

## A Study of Learning Pressure, Learning Attitudes, and Achievement among Macau Undergraduates

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### Abstract

The purpose of this study was to examine the relationships among learning pressure, learning attitudes, and academic achievement of university students; specifically, Chinese undergraduates from three universities in Macau. Convenience sampling was used in the current study, and a total of 135 questionnaires were retrieved. We found a significant, moderate, and positive correlation between learning pressure and learning attitudes. We also found a negative correlation between learning pressure and academic achievement. The last correlation we found, between learning attitude and academic achievement, was positive and significant. When we regressed learning pressure and learning attitudes on academic achievement, the results showed that both variables were effective predictors of achievement.

**Key words:** Learning pressure; learning attitudes; academic achievement; Chinese undergraduates; Macau

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### INTRODUCTION

In education scholarship, a tremendous effort has been made to study learning improvement (Coates & Seifert, 2011; Tong & Adamson, 2015), and it has been suggested that low academic performance is the major concern for most students (Carrier, Thomson, Tugurian, &

Stevenson, 2014; Garn & Jolly, 2014). To some extent, learning environment and context will impact learning attitudes, which in turn affects achievement; more specifically, lower learning outcomes tend not to result from individuals' intelligence but from their learning environment and other contextual factors (Lim, Bong, & Woo, 2015). Among the learning problems students face, learning pressure has been identified as promising direction for further investigation that may enable educators to rectify teaching and learning issues and optimize expected learning outcomes (Christophersen, Elstad, & Turmo, 2011).

Several studies have pointed out that high levels of learning pressure will disturb learners' cognitive information processing and may lead to lower academic performance (Gross & Mastenbrook, 1980; Weinberg, 1989). Learning pressure not only impacts individuals' behaviors and academic achievement, but also their psychological well-being (Elliot & Eisdorfer, 1982). While low academic performers often feel concerned and anxious about their learning failures, learning pressure can also disturb high performers by setting up high expectations, leading them to worry about imperfect performance (Randler, Wust-Ackermann, Vollmer, & Hummel, 2012). As such, learning anxiety is commonplace among learners, and an important topic for educators to understand as fully as possible.

Wigfield and Eccles (1990) found that every student experienced some level of anxiety in their learning process, and that test anxiety in particular had a significant negative influence on learning. Higher levels of anxiety were found to be associated with greater negative impacts on learning outcomes by Culler and Hloahan (1980), who also found a high correlation between increases in test anxiety and reductions in people's capacity for using learning strategies, which in turn contributed to poor academic performance. Dembo (2000) and Ottens (1991) have suggested that when learners feel anxious, they will

find it difficult to concentrate on the learning of content, and their cognitive processing will be disturbed and delayed.

Learning lassitude is a psychological state in which students learn under pressure, making ineffective attempts to release this pressure or suffering from frustration with the learning experience (Wang, 2012). Several factors contribute to learning lassitude among university students, including lack of interest/motivation, which can result in a variety of nonadaptive learning-avoidance behaviors. If in a given learning environment students continuously suffer from pressure, they can become mentally or physically exhausted, with negative impacts on their emotional states as well as their achievement (Arsian, 2015; Dembroski & MacDougall, 1982; Rau, Gao, & Wu, 2008). Even worse, the relationship between high pressure and poor academic performance may represent a vicious cycle (Meisenhelder, 1978). Therefore, we hypothesize that:

H1a: Learning pressure will have a negative and significant association with learning attitude.

H1b: Learning pressure will have a negative and significant association with learning achievement.

H1c: Learning pressure can be used as a predictor of learning achievement.

In general, learners' attitudes and skills will affect their learning outcomes. Atkinson's theory (1964) of achievement motivation suggests that when an individual performs a task, two psychological aims will be produced: one focused on seeking success, and the other on avoiding failure. Bandura (1977) refined this into the concept of self-efficacy, which refers to a person's level of belief about his/her ability to accomplish a task in a particular field, with higher levels motivating people to work harder to achieve their goals. Thompson (1976), meanwhile, found that a student's learning attitude was an effective predictor of his/her academic performance, and Webb (1986) established that such attitudes were the major factors affecting academic performance.

