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Analyzing the Psychometric Properties of the Revised Early University Leaving Intention Questionnaire

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Abstract

The current high rate of academic dropout in the university system necessitates early identification of first-year students' intentions to drop out to detect potential risk cases. This paper reports a linguistic adaptation of the revised version of the Early University Dropout Intentions Questionnaire (EUDIQ-R) and an analysis of its psychometric properties in an Argentine population. Participants were 747 first-year university students from Argentina. The instrument was adapted to the local idiom. The internal three-factor structure of the EUDIQ-R was then verified through confirmatory factor analysis. The internal consistency was adequate. Factorial invariance analysis verified the metric equivalence of the instrument's structure between samples of students from Argentina and Spain. Finally, evidence of concurrent validity was obtained using an instrument that assesses academic engagement. This study provides adequate evidence of the validity and reliability of the EUDIQ-R, which can be used to identify early dropout intentions in first-year university students.

Keywords

academic dropout, EUDIQ-R, psychometric properties, university students, first year

The transition from secondary education to university often causes students a series of adaptive difficulties with various consequences, such as not completing scheduled courses on time or dropping out. Various factors—academic, institutional, sociocultural,

and psychological—can affect students during this transition period, which occurs during the first year of university studies (Gosai et al., 2023).

Students' problems adapting to university are reflected in various statistical indicators. According to a report by the Latin American Council of Social Sciences (Consejo Latinoamericano de Ciencias Sociales, 2023), higher education students in Latin America and the Caribbean take 36% more time to graduate than expected, and the highest dropout rates occur between the first and second years of university. Official statistics specifically in Argentina report that 42.4% of first-year students drop out of university. Furthermore, 24.3% of students change majors during their first or second years at university. There is also a delay in completing courses, with only 23.3% of students graduating within the theoretically expected time (Ministerio de Capital Humano, 2023).

These problems of delays and academic dropout have prompted various studies to examine what happens to students during their first year of university. Students entering university face new challenges, such as studying a larger amount of material, making new friends, coping with the pressure to achieve success, university overcrowding, and in some cases, having to manage their finances after moving to a new city in order to pursue their studies (Mulaudzi, 2023). All of these changes demand social, emotional, and academic adjustment from the student. If that adjustment does not happen, it could lead to anxiety and negative emotions, increasing the intention to drop out (Garcés-Delgado et al., 2024; Gosai et al., 2023; Young et al., 2020).

In addition to this, there are significant differences in learning strategies between secondary school and university. Using strategies that do not fit the university level can lead students to mismanage their time and efforts, sometimes leading to poor performance and frustration (Popescu & Motoi, 2024). Furthermore, self-regulation of motivation and proper time management have been shown to positively predict academic performance in first-year students (Fokkens-Bruinsma et al., 2020). Along similar lines, different studies have shown that incoming students with high academic self-efficacy and greater capacity for self-regulating their learning strategies perform better (Lin et al., 2022). Similarly, students demonstrating greater engagement with academic activities tend to perform better and exhibit lower intentions to drop out (Álvarez-Pérez et al., 2021; Passeggia et al., 2023).

In summary, first-year university students face a set of socio-emotional, academic, and coping challenges, meaning that they need to use specific cognitive-behavioral, social, and emotional skills to enable them to achieve academic success and avoid dropping out (Li & Lee, 2024).

Considering the difficulties students may face adapting to university during their first year, and the high dropout rates reported in official statistics, it is important to promptly identify students who may have some intention to drop out. The term *university dropout* refers to students who fail to pass at least two courses per year (Ministerio de Educación,

1995). It is a complex process that includes thoughts of dropping out, deliberation, information search, and the final decision (Bäulke et al., 2022).

Although the issue of dropout has been investigated in Argentina, it has been done via case studies and bibliographic and statistical reviews (e.g., Celada, 2020; Brun et al., 2025), and currently, no locally adapted instruments are recorded in the literature. This is why there needs to be a tool for validly and reliably assessing dropout intentions, allowing for rapid, early identification of students who are at risk of dropping out. The Early University Dropout Intentions Questionnaire (EUDIQ-R; Bernardo et al., 2022) is one such instrument, which is described in detail below.

