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Psychometric properties of the Entrepreneurial Intention Questionnaire (EIQ) in Dominican Republic adolescents

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KEYWORDS
Entrepreneurial intention, secondary education, psychometric properties, Theory of Planned Behaviour, gender invariance

Abstract Introduction: This work represents the first attempt to obtain evidence of the validity of an entrepreneurial intention questionnaire in the adolescent population of a Latin American or Caribbean country. The objectives are to study the factor structure, the reliability, the external validity and to test the gender invariance of the Entrepreneurial Intention Questionnaire, in its adaptation for adolescents. **Method:** The sample consisted of 708 adolescents from the Dominican Republic with a mean age of 15.49, 65.2% of whom were women and 35.8% were men. Analyses included confirmatory factor analysis, Cronbach's Alpha and Omega scores for reliability, correlations, and a gender invariance routine. Finally, latent means of females and males are compared**. Results:** The confirmatory factor analysis showed a good fit to the data and the reliability results were adequate. In addition, the correlations with the Entrepreneurial Attitudes Scale for Students were positive and statistically significant. Also, strict gender invariance was successfully verified. Although males presented a higher subjective norm, females showed higher entrepreneurial intentions. **Conclusions:** The Entrepreneurial Intention Questionnaire shows adequate psychometric properties and proves useful in conducting research on the promotion of entrepreneurship in early stages.

Propiedades psicométricas del Cuestionario de Intención Emprendedora (CIE) en adolescentes de República Dominicana

PALABRAS CLAVE
Intención emprendedora, educación secundaria, propiedades psicométricas, teoría del comportamiento planificado, invarianza por género

Resumen Introducción: Este trabajo supone el primer intento de obtener evidencias de validez de un cuestionario de intención emprendedora en adolescentes en un país de Latinoamérica y el Caribe. Tiene como objetivos reportar la estructura interna, fiabilidad, validez externa y probar la invarianza de género del Cuestionario de Intención Emprendedora en su adaptación para adolescentes. **Método:** La muestra está formada por 708 adolescentes de República Dominicana con una media edad de 15.49, un 65.2% de mujeres y un 35.8% hombres. Los análisis incluyeron análisis factorial confirmatorio, resultados de Alfa de Cronbach y Omega para la fiabilidad, correlaciones y una rutina de invarianza por género. Finalmente se compararon las

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medias latentes de hombres y mujeres**. Resultados:** El análisis factorial mostró un buen ajuste a los datos y los resultados de fiabilidad fueron adecuados. Además, las correlaciones con la Escala de Actitudes Emprendedoras para Estudiantes fueron positivas y estadísticamente significativas. También, se comprobó satisfactoriamente la invarianza estricta por género. Aunque los hombres presentaron mayor norma subjetiva, las mujeres mostraron una mayor intención emprendedora. **Conclusiones:** El Cuestionario de Intención Emprendedora muestra adecuadas propiedades psicométricas para que sea de utilidad en las investigaciones sobre la promoción del emprendimiento en etapas tempranas.

Entrepreneurship has evidenced a positive impact on national economies (Acs et al., 2017), which has led to an increase in initiatives for its promotion (Unesco, 2008). If we focus on the case of the Dominican Republic, its rate of entrepreneurial culture is above the average for Latin America and the Caribbean (Schwab, 2019). The results of the latest Global Entrepreneurship Monitor (GEM, 2022) report in the country show that 56% of the people surveyed presented entrepreneurial intention.

Entrepreneurial intention is defined as the "conscious state of mind that precedes action and directs attention towards entrepreneurial behaviours such as starting a new business and becoming an entrepreneur" (Moriano et al., 2012, p. 165). This variable has emerged as an important predictor of entrepreneurial behaviour (Figueiredo & Lyons, 2021; Gieure et al., 2020; Kautonen et al., 2015). Thus, the effectiveness of interventions to promote entrepreneurship is usually evaluated by observing the change produced in entrepreneurial intention (Bae et al., 2014; Martínez-Gregorio et al., 2021).

