

The Achievement Emotions Questionnaire-Argentine (AEQ-AR): internal and external validity, reliability, gender differences and norm-referenced interpretation of test scores

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Abstract. This article reports on the reliability, internal validity, external validity, gender differences, and norms of a Spanish version of the Achievement Emotions Questionnaire (Pekrun et al., 2011) adapted for Argentinean university students (namely AEQ-AR). The AEQ-AR contains 24 scales measuring enjoyment, hope, pride, relief, anger, anxiety, shame, hopelessness, and boredom during class, while studying, and when taking tests and exams. Argentinean undergraduates studying at the National University of Córdoba participated in the study. An estimation sample (N = 400) and a validation sample (N = 266) were formed to examine internal validity and reliability. The total sample (N = 666) was used to analyze external validity, gender differences and to obtain norms for the scales. Results indicate that the scales are reliable, internally valid as demonstrated by exploratory and confirmatory factor analysis, and externally valid in terms of relationships with task value, social academic self-efficacy, achievement goals, avoidance of help seeking, and academic performance. In addition, partial support for the gender differences hypothesis of prospective and retrospective emotions related to negative results was found. The obtained norms for male and female students will allow interpret the scores obtained for practical purposes. Finally, instructions and scales of the AEQ-AR are presented in the appendix.

Keywords: achievement emotion, test anxiety, control-value theory, questionnaire, measurement, Spanish

Resumen. Este artículo informa la confiabilidad, validez interna, validez externa, diferencias de género y normas de una versión española del Achievement Emotions Questionnaire (Pekrun et al., 2011) adaptada para estudiantes universitarios de Argentina (AEQ-AR). El AEQ-AR consta de 24 escalas que miden disfrute, esperanza, orgullo, alivio, enojo, ansiedad, vergüenza, desesperanza y aburrimiento en clase, al estudiar y realizar exámenes. Participaron del estudio estudiantes argentinos que estudiaban en la Universidad Nacional de Córdoba. Se conformaron una muestra de estimación (N = 400) y una muestra de confirmación (N = 266) para examinar la validez interna y la confiabilidad. La muestra total (N = 666) se utilizó para analizar la validez externa, las diferencias de género y obtener las normas para las escalas. Los resultados indican que las escalas son confiables, validas internamente como lo demostraron los análisis factorial exploratorio y confirmatorio, y validas externamente en términos de relaciones con valor de la tarea, autoeficacia social académica, metas de logro y rendimiento académico. Además, se encontró apoyo parcial para la hipótesis de diferencias de género de las emociones prospectivas y retrospectivas relacionadas a resultados negativos. Las normas obtenidas para estudiantes hombres y mujeres permitirán interpretar las puntuaciones obtenidas para propósitos prácticos. Finalmente, se presentan en el apéndice las instrucciones y escalas del AEQ-AR.

Palabras clave: emoción de logro, ansiedad ante los exámenes, teoría de control-valor, cuestionario, medición, español

INTRODUCTION

Development and adaptation of instruments to measure test anxiety has been constant and has covered languages such as English (Cassady & Johnson, 2002), German (Hodapp, 1996), Japanese (Kondo, 1997) and Spanish (Ferrando Varea & Lorenzo, 2002; Heredia, Piemontesi, Furlan, & Hodapp, 2008). While the measurement of test anxiety has made systematic progress in the last sixty years, there is still a lack of measures for addressing other relevant academic emotions and situations. An exception to this is Pekrun's work on the development of the Achievement Emotions Questionnaire (for a review of the control-value theory of achievement emotions on which this instrument is based, see Pekrun, 2006; Pekrun & Perry, 2014).

In this research, the Achievement Emotions Questionnaire was translated into Spanish for Argentinean college students and their psychometrics properties were analyzed.

The Achievement Emotions Questionnaire (AEQ)

Pekrun and colleagues developed the AEQ (Pekrun et al., 2002, 2005, 2011), a self-reported instrument assessing college students' achievement emotions. The AEQ consists of 232 items and measures eight different class-related emotions, eight learning-related emotions, and eight test emotions. The class-related emotion scales include 80 items and instruct students to report how they feel with regard to class-related enjoyment, hope, pride, anger, anxiety, shame, hopelessness, and boredom. The learning-related emotion scales include 75 items and instruct students to report how they feel with regard to studying in terms of the same eight emotions as above. Finally, the test-related emotion scales include 77 items and instruct students to indicate how they feel with regard to test-related enjoyment, hope, pride, relief, anger, anxiety, shame, and hopelessness. Furthermore, by varying the instructions accordingly, the AEQ is able to assess students' general emotional reactions in academic situations (trait achievement emotions), emotional reactions in a specific course or domain (course/domain-specific achievement emotions), or emotions at a specific time point (state achievement emotions).

The AEQ scales have been translated into many languages, such as German (Molfenter, 1999; Titz, 2001), Arabic (Ismail, 2015), Filipino (King, 2010), Korean (Kim

& Lee, 2014), and Portuguese (Peixoto, Mata, Monteiro, Sanches, & Pekrun, 2015). There are domain-specific variants of the scales assessing middle and high school students' emotions experienced in mathematics and language-related subjects (Achievement Emotions Questionnaire – Mathematics, AEQ-M; Frenzel, Thrash, Pekrun, & Goetz, 2007; Achievement Emotions Questionnaire – Language, AEQ-L; Goetz, Pekrun, Hall, & Haag, 2006). Currently, AEQ-M is available in English, German, and Chinese language versions, and the AEQ-L in English and German language versions.

Reliabilities of the original AEQ scales range from adequate to excellent (e.g., Alpha = .75 to .93 in Pekrun et al., 2011). The overall structural validity of the instrument has been tested in confirmatory factor analyses (Pekrun et al., 2011). A two-facet approach best represented the data, with different emotions (enjoyment, pride, hope, etc.) represented as separate latent factors and the three settings (class, learning, and tests) represented as correlated uniquenesses. The results confirmed that the measurement of achievement emotions should attend both to the differences between discrete emotions and between the various academic settings in which these emotions take place. With regard to external validity, the AEQ has been shown to predict students' academic achievement, course enrollment, and dropout rates. Also, achievement emotions as assessed by the AEQ relate to variables of students' learning such as study interest, academic control, self-efficacy, task value, achievement goals, motivation to learn, cognitive and metacognitive learning strategies, investment of study effort, irrelevant thoughts, perceived competence, and self-regulation of learning (see Artino & Jones, 2012; Daniels et al., 2009; Mouratidis, Vansteenkiste, Lens & Auweele, 2009; Pekrun et al. 2002, 2009, 2011, 2014; Pekrun & Perry, 2014; Spangler et al. 2002). In summary, findings indicate that the scales are reliable, internally valid as demonstrated by confirmatory factor analysis, and externally valid in terms of relationships with students' control-value appraisals, learning, and academic performance.

Aims of the present study

As mentioned, the AEQ demonstrated the cross-cultural usability of the instrument (Frenzel, Thrash, et al., 2007; Pekrun et al., 2010; Titz, 2001). Even more, attempts to use variants of the instrument with younger students proved successful (Frenzel, Pekrun, & Goetz, 2007; Frenzel, Thrash, et al., 2007; Lichtenfeld, Pekrun, Stupnisky, Reiss, &

Murayama, 2012), including domain-specific variants (Goetz, 2004; Goetz et al., 2006). While there are some researches with Spanish-speaking students use some AEQ scales (González Fernández, Donolo, & Rinaudo, 2009; González, Paoloni, & Rinaudo 2013; Paoloni, Vaja, & Muñoz, 2014; Sánchez Rosas, 2011, 2013, 2015; Sánchez Rosas & Bedis, 2015; Sánchez Rosas & Pérez, 2015; Sánchez Rosas, Takaya, & Molinari, 2016, in press), no studies have evaluated the psychometric properties of the overall instrument.

Interestingly, although the accumulated evidence shows that women experience more test anxiety (Zeidner, 1998), few studies have directly explored gender differences in achievement emotions, with the clearly exception of test anxiety. However, some studies have consistently shown that women experience frequently more anxiety, shame and hopelessness related to class attendance (González, Donolo & Rinaudo, 2009; Pekrun et al., 2006; Sánchez Rosas, 2013). Sánchez Rosas (2013) hypothesized that women would experience more often prospective and retrospective emotions related to obtaining negative results in class (hopelessness, anxiety, shame). Similarly, one might think the same pattern could be extended to situations of study and examination.

To date, the instrument has mainly been employed for research purposes, but Pekrun et al. (2011) claimed that it also may be well-suited to serve practical purposes for assessment in counseling and evaluation. Moreover, they stated that given the overall length of the instrument, this may require further research to tailor the scales to the specific purposes within given diagnostic settings. In consequence, shorter versions of the AEQ would be beneficial for practitioners' purposes, but research would be needed to norm the scales to ease interpretation

In summary, an instrument is needed that fulfils quality requirements and that assesses a broad spectrum of academic emotions. In addition, is needed that such instrument provides the information needed to plan and evaluate interventions while it should be easy to administer and interpret. In the present study, the psychometric properties of a Spanish version of the AEQ (Pekrun et al., 2011) adapted for Argentinean university students are assessed (namely AEQ-AR). The purposes are: (a) to examine internal validity and to obtain data of reliability from each scale, (b) to analyze external validity, (c) to test gender differences, and (d) to obtain norms for the scales.

METHOD

Participants

Argentinean undergraduates studying in thirteen departments at the National University of Córdoba participated in the study ($N = 666$; 85 % female, 15 % male; $M = 25.09$ years, $SD = 6.79$), with predominance of psychology (58%) and languages (23%) students. Randomly, an estimation sample ($N = 400$) and a validation sample ($N = 266$) was formed to examine internal validity and reliability. The total sample ($N = 666$) was used to analyze external validity, gender differences and to obtain norms for the scales.

Measures

Achievement Emotions Questionnaire (Pekrun et al., 2011). As mentioned above, this instrument measures different achievement emotions that take place when students attending class, studying, and taking tests. Students rated their emotional experiences on a five point Likert-type scale from (1) *Never*, to (5) *Always*.

Task value. The unidimensional Task Value Scale by Pintrich, Smith, Garcia and McKeachie (1993) was used. This scale evaluates perceived interest, importance and utility regarding learning materials and contents, and consists of six items (e.g., *I think what I learn in this course will be useful in others*, original $\alpha = .90$). The items were answered using a Likert scale, expressing the degree of agreement, from (1) *Strongly disagree* to (5) *Strongly agree*. This scale demonstrated criterion validity regarding achievement emotions, in a sample of university students from the same population (Sánchez Rosas, Piotti, Sánchez, Pereira, & Debat, 2011). Unidimensionality and internal consistency yielded acceptable results in this study ($KMO = .86$, 58% variance accounted and factor loadings $> .70$, $\alpha = .85$, $N = 666$).

