Culturally-Rooted Beliefs and Learning: Exploring the Relationships among Social Axioms, Achievement Goals, and Learning Strategies of Filipino College Students

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An exploratory study was undertaken to explore the relationships among (a) culturally-rooted social beliefs or social axioms, (b) achievement goal orientation, and (c) learning strategies of college students. Some 284 students in a private sectarian university in Southern Philippines were asked to indicate their social beliefs using the Social Axiom Survey of Leung et al. (2002), their goals in the Achievement Goal Questionnaire by Harackiewicz et al. (1997, 2000), and the strategies they used in studying in the Motivated Strategies for Learning Questionnaire by Pintrich et al. (1993). The results were analyzed using correlational analysis. The results indicated some expected trends consistent with hypotheses relating the specific nature of the social belief with the adoption of particular achievement goals and/or the use of particular learning strategies. However, many unexpected results suggest that there are still conceptual and theoretical gaps in how these three constructs are related. The results are discussed in terms of how the influence of socially-rooted beliefs on different psychological aspects of the educational experience may be studied further.

Recent international comparisons of educational achievement revealed significant differences in educational achievement levels of students in different countries. Most educational scholars attempted to explain these differences by referring to differences in educational inputs and processes. But psychologists who have looked at the phenomenon explored the possibility that sociocultural factors may be related to the different levels of achievement attained by students from different

PHILIPPINE JOURNAL OF PSYCHOLOGY (2004), Vol 36 No 2, pp. 79-100.

countries and cultures. For example, soon after the results of the Third International Math and Science Survey were revealed, Stevenson and Stigler (1992) published their extensive research comparing Japanese, Chinese, and American learners in terms of a wide range of culturally-rooted psychological variables. These variables include how notions of success and achievement are socialized in children, beliefs on the relative role of ability and effort in academic success, parents' levels of satisfaction and expectation related to their children's academic achievement, among others. From then on, the cultural dimensions of learning gained much attention from the psychology research community.

Much of the research that followed on this topic involved cross-cultural comparisons on a range of psychological variables that were linked to educational achievement. For example, Purdie, Hattie, and Douglas (1996; see also Purdie & Hattie, 1996) compared Australian and Japanese students in their conceptions of learning and use of self-regulated strategies. Salili (1994) also investigated cross-cultural differences in how British and Chinese students understand academic achievement. Volet, Renshaw, and Tietzel (1994) likewise tracked differences between Australian and Southeast Asian students' study approaches. Bernardo (2001) also attempted to contrast the dimensions of Filipino, Hong Kong Chinese, and American students' thinking styles. Many of the cross-cultural studies focus on aspects of students' motivation in learning (see Boekaerts, 2003, for review). For example, McInerney, Hinkley, Dowson and VanEtten (1998) explored the differences among Aboriginal, Anglo and immigrant Australian students in terms of their motivational beliefs about their personal academic success. Achievement goals was the focus of the cross-cultural study conducted by Niles (1998) comparing Australian and Sri Lankan students. Helmke and Tuyet (1999) like-wise investigated how German and Vietnam students compared in terms of their motivations, study time and learning strategies.

The above studies presupposed the operation of certain psychological variables, the characteristics and dimensions of which were presumed to apply to all cultures. Other research psychologists who studied the cultural dimensions of learning questioned the validity of using such constructs

"universally" and focused instead on characterizing various learning variables as they were found within varied cultural milieus. For example, some scholars have criticized how Western labels for study strategies are being inappropriately used to characterize study approaches of Chinese and other Asian students. Biggs (1996), Kember (2000), Marton, Dall'Alba, and Kun (1996), Watkins, Regmi, and Astilla (1991), just to cite a few examples, have questioned the notion that Asian students rely primarily on rote-learning strategies, and have proposed alternative constructions of the memory-based study approaches of Asian students from a more Asian and/or Confucian-heritage perspective. Ho, Peng, and Chan (2001), and Tao and Hong (2000), among others, have likewise raised the possibility that various aspects of Asian students' motivation in learning need to be studied using constructs more appropriate to the cultural context, instead of using constructs used to define the same with Western students. These studies have tended to move away from cross-cultural studies, and instead focused on more in-depth and contextual analysis within a culture (see also Chan, Lai, Leung, & Moore, in press; Elliot & Bempechat, 2002; Hufton, Elliot, Illushin, 2002).