Throughout the literature, entrepreneurial intention has been studied from different perspectives, with the Theory of Planned Behaviour (TPB, Ajzen, 1991) having the greatest impact (Wu & Tian, 2022). According to this theory, entrepreneurial intention is promoted by three antecedents: attitude toward entrepreneurship, subjective norms, and perceived behavioural control. The attitude toward entrepreneurship refers to the personal appraisal, positive or negative, that the person makes regarding entrepreneurship (Kolvereid, 1996). The subjective norms would be the perceived social support from relevant people in the environment (Liñán & Chen, 2009). Behavioural control constitutes the perceived ease of developing an entrepreneurial behaviour. This last dimension has been the subject of some controversy and, in several studies, has been replaced by entrepreneurial self-efficacy (Moriano, 2005; van Gelderen et al., 2008). A previous meta-analysis had already shown that entrepreneurial self-efficacy would be a better predictor of entrepreneurial intention than perceived behavioural control (Armitage & Conner, 2001), both constructs being distinguishable (Ajzen, 2002a).

Given the importance of entrepreneurial intention in the context of entrepreneurship promotion, it is necessary to have valid and reliable measurement instruments to study it. If we review the literature, we can find that for the adult population the most used scale was developed by Liñán and Chen (2009), within the framework of the TPB, but it is not the only one (Asghar et al., 2019; Kautonen et al., 2015; Moriano, 2005). In contrast, when it comes to scales validated in child or adolescent populations, the list of alternatives is shortened (Brüne & Lutz, 2020). Traditionally, when entrepreneurial intention has been studied in these groups, a single indicator has been used (Patuelli et al., 2020; Shahin et al., 2021) or adaptations of existing scales validated in adults (e.g., Barba-Sánchez & Atienza-Sauquillo, 2016). Again, the most widely used scale has been the one developed by Liñán and Chen (2009) (e.g., Aggarwal & Shrivastava, 2021; Buli & Yesuf, 2015; D'Souza et al., 2018; Mothibi & Malebana, 2019; Ni & Ye, 2018; Xu et al., 2016).

The study of the psychometric properties of these adaptations has traditionally been reduced to the study of their reliability (e.g., Mothibi & Malebana, 2019; Ni & Ye, 2018;) and on occasion to their factor structure (e.g., Buli & Yesuf, 2015; Xu et al., 2016). Recently, an adaptation of the Entrepreneurial Intention Questionnaire (EIQ) has been undertaken for the Spanish adolescent population (Martínez-Gregorio & Oliver, 2022). The EIQ was originally developed by Rueda et al. (2015) for the measurement of entrepreneurial intention and its antecedents in adults. The scale is framed within the TPB. It presents the particularity of following the methodological recommendations of Ajzen (2002b) for the measurement of the dimensions of attitude and subjective norms as composite measures (Moriano et al., 2012). Additionally, it replaces the dimension of perceived behavioural control with entrepreneurial self-efficacy due to its greater explanatory capacity with regard to entrepreneurial intention (Armitage & Conner, 2001). This scale has also obtained evidence of validity in Spanish (Rueda et al., 2015), Portuguese (da Fonseca Oliveira et al., 2016) and Colombian (Laguía et al., 2017) adult populations. The adaptation for high school students introduced various modifications to the scale (Martínez-Gregorio & Oliver, 2021). Although the dimensions of attitudes toward entrepreneurship and entrepreneurial self-efficacy remain identical, the relevant people for subjective norm measurement change to family, friends, and teachers. Additionally, two items of entrepreneurial intention were modified, and a third one was deleted (for more detail, see Martínez-Gregorio & Oliver, 2021).

Regarding the context of the Dominican Republic, empirical research on entrepreneurship and its antecedents is scarce (Carlo, 2017), so no studies have been found on the psychometric properties of these instruments in the adolescent population in that country or in any other Latin American or Caribbean country. This educational stage is crucial for the promotion of entrepreneurship (Huber et al., 2014), hence instruments are required to evaluate and study the effectiveness of the interventions developed. Expressly, in the context of the Dominican Republic, where it has been

seen that it is precisely young people who currently have the fewest entrepreneurial intentions (GEM Dominican Republic, 2022).

