

Validation of Goal Orientation Measure in PALS Among Latino Adolescents Participating in a College Outreach Program

Nida Rinthapol, Richard Durán
University of California, Santa Barbara, America

The study will incorporate psychometric methods to examine the validity and reliability of the GO (goal orientation) measure which called PALS (pattern of adaptive learning survey) among immigrant youth. Previous research has not focused on the reliability and validity of the PALS for using with Latino students. Internal consistency reliability estimates of three different goal orientation measures assessed by the PALS using Cronbach's alpha. Factor analysis was used to verify that the three goal orientation measures represented separate dimensions. The verification of cultural validity in GO measurement helps us learn about how students participating in the program learn and process information and how we can further improve the program by tailoring it to the needs of students from historically underrepresented groups and enhance their access to higher education.

Keywords: GO (goal orientation), measurement, Latinos

Background and Purpose

Latinos represent a rapidly growing population when compared with other racial groups in the United States (Guzmán, 2001). Despite of their high numbers in California, Latinos remain underrepresented in higher education (Fry, 2003; Chapa & De La Rosa, 2004). Many Latino students do not advance beyond high school to pursue higher education. With such a growing population, it is critical to examine the educational needs and issues among Latino youth. There are an increasing number of college outreach programs providing academic support for students from backgrounds underrepresented in colleges as a mean of improving academic achievement and enhancing the likelihood of their pursuit of higher education. In this study, we are concerned with students participating in an outreach program known as "pathways". The program, which is sponsored by the university's office of academic preparation, is designed to provide assistance to secondary school students that will help them to become college eligible. The program primarily serves students from Latino backgrounds whose parents are first generation immigrants by providing tutoring services and other resources related to college preparation. The creation and implementation of intervention programs that are effective in helping students from backgrounds that are underrepresented in postsecondary educational settings require us to be more sensitive to these students' motivational characteristics. By using measures that are proven to be validated for this particular group, we are one step closer to understand their educational and motivational patterns and how to counsel students in support of their academic engagement. There has to been very little research on the applicability of achievement goal theory to Latino youth preparing for college. This study investigated the

reliability and validity of PALS (pattern of adaptive learning survey) measures to understand the achievement goal motivation of Latino students in schools located in Southern California. Our study examined the following questions:

(1) What is the overall internal consistency reliability for each subscale on the PALS instrument for this particular sample of Latino students in the pathways program? Are these findings different from the reliability estimates found in other studies that had sampled from other student populations?

(2) Do the same dimensions of goal orientation found for PALS previously through factor analysis replicate with the current sample of Latino students participating in the pathways program?

Theoretical Framework

Goal orientation theory is one of the most widely researched concepts within the academic motivation research literature. The original model of goal orientation theory identified two types of achievement GOs (goal orientations) that could be held by students: a LGO (learning goal orientation) or a PGO (performance goal orientation). Students possessing a learning goal orientation believe that one's ability to achieve in school is malleable and can be fostered and strengthened over time, tend to focus on acquiring new skills and take on new challenges. Students with a performance goal orientation focus primarily on how they appear to perform academically in front of others, demonstrating their competencies and hiding any evidence of incompetence. PGO type students respond to a challenging academic situation with a display of "helplessness" that is learned, rather than focusing on the opportunity for learning and improvement (Elliott & Dweck, 1988; Dweck, 1999). Research studies have shown that students with a learning goal orientation perform significantly better in school than students with a performance goal orientation (Henderson & Dweck, 1990; Blackwell, Trzesniewski, & Dweck, 2007). Goals orientation of student is highly connected with their motivation to learn and has been shown to be a good predictor for success in school (Eccles & Midgley, 1989; Meece & Holt, 1993).