Achievement Goals. Achievement goals were evaluated with the Argentinean version (Sánchez Rosas, 2015) of AGQ-R (Elliot & Murayama, 2008) that evaluates the 2 x 2 achievement goals model. The items are answered using a Likert scale, expressing the degree of agreement, from (1) *Strongly disagree* to (5) *Strongly agree*. Here, dimensionality and internal consistency were tested. Optimum results were obtained [$\chi^2(48, N = 666) = 96.69$, $p = .001$, CFI = .99, GFI = .98, RMSEA = 0.039]. Subscales and internal consistency are: (a) mastery-approach (e.g., *My aim is to completely master the material presented in this class*, $\alpha = .83$), (b) mastery-avoidance (e.g., *My aim is to avoid*

learning less than I possibly could, $\alpha = .89$), (c) performance-approach (e.g., *My aim is to perform well in relation to other students*, $\alpha = .91$) and (d) performance-avoidance (e.g., *My aim is to avoid doing worse than other students*, $\alpha = .96$).

Social academic self-efficacy. The unidimensional social academic self-efficacy scale by Olaz (2006) was used. This scale assesses students' beliefs regarding their interpersonal abilities in an academic context. It has six items (e.g., *Ask questions to the teacher loudly and in front of your classmates*) and the original internal consistency is good ($\alpha = .84$). Participants responded on a scale from (1) *I can't do it* to (10) *Totally sure I can do it*, expressing confidence for each behavior. Unidimensionality and internal consistency were tested. Good results were obtained (KMO = .88, 73% variance accounted and factor loadings $> .80$, $\alpha = .93$, $N = 666$).

Help-seeking avoidance. The Avoidance of help-seeking was measured with a five items scale (e.g., *I don't ask questions in class even if I don't understand the lesson*, original $\alpha = .90$) validated by Sánchez Rosas and Perez (2015) for Argentinian university students. The items are answered using a Likert scale, expressing the degree of agreement, from (1) *Strongly disagree* to (5) *Strongly agree*. Here, dimensionality and internal consistency were tested. Optimum results were obtained [$\chi^2 (5, N = 666) = 15.75, p = .008$, CFI = .99, GFI = .99, RMSEA = 0.057, $\alpha = .90$].

Procedure

First, items were translated from English to Spanish by a professional translator; paying special attention that items have a clear, accurate and simple formulation, trying to keep the original meaning of the construct they intend to assess; and changes were made to some expressions not commonly used in Spanish. In this process, the translator was guided on conceptual issues that could clarify the intentionality of each item, regarding the target population. A cognitive pretest was applied to a small group of university students, aiming to determine how they interpret the items. Specifically, it attempted to find out the meanings the students attributed to the particular words. Subsequently, difficulties and comments regarding the items were analyzed, and slight modifications were performed on those items (Karabenick et al., 2007).

A protocol was formulated comprising instruments, and questions about gender, age, academic unit, year of coursework and GPA (Grade Point Average) including failed

marks. The protocol was administered to the sample through the online survey system LimeSurvey (Pérez, 2007). All participants were informed about the study objectives, and confidential data processing was guaranteed. Students voluntarily agreed to participate.

Data analysis

Prior to the central analysis, items were explored in order to find missing values, outliers – both univariate and multivariate, normal distribution and multicollinearity (George & Mallery, 2007). Univariate outliers were identified by calculating z scores for each variable, considering values of $z > 3.29$ as inappropriate and multivariate outliers were detected by applying Mahalanobis distance ($p < .001$). In order to check normality, values of skewness and kurtosis ranging between +2 and -2 were considered acceptable (George & Mallery, 2007). Items' multicollinearity was estimated using bivariate Pearson correlations, considering values of $r < .80$ as appropriate.

In order to analyze internal validity, an exploratory and confirmatory strategy was implemented by conducting exploratory and confirmatory factor analysis. The reason for this is that the exploratory analysis seeks to identify the items with the best factor loadings which subsequently will be evaluated through a confirmatory analysis. Thus, an exploratory factor analysis was performed with the estimation sample ($N = 400$) to assess the structure underlying the set of items (Pérez & Medrano, 2014). Specifically, the guidelines for factor analysis recommended by Fabrigar, Wegener, MacCallum and Strahan (1999) were followed. Maximum Likelihood method for factor extraction was used, since it produces the best parameter estimates (Pérez & Medrano, 2014). Multiple criteria were used for factor selection: (a) the eigenvalues-greater-than-one rule proposed by Kaiser (Kaiser, 1960), (b) the scree plot (Cattell, 1966), (c) parallel analysis (Horn, 1965), (d) the percentage of variance explained by the obtained factor structure (cumulative variance of the factors extracted together) is of at least 50% of the total variability of response to test (Merenda, 1997). Because all analysis suggested extracting a single factor, a one dimensional solution was specified for each scale. Finally, as an additional criterion it was decided to retain those items with item-factor correlations $> .50$. On the other hand, a confirmatory factor analysis was performed with the confirmation sample ($N = 266$), to contrast the unidimensional specified theoretical model which was based on results of the exploratory factor analysis (Arias, 2008). In addition, concerning the relations between

emotions, correlational analysis and confirmatory factor analysis were used to document the distinctness of the emotion constructs assessed by the AEQ. It was expected that a confirmatory factor analysis model representing the two-facet structure of the instrument (i.e., nine different emotions nested within three different achievement settings) would best fit the data, as compared with alternative models. The alternative models included a one-factor model representing positive versus negative emotions as one bipolar factor, as well as two models differentiating between emotions only, or between different settings only (Figure 1). Following recommendations of Hoyle and Panter (1995), model's goodness-of-fit was diagnosed with multiple criteria. Chi-square/degrees of freedom ratio values (χ^2/df), comparative fit index (CFI), goodness-of-fit index (GFI), and root mean square error of approximation (RMSEA) were considered. Goodness-of-fit values were interpreted as following: CFI and GFI $> .95$, RMSEA $< .06$ was considered a good fit; $\chi^2/df < 3$, CFI and GFI $> .90$, RMSEA $< .08$ was acceptable; and RMSEA from $.08$ to $.10$ was mediocre.

In order to assess reliability, internal consistency was then estimated using Cronbach's alpha coefficient. An alpha coefficient of $.70$ was interpreted as acceptable, $.80$ as good, and $.90$ as excellent (George & Mallery, 2007). An item shall only be removed if values of internal consistency are improved as a result.

To provide evidence of external validity, relations between the achievement emotions scales and task value, social academic self-efficacy, achievement goals, avoidance of help seeking, and grade point average were explored. For this purpose, correlations between variables were calculated using Pearson's r coefficient. As evidenced by some studies, task value (Pekrun et al., 2011; Sánchez Rosas et al., 2011), social academic self-efficacy (Sánchez Rosas, 2013), mastery goals (Pekrun et al., 2009) were expected to correlate positively with positive emotions. Positive emotions were expected to correlate negatively with performance goals and (Pekrun et al., 2009) and avoidance of academic help seeking (Sánchez Rosas, 2013; Sánchez Rosas & Pérez, 2015). An opposite pattern of relationships is expected for negative emotions.

To allow future interpretation of individual scores of the AEQ-AR scales for practical purposes, each scale should be normed. In consequence, deciles for each scale were calculated by gender.

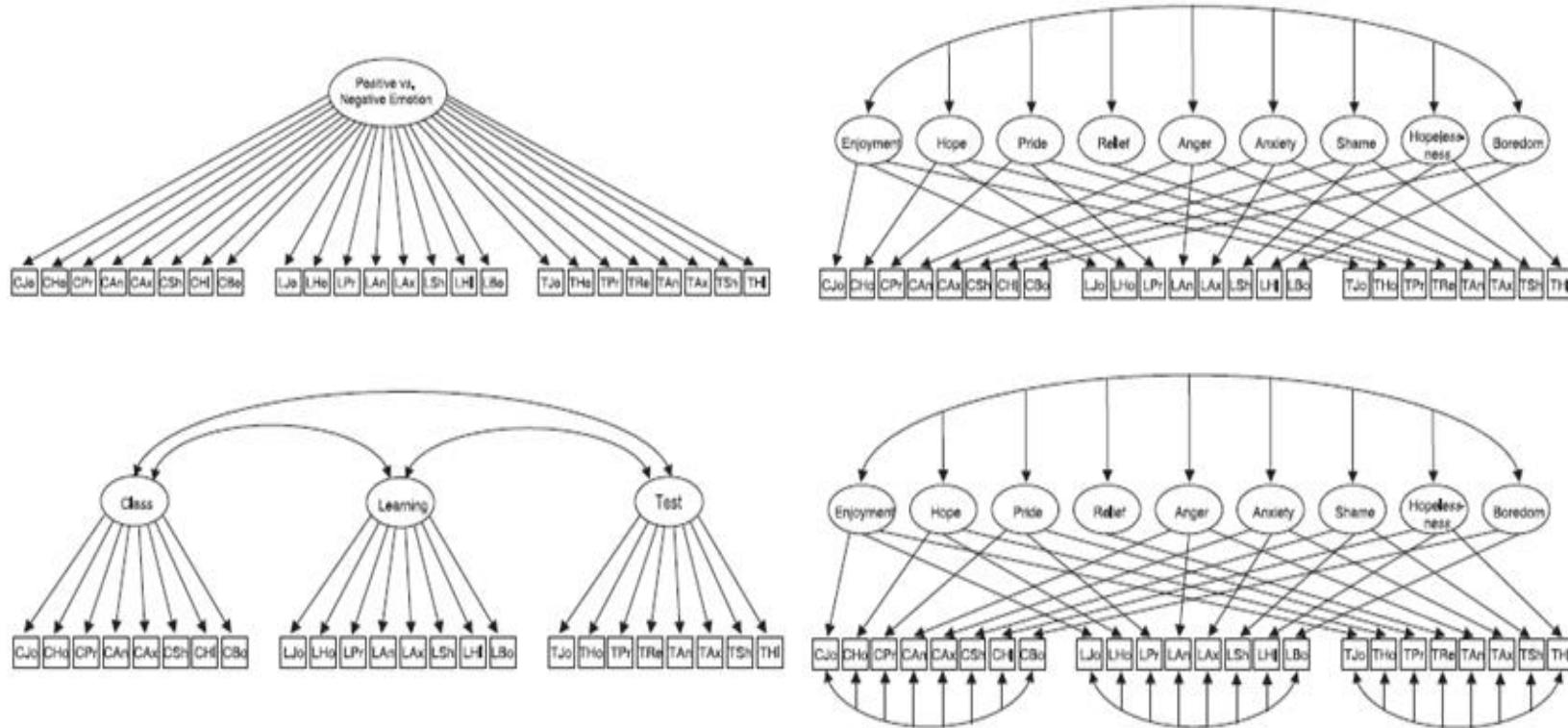


Figure 1. SEM models for relationships between emotions. Upper left part: One emotion-factor model. Upper right part: Eight emotion-factors model. Lower left part: Three setting-factors model. Lower right part: Emotion x setting-factors model. C, I, and T denote class-related, learning-related, and test-related emotions, respectively. Jo = enjoyment, Ho = hope, Pr = pride, Re = relief, An = anger, Ax = anxiety, HI = hopelessness, Bo = boredom.