Research on entrepreneurial intention and attitudes in pre-university students is scarce in the Dominican Republic. However, the Ministry of Education of the Dominican Republic (MINERD, 2016) acknowledges the importance of promoting transversal competences in high school students as the personal and professional development that contributes to the generation of an entrepreneurial ecosystem (MICM, 2019). The Dominican Republic participates in international surveys to assess entrepreneurial variables. However, all of them are focused on adults and/or university students (GEM Dominican Republic, 2022; Sieger et al., 2021). Consequently, it is crucial to have instruments which assess these competences in earlier educational stages with methodological rigour in order to orient future actions and evaluate their effectiveness.

Although the EIQ has been recently validated in a sample of Spanish high school students, its adequacy with respect to Dominican Republic high school students cannot be assumed. The conceptualisation of entrepreneurship may not be equivalent between the adolescents of both countries. In terms of cultural differences with implications regarding entrepreneurship, the Dominican Republic presents a higher power distance and masculinity, with a predominance of necessity entrepreneurship compared to Spain (Carlo, 2017). Contrarily, Spain shows a more individualistic tendency and uncertainty avoidance (Carlo, 2017). These differences need to be considered when approaching the measurement of entrepreneurial intention to ensure that the instruments used in other Spanish-speaking contexts are equally valid for use in the Dominican Republic.

The present work aims to report evidences of the validity and reliability of the Entrepreneurial Intention Questionnaire posited by Rueda et al. (2015), following the adaptations made by Martínez-Gregorio and Oliver (2022), in young people in the Dominican Republic. Specifically, we will study its: (a) factor structure; (b) reliability; (c) nomological validity; and (d) gender invariance.

Method

Participants

The sample consisted of a total of 708 secondary school students from different centres randomly selected from Regional 15 in Santo Domingo, a region inside the urban area of the capital of the Dominican Republic. The mean age of the participants was 15.49 years (*SD* = 1.58). 65.2% of the sample were females (*n* = 458) and there were 3 people who did not self-identify as either male or female, choosing the "other" option in the questionnaire. 88.7% (*n* = 625) had never participated in any entrepreneurship promotion programme and 61.7% showed total indecision or considerable doubts about what they wanted to continue studying.

Instruments

A set of sociodemographic questions (for example, gender and age) and the following instruments were administered:

- *Entrepreneurial Intention Questionnaire* (EIQ; Rueda et al., 2015). The version adapted for adolescents in a Spanish-speaking context by Martínez-Gregorio and Oliver (2022) was administered. This scale assesses the dimensions of attitudes toward entrepreneurship, subjective norms, entrepreneurial self-efficacy and entrepreneurial intention. The adaptation for adolescents includes two groups of six items to measure entrepreneurial attitude, the first items concerning the expected outcomes of entrepreneurship (e.g., "Creating a business (being an entrepreneur) for you would mean.... Creating jobs for other people") and the second group of items on the desirability of such outcomes (e.g., "Now you should indicate to what extent they are desirable for you in your general life.... Creating employment for other people"). These two sets of items are multiplied to obtain the final attitude toward entrepreneurship score. The same system is employed in the subjective norm dimension, where we find a first group of three items regarding the support that various agents would offer for the idea of entrepreneurship (e.g., "To what degree would they agree with you if you decided to become an entrepreneur and start your own business? My friends") and a second group of three items regarding the degree of importance that the opinion of these people has for the respondent (e.g., "Indicate to what extent you care about what they think as you decide whether or not to pursue a career as an entrepreneur? My friends"). The entrepreneurial self-efficacy dimension consists of nine items (e.g., "Define your business idea and the strategy of your company"), and the entrepreneurial intention dimension consists of five items (e.g., "Do you think that in the future you will create your own business?"). All items are evaluated on a Likert scale from 1 to 7. The psychometric properties of the instrument will be studied in detail in this paper.