Early University Dropout Intentions Questionnaire (EUDIQ-R; Bernardo et al., 2022)

Considering academic dropout as a multifactorial phenomenon, Bernardo et al. (2019) developed the initial version of the Early University Dropout Intentions Questionnaire (EUDIQ). It operationalized eight factors using 66 items—Reasons for choosing a course, Prior knowledge, Economic situation, Current situation, Interest in the course, Social and academic integration, Institutional variables, and Self-regulation of learning—developed from different theoretical models (Aparicio-Chueca et al., 2019; Cardak & Vecci, 2016; Kadar et al., 2018; Kusumaningrum et al., 2017; Lou & Jaeggi, 2020; Respondek et al., 2017; Sáez et al., 2018; Smith et al., 2020). The 66 items from this first version of the EUDIQ were analyzed in relation to students' intentions to drop out, retaining only those that were shown to be strongly associated. This led to the creation of a shortened version of the instrument, called the Early University Dropout Intentions Questionnaire–R (EUDIQ-R; Bernardo et al., 2022), consisting of 13 items grouped into three dimensions. These dimensions were: 1) Satisfaction, with three items on the Current situation and one corresponding to Interests; 2) Social Adaptation, with three items on Social and academic integration; and 3) Self-regulation, which had six items from that same dimension.

The satisfaction dimension assesses students' satisfaction with their program of study and whether it meets their expectations. Students scoring highly in this dimension enjoy learning academic content that they find useful for their future careers.

The Social Adaptation dimension assesses students' perceptions of their own social integration. Social Adaptation, as assessed through the EUDIQ-R, only considers students' relationships with their peers, excluding other important educational agents such as teachers.

The Self-regulation dimension refers to the ability that students demonstrate to self-regulate their learning in terms of strategies for planning, executing, and evaluating their own learning processes.

The instrument includes two additional items for qualitatively assessing students' intentions to drop out. One asks about the intention to leave their current course of study

for a different one. The other asks about the intention to leave university altogether. Both items are answered on a dichotomous scale (Yes/No).

Several studies have emphasized the usefulness of these three dimensions when predicting academic dropout (Diniz et al., 2018; Galve-González et al., 2024b; Hardre et al., 2019; Lingán-Huamán et al., 2025; Morelli et al., 2022; Sáez et al., 2018; van Rooij et al., 2018).

The three-dimensional structure of the EUDIQ-R (Bernardo et al., 2022) was tested using confirmatory factor analysis, which verified a good fit of the empirical data to the model (CFI = .986; NFI = .980; TLI = .980; RMSEA = .036 [.030, .041]; SRMR = 0.0324). Furthermore, the estimated internal consistency for each dimension yielded good values of omega (> .80) in all cases.

Although the EUDIQ-R has been used in various research projects (Bernardo Gutierrez et al., 2025; Blanco-González et al., 2024; Galve-González et al., 2024a, 2024b; Martínez-Rodríguez et al., 2024), because it was only recently designed and had its psychometric properties verified, there are still no studies providing broader evidence related to the validity and reliability of its measurements. For this reason—and given the importance of having a rapid tool for prompt assessment and identification of students that allows for the rapid assessment and identification of students at potential risk of dropping out—this study aims to adapt the EUDIQ-R to the local context.

The following objectives were set to adapt the EUDIC-R: 1) To linguistically adapt the instrument to the local idiom, 2) To study the instrument's internal structure, 3) To examine the dimensions' internal consistency, 4) To test the tool's metric equivalence in students from Argentina and Spain, and 5) To analyze evidence of criterion validity concurrent with academic engagement.

Method

Participants

Linguistic adaptation: Two professionals from the educational field collaborated.