RESULTS

As a result of the preliminary analysis, some items were discarded because the values of kurtosis were inadequate (> 2) (*When I think about class, I get queasy; I'd rather not go to class since there is no hope of understanding the material anyway; It's pointless to prepare for class since I don't understand the material anyway; When my studies are going well, it gives me a rush; After extended studying, I'm so angry that I get tense; I get so angry, I start feeling hot and flushed*). The values of skewness and kurtosis for the resultant set of items (< 2) were adequate (George & Mallery, 2007), showing a normal distribution of the items. In addition, it was noted that some items had very high correlations, showing an unnecessary overlap in the items' content. Because it is an assumption of exploratory factor analysis that items are related and showing no multicollinearity, these items were removed (*I get embarrassed; I find this class fairly dull; The lecture bores me; For me the test is a challenge that is enjoyable; I am proud of myself; My hopelessness robs me of all my energy*). Finally, it was found that one item did not correlate with the items in its own scale (*I can finally laugh again*) so it was removed.

The AEQ-AR: Internal Validity and Reliability

Exploratory Factor Analysis and Internal Consistency

In a first attempt, twelve items showed item-factor correlations $< .50$ (*My enjoyment of this class makes me want to participate; I enjoy participating so much that I get energized; I am hopeful that I will make good contributions in class; I am proud that I do better than the others in this course; I feel anger welling up in me; Because I'm angry I get restless in class; I get physically excited when my studies are going well; When I solve a difficult problem in my studying, my heart beats with pride; When I excel at my work, I swell with pride; Because I look forward to being successful, I study hard; I get angry over time pressures which don't leave enough time to prepare; I get angry about the amount of material I need to know*). These items were removed and a new exploratory factor analysis was performed.

Table 1 shows the results of the exploratory factor analysis with values of KMO, variance percentage, mean of factor loadings, internal consistency, and number of items per scale. In addition, average values indicate adequate values of KMO (.89), variance

percentage (59%), high factor loadings (.73), excellent internal consistency ($\alpha = .90$), and enough number of items per scale (9).

Table 1. Exploratory Factor Analysis and Internal Consistency for AEQ-AR scales

Scale	KMO	% variance	Mean Loading	Cronbach's α	N° items
Class emotions					
Enjoyment	.87	50	.65	.86	8
Hope	.85	48	.63	.82	7
Pride	.82	46	.62	.83	8
Anger	.85	49	.64	.82	7
Anxiety	.91	53	.69	.91	11
Shame	.93	59	.74	.92	10
Hopelessness	.91	63	.76	.92	9
Boredom	.90	58	.72	.91	8
Learning emotions					
Enjoyment	.87	52	.67	.87	8
Hope	.89	68	.78	.91	5
Pride	.83	73	.80	.87	4
Anger	.92	65	.77	.92	8
Anxiety	.89	47	.65	.89	11
Shame	.93	59	.74	.93	11
Hopelessness	.94	66	.79	.95	11
Boredom	.93	60	.75	.93	11
Test emotions					
Enjoyment	.87	59	.73	.90	8
Hope	.92	66	.78	.93	8
Pride	.88	55	.70	.90	9
Relief	.80	66	.74	.86	5
Anger	.87	59	.72	.88	7
Anxiety	.92	55	.72	.93	12
Shame	.93	64	.78	.94	10
Hopelessness	.95	72	.83	.96	10
Mean values	.89	59	.73	.90	9

Note. N = 400.

Confirmatory Factor Analysis and Internal Consistency

A confirmatory factor analysis was performed in order to examine the one-factor model obtained by exploratory factor analysis. As in this case, the presence of a large number of items per scale often leads to difficulties in obtaining good model fit. As Bandalos (2002) recommends, four parcels per scale were conformed. This way, a one-factor model was evaluated for each scale, in which each factor explained the behavior of its specified four elements.

The models showed good fit to the data with high factor loadings ($p \leq .001$, see Table 2). In addition, with this sample, all the scales showed acceptable levels of internal consistency.

Table 2. Confirmatory Factor Analysis and Internal Consistency for AEQ-AR scales

Emotion	Class-related emotions					Learning-related emotions					Test-related emotions				
	χ^2/df	CFI	GFI	RMSEA	α	χ^2/df	CFI	GFI	RMSEA	α	χ^2/df	CFI	GFI	RMSEA	α
Enjoyment	0.64	1.00	.99	0.001	.87	2.68	.99	.99	0.080	.85	2.20	.99	.99	0.067	.92
Hope	0.69	1.00	.99	0.001	.82	1.91	.99	.99	0.059	.91	2.71	.99	.98	0.080	.92
Pride	0.51	1.00	.99	0.001	.81	0.85	1.00	.99	0.001	.84	2.93	.99	.99	0.079	.91
Relief	-	-	-	-	-	-	-	-	-	-	0.86	1.00	.99	0.001	.88
Anger	0.01	1.00	.99	0.001	.83	2.06	.99	.99	0.063	.91	0.04	1.00	1.00	0.001	.89
Anxiety	2.59	.98	.97	0.080	.90	0.76	1.00	.99	0.001	.88	2.26	.99	.99	0.069	.92
Shame	0.01	1.00	1.00	0.001	.91	2.36	.99	.99	0.080	.92	1.63	.99	.99	0.049	.93
Hopelessness	0.69	1.00	.99	0.001	.91	2.59	.99	.99	0.079	.94	2.12	.99	.98	0.079	.95
Boredom	1.85	.99	.99	0.057	.93	0.28	1.00	.99	0.001	.93	-	-	-	-	

Note. N = 266.

Relationships between emotions: Correlational analysis

In accordance with Pekrun et al. (2011), it is useful to distinguish (a) between the different discrete emotions that occur within a given achievement setting (class-related, learning-related, test-related), and (b) between the emotions experienced in different achievement settings. As may be seen from Table 3, the positive emotions of enjoyment, hope, and pride correlated moderately high and positively in all three settings. Similarly, there were moderate to high and positive correlations between the negative emotions of anger, anxiety, shame, hopelessness, and boredom. The correlations between these positive emotions, on the one hand, and negative emotions, on the other hand, were moderately negative.

Table 3. Manifest inter-correlations of AEQ-AR scales

	1	2	3	4	5	6	7	8	9
<i>Correlations within settings</i>									
1									
Enjoyment									
2 Hope	.52**								
	.59**								
	.68**								
3 Pride	.56**	.57**							
	.49**	.74**							
	.65**	.70**							
4 Relief	.21**	.28**	.38**						
5 Anger	-.53**	-.35**	-.27**	-					
	-.44**	-.42**	-.27**	-					
	-.24**	-.23**	-.22**	-.12*					
6 Anxiety	-.19**	-.51**	-.19**	-	.31**				
	-.17**	-.47**	-.36**	-	.57**				
	-.40**	-.50**	-.34**	.04	.33**				
7 Shame	-.04	-.38**	-.14*	-	.15*	.70**			
	-.16**	-.53**	-.49**	-	.36**	.71**			
	-.32**	-.52**	-.37**	-.14*	.27**	.63**			
8 Hopelessness	-.42**	-.57**	-.38**	-	.47**	.73**	.45**		
	-.40**	-.70**	-.59**	-	.52**	.68**	.72**		
	-.45**	-.59**	-.54**	-.22**	.40**	.59**	.70**		
9 Boredom	-.49**	-.23**	-.24**	-	.57**	.19**	.18**	.33**	
	-.51**	-.42**	-.36**	-	.63**	.50**	.42**	.54**	
<i>Correlations across settings</i>									
Class versus learning	.67**	.73**	.60**	-	.52**	.67**	.70**	.81**	.64**
Class versus test	.48**	.69**	.63**	-	.65**	.51**	.60**	.77**	-
Learning versus test	.59**	.73**	.74**	-	.46**	.66**	.81**	.84**	-

Note. Within each block, upper/middle/lower coefficients are for class-, learning-, and test-related emotions, respectively. For relief, test-related relief was assessed only. For boredom, class-related and learning-related boredom were assessed only. N = 266. * $p < .05$; ** $p < .01$.

Relationships between emotions: Structural equation modeling of latent relationships

In this research, in order to more fully assess the relationships between achievement emotions, the same four models proposed by Pekrun et al. (2011) were tested competitively: The one-factor model, the nine-emotion factor model, the three-setting factor model, the two-facet, emotion x setting model (Figure 1). A more fully descriptions of the models can be seen in Pekrun et al. (2011).

The one emotion-factor model had a poor fit to the data ($\chi^2/df = 9.46$, CFI = .58, GFI = .45, and RMSEA = 0.179). The fit for the nine-emotion factor model was better, although not satisfactory ($\chi^2/df = 4.22$, CFI = .86, GFI = .76, and RMSEA = 0.110). Similarly, the three-setting factor model had a poor fit ($\chi^2/df = 9.37$, CFI = .59, GFI = .44, and RMSEA = 0.178). In marked contrast, the two-facet, emotion x setting model showed a reasonable fit, with $\chi^2/df = 2.79$, CFI = .95, CFI = .91, and RMSEA = 0.079. In consequence, these findings demonstrate that the relationships between different achievement emotions can be best explained by taking into account both the differences between discrete emotions and the differences between emotions that occur in different achievement settings.

Latent relationships between the nine emotions of the two-facet model (Table 4) were positive for enjoyment, hope, and pride; positive for anger, anxiety, shame, hopelessness, and boredom; and negative between these positive and negative emotions.

Table 4. Two-facet model: latent correlations between emotions of AEQ-AR scales

	1	2	3	4	5	6	7	8
1 Enjoyment								
2 Hope	.82**							
3 Pride	.78**	.83**						
4 Relief	.43**	.43**	.50**					
5 Anger	-.57**	-.53**	-.38**	-.19*				
6 Anxiety	-.36**	-.66**	-.45**	-.06	.59**			
7 Shame	-.26**	-.61**	-.45**	-.15*	.41**	.89**		
8 Hopelessness	-.55**	-.77**	-.64**	-.26**	.60**	.85**	.78**	
9 Boredom	-.61**	-.57**	-.44**	-.17*	.72**	.51**	.43**	.57**

Note. N = 266. * p < .05; ** p < .01.

The AEQ-AR: External Validity

Relationships with students' appraisals, motivation, strategy, and performance

Table 5 shows the relations between the achievement emotions scales and task value, social academic self-efficacy, achievement goals, avoidance of help seeking, and academic performance. Task value, social academic self-efficacy, mastery goals, and academic performance correlated generally positively with the positive emotions and negatively with the negative emotions. On the other hand, performance goals and avoidance of academic help seeking were found to correlate negatively with positive emotions, and positively with negative emotions.

