

Situated goals questionnaire transcultural adjustment and validation: comparison between Colombian and Spanish students

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Abstract

Introduction. This research aims to adjust and validate the Situated Goals Questionnaire to the Colombian higher education population and compare the results with those obtained previously in the Spanish population

Method. A total of 500 university students from the Faculty of Education of the National Pedagogic University of Colombia participated. Four Confirmatory Factor Analysis were made to identify the factorial validity of the Situated Goal Questionnaire for the University population: 1) original model with a subsample 2) original model cross-validation analysis between two subsamples, 3) multi-group analysis between the two main phases of career 4) multi-group analysis between Colombian and Spain sample. Six regression analyses using the class's final grade as a predictive variable were made to identify predictive validity.

Results. As a result, the adjusted questionnaire has good fit and reliability values. The aspects that predicts performance is the desire to learn positively; whereas, the desire to pass the class affects it negatively. The main difference between Colombian and Spanish students is that the former have a more significant relationship with the *desire to pass* in the performance orientation.

Discussion and Conclusion. SGQ-U is a good tool for teachers to identify the activities and their impact. The type of academic task the teacher uses in the classroom influences the student's specific goals. Besides, the students differ also in their sensitivity to different academic tasks. These differences show that it is essential to consider how teachers select and use academic tasks in the classroom

Keywords: achievement goals; questionnaire; higher education; performance; motivation.

Resumen

Introducción. El objetivo de esta investigación es ajustar y validar el Cuestionario de Metas Situadas para los estudiantes colombianos de educación superior y comparar los resultados con los obtenidos previamente en población española.

Método. Participaron un total de 500 estudiantes de la Facultad de Educación de la Universidad Nacional Pedagógica de Colombia. Se realizaron cuatro Análisis Factoriales Confirmatorios para identificar la validez factorial del Cuestionario: 1) modelo original con una submuestra 2) análisis de validación cruzada del modelo original entre dos submuestras, 3) análisis multigrupo entre las dos fases principales de la carrera 4) análisis multigrupo entre la muestra colombiana y española. Para identificar la validez predictiva se realizaron seis análisis de regresión utilizando la nota final de la clase como variable predictiva.

Resultados. Como resultado, el cuestionario ajustado muestra buenos valores de ajuste y confiabilidad. El deseo de aprender predice positivamente el desempeño, mientras que el deseo de pasar lo afecta negativamente. La principal diferencia entre estudiantes españoles y colombianos es que los primeros tienen una relación más significativa entre el deseo de aprobar en la orientación al desempeño.

Discusión y conclusión: El SGQ-U es una herramienta que facilita a los profesores información sobre el impacto que tienen sus actividades en las metas de logro específicas que sus adoptan, reconociendo que estos difieren en el grado en que se da esta influencia. Estos resultados muestran la importancia que los docentes reflexionen sobre las actividades que seleccionan y usan en el aula en pro de favorecer las metas de aprendizaje de los estudiantes.

Palabras clave: metas de logro; cuestionario; educación superior; desempeño; motivación.

Introduction

Existing research on motivation in education shows the importance of knowing how students define success, which is a central theme of achievement goal theory. Initially, achievement goals were considered stable guides, similar to traits that remain unvarying between different contexts and spheres. This understanding emerges partly because competence perception was assumed as a stable trait. However, Elliot's (2005) trichotomous theory posits that perceived competence is triggered by a specific context, opening the door to a more context-specific viewpoint.

Based on a context viewpoint, different aspects have been studied, especially classroom characteristics. Nowadays, a more specific aspect is grabbing the attention of researchers in this area, and it refers to the impact of academic tasks on students' achievement goals (Alonso-Tapia et al., 2018; Richey, Bernacki et al., 2018). It is possible to take different and independent measurements to identify the relationship between academic tasks and achievement goals; however, for practical purposes, it is better to have an instrument that can identify the specific goals students adopted for each academic task. The Situated Goals Questionnaire for University (SGQ-U) (Alonso-Tapia et al., 2018) identifies the relative weight of goal orientation, achievement goals, and the effect of task sensitivity in an integrated manner. The SGQ-Q provides teachers with vital information to understand their students' achievement behavior and create better lesson plans.

Initial studies revealed that SGQ-U is a reliable and valid tool to identify students' situated motivational orientations. However, since the questionnaire was so recently developed, there is a lack of research into its potential in different cultural contexts. Therefore, this research has two objectives. First, adjust and validate the SGQ-U to the Colombian higher education context. Second, compare these results with those obtained previously in the Spanish context to demonstrate further the questionnaire's validity in the Colombian higher education context. We will do it based on the following theoretical framework.