Analysis of the structure and study of concurrent criterion validity: Using convenience sampling, the instruments were administered to 747 university students (54.8% women, 43.8% men, 1.5% other), aged between 17 and 66 years old (M = 20.73, SD = 5.07), who were in their first year of various degree courses in Argentina.

Factorial invariance analysis: Metric equivalence was assessed using the Argentine sample described above and a similarly-sized subsample of Spanish students selected from the sample used in the psychometric study in Spain. This sample consisted of 610 students (78.2% women and 21.8% men), aged between 17 and 48 years old (M = 20.34, SD = 4.17), who were in their first year of university studying various degree courses.

Instruments

Early University Dropout Intentions Questionnaire (EUDIQ-R; Bernardo et al., 2022): The Spanish version of the instrument was applied, which consists of 13 statements grouped into three dimensions: Satisfaction (ω = .81), Social Adaptation (ω = .87), and Self-regulation (ω = .80). University students respond to each item indicating how much they agree with the statements on a Likert scale ranging from 1 (Complete disagreement) to 5 (Complete agreement). The instrument has adequate evidence of construct validity and internal consistency of its dimensions.

University Student Engagement Inventory (USEI; Maroco et al., 2016). The locally adapted version of the instrument (Freiberg-Hoffmann et al., 2022) was used. It consists of 15 items grouped into three dimensions of academic engagement: Behavioral (αordinal = .84), Emotional (αordinal = .87), and Cognitive (αordinal = .85). In addition, the instrument allows calculation of an overall score (αordinal = .91). Responses to the items are given using a five-option Likert scale ranging from 1 (Never) to 5 (Always). The local version has adequate evidence of content, construct, and concurrent validity, and internal consistency of its dimensions.

Additionally, a survey was administered to collect sociodemographic and academic information.

Procedures

Data was collected in classrooms during regular class hours. Informed consent was obtained from the students, who were told about the purpose of the study and that their participation was voluntary and anonymous. The study was approved by the Ethics Committee of the University of Buenos Aires (CEI24012).

Linguistic adaptation: The wording of the items was reviewed and revised to adapt it to the local idiom. This was done via a collaborative process involving two education professionals (Ali, 2016).

Internal structure analysis: The fit of the three-factor model—proposed by the authors of the instrument—to the empirical data was tested using confirmatory factor analysis applying the unweighted least squares mean and variance adjusted (ULSMV) estimation method, suggested for the analysis of categorical variables (Li, 2016). Fit was assessed using the comparative fit index (CFI) and the Tucker Lewis fit index (TLI), which would be considered acceptable if they are greater than .90. It also considered the root mean square error of approximation (RMSEA) index, which is considered acceptable when it is below .08 (Schumacker & Lomax, 2016).

Factorial invariance analysis: To analyze the metric equivalence of the model, the structure of the instrument was compared between samples of students from Argentina and Spain. The ULSMV estimation method was used, and various nested models with different levels of restriction were tested. A configural model (without restrictions), a

metric model (constraining factor loadings), a scalar model (constraining factor loadings and intercepts), a strict model (constraining factor loadings, intercepts, and error variances), were proposed. The invariance was interpreted based on the CFI and RMSEA indices, with invariance indicated by differences between models of less than .01 and .015, respectively (Beribisky & Hancock, 2023). In addition, Chi-square statistics were calculated to analyze the differences between models using the appropriate scaled difference test (DIFFTEST). Latent means and significant differences between countries were also estimated.

Analysis of evidence of concurrent validity: The EUDIQ-R dimensions were correlated with those of the USEI. Since the assumption of normality was not met for all dimensions, Spearman's *rho* coefficient was applied.

Data Analysis

The data were analyzed using Rstudio 12.1 software.

Results

Initially, two experts reviewed the language of the items to make any modifications needed to adapt it to the local idiom. Minor modifications were made to five items (3, 5, 8, 9, 10).

The linguistically adapted version was then subjected to a pilot test with 10 university students, who did not report any difficulty understanding the items, nor did they make any recommendations for improving item intelligibility.

