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2025 Volume 3, Issue 9
Lecture Notes in Education, Arts, Management and Social Science
ISSN(Online): 2705-053X

The Relationship between Academic Motivation, Academic Self-efficacy and Teacher Immediacy among Chinese First-year College Students

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Abstract: This study examines the relationship between academic motivation, academic self-efficacy, and teacher immediacy among Chinese first-year college students (N=35). Results indicate a positive relationship between academic motivation and academic self-efficacy (extrinsic: ρ=.43, $p<.05$; intrinsic: ρ=.46, $p<.01$). Academic motivation is also positively related to teacher immediacy behaviours across instructional (extrinsic: ρ=.31; intrinsic: ρ=.41), relational (extrinsic/intrinsic: ρ=.36), and personal dimensions (extrinsic: ρ=.36; intrinsic: ρ=.46). Although a positive trend exists between academic self-efficacy and teacher immediacy, it was not statistically significant. The findings support previous theoretical claims and offer practical suggestions for enhancing student motivation in Chinese higher education.

Keywords: academic motivation; academic self-efficacy; teacher immediacy; Chinese college students; first-year students; intrinsic motivation; extrinsic motivation

Online publication: October 26, 2025

1. Introduction

In higher education, academic motivation and self-efficacy are critical to student success, and their interaction with teacher behaviours is widely studied. Motivation drives learning behaviour and can be intrinsic (curiosity, interest) or extrinsic (external rewards). Academic self-efficacy refers to a student's belief in their ability to complete academic tasks. Teacher immediacy includes verbal and non-verbal behaviours that reduce psychological distance between teacher and student, improving teaching effectiveness and student outcomes. However, most research on teacher immediacy is Western-focused, with limited quantitative evidence in Chinese contexts. Similarly, studies on motivation and self-efficacy are often qualitative. This study quantitatively investigates these three variables among Chinese first-year students to address cultural and methodological gaps.

2. Literature review

The aim of this review is to discuss academic motivation, academic self-efficacy, and teacher immediacy in term of similarities and differences. The research question and limitations of the study will also be highlighted.

2.1. Academic motivation

Motivation is central to educational psychology, influencing students' persistence, performance, and achievement. Ryan

and Deci's self-determination theory distinguishes between intrinsic and extrinsic motivation. Intrinsic motivation is more sustainable, while extrinsic relies on external incentives. Academic motivation encompasses students' desire to learn, their approach to tasks, and their persistence[1].

2.2. Academic self-efficacy

Rooted in Bandura's social cognitive theory, self-efficacy affects how students approach tasks, expend effort, and persist through challenges. It correlates with academic achievement and persistence. College-specific measures, such as the College Academic Self-Efficacy Scale, help assess students' confidence in academic tasks[2].

2.3. Teacher immediacy

Defined by Mehrabian as behaviours that enhance closeness, immediacy includes verbal and non-verbal cues. In education, it improves student engagement, motivation, and learning. Cross-cultural studies highlight differences in immediacy behaviours; for example, some Western verbal immediacy behaviours are less appropriate in Chinese classrooms. The Chinese Teacher Immediacy Scale (CTIS) includes three dimensions: instructional, relational, and personal immediacy, offering a culturally appropriate measure[3].

2.4. Academic motivation and academic self-efficacy

A vast body of literature has been dedicated to the relationship between academic motivation and self-efficacy, with the majority of research focusing on qualitative aspects e.g). Schunk noted that self-efficacy is a key personal expectancy variable that influences academic learning and operate through various pathways such as goal setting, information processing, modeling, feedback, and reinforcement. Students can use this to evaluate their learning efficacy: when they perceive an increase in ability their motivation subsequently increases; conversely, task completion and skill mastery further consolidate their sense of efficacy. While existing theoretical analyses suggest a correlation between the two, quantitative empirical support still required. Therefore, the present study aims to verify the relationship between academic self-efficacy and academic motivation through quantitative data[4].