Achievement Goal Theory

The influence of academic goals on performance, motivation, and commitment has been studied in recent decades within the educational framework (Cellar et al., 2011; Givens, 2012;

Linnenbrink-Garcia et al., 2012; Senko, 2019; Thein & Naing, 2019). These studies summarize the importance of goals in four key aspects: they direct attention, mobilize efforts, increase persistence, and encourage developing strategies to improve performance: a) Goals direct attention: When a student performs a task without a goal, they have a lower attention span. Having a goal results in a higher attention span and, ultimately, achievement; b) Goals mobilize efforts: Having a clear goal helps an individual identify the amount of effort required to reach it and pushes them from the get-go to strive toward it; c) Goals increase persistence: Having a clear goal reduces the possibility of getting distracted while performing the task and of quitting since the goal functions as a reminder that activates motivation, d) Goals encourage developing strategies to improve performance; This aspect is related to persistence because if an individual initially fails to reach the goal and knows what they want, they will build new strategies to achieve it.

The trichotomous achievement goal framework presents three-goal orientations: Learning-orientation, Performance-orientation, and Avoidance-orientation. In Learning-orientation, students' achievement goals focus on developing competencies or skills and acquiring knowledge. In Performance Orientation, students pursue achieving the goal of performing well, which is linked to the meaning of their performance compared to others or a fixed standard. In Avoidance Orientation, students adopt achievement goals that help them either avoid performing the task or seem incompetent to others (Elliot, 2005).

The trichotomous model states that the perception of competence is the core of the achievement goal construct. Competence perception is based on the standard a student uses to assess it. This standard originates in three sources: a) self, a personal and interpersonal standard based on similar tasks; b) others, and interpersonal standard that emerges when a student compares their performance to that of others; c) task, an absolute standard inherent to each task related to its requirements.

The only absolute standard derives from the task itself. Hence, it becomes an influential factor when adopting a specific goal (Richey et al., 2018). During any class, a higher education student must face different types of tasks, and, in turn, each task entails different challenges, abilities, and contexts. For example, assessment as a task has been widely studied. Assessment situations usually entail high levels of stress, especially regarding their outcomes. Other activities, such as public presentations that require considerable social skills, can be challenging for

some students; however, the latter consider them less important than other tasks, such as assessment outcomes.

Each task entails challenges, and students perceive their performance in different ways. This perceived performance for each task influences the specific goal the student adopts and their academic behavior. However, not all students are equally sensitive to each task's implications for different goals, as shown next.

Multiple Goal Perspective and Task Sensitivity

Researchers generally agree on the adaptive benefits of pursuing learning goals. However, today, results and perspectives on the influence of performance goals are inconclusive, and new information shows the usefulness of performance goals in specific situations (Bardach et al., 2020; Linnenbrink-Garcia et al., 2012; Nazarieh, 2015, Senko, 2019; Thein & Naing, 2019). Hence, two perspectives emerged. The first one confronts learning goals and performance goals by placing them at two opposite ends of a spectrum. The second perspective proposes a multiple goal approach, acknowledging the possibility that an individual may experience both under different circumstances (Barron & Harackiewicz, 2001, 2003; Harackiewicz et al., 2000). The underlying question is, what types of achievement goals promote optimal motivation and endure throughout the task? Is the individual optimally motivated when they pursue learning goals exclusively or combined with performance goals?

Those studies supporting the multiple goal perspective indicate a dichotomous approach's limitations and argue that optimal motivation can come about by pursuing multiple goals (Barron & Harackiewicz, 2001, 2003; James & Yates, 2007; Pintrich, 2000; Kahraman, 2018). Under this perspective, each goal's usefulness must be recognized according to context (Bardach et al., 2019), task (Richey et al., 2018), and type of assessment procedures (Senko, 2019).

Context. Academic behavior occurs within a context related to the type of activities carried out, a teacher's specific teaching method, and social interactions intertwined. Each of these aspects can have a positive or negative influence on students' motivation to learn. The classroom's contextual characteristics elicit specific patterns of motivational orientations in students. Regarding the configuration of these characteristics, we can identify two significant lines of

research: classroom goal structure (Bardach et al., 2019; Bardach et al., 2020; Kaplan et al., 2002; Meece et al., 2006), and classroom motivational climate (Alonso-Tapia, 2016; Alonso-Tapia & Fernández, 2008; Alonso-Tapia et al., 2020). A large body of knowledge on goal structures and classroom motivational climate identifies teachers' instructional strategies and how they communicate and structure activities that can influence and trigger specific student goals (Lazowski & Hulleman, 2016). In general, studies attempt to identify what kind of activities elicit the adoption of specific goals. Thus, these research lines imply the first recognition of external factors' effects on the goals the students adopt. However, none of these research lines delves into each specific task's impact on specific achievement goals.

Tasks. Students undertake many activities throughout a course, but studies on the impact of tasks on achievement goals focus on assessment tasks (Elliot & Murayama, 2008; Howard, 2020; Senko, 2016). Most achievement goal research compiles measurements at a class or domain level (Elliot & McGregor, 2001; Givens, 2012; Hulleman et al., 2008; Niemivirta et al., 2019). This line of research provides valuable information on general orientations, referred to as class-level orientations, but fails to present specific data about the way or degree to which task influences achievement goals; it is necessary to identify both variables to have a complete picture of the influence of task on achievement goals.