- *Entrepreneurial Attitudes Scale for Students* (EAEE; Oliver & Galiana, 2015). This scale includes three items to assess each of the six entrepreneurial attitudes: proactivity (e.g., "Planning my future options is an important part of my training"), professional ethics (e.g., "I consider myself someone with high motivation at work"), empathy (e.g., "I have a strong desire to help others"), innovation (e.g., "I can imagine myself doing something innovative as a professional"), autonomy (e.g., "I want to work where new opportunities matter to all employees"), and risk-taking (e.g., "I think I am risk-taking compared to others I know"). The response method is a Likert scale from 1 to 5. The factor structure proposed by Oliver and Galiana (2015) fits the data satisfactorily ($\chi^2(120) = 645.104$ ($p < 0.001$), CFI = 0.963, RMSEA = 0.079, 90% CI [0. 073, 0.085], and SRMR = 0.035), with reliability scores (omega) of 0.73 for proactivity, 0.59 for professional ethics, 0.79 for empathy, 0.86 for innovation, 0.83 for autonomy, and 0.61 for risk taking. Consequently, the reliability results for the dimensions of professional ethics and risk taking were under the cut off criterion of 0.7.

Procedure

The survey and the procedure were approved by the Human Research Ethics Committee of the Regional 15 of Santo Domingo (Ref. 201221). The research team contacted the high schools in the Regional 15 to present the research project and request their support. Once the parents or le-

gal tutors signed the informed consent to allow the participation of the students, the protocol was administered online through the SurveyMonkey platform. The students completed the questionnaire during their school time. At the beginning of the questionnaire, the high school services of vocational counseling and psychology informed the students that their participation was anonymous, voluntary, and unpaid.

Data Analysis

To evaluate the psychometric properties of the EIQ questionnaire, the statistical programmes JASP 0.16 and Mplus 8.5 (Muthén & Muthén, 1998-2017) were used.

First, its factor structure was tested using confirmatory factor analysis (CFA) with the MLR (maximum likelihood robust) estimation method. The fit of the model to the data was assessed using the fit indices traditionally employed in the literature: (a) chi-square, (b) CFI (adequate if above 0.9), (c) RMSEA (adequate below 0.08) and (d) SRMR (adequate below 0.08) (Hu & Bentler, 1999).

Successively, some descriptive statistics of the items were obtained (mean, standard deviation, correlation with the rest of the items of the dimension and corrected item-total correlation), as well as the reliability results of the different dimensions by Cronbach's alpha and McDonalds' omega, both considered adequate when they show results above 0.7 (Hair et al., 2014).

The external validity of the questionnaire was tested by correlating its different dimensions with the entrepreneurial attitudes included in the EAEE, trying to replicate the evidence provided by Martínez-Gregorio and Oliver (2022). The entrepreneurial attitudes are included as a relevant variable to test the nomological validity of the EIQ as there is a clear agreement regarding its positive relationship