Table 5. Correlations of achievement emotions with appraisals, motivation, strategy, and performance

Emotion	Appraisals			Motivation			Strategy	Performance
	Task value	Social academic self-efficacy	Mastery-approach	Mastery-avoidance	Performance-approach	Performance-avoidance	Help-seeking avoidance	GPA
Enjoyment	.62**	.18**	.39**	.19**	.15**	.11**	-.18**	.10*
	.56**	.26**	.48**	.21**	.17**	.07	-.24**	.12**
	.36**	.27**	.24**	.10**	.10**	-.01	-.24**	.14**
Hope	.44**	.33**	.37**	.16**	.05	-.02	-.29**	.19**
	.41**	.33**	.31**	.17**	.06	-.04	-.27**	.28**
	.37**	.39**	.31**	.14**	.05	-.05	-.34**	.24**
Pride	.40**	.25**	.33**	.12**	.18**	.10*	-.22**	.08*
	.31**	.30**	.28**	.14**	.10*	-.02	-.24**	.20**
	.35**	.26**	.24**	.12**	.17**	.06	-.21**	.21**
Relief	.21**	-.01	.14**	.06	.06	.03	-.10*	.14**
Anger	-.47**	-.06	-.14**	-.13**	-.02	.01	.24**	-.06
	-.39**	-.26**	-.30**	-.18**	.01	.10*	.28**	-.03
	-.33**	-.10*	-.13**	-.10*	.01	.05	.10	-.15**
Anxiety	-.13**	-.48**	-.07	-.07	.20**	.21**	.40**	-.20**
	-.13**	-.38**	-.07	-.08	.12**	.19**	.34**	-.18**
	-.07	-.37**	-.03	-.03	.10*	.11**	.25**	-.20**
Shame	-.10*	-.68**	-.06	-.05	.22**	.24**	.55**	-.15**
	-.10**	-.48**	-.10*	-.07	.23**	.28**	.46**	-.27**
	-.10*	-.39**	-.08	-.06	.23**	.25**	.37**	-.29**
Hopelessness	-.31**	-.35**	-.18**	-.12**	.10*	.11**	.37**	-.28**
	-.27**	-.38**	-.18**	-.12**	.10*	.15**	.39**	-.29**
	-.23**	-.33**	-.15*	-.11**	.06	.11**	.33**	-.32**
Boredom	-.44**	-.13**	-.23**	-.14**	-.06	-.04	.21**	.02
	-.48**	-.22**	-.34**	-.18**	-.02	.05	.30**	-.07

Note. Within each block, upper/middle/lower coefficients are for class-, learning-, and test-related emotions, respectively. For relief, test-related relief was assessed only. For boredom, class-related and learning-related boredom were assessed only. $N = 666$. * $p < .05$; ** $p < .01$.

The AEQ-AR: Gender Differences

As presented in Table 6, eight emotions showed gender differences. Female students reported more test-related relief, class-related anxiety, learning-related anxiety, test-related anxiety, class-related shame, learning-related shame, test-related shame, and test-related hopelessness than male students. In interpreting these gender differences, it should be noted that the effect sizes of the differences were generally small (all d s $< .56$). Interesting, anxiety and shame differences were generalized across settings. As hypothesized, test-related hopelessness was higher in female students, but there were no significant mean differences for class and learning-related hopelessness.

Table 6. Gender differences of AEQ-AR scales

Emotion	Male		Female		t-test		Effect size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	<i>d</i>
Enjoyment	3.33	0.73	3.38	0.60	-0.59	.55	-0.07
	3.50	0.79	3.57	0.68	-0.80	.42	-0.09
	2.75	0.99	2.56	0.86	1.93	.06	0.20
Hope	3.44	0.77	3.40	0.71	0.56	.57	0.05
	3.67	0.95	3.56	0.85	1.09	.27	0.12
	3.33	0.97	3.13	0.82	1.89	.06	0.22
Pride	3.33	0.84	3.35	0.73	-0.22	.82	-0.02
	3.52	0.96	3.44	0.88	0.84	.08	0.08
	3.06	0.88	2.95	0.77	1.09	.27	0.13
Relief	3.89	0.93	4.09	0.80	-2.25	.02	-0.23
Anger	2.26	0.87	2.19	0.75	0.88	.37	0.08
	1.99	0.84	2.09	0.80	1.17	.24	-0.12
	2.16	0.88	2.19	0.79	0.37	.70	-0.03
Anxiety	2.10	0.79	2.31	0.81	-2.32	.02	-0.26
	2.46	0.83	2.78	0.77	-3.76	.01	-0.39
	2.65	0.90	3.16	0.90	-5.06	.01	-0.56
Shame	2.01	0.91	2.37	0.95	-3.54	.01	-0.38
	2.02	0.92	2.26	0.92	-2.36	.01	-0.26

	1.88	0.86	2.19	0.94	-2.97	.01	-0.34
Hopelessness	1.77	0.86	1.84	0.83	-0.74	.45	-0.08
	1.85	0.91	2.02	0.93	-1.63	.45	-0.18
	1.73	0.88	1.93	0.91	-1.98	.05	-0.22
Boredom	2.56	0.82	2.66	0.77	-1.73	.25	-0.12
	2.29	0.79	2.39	0.78	-1.12	.26	-0.12

Note. Within each block, upper/middle/lower values are for class-, learning-, and test-related emotions, respectively. For relief, test-related relief was assessed only. For boredom, class-related and learning-related boredom were assessed only. $N = 666$. $M =$ mean, $SD =$ standard deviation

The AEQ-AR: Norm-Referenced Interpretation of Test Scores

In Table 7 norms for male and female students of AEQ-AR scales are reported. Note that although gender differences were only found for some of the emotions, also gender-differentiated norms were established for all scales.

Table 7. Norms for male and female students of AEQ-AR scales

	decile	cjo	Ljo	tjo	cho	lho	tho	cpr	lpr	tpr	cag	lag	tag
	10	2.37	2.47	1.22	2.42	2.16	1.97	2.22	2.00	1.88	1.28	1.00	1.14
	20	2.75	2.75	1.77	2.71	2.66	2.37	2.50	2.75	2.30	1.42	1.20	1.42
M	30	3.00	3.05	2.15	3.14	3.33	2.92	3.00	3.10	2.54	1.71	1.50	1.57
A	40	3.25	3.37	2.66	3.28	3.50	3.25	3.15	3.50	2.90	2.00	1.75	1.71
L	50	3.37	3.50	2.77	3.57	3.83	3.50	3.50	3.75	3.20	2.14	1.87	2.00
E	60	3.50	3.85	3.11	3.71	4.00	3.75	3.62	4.00	3.40	2.28	2.00	2.14
	70	3.75	4.00	3.33	3.85	4.33	3.87	3.87	4.00	3.60	2.57	2.25	2.42
	80	4.00	4.12	3.66	4.14	4.66	4.12	4.12	4.50	4.00	2.91	2.62	2.85
	90	4.25	4.52	3.91	4.42	5.00	4.62	4.37	4.75	4.20	3.45	3.12	3.57
	10	2.62	2.62	1.44	2.42	2.50	2.00	2.50	2.25	1.90	1.28	1.25	1.28
F	20	2.87	3.00	1.77	2.85	2.83	2.37	2.75	2.75	2.30	1.57	1.37	1.42
E	30	3.12	3.25	2.00	3.14	3.16	2.75	3.00	3.00	2.60	1.71	1.62	1.71
M	40	3.25	3.50	2.33	3.28	3.33	3.00	3.25	3.25	2.80	1.85	1.75	1.85
A	50	3.37	3.62	2.55	3.42	3.66	3.12	3.37	3.50	3.00	2.14	2.00	2.14
L	60	3.50	3.75	2.77	3.57	3.83	3.37	3.62	3.75	3.20	2.28	2.12	2.28
E	70	3.62	4.00	3.00	3.71	4.16	3.62	3.75	4.00	3.40	2.57	2.37	2.57
	80	3.87	4.12	3.33	4.00	4.33	3.87	4.00	4.25	3.70	2.85	2.75	2.85
	90	4.12	4.37	3.77	4.28	4.66	4.25	4.25	4.50	4.00	3.28	3.12	3.28

	decile	tre	Cax	lax	tax	csH	lsh	tsh	chl	lhl	thl	cbo	lbo
	10	2.40	1.16	1.34	1.48	1.09	1.00	1.00	1.00	1.00	1.00	1.63	1.36
	20	3.12	1.36	1.63	1.75	1.18	1.18	1.10	1.00	1.05	1.00	1.81	1.54
M	30	3.60	1.63	1.90	2.11	1.40	1.40	1.30	1.05	1.18	1.09	2.00	1.81
A	40	3.80	1.81	2.09	2.33	1.54	1.56	1.50	1.25	1.27	1.18	2.18	1.92
L	50	4.00	2.00	2.45	2.58	1.72	1.72	1.70	1.50	1.45	1.27	2.54	2.18
E	60	4.40	2.18	2.63	2.91	1.90	2.09	1.90	1.75	1.81	1.61	2.81	2.45
	70	4.52	2.45	2.90	3.13	2.27	2.27	2.16	2.12	2.09	1.96	2.90	2.78
	80	4.80	2.76	3.27	3.41	2.81	2.85	2.60	2.42	2.90	2.58	3.36	3.09
	90	5.00	3.18	3.54	4.01	3.38	3.49	3.20	3.27	3.29	3.27	3.63	3.36
	10	3.00	1.36	1.81	1.91	1.27	1.18	1.10	1.00	1.09	1.00	1.72	1.36
F	20	3.40	1.63	2.09	2.25	1.54	1.45	1.30	1.12	1.18	1.09	1.90	1.72
E	30	3.80	1.81	2.36	2.58	1.72	1.63	1.50	1.25	1.36	1.27	2.18	1.90
M	40	4.00	2.00	2.54	2.91	1.90	1.81	1.70	1.37	1.54	1.45	2.45	2.09
A	50	4.20	2.18	2.72	3.16	2.18	2.09	2.00	1.62	1.72	1.63	2.63	2.27
L	60	4.40	2.36	2.90	3.41	2.45	2.36	2.30	1.87	1.90	1.90	2.81	2.54
E	70	4.60	2.63	3.18	3.66	2.81	2.63	2.60	2.12	2.36	2.36	3.00	2.81
	80	5.00	3.00	3.45	4.00	3.27	3.09	3.00	2.50	2.90	2.72	3.36	3.09
	90	5.00	3.54	3.81	4.41	3.81	3.63	3.60	3.00	3.45	3.36	3.63	3.36

Note. N = 666. Female = 566, Male = 100. The possible range goes from 1 to 5. Variable names: c = class-related emotion, l = learning-related emotion, t = test emotion. jo = enjoyment, ho = hope, pr = pride, re = relief, ag = anger, ax = anxiety, sh = shame, hl = hopelessness, bo = boredom.

DISCUSSION

The last decade showed a growing and sustained interest in research of different discrete emotions in educational contexts using self-reports as the Achievement Emotions Questionnaire (Pekrun & Bühner, 2014). This instrument proved to be reliable and valid for measuring a set of emotions prevalent in typical academic situations in different cultures (Ismail, 2015; Kim & Lee, 2014; King, 2010; Molfenter, 1999; Peixoto et al., 2015; Titz, 2001). However, psychometric emphasizes the need to adapt psychological assessment instruments developed in other cultural contexts and rigorously assess compliance with the psychometric standards. In Argentina, previous publications referring to this instrument have reported data using preliminary versions or selected scales only (Sánchez Rosas, 2011, 2013, 2015; Sánchez Rosas & Bedis, 2015; Sánchez Rosas & Pérez, 2015; Sánchez Rosas et al., 2016, in press), but no studies had evaluated the psychometric properties of the

overall instrument. The aim of this study was to obtain a Spanish version of the AEQ (Pekrun et al., 2011) adapted for Argentinean university students, namely AEQ-AR (see Appendix for the complete instrument). In this research, reported results provide evidence of reliability and validity of the AEQ-AR. In addition, gender differences were in line with expectations. Lastly, the norms will allow interpret the scores obtained for practical purposes.