Since its origin in the late 1970s, our understanding of academic achievement goals has evolved from the initial mastery and performance goal dichotomy to a trichotomous framework (Elliot & Church, 1997; Middleton & Midgley, 1997). The PALS (Pattern of Adaptive Learning Survey) (Midgley et al., 2000) is one of the most popular measures of assessing constructs represented by the trichotomous model of goal orientation. This refined goal orientation model was intended to keep the learning goal intact, but divided the performance goal into performance-approach goals and performance-avoidance goals. Students with performance-approach goal motivation are interested in favorable judgments of their competence. They need to perform well and strive to achieve their goals in a manner that can be seen by others. According to Elliot (1999), performance-approach goals were associated in both positive (e.g., studying to get higher grades) and negative (e.g., over-emphasis on performing better than others on already learned material) outcomes. The intention of the performance-avoidance goal is to avoid appearing incompetent and is associated with such negative effects as disengagement in challenging tasks, valuing performance over learning and declining intrinsic motivation (Elliot & Harackiewicz, 1996).

PALS were initially developed as part of a longitudinal study of schools within several districts in the state of Michigan to assess students' achievement goals. The psychometric properties of PALS were verified to be strong and reliable (Anderman, Urdan, & Roeser, 2003) and PALS has been used in various studies with diverse population (Urdan & Giancarlo, 2001). Nevertheless, it is still important to investigate the validity of applying PALS to diverse populations, including Latino adolescents. This is the reason why we selected PALS

as a measure to assess the motivational characteristics of our pathways students.

Methodology

Sample

The sample for this study was drawn from students from two public middle schools and two public high schools in the community of Santa Barbara, California, from a group of students who were participants in a college preparation program called Pathways. The participants were mainly from low-income households and with immigrant parents from Mexico or Latin American countries. Due to the voluntary nature of recruitment, we were not able to select participants randomly for this study but all students enrolled in the pathways program were invited to participate in the study and 82 accepted the invitation to participate.

Instrument

Students completed a personal achievement goal orientation questionnaire that we constructed from a subset of items in the PALS. The personal achievement goal orientation scale area consists of three scales that measure three different dimensions of achievement goal orientation: mastery goal orientation; performance-approach goal orientation and performance-avoidance goal orientation. The scale includes a total of 14 items, including five mastery goal structure items, five performance-approach goal structure items and four items in performance-avoidance goal structure. Participants were asked to rate their current self-perception on a five-point Likert scale (ranging from 1 as “Not at all true/Strongly disagree” to 5 as “Very true/Strongly agree”).

Data Analysis

First, a descriptive analysis was conducted to examine the characteristics of the data such as the association among different constructs. Next, the internal consistency of psychometric scores among the student sample was estimated using Cronbach’s alpha. Finally, exploratory factor analysis using a principal axis factor extraction method (followed by a varimax rotation) was conducted to assess the dimensionality of a correlation matrix comprising all Likert scale items used for measuring goal orientation constructs. Principal axis factor analysis is a technique widely used to explore the underlying dimensionality of psychological measures under such circumstances (DeVellis, 2003).

Findings and Discussion

In addressing the initial question of this study, Cronbach’s alpha was used to measure the internal consistency of the goal orientation scales and motivational scales. The original PALS: 2000 manual (Midgley et al., 2000) reported Cronbach’s alpha for mastery, performance-approach and performance-avoidance of 0.85, 0.89 and 0.74, respectively. These estimates are comparable to our findings of 0.84 and 0.87 for mastery and performance-approach goals, respectively supportive of the use of these two measures with our population (see Table 1). However, the estimate reliability for the performance-avoidance scale was 0.61, which was lower than reported in the PALS: 2000 manual is more similar to the alpha estimate of 0.68 reported by Finney, Pieper and Barron (2004). The modest reliability found for the performance avoidance measure suggests that while this measure holds validity for our population, validly that it may not be as powerful a predictor of student outcomes measures as the other two goal measures. PAF (principal axis factor) analysis on all items drawn for the three scales representing on the personal achievement goal orientation construct from PALS was

performed using a varimax rotation to address the second question of this study. By treating each item as a unique contribution to variance and covariance and conducting a PAF with a varimax rotation, we could evaluate whether it was possible to extract three factors that corresponded exactly to the three scales hypothesized to underlie the personal achievement goal orientation construct. Similar to findings in previous literature, we found three factors that had eigenvalues greater than one. The total common variance accounted for by the three factors was 62%.