Richey et al. (2018) are among the few studies that relate class and task-level achievement goals. This study proposes a model to explain how goal orientation is related to the task and class levels through specific goals. They also relate other factors that influence the adoption of specific achievement goals at both a task and class level, such as personal attitudes and beliefs about learning. Finally, they indicate that task-level goals predict task performance and class-level goals, such as grades, and that both types of measures are uncorrelated.

Assessment procedures.

Since Goal Theory was formulated, many questionnaires have been developed, but most of them do not focus directly on the interaction among multiple goals and specific achievement situations (Senko, 2016). There are, of course, different procedures to identify the influence of academic tasks over achievement goals. For example, Senko (2019) analyzes these influences by focusing on assessment situations. This author identifies the interaction between goal orientation, achievement, and the characteristics of the tasks, classified into three dimensions, based

on previous frameworks: a) closed versus open, b) challenge vs. simple, and c) superficial versus deep or complex content. However, he does not use questionnaires whose items refer explicitly and simultaneously to goals and situations, a tool that would simplify the assessment procedure. For their part, Richey and his collaborators (2018), in the work above described proposed four independent measurements using different performance instruments: a) perceive achievement goals for activities, b) perceive achievement goals for the class, c) perception of competition for the activity, perception of competition for the class. However, this procedure requires four different instruments and an additional process to compare all data, adding practical limitations to the researchers' work.

Nevertheless, having an instrument that allows identifying the specific goals adopted in front of each task in the academic context can be more beneficial for practical purposes. This is a need that is filled by the Situated Goals Questionnaire (SGQ-U) (Alonso-Tapia et al, 2018). The SGQ-U is designed on the following working model, as it allows measuring how tasks and specific goals interact.

Task-achievement goals interaction working model

The model underlying the SGQ-U is summarized in Figure 1. The model has included the three primary goal orientations, each including two specific goals. Teachers use different academic tasks during a course, five of thus are selected: tests, projects, practical exercises, public presentations, and group projects. Each task has different social contexts and requires different abilities. Thus, they can trigger different achievement goals, as each task often holds different relevance and priority for students and their personal career goals.

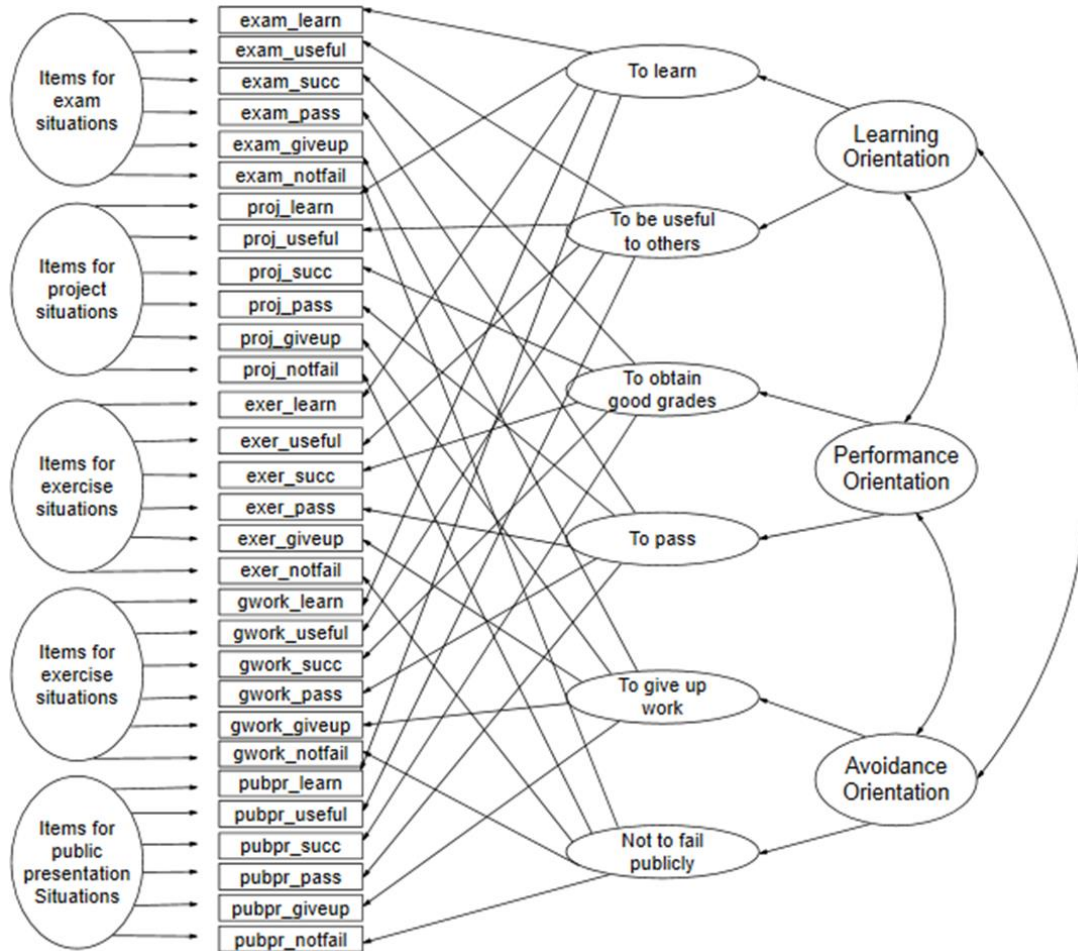


Figure 1. *SGQ-U working model*

To summarize, two premises underlie the model. The first is that the type of academic task proposed in a class influences the achievement motivation with which the student faces the class. The second is that it is possible to assess each academic task's degree to activating the student's different academic goals.

