The engagement in university students: preliminary psychometric analyses of the Spanish version of the engagement vs. disaffection with learning scale

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Abstract

The level of active participation of students in a learning activity is referred to as student engagement. Research indicates that engagement and disaffection are two complementary factors with two domains: behavioral and emotional. Unfortunately, there are no multidimensional instruments available in Spanish. Therefore, a study was conducted to analyze the psychometric properties of the Spanish version of Engagement vs. Disaffection with Learning (EDL). A sample of 194 participants was analyzed in terms of distribution of item responses, factor structure, internal consistency, and the correlation with other measures of engagement and personality traits. Results confirmed the scale's reliability in terms of internal consistency. However, some problematic items were identified. The Spanish version of the EDL appears to be a promising scale for assessing engagement among Spanish-speaking students, with the need to review some of its previous items. The EDL could be a useful tool for educators and researchers in the field of education.

Keywords: *Disaffection; education; engagement; motivation; university.*

1. Introduction

Initially, *engagement* is a phenomenon linked to the labour world with its construct of *burnout* (Maslach & Leiter, 1997). Although, due to its implications, it quickly spread to the education sector, especially in higher education institutions. The concept definition of student engagement is the degree of active student participation in a learning activity (Skinner et al., 2008).

It is often conceived as a multidimensional phenomenon involving academic and personal factors related to the student, as well as factors related to the context in which the learning process takes place (e.g., campus facilities, social environment, services, etc.) (Sinclair et al., 2003), constituting itself as a subjective construct (Moreira et al., 2020). Likewise, emotional support from teachers (Mazer, 2017) and greater communicative clarity (Titswort et al., 2010) have been linked to higher levels of student *engagement*. Traditionally, three are three identified domains in the *engagement* phenomenon: affective, cognitive and behavioral, which are all highly correlated (Bond & Bedenlier, 2019; Eccles, 2016). However, other authors consider it more appropriate to differentiate the negative aspects (i.e., disaffection) from the positive ones (i.e., *engagement*), arguing that it is more disaffection than a lack of *engagement* (Skinner et al. 2008, 2009).

Research in this area has shown that student *engagement* predicts learning, motivation, performance, and academic progress (Lin et al., 2019; Wang, 2017; Zamarripa et al., 2022). Students who exhibit high levels of engagement are more prone to preparing for classes by engaging in activities such as reading, studying extensively for exams, or completing homework assignments. They could think about the applicability of course content to their lives, how they can implement practical knowledge and skills, and how the subject can benefit their future careers (Mazer, 2017).

To promote *engagement* in our students. Currently, the international scientific literature offers numerous instruments to measure *engagement* or components of it. However, it can be challenging to find instruments that effectively capture cognitive, emotional, and behavioral factors all at once (Moreira et al. 2020). Additionally, many of these instruments have not been validated for use in the Spanish language. Therefore, the objective of this research is: 1) to validate the *Engagement vs. Disaffection with Learning* scale in a sample of Spanish university students and 2) to investigate the factors and characteristics that are related to high levels of *engagement.*

2. Method

2.1. Participants

The inclusion criteria were (1) being a university student at the time of responding the questionnaire, and (2) having a proficient level of Spanish. The study sample comprised 194 students, with 154 women (79.4%) and 38 men (19.6%), and 2 non-binary individuals (1.0%). The ages of the participants ranged from 17 to 48 years, with a mean of 20.6 ($SD =$ 3.83). The participants' educational background was diverse, with 95.4% pursuing higher education degrees or certificates, 3.6% enrolled in master's or postgraduate programs, and 1.0% in doctorate programs. Most of the participants (76.1%) reported living with their family of origin, while 9.1% lived alone, and 7.6% cohabited with their own partner or family.

2.2. Measures

The EDL is a 27-item instrument that assesses students' engagement versus disaffection in the classroom by measuring behavioral and emotional participation or rejection in classroom learning activities (Skinner et al., 1990, 1998; Wellborn, 1991). All items are scored on a four-point Likert scale, which ranges from *1 = does not describe me at all* to *4 = describes me totally*. This scale aims to measure four domains of *engagement*: Behavioral *engagement* (5 items), Behavioral *disaffection* (5 items), Emotional *engagement* (5 items) and Emotional *disaffection* (12 items). Nevertheless, the items in the Emotional *disaffection* scale can be consolidated into five, as some items are variations of different negative emotions, such as frustration, boredom, or concern. The scores of these four factors are obtained by adding the scores of each of the items that are part of it. However, other research has found the better functioning of the two-dimensional structure: *commitment vs. discontent* or *emotional vs. behavioral* (Skinner et al. 2009).

The original English-language version of the Agentic Engagement Scale (AES; Reeve, 2013) includes five items measuring students' dialectical and transactional participation in class (e.g., *"I defend my opinions even if they are not in line with those of my classmates").* Item responses are presented on a 7-point Likert scale, ranging from 1 (*completely disagree*) to 7 (*completely agree*). Items were translated and adapted into Spanish through a parallel translation and reconciliation process.