The result of varimax rotation of the three factors is shown in Table 2. The entries show item loading greater than 0.4 for each factor. The item ordering along rows is arranged, so that items originally used to define a PALS goal orientation scale are all arranged in sequence. Variables M (Mastery) 1-M5, defined to be in the mastery scale, showed the loading of 0.58 and above for the mastery construct. Variables PAP (performance-approach) 6-PAP10 which belonged to the performance approach scale showed a loading of 0.51 and above for the performance approach construct. However, the PAP9 and PAP10 variables also showed loadings of 0.63 and 0.71 for the performance avoidance construct, an indication that these two items loaded in both performance-approach and performance-avoidance constructs. This illustrated that variables in performance-approach and performance-avoidance may share some similarities. The variables PAV (performance-avoidance) 11-PAV14, originally defined to measure the performance-avoidance scale, was associated with factor loadings of 0.4 and above. Factor loading for the PAV11-PAV14 items confirmed the hypothesis that PAV11-PAV14 can be used to define the performance avoidance scale.

Table 1

Reliability, Means and Standard Deviations for the Three Goal Orientations and Motivational Scales

Variable	Cronbach's alpha	Mean	Standard deviation
Mastery	0.84	4.28	0.71
Performance-approach	0.87	2.78	1
Performance-avoidance	0.61	2.99	0.88

Table 2

Personal Achievement Goal Orientation Item Loading

	Mastery	Performance-approach	Performance-avoidance
Items			
M1	0.61	-	-
M2	0.79	-	-
M3	0.58	-	-
M4	0.67	-	-
M5	0.74	-	-
PAP6	-	0.77	-
PAP7	-	0.80	-
PAP8	-	0.63	-
PAP9	-	0.51	0.63
PAP10	-	0.51	0.71
PAV11	-	-	0.45
PAV12	-	-	0.42
PAV13	-	-	0.59
PAV14	-	-	0.52

Conclusions

The creation and implementation of intervention programs that are effective in improving access to college for students from low-income and immigrant backgrounds require us to understand students' motivational characteristics. By using measures that have been validated for this particular group, we are at least one step closer to understanding their educational and motivational patterns and how to counsel them in ways that encourage their academic engagement. The concept of cultural validity in Basterra, Trumbull, and Solano-Flores (2011) is similar to multicultural validity (Kirkhart, 1995), as it is concerned with the methods, measurement and socio-cultural influences that shape how people perceive and respond to them.

The study uses the goal orientation measurement PALS, which has not been validated for youth demographically similar to those participating in the pathways program. The findings of previously conducted, cross-cultural research studies suggest that the measurements utilized for studies of sample from Western, educated, industrialized, rich and democratic culture may not have the same psychometric characteristics when used with people from other cultural backgrounds (Jones, 2010). It is important to verify the reliability and validity of the measurement when attempting to apply it to different sample groups. Most of the psychological studies that have been conducted in the United States have used undergraduate college students as samples, possibly leading to erroneous general conclusions about the cognitive propensity and ways that people function across cultures.

By incorporating the use of such psychometric methods as Cronbach's alpha and factor analysis to assess the measurement's validity and reliability, our findings support the use of PALS goal orientation scales for the pathways participants. Designing an academic outreach program that is effective in helping students to stay in school and continue with postsecondary level education requires an assessment of their cognitive and achievement motivational characteristics with a culturally valid reliable and validated measure. The results of our research confirm that PALS, which has the psychometric properties that qualify it as a valid and reliable measure of goal orientation and motivation, is a sound methodological tool for evaluating an academic outreach program targeting a primarily low-income Latino student population.

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