			
Psychological problems					
Yes	7 (4.5)	9 (5.2)	4.32^{ns}	1	.69
No	147 (95.5)	163 (94.8)			

G = general population; I = Immigrant population; Contrast = Student t/Chi-squared; * = $p < .05$; ** = $p < .01$; ns = not significant; d.f = degrees of freedom; η^2 = eta squared; VET = Vocational Education and Training;HNC = Certificate of Higher Education.

Instruments

Socio-Demographic Data We prepared an ad-hoc questionnaire to collect socio-demographic data on each participant. This included age, marital status, living arrangements, educational level, occupation, religion, stressful situations in the last year defined as those where the subject feels that they had insufficient personal resources to meet external demands (e.g., exams, interpersonal conflicts, language barriers, discrimination, etc.) (Lebano et al. 2020), and diagnosed problems of physical or mental health (see Table 1).

***Life Orientation Test-LOT-R* by Scheier et al. (1994)** We used the Spanish adaptation by Ferrando et al. (2002). The instrument is made up of 10 items, with a 5-point response scale where 0 is completely disagree and 4 is completely agree. Of the 10 items, only 6 measure aspects related to dispositional optimism. Of those 6, three are worded positively, and three negatively, producing a score for optimism or life orientation and another score for pessimism. Cronbach's alpha for the adaptation in the Spanish sample was .70 for optimism and .69 for pessimism (Ferrando et al. 2002).

***Herth Hope Index (HHI)* Herth (1992)** We used the Spanish version by Meseguer et al. (2013). The scale consists of 12 items, with a 4-point Likert scale where 1 is completely disagree, and 4 is completely agree. Items 3 and 6 are formulated inversely, meaning their scores have to be reversed. The index measures hope through 3 subdimensions which are temporality and future, positive readiness and expectancy, and interconnection, although recent studies in the Spanish clinical population show a two-dimensional structure (Sánchez-Teruel et al. 2020b). The maximum possible score is 48 and the minimum is 12. It is an instrument that can be applied to people from 16 to 40 years old. Cronbach's alpha for the sample of Spanish university degree students was .89 (Meseguer et al. 2013).

***General Self-Efficacy Scale-GSE* (Schwarzer and Jerusalem 1995)** This scale was translated and adapted into Spanish by Sanjuán et al. (2000). It measures general self-efficacy, the belief that one's actions are responsible for successful outcomes, and is made up of 10 items with a scale from 1 (not at all true) to 4 (completely true). There are no cut-off points, scores vary from 10 to 40 points and the higher the score, the greater the overall perceived self-efficacy. The internal consistency of the Spanish version was .84 (Sanjuán et al. 2000).

***The Multidimensional Scale of Perceived Social Support* (MSPSS) by Zimet et al. (1988) Was Adapted into Spanish by Landeta and Calvete (2002)** This is a 12-item instrument with 7 alternative answers (where 1 is "Very strongly disagree" and 7 is "Very strongly agree") which measures the subject's perception of their levels of social support via three subdimensions: Family, friends, and significant other. Having a higher score in each of the subscales indicates higher levels of perception of social support, and the total of the three scales produces an overall score of satisfaction with perceived social support. The original study reliability in samples of university students was .85 (Cronbach alpha), and in subsequent studies also with university students, McDonald (1999) was .93 (Osman et al. 2014).

***State Trait Anxiety Inventory (STAI)* (Spielberger et al. 1970)** The Spanish adaptation was produced by the same authors in 1982. This inventory evaluates anxiety through two forms, one to evaluate state anxiety and the other for trait anxiety. In our study we used the state form (STAI-S). This consists of 20 items with four Likert-type response options ranging from 0 (not at all) to 3 (very much), about how the person feels at that time. Another study by Fonseca et al. (2012), with a sample of 588 young people aged between 17 and 33 years old, produced an alpha of .93, and therefore high reliability.