The instrument's internal structure was then analyzed using confirmatory factor analysis with a sample of Argentine and Spanish university students. The three-factor model proposed by the questionnaire's authors was tested, verifying a good fit to the empirical data to Argentine (CFI = .968, TLI = .959, RMSEA = .050 [.041-.059]) and Spanish students (CFI = .932, TLI = .914, RMSEA = .064 [.055-.074]). All the estimated parameters were statistically significant (Figures 1 and 2).

Figure 1

EUDIQ-R 3-Factor Model Argentine Students

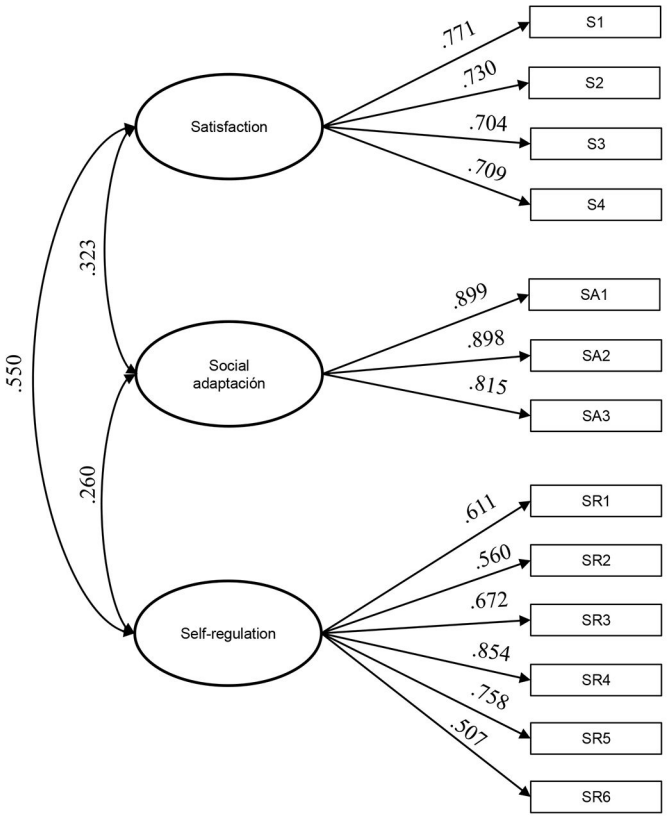
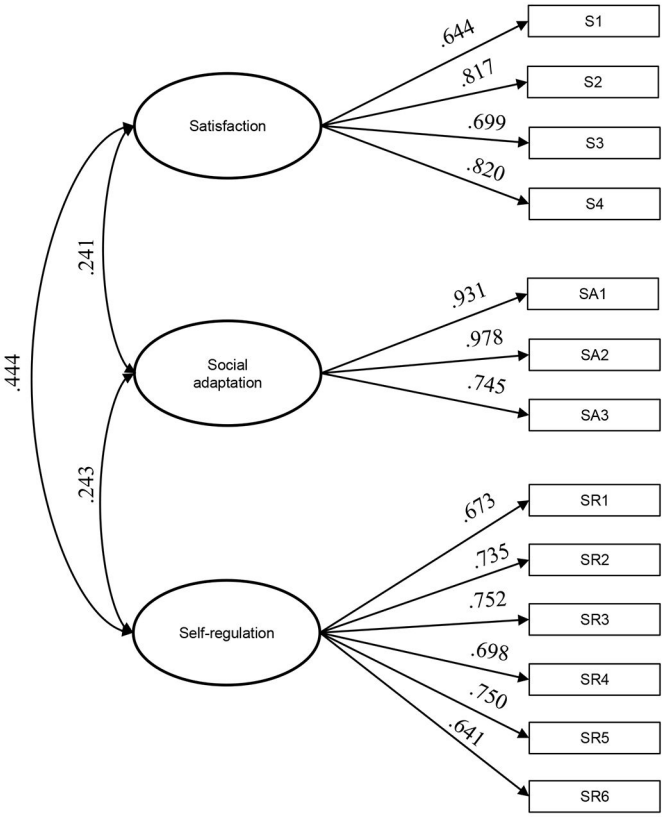


Figure 2

EUDIQ-R 3-Factor Model Spanish Students



Internal consistency was then examined for each dimension of the tool. Cronbach's alpha, ordinal alpha, and Omega coefficients were calculated, yielding values ranging from adequate to optimal (Table 1).