As such, a positive learning attitude is foundational to effective learning, leading to active involvement and participation, whereas a negative learning attitude will lead a person to seek escape from, drop out of, or refuse to engage in the learning process (Taht & Must, 2013). In this sense, different learning attitudes will produce different pictures of learning outcomes: learning attitude has a directional function, and several studies have shown that a positive learning attitude has a positive influence on learning outcomes (Killian & Bastas, 2015; Maure & Marimon, 2014). Based on these previous findings, we propose two further hypotheses:

H2a: Learning attitude will have a positive and significant association with learning achievement.

H2b: Learning attitude can be used as a predictor of learning achievement.

The major objective of the current study was to examine the possible relationships among learning

pressures, learning attitudes, and academic achievement of university students: specifically, Chinese undergraduates from three universities in Macau. It is hoped that this study will be useful for policymakers, educators, and all stakeholders in Macau who would benefit from better practices in education.

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## 1. METHODS

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### 1.1 Participants

Convenience sampling was used in the current study, and a total of 135 Chinese students volunteers were recruited from three universities in Macau, two public and one private. Of these participants, 55 were male and 80 female, and 39 were first-year, 33 second-year, 34 third-year, and 29 fourth-year undergraduates. Full-time students made up just under half the sample ( $N = 63$ ) and the remaining 72 students had part-time jobs.

### 1.2 Measures and Procedures

Research assistants at the three universities asked the participants to complete a survey that included four sections: background information (gender, educational level, and job status), learning pressure, learning attitude, and academic achievement. Questions were answered via a Likert scale, ranging from 1, "completely disagree" to 6, "completely agree."

The section covering learning pressure included nine questions, among which five were adopted from Zeng (2007) and four from Laio, Huang, Wang, and Hsu (2006). An example of a question from this section was "I feel great pressure because of a heavy workload from school assignments." The section on learning attitude involved eight questions, among which four were adopted from Chi (2006) and the other four from Li (2007). One of the learning-attitude questions was, "In the class, I often actively ask questions." The last part of the survey, covering academic achievement, included seven questions, three adopted from Chou (2011) and four from Laio et al. (2006). One question from this section was, "I feel a great sense of accomplishment because of my academic performance." The Cronbach's  $\alpha$  scores for learning pressure, learning attitude, and academic achievement were .827, .626, and .805, respectively; and when all 24 items in the second, third and fourth sections were considered as a single group, the Cronbach's  $\alpha$  was .804. This suggests that the instrument had an acceptable reliability.

### 1.3 Data Analysis

To examine the relationships among learning pressure, learning attitude, and academic achievement reported by our sample, Pearson correlation was utilized first, followed by multiple regression analysis to examine whether or not learning pressure and learning attitude were valid predictors of learning achievement.

## 2. RESULTS

Table 1 presents mean, standard deviations, and zero-order correlation among earning pressure, learning attitude, and academic achievement. Pearson correlation coefficients reveal a significant and positive association between learning pressure and learning attitude ( $r = .355, p < .01$ ). The association between learning pressure and academic achievement was negative but not significant ( $r = -.145, p = .094$ ). Finally, the association between learning attitude and academic achievement was positive and significant ( $r = .517, p < .01$ ). In sum, two positive and moderate correlations and a negative and weak correlation were found, which suggests that we should reject H1a and accept H2a, while H1b is supported partially.

**Table 1**  
**Means, Standard Deviations, and Intercorrelations**  
**Among Three Measures**

Measure	<i>M</i>	<i>SD</i>	1	2	3
1. Learning pressure	4.21	.611	--		
2. Learning attitude	4.08	.737	.355**	--	
3. Academic achievement	4.21	.753	-.145	.517**	--

Note. \*\*  $p < .01$ .