The SGQ-U has three main advantages: a) it is based on the goal-oriented trichotomic model; b) it evaluates achievement goals and specific goals pursued by students; and c) it is structured to identify which achievement goals are activated in five specific higher education academic tasks. The SGQ-U results may be helpful to know how students' achievement goals fluctuate throughout different stages, tasks, courses, and throughout their entire career, yielding important information to improve academic programs.

The SGQ-U allows identifying higher education students' motivational orientations, considering the different situations that a student must face in this context. Alonso-Tapia et al. (2018) show the importance of differentiating students' sensitivity to different academic tasks in moderating motivational goals and influencing performance. Hence, the importance of making students aware of each task's usefulness for the class and highlighting what they should learn in each of them. Given that students differ in their sensitivity to the type of task and that this sensitivity may change according to the context, some questions arise: How do Colombian students value different class tasks? What importance do they give to each one, and how do they face them motivationally? Are Colombian students' motivational configurations different from that of Spanish students?

Different studies have identified the influence of achievement goals on academic performance (Hangen, Elliot, & Jamieson, 2019; Senko, 2019). Since the type of task influences the adoption of one or another achievement goal, the tasks themselves probably affect academic performance; therefore, this study seeks to identify the predictive validity of goal orientation, specific goals, and the type of academic task on academic performance.

Senko (2019) highlights the need to study the impacts of achievement goals on the student performance measured by the course grades. He asserts that this measurement was omitted because it is frequently considered unrelated to authentic learning. However, although assessments and course grades present flaws, it is necessary to recognize that this is the actual way that the educational system should identify a student's success or failure. Following Senko's suggestion, the final grade is taken as the predictive validity of a performance measure.

Objectives and Hypotheses

Based on the theoretical framework and the questions posed throughout this text, the aim and hypotheses guiding this investigation emerge. To summarize, this study aims to adjust and validate the SGQ-U to the Colombian higher education population and compare the results with those obtained previously in the Spanish students. Regarding the hypotheses, it was expected that data derived from the adjusted questionnaire would fit the original theoretical structure. We have no specific hypotheses about whether the country's effect on motivational goal configuration and task sensitivity will produce differences.

Method

Participants

A total of 500 higher education students from the Faculty of Education of the Universidad Pedagógica Nacional in Colombia participated in the research. The sample represents 26.7% of the total faculty population and was chosen ensuring that all career stages were represented. 94.6% of the sample were women, and 5.04% were men. Age ranged from 16 to 40 years old (M: 22.6; SD: 3.5). Students come from low socioeconomic backgrounds, reflecting this university's specific population.

The Spanish sample comes from a previous study (Alonso-Tapia, et al, 2018). A total of 770 university students from different institutions (96.8% belong to three) were from various stages of their careers, but 90.5% were in the first three years. The average age is 20.47 (SD: 4.0), and 78.8% were women.

Instruments

The Situated Goals Questionnaire (SGQ-U) (Alonso-Tapia et al., 2018) has 30 items scored on a 5-point Likert scale, from 1 (completely agree) to 5 (completely disagree). The items were grouped according to Elliot's three goals orientations (2005): Learning orientation, Performance orientation, and Avoidance orientation. The questionnaire's initial validation studies were conducted with higher education students from Madrid (Spain), showing a good fit to the model's data proposed by the authors and appropriate levels of reliability in all scales (Table 1). As a performance measure, each student's grade point average (GPA) was used.

Table 1. *SGQ-U Scales and Reliability in the Spanish Sample*

Achievement goal orientation	Specific achievement goal	α
<i>Learning Orientation:</i> Students perceive the academic activity as an intellectual challenge and focus on their personal learning. ($\alpha=.86$)	<i>Learn:</i> Students seek to learn and enjoy when experiencing that they succeed, make progress, and feel competent, regardless of the consequences external to their own learning.	.78
	<i>Be helpful to others:</i> Students strive to learn when they consider their competence to be helpful.	.84
<i>Performance Orientation:</i> Students perceive the academic	<i>Obtain good grades:</i> Students perceive the academic activity as competence in which they	.77

<p>activity as a competition in which grades determine the winner, focusing their attention on them. ($\alpha=.87$)</p>	<p>desire to be acknowledged as the best.</p> <p><i>Pass the class:</i> Students focus their attention on the fact that they will be graded and seek to obtain positive results that will allow them to continue moving forward academically.</p>	<p>.80</p>
<p><i>Avoidance orientation:</i> Students perceive the academic activity as undesirable and focus their efforts on avoiding it. ($\alpha=.77$)</p>	<p><i>Give up:</i> Students perceive academic activities as useless and seek to avoid carrying them out or completing them promptly.</p> <p><i>Not to fail publicly:</i> Students seek to avoid a negative assessment from others. They try not to get involved in tasks where they must expose themselves to others for fear of being judged negatively.</p>	<p>.79</p> <p>.81</p>

Procedure

To ensure an adequate questionnaire adjustment, the process suggested by Beaton, Bombardier, Guillemin & Ferraz (2000) was carried out. First, the instrument was revised and adjusted by a group of experts, and then a pilot test was performed. The original authors monitored the entire process.