Furthermore, Bong has suggested that there are positive correlations between academic self-efficacy and academic motivation in all school subjects among both secondary and high school students. There are currently very few studies on the relationship between academic self-efficacy and academic motivation among universities students. A study by Chemers & Garcia is the sole piece of research which has indicated that self-efficacy may positively impact on students' academic performance and they carried this out through a longitudinal study of first-year college students. In essence, studying academic self-efficacy and academic motivation is helpful in educational settings and could also provide some constructive suggestions for students. The above-mentioned studies seem to indicate that there is a relationship between academic motivation and academic self-efficacy, thus, this study aims at fulfilling the research gaps by providing quantitative evidence[5-7].

2.5. Academic motivation, academic self-efficacy and teacher immediacy

Numerous studies have attempted to explain the relationship between academic motivation, academic self-efficacy, and teacher immediacy on the basis of western culture. For example, Gorham and Christophel have stated that there is an association between verbal immediacy and student motivation. Likewise, an increasing number of studies have shown teacher verbal immediacy having positive effects on students' learning. In 2012, Velez and Cano sought to examine the relationship between verbal immediacy, nonverbal immediacy, self-efficacy, and task value motivation. This was the first study which focused on self-efficacy, student motivation, and teacher immediacy in conjunction. They concluded that there is a significantly positive relationship between verbal immediacy and self-efficacy (r=.33), nonverbal immediacy and self-efficacy (r=.21), verbal immediacy and task value motivation (r=.23) and nonverbal immediacy and task value motivation (r=.15).

There is currently a gap in research regarding teacher immediacy, academic self-efficacy, and academic motivation within the context of China. The teaching styles of Chinese teachers are actually different from American teachers'. Hu and

Grove stated that admired teachers are those who give organised and clear-structured lectures in the Chinese classroom. Students also have very few opportunities to discuss with peers and interact with teachers since they spend most of their time taking notes and memorizing the content stated by the teachers. That means there is little interactions between teachers and students in the Chinese classroom. Some verbal immediacy behaviors are also regarded as inappropriate in Chinese classrooms, such as using first names, small talk, or premising personal information. However, the verbal immediacy behaviours mentioned are common within American classrooms. It seems to be unreasonable to explore Chinese teacher immediacy from both the verbal and nonverbal perspectives. Therefore, this study will investigate Chinese teacher immediacy from three dimensions: instructional, relational, and personal immediacy. The primary aim of this study is to examine the relationship between academic motivation, academic self-efficacy, and teacher immediacy[8-10].

2.6. The limitations of existing research and the research question and implication of this study

Based on the above statement of previous studies, it can be seen that academic motivation, academic self-efficacy and teacher immediacy play a crucial role in educational settings and required further research. Firstly, very little attention has been paid to the relationship between academic motivation, academic self-efficacy and teacher immediacy in Chinese college classrooms. Thus, I offer the following main research question of this study:

What is the relationship between academic motivation, teacher immediacy and academic self-efficacy among Chinese college students?

The main research question will be divided into three small research questions for research. Many researchers suggested that there is a positive relationship between academic motivation and academic self-efficacy, however, there is very little quantitative evidence for this aspect. Thus, I offer the following first question:

Is there a relationship between students' academic motivation and students' academic self-efficacy?

The result of this question will provide quantitative evidence of existing research and fill in the gaps within this area of research.

Despite the importance of academic motivation, academic self-efficacy and teacher immediacy, there is limited evidence for the three variables within the Chinese cultural context. Hence, I offer the two following questions:

Is there a relationship between students' academic motivation and teacher immediacy?

Is there a relationship between students' academic self-efficacy and teacher immediacy?

This study aims to gain a better understanding of the factors of students' academic motivation and the relationships between academic motivation, academic self-efficacy and teacher immediacy among Chinese college students. Thus, suggestions will be made to highlight improvements in students' academic motivation. Some suggestions may be provided to teachers by this study and the implications for future research.