The Spanish version of the Mini International Personality Item Pool–Five-Factor Model–Positively Worded (Mini-IPIP-PW; Martínez-Molina & Arias, 2018; original version by Donnellan et al., 2006) was administered. This instrument assesses the Big Five personality domains of extraversion, agreeableness, emotional stability, and openness to experience through 20 items. Items are scored on a 5-point Likert scale (*1 = not at all* - 5 = *completely*) to assess each personality trait. The Spanish Mini-IPIP-PW has demonstrated adequate

validity and reliability ($\alpha \geq .90$), and a positive relationship with engagement (Qureshi et al., 2016).

The Utrecht Work Engagement Scale for Students (UWES–9S; Schaufeli & Bakker, 2004) is a nine-item scale for assessing work engagement, characterized by three domains: vigor, dedication, and absorption (e.g., *"My studies inspire me with new things"*). Items are scored on a 7-point Likert-type scale, ranging from 0 (*never*) to 6 (*always*). The three-factorial structure of the UWES-9S has been confirmed, showing a high internal consistency ($\alpha = .84$).

An ad-hoc questionnaire was also administered to gather sociodemographic data, including participants' gender, age, current field of study, and admission GPA.

2.3. Procedure

The data collection for this study took place between October and November 2022 and utilized a convenience sample method. The invitation to participate was sent to undergraduate university students via their virtual campus. Participants were directed to an online questionnaire hosted on the Qualtrics platform (https://www.qualtrics.com), which included the previously mentioned instruments. Participants were encouraged to share the link with their social media contacts (e.g., Twitter, Instagram). Before starting the questionnaire, all participants were informed about voluntary participation, anonymity, and confidentiality in the study, and gave an online informed consent. The study was conducted in accordance with the Declaration of Helsinki (World Medical Association, 2001) and received approval from the University of Barcelona's bioethics commission.

2.4. Statistical analysis

Descriptive statistics of sociodemographic variables and items of the EDL scale were analyzed, as well as data on skewness, kurtosis, and response endorsement to evaluate the floor and ceiling effects. The acceptable value of skewness and kurtosis are those in the range [–1, + 1] (Ferrando and Anguiano-Carrasco, 2010). Statistical analyses were performed using the Jamovi program version 2.3.21.

To assess internal consistency, Cronbach's alpha values and item-total correlations were calculated. A minimum alpha value of 0.70, as recommended by Nunnally and Berstein (1994), was used as the threshold for a reliable measure. Pearson's correlation coefficient was used to compute the correlations between the domains of the EDL.

The convergent and discriminant validity were assessed through correlation analysis between the scale domains of the EDL and the AES, UWES-9S, and Mini-IPIP-PW. Pearson's correlation coefficients were computed and interpreted according to Cohen's criteria (1988).

3. Results

3.1. Item-level descriptive analysis

Table 1 includes the distribution of the scores of the items on the EDL scale. The items with the lowest scores were items 24, *"When I'm in class, I feel bad"* ($M = 1.52$, $SD = .76$) and 25, "*I get cranky when I'm doing activities in class"* ($M = 1. 41$, $SD = . 64$) and those with the highest scores are items 1 *"I strive to do well in college"* ($M = 3.29$, $SD = .68$) and 9 *"I enjoy learning new things in class"* ($M = 3.17$, $SD = .80$).

The skewness and kurtosis indices show an adjustment to normality in most items, although there is a slight positive asymmetry. In this way, there is an observatiton that some items concentrate with the largest percentage of answers in the answer option *1 = does not describe me at all,* showing a floor effect of that item. Also, some items show a ceiling effect by concentrating the highest percentage of responses in option *4 = describes me totally.*

3.2. Internal consistency

According to Cronbach's alpha, internal consistency levels are satisfactory for the four domains. Table 2 shows the levels of both Cronbach's α and the item-test correlation for items structured in the four domains. Items with critical item-domain correlations (< .40) are bold in this table.

3.3. Convengent and discriminant evidence

There was a large positive correlation between the domain of behavioral and emotional engagement ($r = .63$) and a large negative correlation found between this domain and behavioral disaffection ($r = -.73$). Similarly, a large correlation ($r = .70$) was observed between the emotional engagement domain and the UWES-9S engagement scale. The UWES-9S demostrated moderate correlations with the remaining domains of the the EDL.

Table 1. Descriptive statistics of the EDL items.