Students were informed about the study and invited to participate voluntarily once the University and Faculty Ethics Committee approved the research. The students filled out the questionnaires on paper during their first week of classes, and then the data was manually entered to create a database and processed using the SPSS and AMOS v25.

Data Analysis

Four Confirmatory Factor Analyses (CFA) was conducted to verify the SGQ-U's factorial validity. Previously, the sample was randomly divided into two equal groups. The first was used for the initial analysis, and the second, for cross-validation. Then, a first CFA with the first subsample was carried out to test the original model's structural validity (Alonso-Tapia et al., 2018). Second, a cross-validation analysis was conducted to test for measurement invariance between the two subsamples. Third, to verify whether the career stage was significantly related to the SGQ-U's structure, a new multi-group analysis was performed, dividing the sample into two, according to the career stage: initial (1 to 3 years) and advanced (4 to 5 years). Fourth, to identify whether the cultural context (country) was significantly related to the SGQ-U structure, a multi-group analysis was performed with the entire Colombian sample and the data obtained

from the Spanish population (Alonso-Tapia et al., 2018). In the case of a significant decrease in the goodness of fit values, Clogg's Z test (Clogg et al., 1995) was used to identify in which cases the regression weights' differences were significant.

For the CFAs, the maximum likelihood method was used, and to estimate the model goodness of fit, the following indices and criteria of fit acceptance were used: $\chi^2 / gl < 5$; *GFI*, *IFI*, and *CFI* > 0.90 ; *RMSEA* < 0.08 ; *SRMR* < 0.08 (Hair et al., 2010). To handle missing data, we eliminated the cases with more than 5% of missing data. If missing was less than 5% and met the Missing Completely at Random (MCAR) criteria, then the statistical average was used.

The reliability of the SGC-U and its scales and subscales were calculated using the MacDonal ω index (MacDonald, 2013). Means and standard deviations of each identified factor were also calculated. To establish predictive validity, we conducted three regression analyses to identify predictive validity to find each SGQ-U scale (goal orientation, achievement goal, task) with performance. Finally, to determine whether a task triggers achievement goals in the same or different grade, we performed five repeated measures ANOVA one for each task.

Results

The SGQ-U's Confirmatory Factor Analyses

CFA1. Basic model. Figure 2 shows the standardized estimates of the confirmatory model. All the estimated factor loadings (λ) were significant ($p > .001$), as well as the proposed structural relations (γ and Φ). Table 2 shows the fit statistics of the proposed model. Chi-square was significant, likely due to the sample size. However, the ratio χ^2/df and the remaining fit indexes fall in the range commonly used to accept a model.