Table 1

Internal Consistency Indices

Country	Coefficient	Satisfaction	Social adaptation	Self-regulation
Argentina	Alpha	.764	.871	.789
	Ordinal Alpha	.818	.902	.822
	Omega	.769	.874	.797

Country	Coefficient	Satisfaction	Social adaptation	Self-regulation
Spain	Alpha	.767	.855	.814
	Ordinal Alpha	.831	.912	.857
	Omega	.768	.867	.815

Next, the factorial invariance of the model was examined. This involved comparing the structure of the instrument between samples of students from Argentina and Spain. Configural, metric, scalar, and strict models were tested. Metric equivalence of the instrument structure was verified between the two samples in all models (Table 2).

Table 2

Factorial Invariance by Country

	χ^2	*df*	CFI	Δ CFI	RMSEA [CI 90%]	ΔRMSEA
Configural	445.528	124	.950		.062 [.056-.068]	
Metric	497.374	134	.943	.007	.064 [.058-.070]	-.002
Scalar	541.301	170	.943	0	.057 [.051-.062]	.007
Strict	493.627	183	.943	0	.057 [.051-.062]	0

Given that strict invariance was verified, the latent means were estimated. To do this, the latent mean was fixed to zero for the group of Argentine students. The results indicated significant differences in the latent variables Social Adaptation and Self-regulation, with the Spanish students scoring higher in both (Table 3).

Table 3

Latent Means Differences Analyzed in EUDIQ-R Between Country (Argentine-Spain)

	Estimate	S.E.	*z*	*p*	[CI 90%]
Satisfaction	.018	.070	.263	.793	-.118 - .155
Social Adaptation	1.616	.310	5.214	< .001	1.008 - 2.223
Self-regulation	.181	.048	3.777	< .001	.087 - .274

Once the instrument's internal structure was analyzed, evidence for external validity was examined. This involved analyzing the concurrent validity between the EUDIQ-R dimensions and the USEI academic engagement dimensions.

As a result, statistically significant correlations ($p < .001$) were verified in all cases (Table 4).

Table 4

Evidence of Concurrent Validity of EUDIQ-R With the USEI Dimensions

	Academic engagement			
	Behavioral	**Emotional**	**Cognitive**	**General**
Satisfaction	.328	.622	.422	.601
Social adaptation	.354	.296	.154	.321
Self-regulation	.400	.389	.447	.534

Discussion

Current dropout rates in the university system are a problem for students who drop out and for the states that invest in their education. This is why it is essential to identify students who intend to drop out in order to anticipate the problem and offer them the support they need to ensure academic retention. This study adapted the Early University Dropout Intentions Questionnaire (EUDIQ-R; Bernardo et al., 2022) to be applied to students in Argentina.

The instrument was first adapted to the local idiom of Argentine university students, resulting in minor modifications to five items. Before data collection, the modified version was subjected to a pilot test, verifying that the students properly understood the items.

Confirmatory factor analysis was used to examine the internal structure of the instrument, testing the three-factor model proposed by the tool's authors. This verified adequate fit of the empirical data to the proposed model. Analyzing the estimated parameters, in the Satisfaction and Social Adaptation dimensions the values were optimal, above .70 (R^2 > .50) for all items, indicating that more than 50% of item variability was explaining the latent variable they report (Kline, 2005). In the the Self-Regulation dimension, only two of the six items gave values above .70, while the remainder were lower, and although not optimal, can be considered acceptable (> .50). The lower value of these parameters could be explained by the heterogeneity of item content in this dimension, since it includes items that assess self-regulatory strategies from different phases, such as planning, execution, and evaluation of learning. Given this argument, the parameter values can be considered within expectations. Values for covariances between the latent variables were below .85, which would indicate a lack of collinearity between the dimensions. This suggests that each dimension performs an independent evaluation and does not provide redundant information.