This paper attempts to study the cultural dimensions of learners using a different approach. It attempts to explore the relationship between culturally-rooted social beliefs and learning variables. In particular it explores the possible links among the different types of social axioms, achievement goal orientations, and strategies for learning among Filipino college students. In the following sections, the different variables investigated in the current study are briefly discussed.

Learning Strategies

The set of learning strategies adopted by students in school is a variable that has been shown to be highly predictive of academic success. Pintrich (1989) defines learning strategies as cognitive and behavioral processes which are used to attain or achieve a learning goal. Different researchers have defined different categories for learning strategies, but in most attempts to categorize learning strategies, the categories are differentiated in terms of the level of cognitive processing involved. Research has generally indicated that higher level metacognitive, self-regulated learning strategies are more

strongly associated with successful learning and higher academic achievement (see e.g., Pintrich & De Groot, 1990; Zimmerman, 1990; Zimmerman & Martinez-Pons, 1990 for early research documenting this association).

Achievement Goal Orientation

Another important learning variable that has been shown to be significantly associated with learning and academic achievement is achievement goal orientation. Ames (1992) defined achievement goal orientation as "an integrated pattern of beliefs, attributions, and affect that produces the intentions of behavior and that is represented by different ways of approaching, engaging in, and responding to achievement types and activities." Two broad categories of achievement goal orientation are typically defined. The first is the mastery goal orientation, which focuses on the intrinsic value of learning and effort utilization (Ames, 1992; Dweck & Leggett, 1988; Maehr & Midgley, 1991; Nicholls, 1984). Students who adopt a mastery goal orientation are focused on learning new knowledge and skills with the aim of improving their levels of competence and gaining mastery in the domain. The level of mastery is usually defined in terms of personal standards, instead of standards set by other people. The second category is the performance goal orientation, which focuses on a student's ability and self-worth as indicated by performing better than other students (Ames, 1992; Dweck & Leggett, 1988; Maehr & Midgley, 1991; Nicholls, 1984). This goal orientation also emphasizes the goal of surpassing normative standards of performance (Covington, 1984; Dweck, 1986) and gaining public recognition of this superior performance (Meece, Blumenfeld, & Hoyle, 1988). Researchers in the field distinguish between to types of performance goal orientations: the performance-approach orientation, which is concerned with attaining or surpassing normative standards of competence, and the performance-avoidance orientation, which is concerned with avoiding normative incompetence (Elliot, 1999; Elliot & Church, 1997; Middleton & Midgley, 1997). The present exploratory study only focuses on the performance-approach orientation.

Much research has been done linking the two broad categories of goal orientations with learning variables (see Ames, 1992; Pintrich, 2000;

Pintrich & Schunk, 1996 for reviews). Generally, mastery goal orientation has been shown to be more strongly associated with positive learning variables and outcomes compared to performance goals. For example, the mastery goal orientation is positively associated with intrinsic motivation (Barron & Harackiewicz, 2001) and task engagement (McGregor & Elliot, 2002). Although in very specific cases, performance-approach goals may also lead to positively achievement-related outcomes (Harackiewicz, et al., 2002).

A third type of goal orientation was included in this exploratory study: work avoidance. This goal orientation refers to students may not be positively motivated in school or classroom environments, and are motivated to complete schoolwork with minimal effort. Research has shown that work avoidance is negatively associated with motivation and achievement (Archer, 1994; Duda & Nicholls, 1992; Meece et al., 1998).

Social Axioms

Recently, Leung et al. (2002) identified a pan-cultural set of five dimensions that refer to beliefs that individuals hold about their social environment. These five dimensions have been referred to as social axioms or "generalized beliefs about oneself, the social and physical environment, or the spiritual world, and are in the form of an assertion about the relationship between two entities or concepts" (p. 289). Social axioms are conceptually distinct from values and from attitudes. According to Leung et al., social axioms typically take the form, "A is related to B," where "A and B can be any entities, and the relationship can be causal or correlational" (p. 289). On the other hand, values typically take the form, "A is important," and attitudes take the form, "A is good."