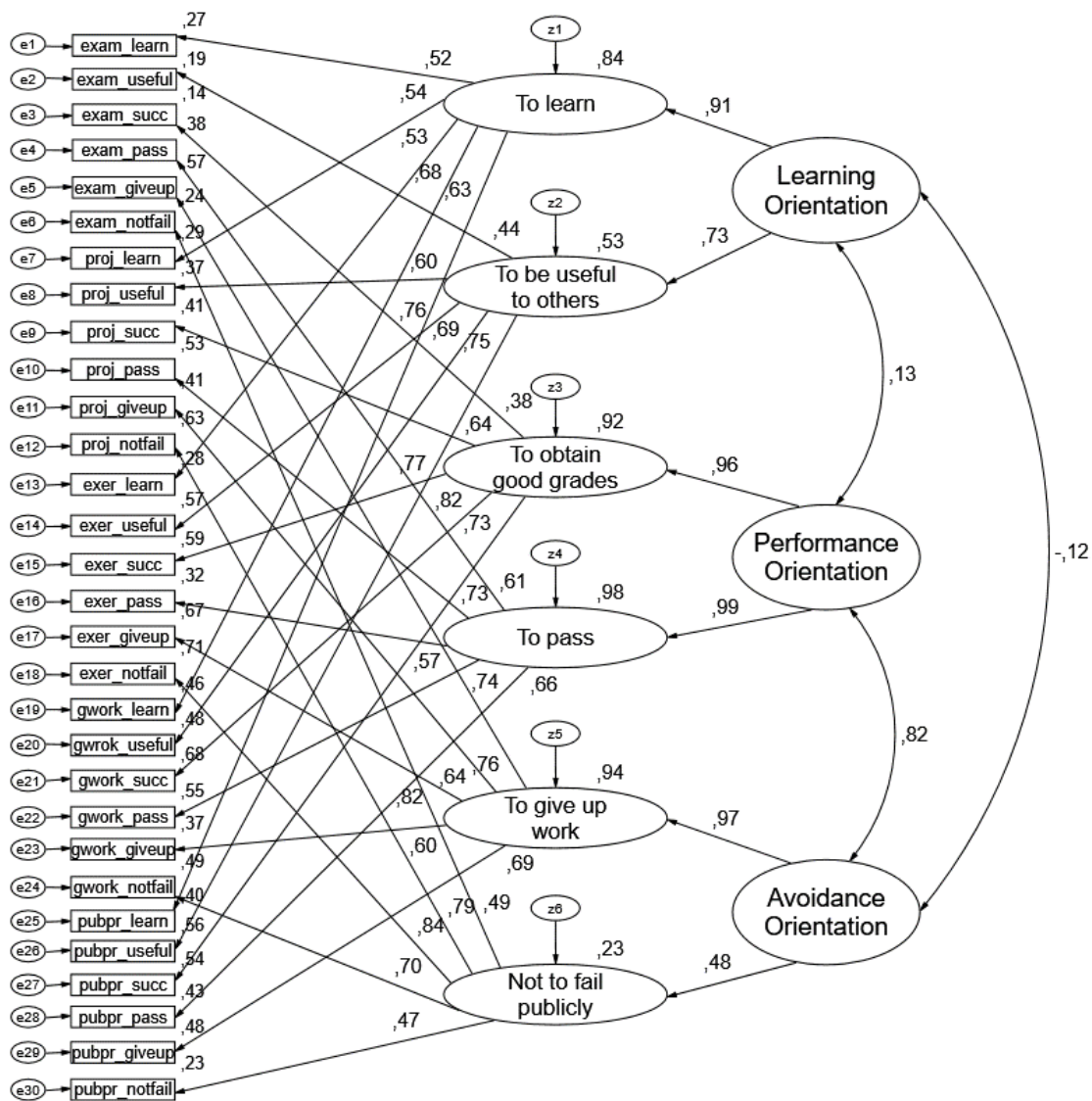


Figure 2. Confirmatory Factor Analysis of the SGQ-U. Standardized measurement and structural weights, and correlations between achievement goal orientations.

CFA2. Cross validation. The results of this analysis are shown in Table 2. and exhibit slight changes when restrictions are imposed on equal parameters in measurement weights ($\chi^2 = 22.055, p = .576$), in structural weights ($\chi^2 = 22.125, p = .623$), in structural covariances ($\chi^2 = 31.526, p = .541$), and in structural residuals ($\chi^2 = 34.600, p = .582$). Therefore, the model is well-estimated and can be accepted.

Table 2. *Situated Goal Questionnaire: Goodness-of-fit statistics of the different CFAs.*

	χ^2	Df	p	χ^2/df	TLI	CFI	RMSEA	SRMR
CFA1 (N = 246)	640.96	398	<.001	1,61	.90	.91	.05	.06
CFA2 Cross-Validation (N ₁ = 246, N ₂ = 254)	1385.82	796	<.001	1.74	.88	.89	.04	.07
CFA3 MG by Academic Level (N _{basic} = 251, N _{advance} = 165)	1334.71	833	<.001	1.60	.87	.88	.03	.06
CFA4 MG by Country (N _{Colombia} = 500, N _{Spain} = 770)	1865.92	798	<.001	2,33	.91	.92	.03	.06

Note: CV: Cross validation; M.G.: multi-group analysis.

CFA3. Multigroup analysis by academic level. In this multi-group analysis, two Colombian groups were compared: students in the basic cycle (1st to 3rd year) and students in the advanced cycle (4th and 5th year). All weights (λ) were significant ($p < .001$). Table 2 shows that fit indices are parallel to those of the cross-validation analysis. The ratio χ^2/df is acceptable (< 3), and the remaining fit indices except for TLI and CFI fell short of the standard limits of significance. However, results of group comparison show that fit does not decrease even if restrictions of equality between parameters are imposed for measurement weights ($\chi^2 = 29.13$, $p = .21$), structural weights ($\chi^2 = 29.75$, $p = .33$), structural covariances ($\chi^2 = 36.43$, $p = .31$), and structural residuals ($\chi^2 = 38.37$, $p = .41$). Therefore, the model is well estimated. This result implies that the structure of the questionnaire for the two cycles is the same.

CFA4, Colombian, and Spanish Multigroup Comparison. As also shown in Table 2, fit indices are similar to those found in the Colombian sample. However, there are differences when equality restrictions are imposed on measurement weights. To see the cases where the differences arise, we use the Z statistic developed by Clogg, Petkova, and Haritou (1995). (Table 3). As can be seen, the Z-Clogg statistic only surpasses the critical level (± 1.96) in one case: Passing is more related to performance orientation for Spanish than for Colombian students.

Table 3. *Analysis of Differences Between Slopes. Z statistic by Clogg, Petkova, and Haritou (1995)*

		Colombia		Spain		Difference	Z
		Estimate	S.E.	Estimate	S.E.		
Learn	← Learning O.	1.00	0.00	1.00	0.00	0.00	0.00
Be helpful to others	← Learning O.	0.63	0.09	0.77	0.07	-0.14	-1.42
Obtain good grades	← Performance O.	1.00	0.00	1.00	0.00	0.00	0.00
Pass the class	← Performance O.	2.02	0.27	2.85	0.29	-0.83	-2.38
Give up work	← Avoidance O.	1.00	0.00	1.00	0.00	0.00	0.00
Not fail publicly	← Avoidance O.	0.63	0.08	0.69	0.06	-0.06	-0.75

The SGQ-U's Reliability and Descriptive Analyses.