Table 2 presents the results of simultaneous regression analysis, in which learning pressure and learning attitude were treated as independent variables and academic achievement as the dependent variable. The regression model fit statistics show that  $F(2, 132) = 42.10, p < .001, R^2 = .390$ . The prediction model also shows that both independent variables are effective predictors of achievement, with learning pressure,  $\beta = -.375, t = -5.16, p < .001$ , and learning attitude,  $\beta = .650, t = 8.94, p < .001$ . When the variables were entered into the regression equation, it yielded the following prediction equation: *learning achievement* = 2.336 - .319 (*learning pressure*) + .719 (*learning attitude*). This equation suggests that an increase in learning attitude will tend to increase a person's perception of achievement. In addition, an increase in learning pressure will tend to decrease one's perception of achievement. The regression coefficients also provide a means of assessing the relative importance of the independent variables in the overall prediction of achievement. The results of a comparison between the two independent variables using the beta coefficients, indicate that learning attitude ( $\beta = .650$ ) was more important than learning pressure ( $\beta = -.375$ ) to the regression model. We thus accept H1c and H2b.

**Table 2**  
**Regression Analysis Summary for Two Variables**  
**Predicting Achievement**

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Learning pressure	-.319	.062	-.375	-5.16	<.001
Learning attitude	.719	.080	.650	8.94	<.001

## DISCUSSION

We found a significant, moderate, and positive correlation between learning pressure and learning attitudes. This surprising result suggests that the higher the pressure to learning, the better the attitude toward learning students will have, which is not in line with the findings of previous studies (Courtney, Longnecker, Theorell, & de Verdier, 1993; Elliot & Eisdorfer, 1982). As Liou (2009) has suggested, people will adjust themselves to a changing environment. This demand will yield spontaneous motivation to learn, and thus an appropriate amount and type of pressure will help people to identify their disadvantages and actively seek alternatives to improve themselves and thereby boost learning development. In our sample, Macau university students seemed to appreciate the learning pressure that was placed on them by their institutions, and this was reflected in their learning attitudes.

The Chinese culture and educational system might have influenced this finding. A number of educators have pointed out that compared to their Western counterparts, Chinese students often have higher pressures and demands relating to academic performance placed upon them by their parents and the wider society (Tsai, 2013; Tsai & Özturgut, 2013). Under the banner of a test-driven educational system, Chinese students are expected to study hard and behave well in the classroom, and to believe that a positive learning attitude will have a positive effect on their academic performance, even though they experience high levels of institutional learning pressure.

We also found a negative correlation between learning pressure and academic achievement, which suggests that the higher the pressure students experience, the lower the academic achievement they will have. The possible reason for the non-significance of this correlation in the current study is that we used a self-report measure to assess students' perceptions of their learning achievement, rather than real academic performance such as GPA. It is also possible that, as a group, Macau university students have a lower-than-normal capacity to counter learning pressure, which makes them more vulnerable to low academic performance.

The last correlation we found, between learning attitudes and academic achievement, was positive and significant. This moderate correlation ( $r = .517$ ) indicates that the better a person's learning attitude, the higher his/her learning achievement, which is in line with our expectations and with the literature (e.g., Ocak & Yamaç, 2013).

When we regressed learning pressure and learning attitudes on academic achievement, the results showed that both variables were effective predictors of achievement. In terms of influence, the regression model suggests that learning attitude was more influential than learning pressure was; it also indicates that learning attitude had

a positive effect ( $\beta = .650$ ) and learning pressure had a negative effect ( $\beta = -.375$ ) on achievement. Taken together, these two predictors explain a very substantial 39% of the variance academic achievement reported by our sample.

Certain limitations should be noted when interpreting the results of the current study. To begin with, the limited ethnic- and age diversity of the participant pool may restrict the generalizability of the results. Although the current study recruited students from three different universities, all were in Macau, and future researchers may find it beneficial to conduct a comparative study of Chinese university students across Taiwan, Hong Kong, and China. Further, as a correlational study, the explanatory and predictive power of this research is constrained, and it would be useful to confirm the results via a future longitudinal investigation of the same factors. Finally, the current study examined the effect of two variables on academic achievement, but other variables – such as motivation, self-efficacy, teaching method, and so on – might also contribute to individual learning outcomes. Indeed, it may be that the inclusion of more variables is the way forward for a better understanding of this topic.

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