Domain/ Item	M	SD	Skewness	Kurtosis	Percentage of Item Endorsement			
					1	2	3	4
Behavioral engagement								
Item 1	3.29	.68	-.55	-.33	.05	11.2	46.5	41.7
Item 2	2.74	.82	-.24	-.44	7.0	29.4	46.5	17.1
Item 3	1.95	.97	.67	-.62	40.6	32.1	18.7	8.6
Item 4	3.02	.76	-.46	-.01	3.2	18.2	52.4	26.2
Item 5	2.96	.80	-.30	-.56	3.2	24.6	45.5	26.7
Emotional engagement								
Item 6	2.67	.85	-.16	-.58	8.6	32.1	42.8	16.6
Item 7	2.96	.79	-.52	.03	4.8	18.7	52.4	24.1
Item 8	2.19	.82	.28	-.42	19.8	47.1	27.3	5.9
Item 9	3.17	.80	-.77	.18	3.7	13.4	44.9	38.0
Item 10	3.06	.79	-.45	-.40	2.7	19.8	46.0	31.6
Behavioral disaffection								
Item 11	1.79	.92	.97	.04	47.6	32.3	12.8	7.0
Item 12	1.57	.75	1.21	.95	56.7	32.1	9.1	2.1
Item 13	1.71	.87	1.00	.07	52.4	28.9	14.4	4.3
Item 14	2.60	.89	.12	-.81	8.6	41.2	31.6	18.7
Item 15	2.62	.92	.06	-.89	9.6	39.0	31.0	20.3
Emotional disaffection								
Item 16	2.01	.78	.54	.08	25.7	52.4	17.6	4.3
Item 17	1.89	.79	.53	-.34	34.8	44.4	18.2	2.7
Item 18	1.79	.83	.76	-.26	44.4	35.8	16.6	3.2
Item 19	2.02	.96	.56	-.69	35.8	34.8	20.9	8.6
Ítem 20	1.81	.94	.86	-.32	48.1	28.9	16.6	6.4
Ítem 21	3.09	.87	-.71	-.16	5.9	16.0	41.7	36.4
Ítem 22	1.83	.82	.84	-.12	43.3	35.8	15.0	5.9
Ítem 23	2.24	.98	.42	-.80	24.6	41.2	19.8	14.4
Ítem 24	1.52	.76	1.51	1.86	61.5	28.3	7.0	3.2
Ítem 25	1.41	.64	1.58	2.27	66.8	26.7	5.3	1.1
Ítem 26	2.91	1.00	.44	-.96	10.2	24.1	29.9	35.8
Ítem 27	2.96	.97	-.53	-.75	9.1	21.4	34.2	35.3

Table 2. Cronbach's α and item-test correlations levels for the EDL scale.

Domain/ Item	Cronbach's α	Item-domain correlation	Domain/ Item	Cronbach's α	Item-domain correlation
Behavioral engagement	0.70		Item 4		.69
Ítem 1		.40	Item 5		.67
ítem 2		.61	Emotional disaffection		.77
Item 3		**.13**	Item 1a		.54
Item 4		.61	Item 1b		.51
Item 5		.65	Item 1c		.42
Emotional engagement	.84		Item 2a		.57
Item 1		.63	Ítem 2b		.53
Item 2		.71	Ítem 2c		.42
Item 3		.62	Ítem 3		.59
Item 4		.63	Ítem 4		.44
Item 5		.59	Ítem 5a		.62
Behavioral disaffection	.81		Ítem 5b		.59
Item 1		.48	Ítem 5c		.40
Item 2		.54	Ítem 5d		**34**
Item 3		.65			

Note. Items with item-domain correlation < .40 are in bold

Table 3. Pearson correlation between EDL scale with other variables.

Scales	Behavioral engagement	Emotional engagement	Behavioral disaffection	Emotional disaffection
EDL				
Behavioral engagement	-			
Emotional engagement	.63**	-		
Behavioral disaffection	-.73**	-.55**	-	
Emotional disaffection	-.48**	-.64**	.61**	-
Mini-IPIP-PW				
Extraversion	.65	.16*	-.01	-.14
Agreebleness	.17*	.14*	-.09	.01
Consientiousness	.24**	.16*	-.36**	-.25**
Emotional stability	.07	.20*	-.01	-.18*
Openness to experience	.14	.17*	.04	-.02
AES	.36**	.43**	-.19*	-.32**
UWES-9S	.53**	.70**	-.49**	-.59**
Admission GPA	.19*	.12	-.19*	-.07

Note. *p<.005, **p<.001

4. Discussion

The results of this study show that despite finding satisfactory levels of internal consistency according to the four-factor model proposed by Skinner (2008), there are some items (p.e., item 3 *"When I'm in class, I participate in discussions"*) that show a low discriminative capacity to differentiate between high and low values of engagement. This lack of

differentiation between behavioral engagement and disaffection has been previously observed in other studies (Immekus & Ingle, 2019).

Our findings support the correlation between the EDL and other forms of engagement, as work engagement, in line with the study of Skinner (2009). On the other hand, we did not find the expected results according to academic achievement (Wang, 2017). However, we observe relations between behavioral engagement/disaffection and conscientiousness and between emotional disaffection and Emotional stability (Muenks et al., 2017).

Despite the novelty and significance of the research topic, this study is subject to limitations, such as the use of a convenience sampling method for participant selection. Moreover, it is essential to employ a larger sample size to conduct a confirmatory factor analysis of the scale and assess its internal structure.

5. Conclusion

The EDL scale is a promising instrument for studying engagement in the Spanish population, with satisfactory internal consistency levels and evidence of convergent validity with other engagement measures and personality variables. However, it is necessary to remove or review in depth the functioning of some items to ensure the adequate performance of the EDL scale.

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