Table 4 shows the means and standard deviations of the scales corresponding to each identified factor, as well as the reliability McDonald's ω indexes (2013). These are reliable enough.

Table 4. *SGQ-U Reliability and descriptive data*

Scales	Mean	Sd	ω
<i>Learning Orientation</i>	4.17	.51	.81
Learn	4.30	.54	.72
Be helpful to others	4.04	.61	.79
<i>Performance orientation</i>	3.07	.71	.97
Obtain good grades	3.20	.74	.81
Pass the class	2.95	.77	.80
<i>Avoidance orientation</i>	3.07	.71	.71
Give up work	2.61	.85	.83
Not Fail publicly	2.74	.87	.80

The SGQ-U's Predictive Validity

SGQ-U predicting validity on performance was established with the data of 420 students who were authorized to recollect their GPA scores. These regression analyses were performed with separated predictors to identify the specific contribution. The direct method was used as it avoids potential bias due to sampling effects. The predictor variables used were: A1: goal orientation scales. A2: specific achievement goals. A3: academic task sensitivity. Table 5 summarizes the results.

Table 5. *Regression Analyses. Criterion: Grade point average*

	A1 Goal Orientations	A2 Achievement Goals	A3 Academic Tasks
<i>R</i>	.210***	.233**	.091
<i>R</i> ²	.044***	.054**	.008
Constant	3.37	3.25	4.11
Predictors			
Learning OR	.025***		
Performance OR	-.017***		
Avoidance OR	.005		
Learn		.047**	
Be useful		.005	
Good grades		-.004	
Pass the class		-.028*	
Give up work		-.001	
Avoid failure		.010	
Exam			.020
Projects			-.015
Exercises			.002
P. presentation			-.001
Group project			-.014

Note: ** $p < .001$; * $p < .01$; * $p < .05$; NS = Non-significant.

Findings show that goal orientation and specific goals are related to performance, whereas task sensitivity aspects fail to predict it. The goal orientation model shows a positive influence of the learning orientation and a negative one from performance orientation over achievement. Also, when analysing the predictive capacity of the specific achievement goals (A2), the critical aspect that helps predict performance is the desire to learn (positive impact) and to pass the class (negative effect). The r^2 for A2 is more significant than for A1, evidence that specific goals better predict performance.

Task sensitivity

To analyse whether the same task activates different goals to a similar or different extent, we performed five repeated ANOVA, one for each task and country. The five analyses show significant differences between the grade in which each goal was activated by each task. ANOVA results are shown in Table 6.

Table 6. ANOVA analysis of specific goal differences for each academic task

	Country	F	<i>p</i>	Partial η^2	Not significant post hoc pair differences
Exams	Esp	274.12	<.001	.26	--
	Col	239.91	<.001	.36	
Exercises	Esp	229.07	<.001	.23	To obtain good grades vs To pass
	Col	268.10	<.001	.38	
Group work	Esp	304.81	<.001	.29	To obtain good grades Vs Not fail publicly
	Col	282.79	<.001	.40	
Public presentation	Esp	210.13	<.001	.21	To obtain good grades Vs Not fail publicly
	Col	198.63		.32	
Project	Esp	431.79	<.001	.36	--
	Col	354.10		.50	

The type of task was the within-subject factor, and the specific goal was the dependent variable. Estimated means of specific goals for each task are shown in Table 7.

Table 7. Means of item-score related to each task for Colombian and Spain samples

	Exams		Exercises		Group work		Public presentation		Project	
	Col	Spa	Col	Spa	Col	Spa	Col	Spa	Col	Spa
Learn	4,46	4,03	4,26	4,17	4,27	4,09	4,27	4,09	4,36	4,11
Be useful	3,60	3,32	4,08	3,61	4,06	3,73	4,12	3,49	4,32	3,87
Good grades	4,17	4,26	2,83	3,42	2,95	3,60	3,28	3,65	2,68	3,21
Pass the class	3,31	3,68	3,10	3,43	2,63	2,96	2,63	2,96	2,85	2,99
Give up work	2,61	2,69	2,65	2,81	2,82	2,72	2,82	2,72	2,38	2,24
Avoid failure	2,80	2,98	2,58	2,81	2,41	4,09	3,37	3,62	2,51	2,83

All tasks activate the goals of *learning* and *being helpful to others* in both samples. Exams are the ones that most trigger the goal of *obtaining good grades*, but their impact is bigger in the Colombian sample. Public presentations are the tasks that most activate the goal of *not failing publicly* in the Colombian students, while in the Spain students, group work activate that specific goal more. In both samples, group work is the one that most influences the desire to quit.