***Beck Depression Inventory (BDI-II)* (Beck et al. 1996)** This inventory is used to measure depression from the age of 13 and over, and was translated and adapted into Spanish by Sanz et al. (2003). It consists of 21 items with four response options, ranging from 0 (absent or mild) to 3 (very intense), these response options are statements about the intensity of the depressive symptom. In terms of reliability, it demonstrates good internal consistency (.92) via Cronbach alpha.

***14-Item Resilience Scale-RS-14* (Wagnild 2009)** This scale was adapted to the Spanish population by Sánchez-Teruel and Robles-Bello (2014) (RS-14) and measures the level of resilience to adverse situations. It consists of 14 items with seven response options, ranging from "completely disagree" to "completely agree". A study conducted with a sample of 323 Spanish university students demonstrated adequate internal consistency (alpha = .79), good criterion validity (CD-RISC by Connor and Davidson 2003; r = .87; $p < .01$), and in addition, a strong inverse correlation with depression and anxiety (Sánchez-Teruel and Robles-Bello 2014).

Procedure

We contacted several NGOs and Reception Centres in four southern Spanish provinces by letter. These centres are dedicated to young people at risk of social exclusion (Sánchez-Teruel and Robles-Bello 2013), particularly young immigrants. After obtaining the relevant permits from the management of each centre and from the relevant provincial Department of Equality of the Government of Andalusia, we sought the collaboration of social workers and educators from the participating centres. Subsequently, the young people who gave their prior written consent were the ones who ultimately participated in the study.

In each of the centres, we worked in the company of a social worker and/or centre staff. This is important, as the population is not receptive to this type of contact, and it meant there was a long process of mutual adaptation in order for us to gain the trust of the people to be evaluated. The tests were applied during this process of mutual knowledge sharing and participation in their activities. The socio-demographic questionnaire asked about diagnosable physical and mental health problems that they had to point out from the list of questions they were asked. Their centre staff verified that information.

The procedure took several weeks as not all of the young people were available at the same time, but the same protocol was always followed. We drew the sample of non-immigrant young people in the general population from the university environment and from Youth Information Centres in these provinces. We used the snowball method, which Biernacki and Waldorf (1981) describe as a way of selecting people from a population. We began by selecting a social "chain" of people, from which person "zero" indicated more people from their personal network to us who met our inclusion criteria and were randomly selected. This same procedure is

carried out at each level until the chain is finished. The study was approved by the Research ethics committee at the University of Jaen (Spain).

Data Analysis

We followed a quasi-experimental design, since the subjects were not randomly assigned to the two groups, which was transversal as only one measurement was made over time. We used the IBM SPSS Statistics Base statistical package (version 22.0.0) for data analysis. The level of significance required in all tests was $p \leq .05$; $p \leq .01$; or $p \leq .001$. First, we performed descriptive analyses of the variables and following that, we compared the two groups. For these tests, we used the two groups (immigrant youth group and general population youth group) as dependent variables, and the variables self-efficacy, social support, optimism, hope, depression, anxiety and resilience as independent variables. In addition, we performed Pearson correlation tests to examine the relationship between the variables anxiety, depression and resilience. We also assessed reliability via the internal consistency procedure (Cronbach alpha coefficient and McDonald's omega). We performed multiple regression analysis to examine which protective and socio-demographic variables predicted a higher level of resilience or a greater degree of psychopathology (anxiety or depression).

Results

The descriptive statistics indicated notable differences between the two groups (immigrants and general population) in all psychosocial variables (Table 2). The effect size of the differences between the two groups stands out (.60 to .94), as does the power (between .75 and 1), especially in protective factors (optimism, self-efficacy, hope and social support). The internal consistency for all variables in these samples was estimated to be between high and very high (see alpha and omega).