Using the Social Axiom Survey, Leung et al. (2002) identified five dimensions which they labeled as: (a) cynicism (later re-labeled as social cynicism in Bond et al., 2004), (b) social complexity, (c) reward for application, (d) spirituality (now re-labeled as religiosity in Leung & Bond, in press), and (e) fate control. Bond et al. (2004) define these five dimensions briefly as follows (p. 2):

> "Social Cynicism represents a negative assessment of human nature and social events..."

> "Reward for Application refers to the position that the investment of human resources will lead to positive outcomes..."
>
> "Social Complexity refers to the view that there are multiple solutions to social issues, and that the outcome of events is uncertain..."
>
> "Fate Control refers to the general belief that social events are influenced by impersonal, external forces..."
>
> "Spirituality [Religiosity] refers to the view that spiritual forces influenced the human world and that religious institutions exert a positive effect on social outcomes."

These five dimensions were first generally replicated with college students in three countries (Leung, et al., 2003), and more recently in 40 national groups, including the Philippines (Leung & Bond, in press). Moreover, recent research by Bond et al. (2004) has shown that social axioms added predictive power to the predictive power provided by values to three classes of individual's actions: (a) vocational choices, (b) methods of conflict resolution, and (c) coping styles.

Possible Links: Some Tentative Hypotheses

In a very general sense, it can be hypothesized that social axioms would predict students' choices of achievement goals and learning strategies. In particular, the endorsement of specific social axioms may influence (directly) how students define their learning/achievement goals and (directly and indirectly) how choose what learning strategies to used. This tentative hypothesis is further elaborated to better guide the exploratory study.

First, social axioms that relate to consequences of actions on fated events shall have direct influence on goals. In particular, religiosity and fate control should be associated with the tendency to adopt work avoidance goals, as these beliefs may devalue the efficaciousness of personal effort.

Second, social axioms that relate to the nature of external objects or events shall have direct influence on goals. For example, social cynicism might be associated with work avoidance because the distrust of the social systems provide very good reasons for one to withdraw from active engagement of learning activities required in this particular education

system. On the other hand, social complexity might be related to the pursuit of mastery goals as an understanding of the complexity of the environment might serve to provoke the desire to understand and attain some level of mastery as regards this environment.

Third, social axioms that relate to consequences of actions shall have direct influence on strategies. In particular, belief on reward for application should be positively associated with the use of higher level learning strategies. This is because the deployment of more difficult but more effective learning strategies could be guided by the assumption that working harder could lead to greater rewards. On the other hand, fate control and religiosity might be associated with lower level strategies (rehearsal, organization, elaboration), because personal hard effort would not be perceived as being effective in gaining success compared to activities that try to suit the forces of fate.

Regarding the relationship between goal orientations and strategies, it was predicted that mastery goals would be associated with the use of all strategies. It is understandable that the attainment of full mastery in a learning domain would require a full range of strategies. The same should be true for performance goals, although it is possible that such goals might inhibit the use of critical thinking strategies as these might not be suited in a highly structured and regulated learning environment. Finally, work avoidance should not be associated with the use of any of the learning strategies.

METHOD

Participants

A total of 284 college students from private Catholic university located in a major urban center in the southern part of the Philippines participated in the study as part of a class activity. Of this total, 145 were female students, 134 were male, and four did not indicate their sex. The students were majoring in various technology and social science courses, and were enrolled in different year levels from first year to fourth year. The students completed the questionnaire during class hours.

Measures

Social Axiom Survey. To determine the students' social beliefs a shortened version of Leung et al.'s Social Axiom Survey (2002) was used. The shortened version was derived from the 60-item version. For each of the five scales, six items from among those with the highest loadings in their respective factors were chosen. The following are example items chosen, and the Cronbach alpha for each of the scales which were computed for the current sample.