Discussion and conclusion

This study aims to adjust and validate the SGQ-U for Higher Education students in Colombia. The results make it possible to conclude that the model defined by the authors of the SGQ-U for Spanish students has a good relationship with the responses of Colombian students. These results mean the SGQ-U can be used for education and research in the Colombian context. However, there are a few points to discuss regarding the predictive validity and the differences between Colombian and Spain populations.

In the first place, the type of task fails to contribute significantly to predicting performance. This result cannot be contrasted directly with the Spain sample because we use previous data from a study (Alonso-Tapia et al., 2018), in which the predicted variables were the Self-estimated mean grade (SEMG) and the level of engagement. Both variables measured in the Spain sample are based on a student's self-perception. In contrast, our research used the final grade point average (GPA), an external measurement, as a criterion variable. Alonso-Tapia et al. (2018) found that the specific goals explain 10% of the variance of SEMG. The desire to have good grades (.293, $p < 0.001$), the desire to pass (-.283 $p < 0.001$), and the desire to avoid failure (.98 $p < 0.050$) are the main predictors. Although it is impossible to compare statistically the results from the two studies, it is important to point out that the desire to pass significantly and positively influences the final grades provided by teachers, and the student's perception of such grades in both cases. Besides, our findings confirm the results of Richey et al. (2018), who fail to find any relationship between goal tasks and final grades. Each task triggers achievement goals to different extents but is unrelated to the final GPA could imply that the class's assessment methods offset their effect. This result may be due to teachers being encouraged to grade each task performed by students throughout the course without assigning a specific weight. Also, the regression model with the best significance to predict GPA shows that the achievement goal to learn has the most significant impact, and it is also the goal with the highest average in all tasks.

In the second place, concerning changes in goals along the career, we found no differences in the questionnaire structure for the two cycles throughout the career. This result shows that the career level does not influence the kind of achievement goals students activate. These results raise the question of which conditions are necessary to encourage students to adopt goals that are beneficial to improving learning along the career. On the other hand, in the advanced

cycle, the students carry out their professional practice, so their academic tasks vary. Perhaps the instrument is not sensitive enough to identify this type of variation, and it is necessary to include other types of academic tasks closer to the use of competencies in the real professional context.

In the third place, regarding differences between Colombian and Spain students, two main differences have been found. First, concerning *specific goals*, in both samples the *desire to pass* is the specific goal that contributes the most to the *performance orientation*. These results mean that when the performance goal is activated, Colombian students focus more on making actions to pass the class, while Spain students' effort concentrates on having good marks. The activation of the *desire to pass* can be related to stress and fear of failure, related to performance goals (Kim, Lim, & Noh, 2016).

Second, there are differences between grades in which each academic task activated *specific goals*. In general, all academic tasks activate each specific goal to different degrees. However, both samples show differences in the case of Group work and Public presentation. In the first place, when Colombian students must work in groups, the desire to obtain good grades and of not fail publicly is activated to the same degree. Conversely, Spain students give more importance to having good grades. Besides, when Colombian students have to make public presentations, they give more importance to obtaining good grades than passing the class, in contrast with Spain students who gave the same importance to both. Related to these differences, these are only on two tasks and involve the same specific goals. Although goals are independent, they also can influence each other because not passing the class can be seen as a failure for society.

Differences in the characteristics between samples can explain the difference between populations. On one side, the Spanish students belong to different income strata, mainly to the middle level. In contrast, Colombian students belong to a low-income stratum, and the vast majority are first-generation university students. Concerning this fact, Jury, Smeding, Court, and Darnon (2015) showed that lower social class students are more likely to adopt performance-avoidance goals. They argue that these results are related to low self-efficacy because of their family background and desire to achieve social mobility through education.

In conclusion, it is essential to remark that the type of academic task the teacher uses in the classroom influences student's specific goals. Besides, students also differ in their sensitivity to different academic tasks. These differences show that it is essential to consider how teachers select and use academic tasks in the classroom. Previous studies show that the way students perceive academic tasks depends on how teachers present them to students, the degree to which they make explicit the learning objective as well as its usefulness, the clarity of the instructions, and whether they are part of the course evaluation (Alonso-Tapia et al., 2020; Bardach et al., 2020; Richey et al., 2018). For these reasons, it is crucial to work with teachers to rightly present the tasks to influence the students' motivation positively.

Regarding limitations, our study presents two that are noteworthy. First, there was a significant gender difference in the Colombian sample, where most participants were women. Second, there are significant differences between Spanish and Colombian samples regarding gender proportion, universities, and social class, where the Spanish sample is more heterogeneous than the Colombian. Third, the final GPA was used as a performance measure. This measure has a wide variability due to teachers and subject differences, which may have affected our results.

This research shows differences in how the student perceives the academic tasks and the influence on achievement goals. Nevertheless, future research is still needed to explore the effect of different careers and cultural contexts on academic tasks' impact on adopting achievement goals. Besides, it is essential to study the interaction between multiple specific goals, their variations during a task, their origin, and how they impact achievement. Finally, it is necessary to examine how variations in assessment processes affect how a type of task influences goals activation.

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Received: 31-10-2021

Accepted: 02-07-2022