The results about the relationships between the variables indicate a negative correlation between the protective variables (optimism, hope, self-efficacy and social support) and depression and anxiety outcome variables, and a positive correlation for resilience as a result (Table 3). More specifically, the strongest positive correlation with resilience was between resilience and optimism (r = .92) and resilience and self-efficacy (r = .93). However, the strongest negative correlation for depression was with hope (r = −.98) and in the anxiety variable with social support (r = −.84).

Preliminary analyses for the assessment of goodness of fit confirmed compliance with the assumptions of non-multicollinearity (<5, Variance Inflation Factor (VIF) = 1.05 and 1.98; Kleinbaum et al. 1988) and tolerance values (1–0.1) were between 1 and .98 (Lomax and Hahs-Vaughn 2012) (Table 4). Moreover, there was no autocorrelation in the protective and socio-demographic variables, so the assumption of error independence was met (Durbin-Watson = 1–3) and the results can be generalized to the general population, as the coefficient of the third model was close to two (D-W = 1.95) (Yoo et al. 2014). Some sociodemographic and protective variables explained a greater degree of resilience; model number 3 (set of independent variables) was significant and explained 81.10% of the resilience in this sample ($R^{2adj} = .811$; $F_{(1,153)} = 126.54$; $p < .01$). Therefore, the final model of the sociodemographic and psychosocial variables (model 3) indicates the protective variables that predict a greater level of resilience (Table 4). Specifically, the most predictive sociodemographic variables of resilience were religion (being a practicing believer) (β = 1.22; CI (95%) = 1.07–2.66; $p < .01$) and having a job (β = 2.13; CI (95%) = 1.01–3.23; $p < .01$). In terms of protective psychosocial variables, the data indicate that self-efficacy (β = 7.31; CI (95%) = 6.18–8.12; $p < .01$) and hope (β = 6.71; CI (95%) = 5.54–7.21; $p < .01$) to a greater extent, and social support (specifically significant others) (β = 5.18; CI (95%) = 4.31–6.89; $p < .01$) to a lesser extent, promote a higher level of resilience in young immigrants.

Discussion

The influx of immigrants into Spain is constant. There are many nationalities and cultures of people who move looking for a better life for themselves and/or their families, and immigrants with Moroccan nationality are the second most numerous group of foreigners who settle in this country. Given that, it is surprising not to have found more research looking at resilience in the Moroccan population in Spain, especially in young people. For this reason, we performed the current study to examine resilience in this group. Our study aimed to assess the level of resilience of young Moroccan immigrants in Spain, to determine whether resilience is related to these young people's mental health, and to determine whether there were differences between the young immigrant population and the young non-immigrant population in terms of resilience levels. Finally, we also sought to examine what sociodemographic and psychosocial variables were more predictive of a high level of resilience in young Moroccan immigrants.

In general, immigration is a process that causes high levels of stress (Loayza-Rivas and Fernández-Castro 2020), but knowing the factors that protect this population and make it more resilient is necessary for any early intervention in the host country, as suggested by studies such as Klokgieters et al. (2020) and Szabó et al. (2020). In the first objective we wanted to assess the level of resilience in young immigrants, expecting that they would have high resilience compared to

Table 2 Descriptive analyses for both samples according to variables

	I M(SD)	G M(SD)	*t*	*p*	η^2	Pow.	SW	L	α_i	α_g	ω_i	ω_g
LOT-R	2.4 (3.8)	1.9 (0.5)	11.22	$.78^{**}$	.92	.96	$.90^{ns}$	$.71^{ns}$	.79	.86	.76	.89
HHI	32.1 (6.2)	26.9 (5.5)	14.12	$.12^{*}$	.83	.91	$.96^{ns}$	$.38^{ns}$	.92	.87	.95	.83
GSE	38.2 (3.6)	22.6 (4.2)	19.02	$.34^{**}$	.89	.96	$.39^{ns}$	$.22^{ns}$	82	83	90	81
MSPSS	72.4(1.7)	51.4(1.2)	14.45	$.22^{**}$	.81	.92	$.82^{ns}$	$.59^{ns}$	86	.88	96	91
STAI-S	16.4(1.8)	31.1(2.3)	29.12	$.75^{**}$	.60	.75	$.63^{ns}$	$.59^{ns}$	.76	.72	.78	.81
BDI-II	22.2(3.5)	42.6(4.9)	18.22	$.47^{*}$	.87	.95	$.43^{ns}$	$.81^{ns}$	.81	.90	.86	.91
RS-14	75.1(2.8)	35.3(1.9)	34.36	$.69^{**}$	.94	1.00	$.39^{ns}$	3.6^{ns}	.83	.78	.86	.80