> Social Cynicism: "It is rare to see happy endings in life." (a=.46)
>
> Social Complexity: "Human behavior changes with the social context." (a=.52)
>
> Reward for Application: "Hard working people achieve more in the end." (a=.41)
>
> Religiosity: "Belief in religion makes people good citizens." (a=.66)
>
> Fate Control: "Individual characteristics, such as appearance and birthday, affect one's fate." (a=.65)

It should be noted that generally the reliability scores of the scales as determined from the current data were low. Only the scales for Religiosity and Fate Control could be thought of as having fairly adequate reliability levels. However, for purposes of completing the design for the present exploratory study, all the scales were retained for the analysis. For this section of the questionnaire, the respondents were asked to decide whether they believe the statement or not. They were asked to indicate their responses in a 5-point scale (5 = strongly believe and 1 = strongly disbelieve).

Achievement Goal Questionnaire. The questionnaire used by Harackiewicz, et al. (1997, 2000) to assess students' achievement goal orientation was adopted for use in the study. There were six items each for the Mastery and Performance Goal Orientations and three for the Work Avoidance scale. The following are sample items for the three goal orientations and their respective computed Cronbach alpha values.

> Mastery: "The most important thing for me in this course is trying to understand the content as thoroughly as possible." (a=.72)
>
> Performance: "My goal in this class is to get a better grade than most of the other students." (a=.77)

Work Avoidance: "I want to do as little work as possible in this class." (a=.49)

The Mastery and Performance Goal Orientations scales showed very high reliability scores, but the same was not true for the Work Avoidance scales. However, as with the non-reliable scales in the Social Axioms Survey, the Work Avoidance scale was retained in the analysis for purposes of completing the design of the study. For this section of the questionnaire, the respondents were asked to think about each statement and decide whether the statement was true for them or not. They were asked to indicate their responses in a 7-point scale (7 = very true and 1 = not at all true).

Motivated Strategies for Learning Questionnaire. To assess the students' learning strategies, the scales and items were derived from the Cognitive and Metacognitive Strategies Scales of the Motivated Strategies for Learning Questionnaire developed by Pintrich, Smith, Garcia, and McKeachie (1993). The following are example items for the five categories of learning strategies, the number of items for, and their respective Cronbach alpha values.

Rehearsal: "When I study for my classes, I practice saying the material to myself over and over." (4 items, a=.70)

Elaboration: "When reading for my classes, I try to relate the material to what I already know." (4 items, a=.76)

Organization: "I make simple charts, diagrams or tables to help me organize my course material." (5 items, a=.74)

Critical Thinking: "I treat the course material as starting point and try to develop my own ideas." (5 items, a=.78)

Metacognition: "If course materials are difficult to understand, I change the way I read the material." (7 items, 2 of which were negatively stated, a=.60)

The reliability values of the scales are generally better than those for the other two variables. As with the achievement goal questionnaire, the respondents were asked to think about each statement and decide whether the statement was true for them or not. They were also asked to indicate their responses in the same 7-point scale.

RESULTS

It was tentatively hypothesized that the endorsement of specific social axioms may influence how students define their learning/achievement goals and how they choose what learning strategies to use. This tentative general hypothesis and more specific hypotheses were explored by using correlation analyses. But before the results of these analyses are discussed, the descriptive statistics are briefly presented.

Descriptive Statistics

The mean scores of the students in various scales of the three questionnaires are summarized in Table 1. The table indicates that as regards the social axioms, the students in the sample tended to hold relatively strong beliefs related to reward for application and social complexity. On the other hand, they held moderately negative beliefs related to social cynicism and fate control. The students reported stronger mastery goals relative to performance goals and weak work avoidance goals. For the learning strategies, the seems to be no difference in the degree to which the various strategies were adopted by the group of students.