The AEQ-AR: Internal Validity and Reliability

The validity and reliability of the AEQ-AR scales have been accomplished by exploratory and confirmatory factor analysis, alpha coefficients and item-total correlations (see Appendix). The validity and reliability studies were conducted with two different samples. The first sample was used for exploratory factor analysis and reliability analysis. The second sample was used for confirmatory factor analysis. The results of both studies provided acceptable evidence for reliability and validity of the AEQ-AR. The exploratory factor analysis showed that a one dimension factor solution for each scale presented adequate average values of explained variance, high factor loadings, and excellent internal consistency. The same one-dimensional factor solutions obtained with the estimation sample were assessed by confirmatory factor analysis, obtaining good fit to the data with high factor loadings, and good levels of internal consistency.

Positive emotions (enjoyment, hope, and pride) correlated moderately highly and positively in all three settings, except for relief that showed moderate but positive correlations (Table 3). Similarly, there were moderate to high and positive correlations between the negative emotions (anger, anxiety, shame, hopelessness, and boredom). Correlations were high for the negative activity-related achievement emotions of anger and boredom, and for the negative outcome-related achievement emotions of anxiety, shame and hopelessness. When object focus of these negative emotions changed (like anger and shame) correlations were moderate. Correlations between these positive emotions, on the one hand, and negative emotions, on the other hand, were moderately negative. These correlations were much higher when the object focus was the same, as in the case of enjoyment with boredom or anger, and pride and hope with anxiety, shame and hopelessness. Finally, correlations of emotions experienced in different settings (e.g., class-enjoyment, learning-enjoyment, and test-enjoyment) were high but not so high as to

indicate overlap. Taken together and in accordance with Pekrun et al. (2011), it is useful to distinguish between different discrete emotions that occur within a given achievement setting, and between emotions experienced in different achievement settings. Even more, it is useful to distinguish the emotions according to the valence and object focus (Pekrun, 2006).

Additionally, findings demonstrated that relationships between different achievement emotions can be best explained by taking into account both the differences between discrete emotions and the differences between emotions that occur in different achievement settings. When four models were tested competitively, the two-facet, emotion x setting model showed a good fit compared with others models (one-factor model, nine-emotion factor model, and three-setting factor model). Latent relationships between the nine emotions of the two-facet model were similar with the manifest correlations (Table 3).

The AEQ-AR: External Validity

In accordance with Pekrun's (2006) control-value theory, relations between achievement emotions and control-value appraisals, namely social academic self-efficacy and task value, attested external validity of the scales (Table 5; Pekrun et al., 2011; Sánchez Rosas, 2013; Sánchez Rosas et al., 2011). Social academic self-efficacy and task value correlated positively with positive emotions and negatively with negative emotions. On the one hand, task value correlated higher with activity-related emotions than with outcome-related emotions. On the other hand, social academic self-efficacy correlated higher with outcome-related emotions than with activity-related emotions. This is because task value refers to task-related appraisals, while social academic self-efficacy refers to the ability to obtain certain outcomes. A more complex pattern of relations was found for achievement emotions scales and motivation, evaluated here as achievement goals. As predicted by Pekrun et al. (2009), mastery-approach and mastery-avoidance correlated positively with positive emotions (higher with activity-related emotions, such as enjoyment, than with outcome-related emotions, such as hope or pride) and negatively with negative activity-related emotions (anger and boredom). Performance-approach and performance-avoidance correlated positively with negative outcome-related emotions (anxiety, shame, and hopelessness), although performance-approach also correlated positively with enjoyment and pride. These results demonstrate the detrimental effects of performance goals on

outcome-related emotions, but showing at the same time beneficial effects of the approach component of performance-approach goals on some positive emotions (Pekrun et al., 2009). In addition, as predicted by Pekrun's (2006) control-value theory and informed by some studies (Sánchez Rosas, 2013; Sánchez Rosas & Pérez, 2015), there were clear linkages between emotions and avoidance of academic help seeking as a learning strategy. Positive emotions decreased the avoidance of help seeking and an opposite pattern of relationships was found for negative emotions. Finally, positive emotions (enjoyment, pride, hope, and relief) and negative outcome-related emotions (anxiety, shame, and hopelessness) were facilitator and inhibitors of the academic performance (GPA), respectively.

The AEQ-AR: Gender Differences

This work progressed providing evidence for the gender differences hypothesis stated by Sánchez Rosas (2013) which proposed that women would experience prospective and retrospective emotions related to obtaining negative results in class more frequently (hopelessness, anxiety, shame). In this research, the same pattern was assumed and explored in other achievement situations (class, learning, and test situations). As expected, anxiety and shame differences were generalized across settings, and test-related hopelessness was higher in female students, but there were no significant mean differences for class and learning-related hopelessness (Table 6). In consequence, partial support was found for the gender differences hypothesis of prospective and retrospective emotions related to negative results.

The AEQ-AR: Norm-Referenced Interpretation of Test Scores

At last, Table 7 presented the norms for male and female students of AEQ-AR scales. In this way, the AEQ-AR represents a useful tool that could be employed by researchers and counselors. For example, experimental studies that evaluate the effects of some interventions could perform measurements to classify people according to the level of emotions. Also, teachers and educational psychologists could identify and guide students with positive and negative emotional experiences, comparing the individual's scores with the reference group.

Conclusions and Directions for Future Research

Taken together, the results of this study provided satisfactory evidence that the AEQ-AR is reliable and valid for the university population from Argentina, but further research is needed in order to extend the scope of this study.

Currently, there is a strong interest in educational research of achievement emotions in the context of careers related to science, technology, engineering and mathematics (STEM). Therefore, researchers interested in investigating achievement emotions in Spanish-speaking populations, particularly in Argentina, would benefit using the AEQ -AR scales in STEM careers. Even, further research could adapt and analyze the psychometric properties of the AEQ-AR for assessing domain-specific achievement emotions, such as the Achievement Emotions Questionnaire-Mathematics (AEQ-M; Frenzel, Thrash, et al., 2007).

Although the current study was conducted with university-level students, it would be helpful to adapt the AEQ-AR to assess achievement emotions in populations of other levels of education, such as primary or secondary level.

The challenge of getting a shorter version of the AEQ-AR with good psychometric properties could also be addressed. In this way, the scales could be used in experimental research, which are often limited when trying to make measurements with large scales such as those reported here. In the same way, it could be used in traditional or virtual contexts of teaching, as well as to provide immediate feedback in these contexts.

This research analyzed the bivariate relationship of achievement emotions to task value, self-efficacy, achievement goals, and academic help seeking. However, further research could explore other self-regulated learning strategies (cognitive, emotional or motivational) or coping strategies (coping with boredom), and different control-value appraisals. In addition, more sophisticated statistic method, such as path analysis (Pérez, Medrano, & Sánchez Rosas, 2013), could be employed in analyzing relationships between achievement emotion and their antecedent and outcome variables.

Although population norms for the instrument were not known, the norms developed in this study represent an advance and would have important implications for educational practice. However, these standards were prepared considering a population of university students distinguished only by gender. Further research could develop norms for

specific domains such as mathematics or statistics. The level of career advancement could also be considered, as well as a distinction between general areas of knowledge such as health sciences, natural sciences or social sciences and humanities.

REFERENCES

- Arias, B. (2008). *Desarrollo de un ejemplo de análisis factorial confirmatorio con LISREL, AMOS y SAS. Seminario de Actualización en Investigación sobre Discapacidad SAID 2008*. Universidad de Valladolid.
- Artino Jr., A. R., & Jones II, K. D. (2012). Exploring the complex relations between achievement emotions and self-regulated learning behaviors in online learning. *Emotions in Online Learning Environments*, 15(3), 170–175. doi:10.1016/j.iheduc.2012.01.006
- Bandalos, D. L. (2002). The Effects of Item Parceling on Goodness-of-Fit and Parameter Estimate Bias in Structural Equation Modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 9(1), 78–102. doi:10.1207/s15328007sem0901_5
- Cassady, J. C., & Johnson, R. E. (2002). Cognitive test anxiety, procrastination, and academic performance. *Contemporary Educational Psychology*, 27, 270-295.
- Cattell, R. (1966). The Scree Test for the number of factors. *Multivariate Behavioral Research*, 1, 141–161.
- Daniels, L. M., Stupnisky, R. H., Pekrun, R., Haynes, T. L., Perry, R. P., & Newall, N. E. (2009). A longitudinal analysis of achievement goals: From affective antecedents to emotional effects and achievement outcomes. *Journal of Educational Psychology*, 101, 948–963.
- Elliot, A. J., & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology*, 100, 613–628.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272-299.
- Ferrando, P., Vereá, M., & Lorenzo, U. (1999). Evaluación Psicométrica del Cuestionario de Ansiedad y Rendimiento en una muestra de escolares. *Psicothema*, 11(1), 225–236.
- Frenzel, A. C., Thrash, T. M., Pekrun, R., & Goetz, T. (2007). Achievement emotions in Germany and China: A cross-cultural validation of the Academic Emotions Questionnaire-Mathematics (AEQ-M). *Journal of Cross-Cultural Psychology*, 38, 302–309.
- George, D., & Mallery, P. (2007). *SPSS for Windows: Step by step 14.0 update (7 ed.)*. Boston: Allyn & Bacon.
- Goetz, T. (2004). *Emotionales Erleben und selbstreguliertes Lernen bei Schülern im Fach Mathematik* [Students emotions and self-regulated learning in mathematics]. Munich, Germany: Utz.
- Goetz, T., Pekrun, R., Hall, N., & Haag, L. (2006). Academic emotions from a social-cognitive perspective: antecedents and domain specificity of students' affect in the context of Latin instruction. *British Journal of Educational Psychology*, 76(2), 289-308. doi:10.1348/000709905X42860

- González, A., Paoloni, V., & Rinaudo, C. (2013). Aburrimiento y disfrute en clase de Lengua española en secundaria: predictores motivacionales y efectos sobre el rendimiento. *Anales de Psicología, 29*(2), 426-434. doi:10.6018/analesps.29.2.136401
- González Fernández, A., Donolo, D., & Rinaudo, M. C. (2009). Emociones académicas en universitarios: su relación con las metas de logro. *Ansiedad y Estrés, 15*, 263-277.
- Heredia, D., Piemontesi, S., Furlán, L., & Hodapp, V. (2008). Adaptación del Inventario Alemán de Ansiedad frente a los Exámenes (GTAI-A). *Evaluar 8*, 46-60.
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*(2), 179-185.
- Hoyle, R., & Panter, A. (1995). Writing about structural equation models. In R. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 100–119). Thousand Oaks, CA: Sage
- Ismail, N. M. (2015). EFL Saudi Students' Class Emotions and Their Contributions to Their English Achievement at Taif University. *International Journal of Psychological Studies, 7*(4), 19-42. doi:10.5539/ijps.v7n4p19
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*, 141-151.
- Karabenick, S. A., Woolley, M. E., Friedel, J. M., Ammon, B. V., Blazeovski, J., Ree Bonney, C., et al. (2007). Cognitive processing of self-report items in educational research: Do they think what we mean? *Educational Psychologist, 42*, 139–151.
- Kim, J. R., & Lee, E. (2014). The validation of the Korean version of the Achievement Emotions Questionnaire-Mathematics (K-AEQ-M) for middle school students. *The Korean Journal of Human Development, 21*, 115–139.
- King, R. B. (2010). What do students feel in school and how do we measure them?: Examining the psychometric properties of the S-AEQ-F [Short-Academic Emotions Questionnaire-Filipino]. *Philippine Journal of Psychology, 43*, 161–176.
- Kondo, D. S. (1997). Strategies for coping with test anxiety. *Anxiety, Stress, and Coping, 10*, 203-215.
- Lichtenfeld, S., Pekrun, R., Stupnisky, R. H., Reiss, K., & Murayama, K. (2012). Measuring students' emotions in the early years: The Achievement Emotions Questionnaire-Elementary School (AEQ-ES). *Learning and Individual Differences, 22*, 190–201.
- Merenda, P. (1997). A guide to the proper use of Factor Analysis in the conduct and reporting of research: pitfalls to avoid. *Measurement and evaluation in counseling and evaluation, 30*, 156-163.
- Molfenter, S. (1999). *Prüfungsemotionen bei Studierenden* [Test emotions in university students]. Unpublished dissertation, Institute of Psychology, University of Regensburg, Germany.
- Mouratidis, A., Vansteenkiste, M., Lens, W., & Auweele, Y. V. (2009). Beyond positive and negative affect: Achievement goals and discrete emotions in the elementary physical education classroom. *Psychology of Sport and Exercise, 10*, 336–343.