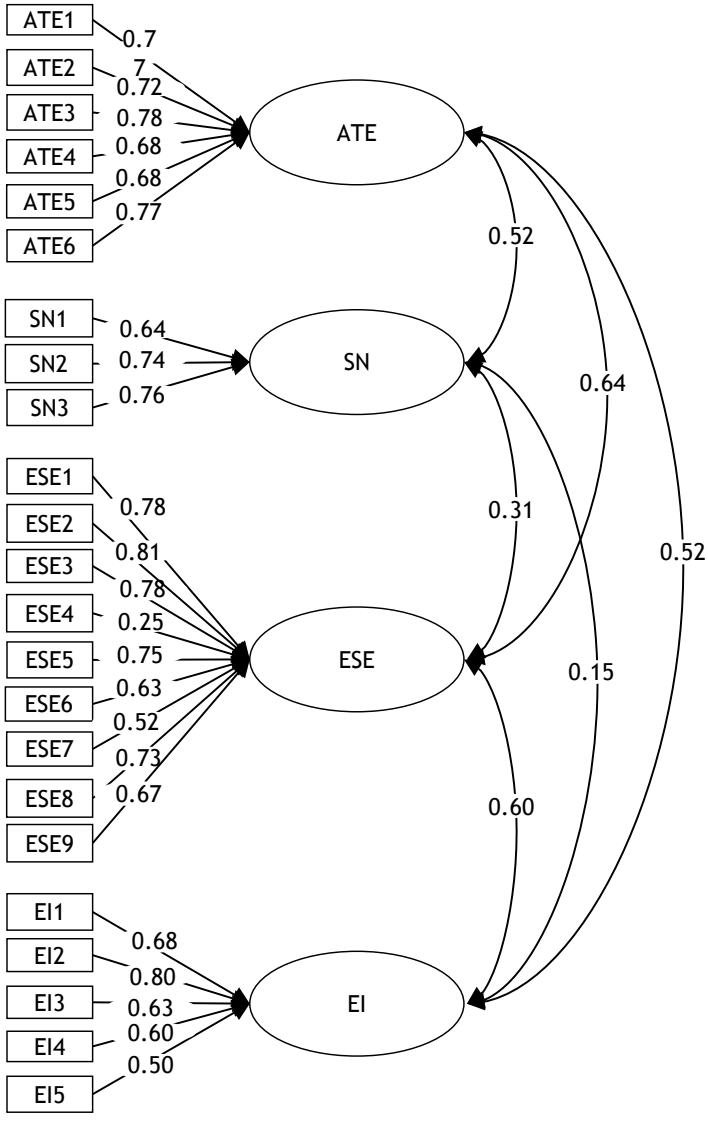

Figure 1. Factorial structure

Note: ATE = Attitudes towards entrepreneurship; SN = Subjective norm; ESE = Entrepreneurial self-efficacy; EI = Entrepreneurial intention

Table 1. Descriptive statistics, inter-item correlations, item-total correlation and reliability results

		M	*SD*	*g1*	*g2*	1	2	3	4	5	6	7	8	r_{it}	α	Ω
ATE	1	4.20	1.83	-0.04	-0.97									0.70	0.87	0.88
	2	4.25	2.04	-0.24	-1.05	0.57								0.67		
	3	4.82	1.90	-0.56	-0.61	0.60	0.59							0.72		
	4	4.80	1.87	-0.47	-0.77	0.47	0.46	0.53						0.64		
	5	3.55	1.88	0.29	-0.78	0.58	0.49	0.49	0.49					0.63		
	6	4.95	2.09	-0.67	-0.74	0.55	0.55	0.60	0.62	0.48				0.71		
SN	1	4.86	1.85	-0.58	-0.54									0.52	0.75	0.76
	2	3.54	1.83	0.23	-0.71	0.46								0.61		
	3	3.61	1.88	0.23	-0.86	0.47	0.59							0.62		
ESE	1	5.81	1.60	-1.42	1.42									0.66	0.85	0.86
	2	5.74	1.61	-1.32	1.03	0.72								0.70		
	3	5.59	1.67	-1.16	0.61	0.63	0.72							0.67		
	4	3.67	2.37	0.16	-1.54	0.14	0.16	0.20						0.26		
	5	5.88	1.55	-1.48	1.58	0.56	0.56	0.59	0.20					0.69		
	6	5.82	1.65	-1.48	1.46	0.42	0.44	0.40	0.14	0.52				0.60		
	7	5.13	1.94	-0.85	-0.37	0.32	0.35	0.30	0.25	0.36	0.42			0.52		
	8	5.65	1.65	-1.25	0.93	0.49	0.55	0.53	0.24	0.54	0.57	0.54		0.71		
	9	5.77	1.64	-1.45	1.48	0.48	0.48	0.48	0.16	0.53	0.52	0.39	0.54	0.63		
EI	1	5.19	2.45	-0.86	-1.00									0.56	0.77	0.78
	2	5.87	1.85	-1.50	0.98	0.57								0.67		
	3	6.08	1.84	-1.93	2.35	0.43	0.51							0.56		
	4	5.58	1.86	-1.20	0.40	0.36	0.47	0.39						0.52		
	5	6.17	1.82	-2.14	3.14	0.30	0.35	0.35	0.36					0.44		