Table 1. Means and standard deviations for the different scales

Questionnaire/Scale	Mean	Std Dev
Social Axioms Survey		
➢ Social Cynicism	2.844	.689
➢ Reward for Application	4.576	.530
➢ Social Complexity	4.288	.476
➢ Fate Control	2.798	.867
➢ Religiosity	3.547	.951
Achievement Goal Questionnaire		
➢ Mastery Goal	6.309	.678
➢ Performance Goal	5.477	1.181
➢ Work Avoidance	4.130	1.401
Motivated Strategies for Learning Questionnaire		
➢ Rehearsal	5.312	1.115
➢ Elaboration	5.302	1.078
➢ Organization	5.239	1.209
➢ Critical Thinking	5.157	1.063
➢ Metacognition	5.341	.968

Correlational Analysis

To begin exploring the relationships among the various variables, the association among the different scales was analyzed using Pearson's correlational analysis. The intercorrelations among the scales within each questionnaire are shown in Tables 2 to 4.

Table 2 summarizes the correlations among the five scales of the Social Axiom Survey. The correlational analysis revealed a positive association between fate control and religiosity, which might be expected. The relationship between social complexity and reward for application, as well as the correlation between fate control and religiosity may also be expected. But, there was a surprising correlation between reward for application and fate control. It might seem contradictory that the belief in the forces of fate would also be associated with the belief on the efficacy of effort. The same could be said about the correlation or reward for application with religiosity. But, it is possible to conceive of individuals believing that these two "forces" of effort/application and some supernatural control might be working together in their lives. Finally, there is an interesting correlation between social cynicism and fate control. This correlation could suggest a negative fatalism of sorts, but the data are not sufficient to elaborate on the specific nature of this correlation.

Table 2. Inter-scale correlations for Social Axioms Survey

	Reward for Application	Social Complexity	Fate Control	Religiosity
Social Cynicism	-.082	.060	.340**	.101
Reward for Application		.211**	.133*	.232**
Social Complexity			.014	.107
Fate Control				.396**

Note: * = $p < .05$; ** = $p < .01$; $N = 284$

Table 3 describes the inter-scale correlations for the Achievement Goals Questionnaire. There was a moderately strong positive correlation between the mastery and performance goals. Indeed, it is quite possible that students adopt both goals simultaneously. The negative correlation between mastery goals and work avoidance is quite expected, but the

positive association between performance goals and work avoidance is quite puzzling. This correlation suggests that the goal of trying to perform better compared to one's classmates is likely to be accompanied by the goal of trying to complete the course requirements with as little work as possible.

Table 3. Inter-scale correlations for Achievement Goal Questionnaire

	Performance Goals	Work Avoidance
Mastery Goals	.327**	-185**
Performance Goal		.172**

Note: * = $p < .05$; ** = $p < .01$; $N = 284$

Table 4 shows the inter-scale correlations for the various learning strategies, and the results indicate rather high correlations among the various learning strategies. This pattern of correlation could suggest either of at least three things. First, the students tend to use these strategies all together and in association. Second, the students are not differentiating well among the different strategies. Third, the students are not accurately reflecting their use of the various types of strategies.

Table 4. Inter-scale correlations for Motivated Strategies for Learning Questionnaire

	Elaboration	Organization	Critical Thinking	Metacognition
Rehearsal	.579**	.668**	.409**	.482**
Elaboration		.686**	.700**	.688**
Organization			.535**	.588**
Critical Thinking				.647**

Note: * = $p < .05$; ** = $p < .01$; $N = 284$

Table 5 summarizes the correlations among the various social axioms and achievement goals. The table suggests that, as tentatively hypothesized, social axioms that relate to consequences of actions on fated events shall have direct influence on goals. Both religiosity and fate control were positively correlated work avoidance goals. Likewise,

the data indicate that, as hypothesized, social axioms that relate to the nature of external objects or events shall have direct influence on goals. Social cynicism was also correlated with work avoidance, and social complexity might be related to the pursuit of mastery goals. However, there were other unexpected results. Reward for application and religiosity were also correlated with mastery goals. Social cynicism, fate control and religiosity were also correlated with performance goals. What was interesting was that the social axioms that correlated with performance goals also correlated with the work avoidance goals. This data pattern seems to be consistent with the earlier result showing a positive correlation between the performance goals and work avoidance.