I = Immigrant; G = General Population; M = Mean; SD = Standard Deviation; LOT-R = Life Orientation Test; HHI = Herth Hope Index; GSE = General Self-Efficacy Scale; MSPSS = Multidimensional Scale of Perceived Social Support; STAI-S = State Trait Anxiety Inventory-State; BDI II = Beck Depression Inventory; RS-14 = 14-Item Resilience Scale; t = Student t; p = significance; η2 = Eta squared; Pow. = Power; SW = Shapiro Wilks Test; L = Levene Statistician; α = Cronbach Alpha; ω = McDonald's Omega; $^{*}p \leq .05$; $^{**}p \leq .01$; Not Significant (p = ns)

native young people from the general population. This hypothesis had already been confirmed by previous empirical studies (Longobardi et al. 2017) and review studies (Rousseau and Frounfelker 2019). Our study also supports the existing scientific literature that maintains that immigrants demonstrate a high level of resilience, in particular the Arab population. Authors such as Klokgieters et al. (2018a) and Motti-Stefanidi and García-Coll (2018) have also reported that immigrants exhibit a high level of resilience. In addition, young immigrants have low levels of anxiety and depression compared to young people in the general population. With respect to this hypothesis, our data on the relationship between depression, anxiety and resilience are also important, and add evidence in favour of the so-called "migrant youth mental health paradox", which reports better mental health in these young people compared to young non-immigrants despite previous exposure to psychosocial and economic adversity (Pottie et al. 2015). Some authors argue that resilience is a favourable outcome for mental health compared to psychopathological outcomes (symptoms of depression and anxiety), as has been observed in other immigration studies in the UK and Germany (Elgorriaga et al. 2019), and in adolescent immigrants in Greece (Motti-Stefanidi et al. 2020). Perhaps all these results may be due to the existence of protective factors, such as those detected in this study, which promote higher levels of resilience in this young immigrant subpopulation.

Age and being in work seem to modulate higher levels of resilience (Jeste et al. 2013). Moroccan immigrants over the age of 56 have demonstrated higher levels of depression and lower levels of resilience compared to the local Dutch population (Klokgieters et al. 2018b). These results have been confirmed by other studies that show that lower social participation, lower income satisfaction, poorer health status, and more depressive symptoms may explain the higher rates of loneliness in migrants compared to local Dutch people. However, the results of our study show that in the Moroccan immigrant population, being between 22 and 23 years old and having a job may be protective socio-demographic factors in this sample. This can be explained by the fact that in this group of young immigrants, health and labour resources are put into place immediately upon their arrival in the country as unaccompanied foreign minors (MENAs), which can lead to a greater adaptation to the new context in which they wish to live, and consequently help them to develop more resilience. Resilient immigrants are more capable of accumulating financial and social resources, while less resilient immigrants lose access to these resources at some point in their lives as other studies have shown (Klokgieters et al. 2020). All these results indicate that resilience in the immigrant population is modulated more by the level of resources available than by age.