Note: M = Mean; *SD* = Standard deviation; *g1*= Skewness; *g2*= Kurtosis; ATE = Attitudes toward entrepreneurship; SN = Subjective norms; ESE = Entrepreneurial self-efficacy; EI = Entrepreneurial intention

with entrepreneurial intention (e.g., Hassan et al., 2021; Martínez-Gregorio & Oliver, 2022; Singh & Mehdi, 2022).

Finally, a gender invariance routine was carried out. The estimation method continued to be MLR. The different levels of invariance are tested by several steps: (a) configural invariance: which checks that the same factor structure fits in both groups simultaneously; (b) metric invariance: factor loadings are fixed; (c) scalar invariance: factor loadings and intercepts are fixed; and (d) strict invariance: the error variance constraint is added to the above. The fit of the different models is evaluated using the same criteria defined for the CFA. Comparison between models can be assessed by the change in the chi-square, where a non-statistically significant change indicates invariance. This method has received criticism given the excessive statistical power of the chi-square (Cheung & Rensvold, 2002). For this reason, it is recommended to evaluate changes in CFI (less than 0.01), RMSEA (less than 0.015) and SRMR (less than 0.03) as evidence of invariance (Chen, 2007). Once the strict invariance is verified, latent means were compared.

Results

Factor Structure

The 4-dimensional factor structure proposed by the original authors (Rueda et al., 2015) was tested. The model shows a satisfactory fit to the data: $\chi^2(224) = 649.261$ ($p < 0.001$), CFI = 0.918, RMSEA = 0.052, 90% CI [0.047, 0.057], and SRMR = 0.047. Figure 1 shows the standardised factor loadings, as well as the correlations between factors. As can be seen, all factor loadings are statistically significant ($p < 0.001$), ranging from 0.25 to 0.81. Item ESE4 presents a factor loading under the recommended cut-off criteria (0.30-0.40; Boateng et al., 2018). However, as the total factor structure fits the data, the item was retained to preserve the comparability of future research results.

All correlations between factors are positive and statistically significant ($p < 0.01$). We can observe that, among antecedents, we found the highest correlation between entrepreneurial self-efficacy and attitude towards entrepreneurship ($p = 0.64$). Subjective norms would be the antecedent showing the lowest correlation with entrepreneurial intention ($p = 0.15$).

Descriptive statistics and reliability

Table 1 shows the descriptive statistics for the items, as well as the reliability results for the dimensions. All the items are homogeneous, with item 4 of the entrepreneurial self-efficacy dimension showing the least relationship with the rest of its dimension. This result was already observed in the factor loadings analysed in the previous subsection. The reliability results for Cronbach's alpha and McDonalds' omega are satisfactory for all dimensions (> 0.7).

External Validity

As a test of external validity, the correlations of the dimensions of the EIQ with the entrepreneurial attitudes included in the EAEE were tested. The results obtained are included on Table 2. All correlations are positive and statistically significant ($p < 0.01$). The highest correlation is observed between attitudes toward entrepreneurship and autonomy ($r = 0.49$), while the smallest correlation is between risk-taking and entrepreneurial intention ($r = 0.15$).

Gender invariance

The fit indices of the set of models tested in the invariance routine are shown on Table 3. First, the model was tested in each group: men and women. Self-identified "others" were not included in the analysis as the sample size was too small to be considered as a third independent group. Once the satisfactory fit was verified for each of the groups, the configural model that would serve as a baseline was established. Compared to this, the metric model does not produce a considerable worsening of the fit if we consider the differences in CFI, RMSEA and SRMR, although the chi-square difference is statistically significant. Therefore, metric invariance is supported. When constraining the intercepts (scalar invariance), the impact on the fit indices is small, so scalar invariance is proven. Finally, when testing strict invariance, setting the error variance equal, it is found that the differences in the fit indices are again small and, on this occasion, the CFI and RMSEA even improve. Consequently, the strict invariance of the scale by gender is supported.