The existing studies have shown that students with a high level of academic self-efficacy have a higher motivation for learning. On contrary, students with low levels of academic self-efficacy are more likely to have low motivation for learning (Schunk, 1991; Bedel, 2015). However, very little research has explored whether teacher immediacy could influence students' academic motivation and academic self-efficacy among university students. Thus, this study will test this hypothesis:

1. There is a positive relationship between students' academic self-efficacy and students' academic motivation.

2. There is a positive relationship between teacher immediacy and students' academic motivation.

3. There is a positive relationship between teacher immediacy and student academic self-efficacy.

3. Methodology

3.1. Overview

Initially, I sent the information sheet of my research (see it at Appendices) to my undergraduate tutor by email to ask if he could provide permission for my study. Pursuing this further, I created an online questionnaire using Qualtrics, this included the information sheet and consent form for this study and three scales: Academic Motivation Scale (AMS) college version, College Academic Self-Efficacy, and the Chinese Teacher Immediacy Scale. I then sent the link of Qualtrics to my

undergraduate tutor, which enabled me to distribute the questionnaire to all of the potential participants. The students received the questionnaires, information sheet, and consent form. The students had to select "yes" in the consent form to take part in the study. This then led to three scales being shown upon agreement of participation. Also, the study required a small amount of basic personal data of participants to be collected (eg. age and gender). Lastly, the participants could leave their email address to find out the results of the study. The whole process of data collection took each participant about 12 minutes to complete. In the process of this study, all participants were informed that they are voluntarily taking part in the study. Furthermore, the responses were stored anonymously and confidentially in a secure password-protected folder on a laptop. [11]

3.2. Participants

All participants were first-year undergraduate students from a university in Beijing and they were taught two courses by the same teacher. One of these courses is psychological statistics and the other is social psychology. The data of this study were collected during the end of the spring term to ensure that the students were well aware of the teacher's immediacy behaviours. **Table 1** shows the demographic characteristics of the participants partaking in this study.

Table 1. *Demographic characteristics of participants (n = 35)*

N	**35**	
Gender	Male	48.6%(n=17)
	Female	51.4%(n=18)
Age	18-23	100%(n=35)
	M	19.20
	SD	1.13

3.3. Measures

3.3.1. Academic motivation scale college version (AMS-C)

The Academic motivation scale (AMS-C 28) college version is commonly used to determine the reasons why students want to go to college, which includes 28 items and the 7-point Likert-type scale was used to respond to each item from a range of 1 (strongly disagree) to 7 (strongly agree). The AMS-C 28 is supported by the SDT and has been used by previous researchers in high school and college educational settings for decades. Vallerand et al. studied the seven-factor structure of the AMS-C 28, a) amotivation; b) intrinsic motivation includes three types: knowledge, accomplishment and experience; c) extrinsic motivation includes three types: external, introjected and identified. Each subscale only consists of four items, however, the reliability and validity of the AMS-C 28 has been tested by internal consistency, test-retest reliability, and construct validity. In addition to the subscale named 'identified of intrinsic motivation' which has the Cronbach alpha coefficient of .62, the Cronbach alpha coefficient of other subscales varied from .83 to .86. Thus, this shows that AMS-C 28 represents a reliable and valid tool within the research. This study only measured students' extrinsic motivation and intrinsic motivation. Additionally, a reliability of the collected data indicated that the Cronbach's alpha coefficient of the whole scale (excludes four items of amotivation) is 0.874, and the Cronbach's alpha coefficient of each factor is 0.896 (intrinsic motivation-knowledge), 0.869 (intrinsic motivation-accomplishment), 0.768 (intrinsic motivation-experience), 0.836 (extrinsic motivation-identified), 0.817 (extrinsic motivation-introjected), and 0.641 (extrinsic motivation-external).

3.3.2. College Academic Self-Efficacy Scale

The College Academic Self-Efficacy Scale (CASES) was used to evaluate academic self-efficacy. This was developed by Owen and Froman (1988). The CASES is a self-report research tool for academic self-efficacy, which includes 33 items to determine the confidence of carrying out some typical academic tasks among college students. For instance, "participating in the class discussion" and "writing a high-quality term paper". Each item is rated using a 5-point Likert scale, which

ranges from 1 (very little) to 5 (quite a lot). Owen and Froman (1988) have reported the great reliability of the CASES. The Cronbach's alpha coefficient of the CASES is .90 and the test-retest of this scale is .85 with an 8-week interval. Hence, this suggested that CASES is a reliable and valid measurement tool for academic self-efficacy. In this research, the Cronbach's alpha coefficient of the College Academic Self-Efficacy Scale is 0.968.[12]