- Olaz, F. (2006). *Construcción de una escala de autoeficacia para estudiantes universitarios*. Comunicación presentada en el primer encuentro nacional de Evaluación Psicológica y Educativa, Universidad Nacional de Córdoba.
- Paoloni, P. V., Vaja, A. B., & Muñoz, V. L. (2014). Reliability and Validity of the Achievement Emotions Questionnaire. A Study of Argentinean University Students. *Electronic Journal of Research in Educational Psychology, 12*(3), 671-692.
- Peixoto, F., Mata, L., Monteiro, V., Sanches, C., & Pekrun, R. (2015). The Achievement Emotions Questionnaire: Validation for Pre-Adolescent Students. *European Journal of Developmental Psychology, 12*, 472-481. doi:10.1080/17405629.2015.1040757
- Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries and implications for educational research and practice. *Educational Psychology Review, 18*, 315-341.
- Pekrun, R., & Bühner, M. (2014). Self-report measures of academic emotions. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International handbook of emotions in education* (pp. 561-579). New York, NY: Taylor & Francis.
- Pekrun, R., Elliot, A. J., & Maier, M. A. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of Educational Psychology, 98*, 583-597.
- Pekrun, R., Elliot, A. J., & Maier, M. A. (2009). Achievement Goals and Achievement Emotions: Testing a Model of Their Joint Relations With Academic Performance. *Journal of Educational Psychology, 101*, 115-135.
- Pekrun, R., Goetz, T., & Perry, R. P. (2005). *Achievement Emotions Questionnaire (AEQ) -User's manual*. Munich, Germany: University of Munich, Department of Psychology.
- Pekrun, R., Goetz, T., Daniels, L. M., Stupinsky, R. H., & Perry, R. P. (2010). Boredom in achievement settings: exploring Control-Value antecedents and performance outcomes of a neglected emotion. *Journal of Educational Psychology, 102*(3), 531-549. doi:10.1037/a0019243
- Pekrun, R., Goetz, T., Frenzel, A. C., Barchfeld, P., & Perry, R. P. (2011). Measuring emotions in students' learning and performance: the achievement emotions questionnaire (AEQ). *Contemporary Educational Psychology, 36*, 36-48.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of quantitative and qualitative research. *Educational Psychologist, 37*, 91-106. doi:10.1207/S15326985EP3702_4
- Pekrun, R., & Perry, R. P. (2014). Control-value theory of achievement emotions. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International handbook of emotions in education* (pp. 120-141). New York: Taylor & Francis.
- Pérez, C. J. M. (2007). *Manual de Usuario de la plataforma de encuestas en línea: Lime Survey, Versión 1.0, Licencia de Documentación Libre GNU*.
- Pérez, E., & Medrano, L. (2014). Exploratory factor analysis: conceptual and methodological basis. *Revista Argentina de Ciencias del Comportamiento, 6*(3), 71-80.

- Pérez, E., Medrano, L., & Sánchez-Rosas, J. (2013). El path analysis: conceptos básicos y ejemplos de aplicación. *Revista de la Asociación Argentina de Ciencias del Comportamiento*, 5, 52-66.
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the motivated strategies for learning questionnaire (MSLQ). *Educational and Psychological Measurement*, 53, 810-814.
- Sánchez Rosas, J. (2011). *Cómo evaluar las emociones académicas. Adaptación del Cuestionario de Emociones de Logro*. III Congreso de Psicología de la Facultad de Psicología de la Universidad Nacional de Córdoba. doi: 10.13140/2.1.3400.4484
- Sánchez Rosas, J. (2013). Academic help-seeking, social academic self-efficacy and class-related emotions in university students. *Revista de la Asociación Argentina de Ciencias del Comportamiento*, 5(1), 35-41.
- Sánchez Rosas, J. (2015). Validation of the Achievement Goal Questionnaire – Revised in Argentinean university students (A-AGQ-R). *International Journal of Psychological Research*, 8(1), 10-23.
- Sánchez Rosas, J., & Bedis, J. (2015). Measuring Strategies to Cope with Boredom in Spanish Speaking Population: A Study with Argentinian University Students. *Evaluar*, 15, 99-122.
- Sánchez Rosas, J., & Pérez, E. (2015). Measuring threats, benefits, emotional costs and avoidance of academic help seeking in Argentinian university students. *Pensamiento Psicológico*, 13(2), 49-64. doi:10.11144/Javerianacali.PPSI13-2.mtbe
- Sánchez Rosas, J., Piotti, A., Sánchez, V., Pereira, A., & Debat, E. (2011). *Implicancias del interés, la importancia y la utilidad de los materiales y contenidos de aprendizaje para las emociones académicas*. Presented at the III Congreso de Psicología de la Facultad de Psicología de la Universidad Nacional de Córdoba, Argentina. doi:10.13140/2.1.4317.9526
- Sánchez-Rosas, J., Takaya, P. B., & Molinari, A. V. (2016). The Role of Teacher Behavior, Motivation and Emotion in Predicting Academic Social Participation in Class. *Pensando Psicología*, 12(19), 39-53. doi: <http://dx.doi.org/10.16925/pe.v12i19.1327>
- Sánchez-Rosas, J., Takaya, P. B., & Molinari, A. V. (in press). Atención en clase: rol predictivo del comportamiento docente, valor de la tarea, autoeficacia, disfrute y vergüenza. *Psiencia. Revista Latinoamericana de Ciencia Psicológica*.
- Spangler, G., Pekrun, R., Kramer, K., & Hofmann, H. (2002). Students' emotions, physiological reactions, and coping in academic exams. *Anxiety, Stress and Coping*, 15, 383-400.
- Titz, W. (2001). *Emotionen von Studierenden in Lernsituationen* [Students' emotions in situations of learning]. Muenster, Germany: Waxmann.
- Zeidner, M. (1998). *Test anxiety: the state of the art*. New York: Plenum.

APPENDIX

The Achievement Emotions Questionnaire-Argentine (AEQ-AR): Instructions and scales

Los ítems de las escalas están relacionados con las cuatro subescalas de componentes emocionales dentro de las emociones (afectiva, cognitiva, motivacional y fisiológica, según lo indica la 4ª –A, C, M o P– letra del nombre de cada ítem). En el cuestionario dichos ítems se presentan en tres grupos que se refieren a las emociones experimentadas antes, durante y después de cada situación (según lo indica la última letra –B, D o A– del nombre de cada ítem). Se incluyen los estadísticos descriptivos de cada ítem (media, desviación estándar, correlación ítem-total corregida) y de cada escala (media, desviación estándar, confiabilidad).

Escalas emocionales relacionadas con la asistencia a clases.**INSTRUCCIONES**

"Asistir a clases en la universidad puede provocar diferentes sentimientos. Esta parte del cuestionario hace referencia a las emociones que puedes experimentar mientras estás en clase en la universidad. Antes de responder los ítems de las páginas siguientes, trata de recordar algunas situaciones típicas que hayas vivido en el transcurso de tu carrera. Lee cuidadosamente y responde indicando la frecuencia con la que experimentas aquello que describe cada ítem en una escala de 1 (nunca) a 5 (siempre)."

(1) ANTES DE LA CLASE

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar ANTES de estar en clase. Indica cómo te sientes generalmente antes de ir a clases."

(2) DURANTE LA CLASE

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar DURANTE la clase. Indica cómo te sientes generalmente durante la clase."

(3) DESPUÉS DE LA CLASE

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar DESPUÉS de la clase. Indica cómo te sientes generalmente después de la clase."

Scale	DISFRUTE	M	SD	α
		26.99	4.99	.86
Item		M	SD	rit
CJOA1B	Me entusiasma ir a clases.	3.30	0.85	.65
CJOA2D	Disfruto de estar en clase.	3.28	0.84	.67
CJOA3A	Al terminar la clase ya estoy deseando que llegue la próxima.	2.33	0.89	.57
CJOC1B	Tengo ganas de aprender mucho en esta clase.	3.89	0.87	.56
CJOC2A	Estoy contento de haber aprendido el material.	4.06	0.86	.54
CJOC3A	Me alegra que haya valido la pena ir a clases.	3.97	0.95	.55
CJOM1B	Estoy motivado a ir a esta clase porque es interesante.	3.38	0.84	.63
CJOM3D	Me entusiasma tanto esta clase que podría pasar horas escuchando al profesor.	2.77	0.94	.58
Scale	ESPERANZA	M	SD	α
		23.86	5.03	.83
Item		M	SD	rit
CHOA1B	Me siento seguro de mí mismo cuando voy a clase.	3.34	1.09	.59
CHOA2B	Me siento lleno de esperanzas.	3.25	1.08	.56
CHOC1B	Confío en que podré llevar al día el material.	3.09	1.02	.51
CHOC3D	Me siento seguro porque comprendo el material.	3.73	0.89	.55
CHOM1B	Me motiva el estar seguro de que entenderé el material.	3.67	0.97	.59
CHOM2B	Mi seguridad me motiva a prepararme para la clase.	2.98	1.04	.59
CHOM3B	La esperanza de obtener buenos resultados me motiva a esforzarme mucho.	3.80	1.07	.55

Scale	ORGULLO	M	SD	α
		26.80	5.99	.82
Item		M	SD	rit
CPR1A	Estoy orgulloso de mí mismo.	3.35	1.06	.45
CPR1D	Me enorgullece poder llevar al día el material.	3.69	1.15	.48
CPR3A	Creo que puedo sentirme orgulloso de lo que sé sobre esta materia.	3.31	0.93	.60
CPR4A	Me siento orgulloso de los aportes que he hecho en clase.	2.78	1.07	.61
CPRM1D	Cuando hago buenos aportes en clase me siento más motivado.	3.58	1.23	.52
CPRM2A	Me siento motivado para continuar con esta materia porque me enorgullecen mis logros.	3.39	1.05	.66
CPRM3A	Me gustaría contarles a mis amigos lo bien que me fue en esta materia.	3.29	1.23	.46
CPRP1D	Cuando me va bien en clase mi corazón late con orgullo.	3.40	1.25	.51