Table 2. Correlations between EIQ dimensions and entrepreneurial attitudes

	Proactivity	Ethics	Empathy	Innovation	Autonomy	Risk-taking
ATE	0.41	0.41	0.39	0.48	0.49	0.37
SN	0.27	0.26	0.27	0.23	0.24	0.20
ESE	0.30	0.30	0.28	0.36	0.39	0.28
EI	0.20	0.21	0.20	0.36	0.26	0.15

Note: ATE = Attitudes toward entrepreneurship; SN = Subjective norms; ESE = Entrepreneurial self-efficacy; EI = Entrepreneurial intention

Table 3. Goodness-of-fit indices for each group (men and women) and set of nested models to test gender invariance

Model	χ^2	*df*	*p*	$\Delta\chi^2$	Δgl	*p*	CFI	ΔCFI	SRMR	ΔSRMR	RMSEA	ΔRMSEA	90% CI
Men	395.170	224	< 0.001	--	--	--	0.914	--	0.053	--	0.057	--	0.047-0.066
Women	496.499	224	< 0.001	--	--	--	0.912	--	0.052	--	0.052	--	0.046-0.058
Configural	893.500	448	< 0.001	--	--	--	0.913	--	0.052	--	0.054	--	0.049-0.059
Metric	916.334	467	< 0.001	22.99	19	0.24	0.912	-0.001	0.057	0.005	0.053	-0.001	0.048-0.058
Scalar	959.529	490	< 0.001	42.88	23	< 0.01	0.908	-0.004	0.061	0.004	0.053	0.000	0.048-0.058
Strict	963.455	513	< 0.001	22.36	23	0.50	0.912	0.004	0.065	0.004	0.051	-0.002	0.046-0.055

Note: df = degrees of freedom; D = differences

Latent mean differences

To compare latent means across gender, the strict invariant model is tested with the females' latent means fixed to zero and the males' means freely estimated. The model adequately fits the data: $\chi^2(509) = 946.066$ ($p < 0.001$), CFI = 0.914, RMSEA = 0.050, 90% CI [0.045, 0.055], and SRMR = 0.062. Latent mean differences exist in subjective norms, benefiting males (0.230, $p = 0.012$, $d = 0.23$) and entrepreneurial intention, favouring females in this case (-0.281 $p < 0.001$, $d = 0.28$). There are no statistically significant latent mean differences in attitudes (-0.089, $p = 0.275$, $d = 0.09$) and entrepreneurial self-efficacy (-0.142, $p = 0.080$, $d = 0.14$).

Discussion

Although international organisations defend the need to promote educational actions that promote entrepreneurship (Unesco, 2008), this continues to be a pending issue in the Dominican Republic. According to the MICM (2019), in the national report of the GEM, the different educational levels in the Dominican Republic do not contribute to improving entrepreneurial skills. In order to study this reality in a rigourous manner and evaluate actions to improve it, it is necessary to have valid and reliable instruments to assess the key antecedents of entrepreneurial behaviour. The present work is the first attempt to obtain evidence of validity and reliability of a scale to measure entrepreneurial intention in the Dominican Republic and its immediate context for adolescents. This is an understudied and crucial educational stage in the development of entrepreneurial attitudes and subsequent entrepreneurial behaviour (Elert et al., 2015; Huber et al., 2014).

The scale studied has been the Entrepreneurial Intention Questionnaire posited by Rueda et al. (2015). More specifically, the psychometric properties of the adaptation carried out by Martínez-Gregorio and Oliver (2022) for secondary education students have been analysed. First, its factorial structure has been tested by a CFA. Next, evidence of its adequate reliability has been obtained and the correlation of its dimensions with the entrepreneurial attitudes included in the EAEE (Oliver & Galiana, 2015) has been studied to obtain evidence of external validity. Finally, its invariance by gender has been tested.