3.3.3. Teacher immediacy Behaviour Scale (Chinese version)

Initially, the 38-item Chinese Teacher Immediacy Scale (CTIS) was developed by Zhang and Oetzel (2006) and is based on Chinese cultural background. The CTIS was validated using confirmatory factor analysis and the 15-item Chinese Teacher Immediacy Scale (CTIS) was obtained for further research. The 5-point Likert scale has been reported to have good reliability, content, and construct validity. Also, Zhang and Oetzel (2006) suggested that the CTIS should be divided into three dimensions from a Chinese perspective: instructional, relational, and personal and the reliability of the three dimensions are 84, .85, and .82, respectively. Instructional immediacy includes behaviours which are related to classroom instructions to enhance the relationships between teachers and students (i.e. passionate about teaching). Relational immediacy involves behaviours pertaining to teacher-student relationships (i.e. encouraging students). Personal immediacy focuses on behaviours related to teachers' personal attributes and characteristics, such as personality, ethics and academics (eg. conducts himself/herself well). Based on the data of this study, the Cronbach's alpha coefficient of the whole scale is 0.923, and the Cronbach's alpha coefficient of these three dimensions varied from 0.821 to 0.879.[13-14]

3.4. Data analysis

After the data was collected it was analysed using SPSS 25.0 through descriptive and correlational analysis. The verification of the type of collected data (parametric or non-parametric data) was conducted by Exploratory Data Analysis. The summarised scores of Academic Self-efficacy Scale represent the students' academic self-efficacy. Each dimension of CTIS and AMS served as one variable. Three research questions were answered by using the Spearman's rank correlation coefficient. Chok (2010) stated that the Spearman's rank coefficient is a rank-based version of Pearson's correlation coefficient and Spearman's rank correlation coefficient belongs to non-parametric tests. Chok (2010) also explained the indicators of Spearman's correlation coefficient (denoted by Greek small letter ρ called rho): range from -1 to +1 and the absolute value of ρ representing the degree of the monotonic relationship. The absolute value of ρ is closer to 0, which means the monotonic relationship between the two variables is weaker.

4. Results

4.1. Descriptive statistics

Descriptive statistical analysis of all variables was conducted. The summation scores of the Academic self-efficacy scale represents the students' academic self-efficacy. For the scales of CTIS and AMS-28, the summarised scores of each dimension were used as one variable and then conducted by descriptive statistical analysis. The means, standard deviations, minimum, and maximum are set out in **Table 2**.

Table 2. Descriptive Statistics of Academic Motivation and Teacher Immediacy

	N	Minimum	Maximum	M	SD
Academic self-efficacy	35	57	165	113.23	25.10
Intrinsic motivation	35	47	84	74.91	8.93
Extrinsic motivation	35	53	84	73.89	8.30
Instructional immediacy	35	20	25	24.20	1.47
Relational immediacy	35	16	25	23.54	2.29
Personal immediacy	35	19	25	23.74	1.92

4.2. Correlational analysis

This study explored the association between academic motivation, academic self-efficacy and teacher immediacy. The first variable includes two levels: intrinsic motivation and extrinsic motivation. Moreover, the last variable also includes three various levels, such as instructional immediacy, relational immediacy, and personal immediacy. Firstly, the exploratory data analysis showed a significant skew in each variable, and the Shapro-Wilk tests indicated all variables deviated significantly from the normal. Also, apart from academic self-efficacy and extrinsic motivation, there were some outliers in the rest of the variables. Therefore, a non-parametric correlation test (Spearman's rank correlation) was carried out because the collected data did not fit the normal assumptions. Moreover, there were also some outliers and the sample size was not large enough (N=35).

Spearman's rank correlation analysis was conducted to answer three research questions respectively, and the results are indicated in Tables 3, 4 and 5. The strengths of correlational relationships were usually described by the correlation coefficient and effect size. Yet, the Spearman's rank correlation was not evaluated by correlation coefficients. Thus, based on Cohen's (1988) standard, the Spearman's correlation coefficients between .10 and .29 was identified as indicating a small correlational association; correlation coefficients between .30 and .49 highlighted a moderate correlational relationship; and correlation coefficients over .50 indicate a large correlational relationship.