Religion and spirituality could also play an important role in levels of resilience, as the results of our study show that young immigrants are relatively religious (believers and practicing). Religious practice and belief form part of a person's cultural identity, so one might consider these young people to also present another factor that could be considered protective, which is maintaining their cultural identity. Authors such as Behtoui (2019) and Ungar (2008) would support this idea. In addition, many of these young people live with friends and colleagues, in centre accommodation, or flats of centres and associations. As previous studies have noted, social support is a tremendously influential external protective variable for resilience (Logie et al. 2016; Szabó et al. 2020). Our study shows that social support, specifically that offered by significant others, is very predictive of resilient outcomes. The sharing of religious beliefs and a sense of cultural identity could enhance skills of mutual help and social support which would explain why there is sufficient adaptation which produces resilient results. All of this drives us to reflect on the importance of governmental or NGO support and associations, but even more important for producing resilient results are the people who are significant to young Moroccan immigrants.

The hope of finding a better life after immigration, whether for personal or economic security, is a very powerful emotion

Table 3 Correlations between protective and outcome variables in the samples

	Young immigrants							General population						
	LOT-R	HHI	GSE	MSPSS	STAI-S	BDI-II	RS-14	LOT-R	HHI	GSE	MSPSS	STAI-S	BDI-II	RS-14
LOT-R	1	.71	.83	.62	−.22	−.83	.91	1	.69	.82	.64	−.38	−.79	.88
HHI	.71	1	.79	.57	−.63	−.91	.74	.69	1	.73	.61	−.59	−.86	.76
GSE	.62	.79	1	.61	−.83	−.77	.89	.82	.73	1	.76	−.72	−.69	.81
MSPSS	.62	.57	.61	1	−.82	−.41	.82	.64	.61	76	1	−.88	−.72	.79
STAI-S	−.22	−.63	−.83	−.82	1	.65	−.71	−.38	−.59	−.72	−.88	1	.69	−.69
BDI-II	−.83	−.91	−.77	−.41	.65	1	−.90	−.79	−.86	−.69	−.72	.69	1	−.86
RS-14	.91	.74	.89	.82	−.71	−.90	1	.88	.76	.81	.79	−.69	−.86	1

LOT-R = Life Orientation Test; HHI = Herth Hope Index; GSE = General Self-Efficacy Scale; MSPSS = Multidimensional Scale of Perceived Social Support; STAI-S = State Trait Anxiety Inventory-State; BDI II = Beck Depression Inventory; RS-14 = 14-Item Resilience Scale

(Longobardi et al. 2017). Having hope promotes the perception of successful efficacy or self-efficacy to move toward an objective or goal, even in adversity (Cebolla-Boado et al. 2020). Our study shows that hope, in its expectancy and interconnectedness dimension (β = 6.71; C.I.95% = 5.54–7.21), and general self-efficacy (β = 7.31; C.I.95% = 6.18–8.12) were the two most predictive protective variables of resilience in young immigrants. The buffering effect of protective factors has also been seen in other young immigrants from Morocco in the Netherlands (Van-Bergen et al. 2010) and in Chinese immigrants living in Canada (Zaheer et al. 2018a). Hope, self-efficacy, and connection can increase adaptation and resilience (Jani et al. 2016; Zaheer et al. 2018b). These results could be explained by the Moroccan character, with its tendency to see solutions where there are insurmountable difficulties, acting on what can be changed and accepting what cannot. Hope as a possibility that future situations will be favourable and that there is a way out of adverse structural situations can fuel one's own expectations of effectiveness, focusing the individual on taking the necessary steps to

Table 4 Predictive models of socio-demographic variables and resilience clinics in immigrant youth

Models and variables	DW	VIF	R	R^2	R^{2adj}	SE	*F*	*t*	β	C.I. (95%) (β)	
										L.L.	U.L.
1	.09		.18	.18	.10	4.32	12.56^{ns}	.16*	.51	−1.12	1.32
Age (22–23)		1.22							.57	.11	.58
Religion (practicing believer)		1.37							.32	−1.02	3.56
2	1.12		.61	.65	.64	2.56	89.12*	1.12***	3.45	−3.12	4.65
Age (22–23)		1.11							2.65	1.38	2.79
Occupation (work)		1.05							1.53	1.02	1.59
Religion (practicing believer)		1.18							.57	.32	1.06
HHI		1.13							1.61	2.35	2.91
3	1.95		.78	.82	.81	1.23	126.54***	18.45***	8.78	7.98	9.12
Age (22–23)		1.09							1.08	1.01	2.34
Occupation (work)		1.26							1.22	1.07	2.66
Religion (practicing believer)		1.56							2.13	1.01	3.23
HHI (hope and interconnection)		1.87							6.71	5.54	7.21
GSE		1.91							7.31	6.18	8.12
MSPSS (significant other)		1.98							5.18	4.31	6.89