In relation to its factorial structure, the CFA has shown a satisfactory fit of the four-factor structure proposed by the original authors (Rueda et al., 2015). These results are in line with those obtained in previous validation in the Spanish adolescent population (Martínez-Gregorio & Oliver, 2022), as well as in university samples (da Fonseca Oliveira et al., 2016; Laguía et al., 2017; Rueda et al., 2015). Despite the overall good fit, it is observed that item 4 ("Working under continuous stress, pressure and conflict") of the entrepreneurial self-efficacy dimension shows a saturation below 0.3 in its factor. Although the result was not lower than 0.3, Martinez-Gregorio and Oliver (2022) also reported that this was the scale indicator with the lowest factor saturation in their sample.

Regarding reliability, the results of Cronbach's Alpha and Omega were adequate for all dimensions. Once the factorial structure and reliability were tested, the correlations of the dimensions with the entrepreneurial attitudes collected in the EAEE (Oliver & Galiana, 2015) were studied. All correlations were positive and statistically significant. The highest correlations can be observed between the different entrepreneurial attitudes and the global measure of attitude toward entrepreneurship included in the EIQ.

Despite being outside the scope of the present research, the reliability results for the EAEE (Oliver & Galiana, 2015) were problematic for two dimensions. The dimensions of risk taking and professional ethics presented reliability results under the recommended cut-off value (0.70). Although the problems with the dimension of risk taking were also present in the original psychometric study with Spanish high school students (Oliver & Galiana, 2015), the low result in professional ethics is surprising. Future research should delve into the invariance of the conceptualisation of professional ethics in both cultures, Spanish and Dominican.

To conclude, the gender invariance of the scale was demonstrated. Testing the invariance of the scale is a prerequisite in order to be able to develop comparisons of means between men and women. These studies are of interest given that the international literature has sometimes

shown the existence of gender differences in entrepreneurial intention (e.g., Haus et al., 2013; Nowiński et al., 2019) and entrepreneurial self-efficacy (Chowdhury et al., 2019; Dempsey & Jennings, 2014), with women's levels being lower. In the context of the Dominican Republic, according to the results of the GEM Dominican Republic (2022), it is the men who present a higher average total entrepreneurial activity in the initial stage. Surprisingly, although the males present a higher entrepreneurial activity, in our sample the females presented a higher entrepreneurial intention. This apparent contradiction may be related to differences in subjective norms. Those females with high entrepreneurial intentions will not proceed with an entrepreneurial career unless they feel social and environmental support for developing them successfully.

This research has some limitations to consider. The study was carried out with students from the Dominican Republic, so the generalisation of the results to other countries in Latin America and the Caribbean should be studied. In addition, this is a cross-sectional study, so it does not allow studying the relationship between the antecedents of entrepreneurial intention and entrepreneurial intention at different points in time in order to study its predictive capacity.

Conclusion

By way of conclusion, it can be stated that this work covers the needs raised in previous literature (Brüne & Lutz, 2020; Carlo, 2017) by offering a psychometrically adequate measurement instrument that boosts research on promoting entrepreneurial intention in secondary education in a rigourous manner. The implications of our work are twofold: theoretical and practical. Our results indicate that the conceptualisation of entrepreneurship is comparable between males and females and gender differences are a consequence of real differences in the constructs. Additionally, the practical implications could be twofold: (1) Future research in adolescent Dominican Republic contexts having an adequate scale for entrepreneurial intention measurement and (2) Institutional effort should focus on removing the gap that prevents girls from developing entrepreneurial projects. If they have more entrepreneurial intention than boys at pre-university levels, what is stopping them? This work opens the door to possible gender studies in the context of secondary education in the Dominican Republic, exploring what causes these differences beyond entrepreneurial intention and when they appear.

Conflict of interest

The authors declare that there is no conflict of interest.

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