RQ 1—The relationship between academic motivation and academic self-efficacy

Table 3. Correlations among extrinsic motivation, intrinsic motivation and academic self-efficacy

		Extrinsic motivation	Intrinsic motivation	Academic self-efficacy
Extrinsic motivation	Spearman's rho	----	.70**	.43*
	effect size[a]		Large	Moderate
Intrinsic motivation	Spearman's rho		----	.46**
	effect size[a]			Moderate

RQ 2—The relationship between academic motivation and teacher immediacy

Table 4. Correlations among academic motivation and teacher immediacy

		Extrinsic motivaion	Intrinsic motivation	Instructional immediacy	Relational immediacy	Personal immediacy
Extrinsic motivation	Spearman's rho	----	.70**	.31*	.36*	.36*
	effect size[a]		Large	Moderate	Moderate	Moderate
Intrinsic motivation	Spearman's rho		----	.46**	.36*	.46**
	effect size[a]			Moderate	Moderate	Moderate
Instructional immediacy	Spearman's rho			----	.46**	.36*
	effect size[a]				Moderate	Moderate
Relational immediacy	Spearman's rho				----	.64**
	effect size[a]					Large

RQ 3—The relationship between academic self-efficacy and teacher immediacy

Table 5. Correlations among academic self-efficacy and teacher immediacy

		Academic self-efficacy	Instructional immediacy	Relational immediacy	Personal immediacy
Academic self-efficacy	Spearman's rho	----	0.01	0.12	0.06
	Effect size[a]		Small	Small	Small

Notes: [a] According to Cohen(1988)

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Spearman's rank correlation analysis showed that not all associations between the variables produced statistically significant results. Statistically significant results could further explore the practical meanings. A statistically significant positive moderate association was found between extrinsic, intrinsic motivation and academic self-efficacy. Thus, students with higher academic self-efficiency tended to be those with the higher extrinsic motivation and intrinsic motivation. Moreover, there were statistically significant positive moderate relationships between teacher immediacy and academic motivation. Therefore, this suggests that teacher who had higher immediacy behaviours (instructional, relational and personal immediacy) tended to have students with higher academic motivation. However, there is no statistically significant relationship between students' academic self-efficacy and teacher immediacy.[15]

5. Discussion

The main aim of this study is to identify relationships between the variables of academic motivation, academic self-efficacy, and teacher immediacy. Based on the results of the present study, combined with findings from previous research, there are several interesting findings regarding the relationship of the variables among Chinese first-year college students.

Hypothesis 1*: There is a positive relationship between students' academic self-efficacy and students' academic motivation.*

The first hypothesis in this study was supported by the results of Spearman's rank correlation, which showed that there is a significant positive correlation between academic motivation (includes intrinsic and extrinsic motivation) and academic self-efficacy. As mentioned in the literature review, previous research within this field is absent from quantitative data. This study supports evidence from previous theoretical predications. Moreover, this finding extended previous research. In the study of Cerino (2014), a positive relationship between academic motivation and general self-efficacy has been found among undergraduate students. Yet, there is a difference between academic self-efficacy and general self-efficacy. Hence, the finding from this study shows that there is a positive relationship between academic motivation and academic self-efficacy. Specifically, intrinsic motivation is positively correlated with academic self-efficacy in this study. This result also extends the findings of previous studies which suggest that academic motivation in Math's and English are positively related to self-efficacy in Math's and English among 10^{th} –grade students. Also, there has been a moderate correlation between academic self-efficacy and academic performance. Combined with this study, the reasons for Honicke and Broadbent's results may be due to students' intrinsic motivation. Thus, future research could explore whether students' intrinsic motivation is a mediate or moderate internal factor between academic self-efficacy and academic achievement. Likewise, extrinsic motivation is positively correlated with academic self-efficacy. Inconsistent with existing literature Walker et al (2006) found that there was a negative relationship between extrinsic motivation and self-efficacy among university students, however, this was not statistically significant. This inconsistency may be due to using different instruments of self-efficacy. In this study, academic self-efficacy was directly measured by the CASES, which may be more precise than the research of Walker et al (2006).