Table 5. Correlations between Social Axioms and Achievement Goals

	Achievement Goals		
Social Axioms	Mastery	Performance	Work Avoidance
Social Cynicism	-.078	.151*	.268**
Reward for Application	.133*	.081	-.025
Social Complexity	.148*	.058	-.053
Fate Control	.039	.188**	.257**
Religiosity	.151*	.138*	.263**

Note: * = $p < .05$; ** = $p < .01$; $N = 284$

Table 6 summarizes the correlations among the various social axioms and the learning strategies. The statistical analysis did not reveal results that were consistent with the tentative hypothesis. For example, it was hypothesized that social axioms that relate to consequences of actions shall have direct influence on strategies. Reward for application was hypothesized to be correlated with the use of higher level learning strategies; that is, critical thinking and metacognition. As seen in Table 6, reward for application was correlated with metacognition, but not with critical thinking. Reward for application was also correlated with the lower level strategies of rehearsal, elaboration and organization. It was further hypothesized that fate control and religiosity would be correlated with the lower level strategies, but this hypothesis was only partially supported. Both social axioms were correlated with the lowest level

strategy, rehearsal. Fate control was correlated with elaboration, but none of the other predicted associations were found to be significant. Surprisingly, fate control and religiosity were also positively associated with critical thinking. Moreover, social complexity correlated positively with elaboration, critical thinking, and metacognition.

Table 6. Correlations between Social Axioms and Learning Strategies

	Learning Strategies				
Social Axioms	Rehearsal	Elaboration	Organization	Critical Thinking	Metacognition
Social Cynicism	.067	-.010	.042	.088	.008
Reward for Application	.178**	.141*	.122*	.111	.124*
Social Complexity	.093	.182**	.102	.133*	.121*
Fate Control	.129*	.108	.124*	.188*	.080
Religiosity	.122*	.097	.077	.132*	.140

Note: * = $p < .05$; ** = $p < .01$; $N = 284$

Finally, Table 7 summarizes the correlations between the goal orientations and learning strategies. Regarding the relationship between goal orientations and strategies, it was predicted that mastery goals would be associated with the use of all strategies, and this was verified by the results. The same was hypothesized for performance goals, but it was mentioned that performance goals might inhibit the use of critical thinking strategies. The results indicate that all learning strategies were also positively correlated with the performance achievement goals. Finally, as hypothesized,

Table 7. Correlations between Learning Strategies and Achievement Goals

	Achievement Goals		
Learning Strategies	Mastery	Performance	Work Avoidance
Rehearsal	.329**	.366**	.071
Elaboration	.519**	.307**	-.085
Organization	.342**	.307**	-.014
Critical Thinking	.459**	.146*	-.086
Metacognition	.494**	.283**	-.114

Note: * = $p < .05$; ** = $p < .01$; $N = 284$

work avoidance was not correlated with the use of any of the learning strategies.

DISCUSSION

The study was undertaken to begin exploring the possible relationship between culturally-rooted beliefs and two important learning variables: achievement goals and learning strategies. Tentative hypotheses were posed regarding the possible links among the variables, and these were assessed using different scales. At the outset, we should note that there were problems with the reliability of some of the scales in the Social Axiom Survey and the Achievement Goals Questionnaire. Thus, we could not be very confident with the conclusions related to the scales with questionable reliability. Future investigations should ensure the reliability of the scales to improve the validity of the study.

This limitation notwithstanding, this exploratory investigation reveals some interesting trends in the data. For example, there was the positive correlation between the performance goal orientation and work avoidance. This correlation is quite surprising because it suggests that the tendency to adopt achievement goals of surpassing normative levels of competence is positively linked to the tendency to avoid the work required to attain the performance-oriented achievement goal. If this trend persists in future investigations, it suggests that Filipino students aim to excel relative to their peers but also want to avoid the work in order to attain their goals of normative excellence. This finding suggests a clear flaw in the goal orientation systems of the students.

Another surprising trend was the significant positive correlation between religiosity and work avoidance. Interestingly, religiosity had the highest correlation with work avoidance compared to the correlations with the two more positive learning goals. Filipinos have a saying "Nasa Diyos and awa, nasa tao ang gawa," or in English, "Mercy comes from God, hard work comes from people." The results linking religiosity with work avoidance suggests a rather different point-of-view. Students who believe in the power and virtue of religious beliefs and spirituality also tend to avoid doing the work in school. The correlation cannot indicate the direction of the relationship between the two. One can imagine that

faith in a higher being might be causing some students to slacken from their personal inputs, thinking that the higher being(s) will take care of their academic needs. One can also conjecture that students who know they are avoiding the academic work are using religiosity as a crutch for their self-acknowledged failings or limitations. In either case, we can read some elements of "bahala na" in this particular trend in the data.