Analyzing internal consistency, several indices were calculated, producing adequate values for all dimensions (greater than .70). This indicates a good level of homogeneity between the items (Hussey et al., 2025).

Factorial invariance analysis involved testing the three-factor structure in samples of students from Argentina and Spain. While the chi-square indices indicated differences between models, these differences were not significant according to CFI and RMSEA indices. In these cases, the CFI and RMSEA indices are preferred for interpretation, since the chi-squared index tends to yield significant results when large samples are analyzed (Meade et al., 2008; Xiong et al., 2025). Considering this, it is possible to state that adequate metric equivalence of the instrument was verified between the two groups of students. This supports the hypothesis of the results being generalizable, as it indicates that the structure was equally replicated in both samples with no bias affecting the results of measuring the phenomenon in both countries (Davidov et al., 2018).

Next, latent means were estimated for the three dimensions of the EUDIC-R, and the differences between Argentine and Spanish students were analyzed. Significant differences were found only for the Social Adaptation and Self-regulation dimensions. According to the estimates and their confidence intervals, the Spanish students had higher scores in both dimensions. This suggests that Spanish students have better self-perception of their own social integration, understood as a student's relationship with their peers, and greater capacity to self-regulate their learning in terms of using strategies to plan, implement, and evaluate their own learning processes.

Finally, evidence of concurrent validity was analyzed by correlating the EUDIQ-R dimensions with the academic engagement dimensions in the USEI. The strongest correlations were in the Satisfaction dimension, which is logical since the content of these items is associated with cognitive, emotional, and behavioral characteristics of academic engagement. In contrast, although the Social Adaptation dimension exhibited significant associations, the values were not optimal since academic engagement is assessed in relation to each student's approach to academic activities, where social aspects are not important. The Self-regulation dimension exhibited intermediate values for correlation, which was expected. The correlations were similar to those reported in other studies (Galve-González et al., 2024a). It is worth noting that, although statistically significant correlations were obtained in all cases, none were greater than .80. This is acceptable considering the idea that two identical constructs were not correlated, but rather instruments that evaluate theoretically associated concepts.

Turning to the limitations of the study, evidence of concurrent validity was not examined using scores from another instrument measuring dropout intention, as such a tool is not available in Argentina. This is why the study used an instrument that assesses a theoretically related construct. Furthermore, two items explicitly asking students whether they intended to drop out, which could be used as an external criterion, were not included. The sample was made up of students with a wide variety of majors. This prevented factorial invariance analysis to test the instrument's structure in subsamples of students. These limitations will be considered in future studies to provide further evidence on the instrument's psychometric quality.

In conclusion, this study yielded a tool with adequate evidence of validity and reliability that allows assessment of dropout intentions in first-year university students. The EUDIQ-R assesses this through three dimensions—Social Adaptation, Satisfaction, and Self-regulation—that have been shown to have direct and/or indirect effects on indicators of dropout intentions (Galve-González et al., 2024b; Martínez-Rodríguez et al., 2024). Furthermore, it is a brief instrument that allows for rapid administration and minimizes the occurrence of errors attributable to a respondent's fatigue, boredom, or disinterest (Robinson, 2017).

Because the phenomenon of the intention to drop out is multicausal, as noted previously, users should complement the information provided by the EUDIQ-R with data related to other sociodemographic, economic, institutional and cultural variables (Garcés-Delgado et al., 2024; Gosai et al., 2023).

Finally, we hope to continue the analysis of the EUDIQ-R, both to add more evidence to support the validity and reliability of its measurements and to relate its dimensions to other variables that may allow us to identify potential constructs that could predict students' intention to drop out.

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