Furthermore, another important finding was that the results suggested a positive relationship between students'

intrinsic motivation and extrinsic motivation, which was supported by the Spearman's rank correlation analysis. Although this is not the research question of this study, the relationship between intrinsic motivation and extrinsic motivation is important in this research field. Based on the definition of extrinsic motivation, there are studies which have found detrimental effects of rewards on intrinsic motivation. Moreover, researchers have also shown that the undermining effect of rewards on intrinsic motivation can result in decreasing the engagement and interests of individuals. This study utilized quantitative data to contradict the previous literature findings. A possible explanation for this might be that the sample size of this study (only N=35) not being large enough. Moreover, this inconsistency may also be due to cultural differences. The present study mainly focused on Chinese university students in freshman year. In contrast, previous studies have mainly studied students' intrinsic and extrinsic motivation, based on the context of western culture. In fact, many researchers have found that motivation does not have cross-cultural universality. Also, King and Mclnerney (2014) have stated that culture has an important impact on students' motivation in schools and few previous studies have considered or challenged the meanings and relationships of intrinsic and extrinsic motivation articulated by specific theoretical models in different cultural settings. The novel findings of this study can guide a path for further research regarding cross-cultural students' academic motivation.

Hypothesis 2*: There is a positive relationship between teacher immediacy and students' academic motivation.*

The second hypothesis was also proved by the results of Spearman's rank correlation. The results suggest that there is a positive relationship between students' academic motivation and teacher immediacy behaviours. Therefore, students can have a high level of academic motivation if they perceive high levels of teacher immediacy. The literature review highlights that there are differences between Chinese and American teaching styles. The finding of this study is based on the Chinese cultural background to explore the association between academic motivation and teacher immediacy behaviours, which could fill in the gap in previous research and have a great implication in educational psychology. The main difference in studies which have focused on non-verbal and verbal immediacy is the fact that the teacher immediacy behaviours are focused on teacher's preparation, enthusiasm, and the teacher-student relationship. In accordance with the present results, previous studies have demonstrated that teachers are a powerful factor in the formation of students' academic motivation. For instance, student-teacher relationships, teachers' academic attitudes, work enthusiasm, and the way teachers treat students affect students' academic motivation. Therefore, consistent with previous research, this study not only confirmed that the positive relationship between teacher immediacy behaviours and students' academic motivation, but also extended the results to the Chinese cultural background. Surprisingly, one of the dimensions in Chinese teacher immediacy behaviours, personal immediacy, concentrates on behaviours related to teachers' personal attributes and characteristics, such as personality, ethics, and academics (e.g. conducts himself/herself well). This dimension is positively correlated with students' academic motivation. Hence, this relationship might be explained by Chinese traditional culture. Based on the statement of Analects of Confucius, teachers have the responsibility of setting themselves an example to students and they are also a model of virtue for students during their teaching. Thus, teacher personal immediacy behaviours play an indispensable role in students' academic motivation in China.

Hypothesis 3: *There is a positive relationship between teacher immediacy and student academic self-efficacy.*

While a positive trend exists, the relationship between teacher immediacy and self-efficacy was not significant. This may be due to cultural differences in immediacy perception or the influence of other factors like academic stress or performance.

6. Limitations and future research

Small sample size and homogeneity limit generalizability. The correlational design prevents causal inference. Future studies should include larger, diverse samples, longitudinal designs, and consider mediating variables. Mixed-methods approaches could reduce self-report bias.

7. Conclusions and implications for educational practice

This study confirms positive links between academic motivation, self-efficacy, and teacher immediacy among Chinese first-year students. Teacher immediacy—particularly instructional, relational, and personal behaviours—can enhance student motivation. While no significant link with self-efficacy was found, teachers can still foster student confidence through supportive practices. These findings offer practical insights for educators aiming to improve student engagement and motivation in Chinese higher education.

Disclosure statement

The author declares no conflict of interest.

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