Not all the results were surprising and provocative; some results were quite expected. Some of these expected results were the correlations (a) between reward for application and mastery goal orientation, (b) between fate control and work avoidance; (c) between social cynicism and work avoidance, (d) between reward for application and metacognitive strategies, (e) between fate control and rehearsal strategies, (f) between religiosity and rehearsal strategies, (g) between mastery goals and all the learning strategies, and (h) between performance goals and all the learning strategies.

The above results can be interpreted in ways that link the culturally-rooted beliefs with the adoption of goals and strategies. For example, the belief that working hard would lead to positive rewards can be a belief that underlies the desire to undertake mastery-oriented goals and to use higher level metacognitive strategies. Or belief that outcomes are not controlled by persons but by fate could discourage a student from trying to work hard in school and from using higher level learning strategies. Similarly, the belief that the world is generally unjust can translate to a lack of trust in the school's evaluation and recognition system, which may dissuade students from putting in greater efforts and utilizing more powerful strategies that would help them succeed in school.

Yet there were many results that were simply difficult to account for, which suggests that although this exploratory investigation yields some interesting nuggets of data, there is much more that needs to be clarified about the relationship between culturally-rooted social axioms and learning variables.

One of the factors that need to be considered in clarifying this relationship is how the students come to understand the constructs in the study. This factor can be construed in two ways. First, there is the language factor in understanding the items in the questionnaire used in the study.

The questionnaire was written in English and the students in the study are reported to use English in their formal education, but have Cebuano, Bisaya, or some other Philippine language or dialect as their native language. It is certainly possible that some students may be interpreting the English language items in ways not intended. If so, the results may not exactly capture the social beliefs of the students. The second way of construing this factor is in relation to how the students come to conceptually interpret the variables of social complexity, religiosity, achievement goals, mastery goals, critical thinking, among others. Western scholars who were studying Western students defined these constructs. It is certainly possible that the broad and specific constructs are understood by Filipino students in ways that are more specific to their sociocultural realities. Thus, it possible that different categories of social axioms or categories of achievement goals might be more appropriate for assessing the social beliefs and achievement goals of the students.

The value of this exploratory investigation lies not only in the tentative links between social axioms, achievement goal orientation, and learning strategies that were verified by the data. Indeed, the unexpected and the unexplained results give rise to many important prospects and questions for those who wish to better understand the cultural dimensions of Filipino students' learning experiences, successes, and failures. The gap that is revealed in this exploratory investigation suggests that there is a need to look into the ways by which Filipino student learners understand the various learning concepts that are being studied – that is, the Filipino student learners' construal of basic education constructs such as learning, achievement, learning goals, achievement goals, and learning strategies, among others. It is possible that socially-rooted beliefs influence the Filipino students' construal of such basic education constructs, and that his or her construal is that which directly influences the choice of achievement learning goals and strategies. Future studies might want to adopt this framework for studying the cultural dimensions of learning among Filipino students, especially as our educational system has long operated using systems, structures, concepts, and meanings that were either imposed, imported, transplanted, appropriated, adopted from foreign education systems. A better

understanding of the psychological dimensions of Filipino students' learning experiences is more likely to emerge from a better understanding of how Filipino students understand the basic dimensions of education and learning.

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AUTHOR'S NOTE

This study was supported in part by a grant from the College of Education Research Fund and by the Brother Arthur Peter Graves Distinguished Professorial Chair in Education, both from De La Salle University-Manila. The author thanks the administrators, teachers, and students who enthusiastically supported and/or participated in the study. Correspondence regarding this manuscript may be addressed to the author at De La Salle University-Manila, 2401 Taft Avenue, Manila 1004, Philippines or by e-mail to: bernardoa@dlsu.edu.ph.