Scale	ENOJO	M	SD	α
		15.44	5.41	.84
Item		M	SD	rit
CAGA1D	Me siento frustrado en clase.	2.31	1.02	.52
CAGA2A	Estoy enojado.	1.95	0.84	.59
CAGC1D	Pensar en lo bajo que es el nivel de la materia me hace enojar.	2.37	1.20	.51
CAGC2D	Me irrita pensar en todas las cosas inútiles que tengo que aprender.	2.22	1.18	.63
CAGC3A	Me irrita mucho pensar en el tiempo que pierdo en clase.	2.20	1.04	.66
CAGM1B	Quisiera no tener que asistir a clases porque me enoja.	2.14	1.07	.63
CAGM2A	Desearía poder retar a los profesores.	2.26	1.19	.59

Scale	ANSIEDAD	M	SD	α
		25.13	8.92	.91
Item		M	SD	rit
CAXA1B	Pensar sobre la clase me hace sentir preocupado.	2.66	1.06	.60
CAXA2B	Tengo miedo.	2.40	1.14	.69
CAXA3D	Estoy nervioso en clase.	1.94	0.97	.70
CAXC1B	Incluso antes de la clase me preocupa si podré entender el material.	2.18	1.09	.71
CAXC2B	Me preocupa si estaré lo suficientemente preparado para la clase.	2.51	1.15	.70
CAXC3B	Me preocupa que el nivel de exigencia pueda ser demasiado alto.	2.71	1.25	.68
CAXC4D	Me preocupa que los demás vayan a entender más que yo.	1.99	1.19	.62
CAXM1B	Como estoy tan nervioso prefiero faltar a la clase.	1.71	1.05	.58
CAXM2D	Me da miedo equivocarme, así que mejor no digo nada.	3.07	1.31	.53
CAXP2D	Me pongo tenso en clase.	2.09	1.06	.71
CAXP3D	Cuando no entiendo algo importante en clase se me acelera el corazón.	1.86	1.10	.58

Scale	VERGÜENZA	M	SD	α
		22.98	9.54	.92
Item		M	SD	rit
CSHA2D	Me siento avergonzado.	2.30	1.15	.71
CSHC1D	Me daría vergüenza que los demás supieran que no entiendo el material.	2.11	1.22	.70
CSHC2D	Cuando digo algo en clase siento que estoy haciendo el ridículo.	2.29	1.23	.76
CSHC3D	Me da vergüenza no saber expresarme bien.	2.63	1.33	.73
CSHC4A	Me da vergüenza que otros hayan entendido la clase mejor que yo.	1.74	1.06	.67
CSHM1D	Después de haber dicho algo en clase quisiera que me tragara la tierra.	2.20	1.25	.78
CHSM2A	Cuando no entiendo algo en clase prefiero que nadie se entere.	1.97	1.22	.62
CSHP1D	Cuando digo algo en clase siento que me pongo colorado.	3.01	1.42	.60
CSHP2D	La vergüenza me pone tenso y me hace sentir inhibido.	2.77	1.37	.78
CSHP3D	Cuando hablo en clase empiezo a tartamudear.	1.95	1.18	.60

Scale	DESESPERANZA	M	SD	α
		14.66	6.72	.92
Item		M	SD	rit
CHLA1B	Pensar en esta clase me hace sentir desesperanzado.	2.04	1.11	.71

CHLA2D	Me siento desesperanzado.	2.06	1.13	.79
CHLC1B	Incluso antes de la clase estoy resignado a que no entenderé el material.	1.56	0.86	.68
CHLC2D	He perdido todas las esperanzas de entender en esta clase.	1.53	0.84	.73
CHLC3A	Siento que en esta carrera nunca me va a ir bien.	1.89	1.18	.69
CHLM1B	Como ya me he dado por vencido, no tengo ganas de ir a clases.	1.74	1.09	.73
CHLP1D	Como no entiendo el material se me ve desconectado y resignado.	1.89	0.99	.66
CHLP2A	Me siento tan desesperanzado que no tengo energías.	1.95	1.19	.79

Scale	ABURRIMIENTO	M	SD	α
		23.67	7.30	.92
Item		M	SD	rit
CBOA1D	Me aburro.	2.72	0.92	.64
CBOC2D	Como me aburro mi imaginación vuela.	3.00	1.14	.64
CBOM1D	La clase es tan aburrida que tengo ganas de irme.	2.96	1.02	.76
CBOM2D	Pienso en qué más podría estar haciendo en vez de estar sentado en esta clase aburrida.	2.69	1.14	.70
CBOM3D	Miro el reloj a cada rato porque el tiempo pasa muy lentamente.	2.89	1.10	.72
CBOP1D	Me aburro tanto que me cuesta permanecer despierto.	2.15	1.04	.70
CBOP2D	Me impaciento porque no veo la hora de que termine la clase.	2.63	1.03	.75
CBOP3D	Durante la clase siento que me duermo.	2.27	1.01	.70
CBOP4D	Comienzo a bostezar en clase de tan aburrido que estoy.	2.35	1.03	.70

Escalas emocionales relacionadas con el estudio

INSTRUCCIONES

"Estudiar las materias de tu carrera universitaria puede producir diferentes sentimientos. Este cuestionario hace referencia a las emociones que puedes experimentar cuando estudias. Antes de responder los ítems de las páginas siguientes, trata de recordar algunas situaciones típicas que hayas vivido en el transcurso de tu carrera. Lee cuidadosamente y responde indicando la frecuencia con la que experimentas aquello que describe cada ítem en una escala de 1 (nunca) a 5 (siempre)."

(1) ANTES DE ESTUDIAR

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar ANTES de estudiar. Indica cómo te sientes generalmente antes de empezar a estudiar."

(2) DURANTE EL ESTUDIO

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar DURANTE el estudio. Indica cómo te sientes generalmente mientras estudias."

(3) DESPUÉS DE ESTUDIAR

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar DESPUÉS de estudiar. Indica cómo te sientes generalmente después de haber estudiado."

2.1 Escalas de emociones de estudio

Scale	DISFRUTE	M	SD	α
		28.50	5.60	.86
Item		M	SD	rit
LJOA1B	Tengo muchas ganas de estudiar.	3.26	0.94	.67
LJOA2D	Disfruto el desafío de aprender la materia.	3.72	0.98	.69
LJOA3D	Disfruto de adquirir nuevos conocimientos.	4.63	0.77	.56
LJOC1D	Disfruto de trabajar con el material del curso.	3.56	0.89	.64
LJOC2A	Me pone contento reflexionar sobre mis progresos en las tareas.	4.07	1.01	.52
LJOM1D	Estudio más de lo necesario porque lo disfruto mucho.	2.44	1.02	.61
LJOM2A	Estoy tan contento con mis progresos que me siento motivado para seguir	3.94	1.05	.64

	estudiando.			
LJOM3A	Disfruto tanto de algunos temas que me siento motivado para leer material extra.	3.15	1.13	.54
Scale	ESPERANZA	M	SD	α
		21.50	5.19	.90
Item		M	SD	rit
LHOA1B	Tengo una visión optimista del estudio.	3.71	1.05	.69
LHOA2D	Me siento seguro de mí mismo al estudiar.	3.66	0.91	.74
LHOC1B	Estoy seguro de que podré dominar el material.	3.19	1.10	.74
LHOC2B	Soy optimista con respecto a que avanzaré rápidamente en mis estudios.	3.51	1.08	.76
LHOM1D	Pensar en lograr mis objetivos de aprendizaje me da ánimos.	3.90	1.02	.69
LHOM2D	La confianza que siento me motiva.	3.54	1.12	.79
Scale	ORGULLO	M	SD	α
		13.82	3.57	.87
Item		M	SD	rit
LPRA1A	Estoy orgulloso de mí mismo.	3.41	1.06	.73
LPRC1D	Estoy orgulloso de mi capacidad.	3.56	1.05	.71
LPRC2A	Creo que puedo estar orgulloso de mis logros en el estudio.	3.48	1.05	.74
LPRM1D	Como quiero estar orgulloso de mis logros me siento muy motivado.	3.36	1.04	.68
Scale	ENOJO	M	SD	α
		16.67	6.50	.92
Item		M	SD	rit
LAGA1B	Me enojo cuando tengo que estudiar.	2.20	0.94	.74
LAGA2D	Me irrita estudiar.	1.95	1.01	.81
LAGA3D	Me enojo cuando estoy estudiando.	1.77	0.92	.74
LAGC1B	Me molesta tener que estudiar tanto.	2.54	1.04	.77
LAGC2D	Me molesta tener que estudiar.	2.09	1.00	.75
LAGM1B	Me enojo tanto por la cantidad de material que no quiero empezar a estudiar.	2.33	1.11	.75
LAGM2D	Me enojo tanto que me dan ganas de tirar el libro por la ventana.	1.72	0.95	.66
LAGP1D	Cuando estoy sentado en mi escritorio por mucho tiempo, me irrito tanto que no puedo estarme quieto.	2.06	1.11	.64
Scale	ANSIEDAD	M	SD	α
		30.11	8.71	.89
Item		M	SD	rit
LAXA1B	Cuando miro los libros que todavía me falta leer me pongo ansioso.	3.45	1.07	.55
LAXA2D	Me pongo tenso y nervioso mientras estudio.	2.03	1.04	.64
LAXA3A	Cuando no puedo estar al día con los estudios siento temor.	3.03	1.24	.68
LAXC1D	Me preocupa si podré con todo el trabajo.	3.39	1.08	.68
LAXC2D	La materia me asusta porque no la entiendo del todo.	2.68	1.05	.57
LAXC3A	Me preocupa si habré entendido bien el material.	2.91	1.14	.53
LAXM1B	Me pongo tan nervioso que ni siquiera quiero empezar a estudiar.	2.37	1.22	.64
LAXM2D	Mientras estudio me dan ganas de distraerme para bajar mi nivel de ansiedad.	3.07	1.12	.55
LAXP1B	Cuando tengo que estudiar empiezo a sentirme mal.	1.79	1.03	.59
LAXP2D	A medida que se acaba el tiempo mi corazón comienza a acelerarse.	3.15	1.34	.64
LAXP3D	La preocupación por no llegar a estudiar todo el material me hace transpirar.	2.25	1.32	.55
Scale	VERGÜENZA	M	SD	α
		24.56	10.23	.93
Item		M	SD	rit
LSHA1D	Me siento avergonzado.	2.22	1.16	.64

LSHC1B	Me siento avergonzado de postergar constantemente.	3.13	1.32	.53
LSHC2D	Me siento avergonzado de no poder asimilar los detalles más sencillos.	2.21	1.18	.78
LSHC3D	Me siento avergonzado porque no soy tan hábil como otros para estudiar.	2.33	1.31	.77
LSHC4D	Me siento avergonzado por no poder explicar bien el material a los demás.	2.23	1.21	.74
LSHC5D	Me siento avergonzado cuando me doy cuenta de que me falta habilidad.	2.32	1.28	.80
LSHC6A	Me avergüenzan mis lagunas mentales.	2.32	1.31	.72
LSHM1A	Como he tenido tantos problemas con el material del curso evito discutirlo.	1.95	1.11	.69
LSHM2A	No quiero que nadie sepa cuando no he podido entender algo.	1.76	1.11	.66
LSHP1D	Cuando alguien nota lo poco que entiendo evito el contacto visual.	1.83	1.14	.72
LSHP2D	Me pongo colorado cuando no sé la respuesta a una pregunta referida al material del curso.	2.27	1.28	.65