HHI = Herth Hope Index; GSE = General Self-Efficacy Scale; MSPSS = Multidimensional Scale of Perceived Social Support; DW = Durbin-Watson Test; VIF = Variance inflation factor-VIF (multicollinearity statistic); Nagelkerke's R^2 = coefficient of determination or variance explained by each IVs; R^{2adj} = Adjusted R-square; F = test statistic (ANOVA); β (beta) = Result of the regression eq. SE = Standard Error; t = contrast power statistician; LI = Lower limit; UL = Upper limit; *$p < .05$; **$p < .01$; ***$p < .001$; ns = not significant

achieve successful results rather than the negative emotions that torpedo the search for prosperity.

One of the most important contributions of our research is to the scant current knowledge about young Moroccan immigrants in Spain. Furthermore, the research provides key information on the resilience of these young people as a possible outcome of their immigration process. Resilience is related to well-being and mental health in this specific subpopulation, and this subpopulation is essential for economic development in some European countries. However, protective factors that enhance resilience need to be improved and early clinical intervention could contribute significantly to accelerating that process by minimising risk factors. Psychology professionals are increasingly necessary in the Associations and NGOs which deal with these unaccompanied foreign minors when they arrive in Spain.

There are certain limitations that must be taken into account when considering this study. This group of immigrants had notable difficulties in showing their feelings and talking about themselves. One possible bias would be social desirability. This must be considered with regard to the results in all of the questionnaires used, especially in the sociodemographic data (psychological problems, physical problems, stress situations, etc.). Perhaps this bias would lead Young immigrants to downplay the stressful situations they experience, and so their real experience would include more stressful situations than the young people in the general population. Another important limitation of this study is that all participants were men, since it was not possible to study young immigrant women. Future studies should address this problem. It should be borne in mind that this work did not use an experimental design (in which the subjects are assigned to groups at random), but rather quasi-experimental (the subjects were not assigned at random when the two groups were created), which allowed both groups to share homogeneous characteristics (sex, age and number of participants) and thus to control possible foreign variables. The study followed a transversal design due to the lack of time to carry out a longitudinal study, so the time factor could be an aspect to take into account since, according to several authors such as Sumer et al. (2005) and Tedeschi and Calhoun (2004), for the resilience factors to have a greater effect, they should be assessed over time and not at a specific point in time. Perhaps if the same study were repeated after a certain period of time, the results would be different for both groups.

It would also be interesting if future studies looked at the time that young immigrants have been settled in the host country. Another aspect to highlight is that almost all of the variables evaluated were predictive of resilience as a result, except optimism. This was surprising, especially because of its relationship with resilience as a result (Sánchez-Teruel and Robles-Bello 2014; Taylor et al. 2020). Optimism could be modulated by other variables such as weather in the destination country (Cebolla-Boado et al. 2020). This should be studied in future research.

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Declarations 'Not applicable'.
Data Availability No available.

Compliance with Ethical Standards

Conflicts of Interest/Competing Interests The authors declare that there are no conflicts of interest.

Ethical Approval (Include Appropriate Approvals or Waivers) This research meets ethical standards. This research study was approved by the bioethics committee attached to the first author's university, University of Jaén (code: DIC.18/6.TFM).

Consent to Participate Informed consent was obtained from each of the people participating in this study and from the centres they attend.

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Code Availability No

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