Scale	DESESPERANZA	M	SD	α
		22.03	10.25	.95
Item		M	SD	rit
LHLA1B	Me siento desesperanzado cuando pienso en estudiar.	2.06	1.11	.73
LHLA2D	Siento impotencia.	2.49	1.28	.75
LHLA3A	Me siento resignado.	2.09	1.19	.79
LHLC1D	Estoy resignado al hecho de que no tengo la capacidad de dominar este material.	1.84	1.04	.77
LHLC2A	Después de estudiar estoy resignado al hecho de que no tengo la habilidad.	1.73	1.07	.81
LHLC3A	Estoy desanimado por el hecho de que nunca aprenderé el material.	1.60	0.94	.77
LHLC4A	Me preocupa que mis habilidades no sean suficientes para mi carrera.	2.45	1.35	.67
LHLM1D	Siento tanta impotencia que no puedo dedicarle todo mi esfuerzo a mis estudios.	2.04	1.19	.79
LHLM2D	Desearía poder abandonar porque no puedo con mis estudios.	1.60	1.01	.65
LHLP1B	Mi falta de confianza me agota aún antes de empezar.	2.07	1.25	.80
LHLP2D	La desesperanza consume mi energía.	2.06	1.24	.81

Scale	ABURRIMIENTO	M	SD	α
		26.21	8.60	.93
Item		M	SD	rit
LBOA1D	El material me aburre terriblemente.	2.56	0.91	.69
LBOA2D	Me aburre estudiar las materias de mi carrera.	2.15	0.88	.74
LBOA3D	Estudiar es aburrido y monótono.	2.20	1.02	.73
LBOC1D	Mientras estudio este material aburrido pienso que el tiempo no pasa.	2.19	1.02	.64
LBOC2D	El material es tan aburrido que me pongo a soñar despierto.	2.39	1.10	.75
LBOC3D	Mientras estudio mi imaginación vuela.	2.64	1.09	.67
LBOM1B	Como estoy aburrido no tengo ganas de estudiar.	2.58	1.09	.67
LBOM2B	Prefiero dejar para mañana este trabajo tan aburrido.	2.82	1.09	.70
LBOP1D	Me cansa estar sentado en mi escritorio porque estoy aburrido.	2.38	0.99	.79
LBOP2D	El material me aburre tanto que me siento agotado.	2.13	0.99	.73
LBOP3D	Es tan aburrido que mientras estudio me parece que voy a quedarme dormido.	2.17	1.01	.65

Escalas emocionales relacionadas con los exámenes

INSTRUCCIONES

"Rendir exámenes puede producir diferentes sentimientos. Esta sección del cuestionario hace referencia a las emociones que puedes experimentar cuando rindes exámenes en la universidad. Antes de responder los ítems de las páginas siguientes, trata de recordar algunas situaciones típicas que hayas vivido en el transcurso de tu carrera. Lee cuidadosamente y responde indicando la frecuencia con la que experimentas aquello que describe cada ítem en una escala de 1 (nunca) a 5 (siempre)."

(1) ANTES DE RENDIR EL EXAMEN

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar ANTES de rendir un examen. Indica cómo te sientes generalmente antes de un examen."

(2) DURANTE EL EXAMEN

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar DURANTE el examen. Indica cómo te sientes generalmente mientras haces el examen."

(3) DESPUÉS DE RENDIR EL EXAMEN

"Los siguientes ítems se refieren a los sentimientos que puedes experimentar DESPUÉS de rendir el examen. Indica cómo te sientes generalmente después de rendir un examen."

2.3 Escalas de emociones de evaluación

Scale	DISFRUTE	M	SD	α
		20.72	6.98	.88
Item		M	SD	rit
TJOA1B	Espero con ansias el examen.	2.71	1.27	.56
TJOA2D	Disfruto de rendir examen.	2.44	1.17	.72
TJOC1B	Tengo ganas de demostrar mis conocimientos.	2.92	1.11	.66
TJOC2D	Estoy contento de poder afrontar el examen.	3.29	1.25	.59
TJOM1B	Como disfruto de prepararme para el examen estoy motivado para hacer más de lo necesario.	2.33	1.02	.64
TJOP1B	Antes de rendir el examen siento entusiasmo.	2.56	1.11	.74
TJOP2A	Mi corazón se acelera de alegría.	2.21	1.18	.65
TJOP3A	Estoy rebosante de entusiasmo.	2.25	1.16	.71
Scale	ESPERANZA	M	SD	α
		25.32	6.81	.92
Item		M	SD	rit
THOA1B	Soy optimista con respecto a que todo resultará bien.	3.21	1.10	.72
THOA2D	Estoy muy seguro.	2.80	1.08	.77
THOC1B	Tengo grandes esperanzas de que mis habilidades sean suficientes.	3.31	1.05	.74
THOC2B	Estoy bastante seguro de que me he preparado lo suficiente.	2.97	1.02	.71
THOC3B	Pienso con optimismo en el examen.	3.12	1.09	.80
THOM1B	Empiezo a estudiar para el examen con grandes esperanzas y expectativas.	3.36	1.07	.60
THOM2B	Mi seguridad me motiva a prepararme bien.	3.10	1.06	.77
THOM3D	Como espero aprobar estoy motivado para esforzarme mucho.	3.44	1.07	.67
Scale	ORGULLO	M	SD	α
		26.55	7.09	.89
Item		M	SD	rit
TPRA1A	Estoy muy satisfecho conmigo mismo.	3.14	1.03	.58
TPRC1D	Creo que puedo estar orgulloso de mis conocimientos.	3.17	1.01	.66
TPRC2A	Pensar en lo bien que me fue me hace sentir orgulloso.	3.59	1.08	.69
TPRC3A	Estoy orgulloso de lo bien que dominé el examen.	3.18	0.98	.72
TPRM1B	Estoy tan orgulloso de cómo me preparé que quiero comenzar el examen ya mismo.	2.46	1.09	.61
TPRM2D	El orgullo por mis conocimientos aviva mis esfuerzos al hacer el examen.	2.93	1.03	.70
TPRP1A	Cuando me entregan los resultados del examen mi corazón palpita de orgullo.	3.09	1.11	.68
TPRP2A	Después del examen estoy tan orgulloso que me siento más grande.	2.62	1.17	.60
TPRP3A	Salgo del examen con la expresión de un ganador.	2.36	1.12	.60
Scale	ALIVIO	M	SD	α
		20.35	4.14	.85
Item		M	SD	rit

TREA1A	Siento alivio.	4.19	0.95	.68
TREA2A	Me siento liberado.	4.26	0.94	.76
TREA3A	Me siento muy aliviado.	4.11	1.03	.77
TREP1A	La tensión en mi estómago se ha disipado.	4.05	1.06	.65
TREP2A	Por fin puedo volver a respirar tranquilo.	3.74	1.19	.50

Scale	ENOJO	M	SD	α
		15.35	5.67	.88
Item		M	SD	rit
TAGA1D	Me enojo.	2.13	0.99	.55
TAGA2A	Estoy bastante enojado.	1.90	0.92	.67
TAGC3D	Me parece que las preguntas son injustas.	2.42	0.98	.65
TAGC4A	Me enojan los criterios de calificación del profesor.	2.64	1.09	.70
TAGM1A	Desearía poder retar al profesor.	2.21	1.19	.73
TAGM2A	Desearía poder expresar libremente mi enojo.	2.43	1.24	.74
TAGP1A	Se me sube la sangre a la cabeza.	1.61	0.92	.63

Scale	ANSIEDAD	M	SD	α
		37.05	11.02	.93
Item		M	SD	rit
TAXA1B	Antes del examen me siento nervioso e inquieto.	3.90	1.09	.66
TAXA2D	Estoy muy nervioso.	3.23	1.31	.79
TAXA3D	Me siento muy nervioso cuando estoy rindiendo el examen.	2.89	1.21	.77
TAXC1B	Me preocupa si habré estudiado lo suficiente.	3.93	1.09	.67
TAXC2B	Me preocupa que el examen sea demasiado difícil.	3.85	1.12	.66
TAXC3D	Me preocupa si aprobaré el examen.	3.84	1.15	.61
TAXM1B	Me pongo tan nervioso que desearía poder faltar al examen.	2.55	1.39	.62
TAXM2D	Me pongo tan nervioso que no veo la hora de que termine el examen.	2.63	1.31	.69
TAXM3D	Estoy tan ansioso que preferiría estar en cualquier otro lugar.	2.46	1.33	.67
TAXP1B	Me siento descompuesto.	2.20	1.22	.64
TAXP2D	Al comenzar el examen mi corazón empieza a acelerarse.	3.18	1.37	.69
TAXP3D	Me tiemblan las manos.	2.36	1.30	.63

Scale	VERGÜENZA	M	SD	α
		21.48	9.37	.94
Item		M	SD	rit
TSHA1D	Me siento avergonzado.	2.00	1.05	.81
TSHA2A	Siento vergüenza.	2.07	1.04	.78
TSHC1B	No puedo ni pensar en lo vergonzoso que sería reprobado el examen.	2.40	1.31	.68
TSHC2D	Me da vergüenza lo mal que me preparé.	2.34	1.14	.73
TSHC3D	Me da vergüenza no poder responder correctamente las preguntas.	2.56	1.21	.79
TSHC4A	Me avergüenzan mis notas.	2.38	1.21	.69
TSHM1D	Me da tanta vergüenza que quiero que me trague la tierra.	1.85	1.15	.81
TSHM2A	Cuando saco una mala nota quisiera no tener que volver a mirar a la cara a mi profesor.	2.07	1.29	.69
TSHP1D	La vergüenza me acelera el pulso.	1.93	1.15	.68
TSHP2A	Cuando otros se enteran que saqué una nota baja me pongo colorado.	1.88	1.20	.70

Scale	DESESPERANZA	M	SD	α
		19.05	8.97	.95
Item		M	SD	rit
THLA1B	Me deprimó porque siento que no tengo mucha esperanza de aprobar el examen.	2.36	1.17	.78
THLA2D	Me siento desesperanzado.	1.99	1.08	.81
THLC1B	He perdido las esperanzas de tener la habilidad para rendir bien el examen.	2.03	1.16	.84
THLC2D	He dejado de creer que puedo responder correctamente las preguntas.	1.82	1.02	.82

THLC3D	Empiezo a pensar que por mucho que me esfuerce nunca aprobaré el examen.	1.78	1.09	.82
THLC4D	Empiezo a darme cuenta de que las preguntas son demasiado difíciles para mí.	1.93	0.97	.71
THLM1B	Me siento tan resignado ante el examen que no puedo empezar a hacer nada.	1.73	1.03	.80
THLM2B	Preferiría no presentarme al examen porque he perdido todas las esperanzas.	1.85	1.12	.76
THLM3D	Tengo ganas de abandonar.	1.76	1.03	.68
THLP2D	Me siento tan resignado que no tengo energía.	1.80	1.06	.81