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# Self-Efficacy and Locus of Control as Correlates of CGPA Among Students at a Private University in Thailand

**Yao Chen[1] and Mark Vodell[1*]**
**Asia-Pacific International University[1], Thailand**
*Corresponding Author: markvodell@apiu.edu

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**Abstract**

**Aim/Purpose:** This study investigated the relationship between self-efficacy, locus of control, and academic performance as measured by cumulative grade point average (CGPA) among students at a faith-based international university in Thailand. It aimed to address a gap in understanding whether internal locus of control and higher self-efficacy levels are correlated with improved academic outcomes in this geographical and sociological context. Additionally, it examined the influence of gender and academic year on these psychological constructs. These elements have produced mixed results, suggesting that other antecedents may be influencing the results, and so the intention of this study was to provide additional knowledge on these complex relationships.

**Introduction/Background:** Given the increasing focus on psychological factors influencing student performance, this paper explored the extent to which self-efficacy and locus of control affected grade point average. Many studies have suggested that internal locus of control and high self-efficacy positively impact academic achievement, but findings have remained inconsistent across different cultural and institutional contexts. This research specifically examined these relationships in a Southeast Asian setting to contribute to the global understanding of student performance predictors.

**Methodology:** This study utilized a quantitative research approach through an online survey administered to 211 students. The research employed validated measurement instruments, including the General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) and Rotter's Locus of Control Scale (LOC) (1966b), alongside self-reported CGPA scores. The sample included 31.8% male and 68.2% female students, with a predominant representation of freshmen (47.4%). Statistical analyses, including correlation and regression analysis, were conducted using a statistical software package to determine the relationships among self-efficacy, locus of control, and CGPA.

**Findings:** Analysis of the data from this study produced four findings that add to our understanding of the complex relationships that exist between Grade Point Average, self-efficacy, and locus of control. The first finding was that no statistically significant relationship was found between CGPA and self-efficacy ($r$ = 0.04). Secondly and similarly, no statistically significant relationship was found between CGPA and locus of control ($r$ = -0.03). Thirdly, regression analysis indicated that self-efficacy and locus of control had minimal predictive power on GPA ($R^2$ = 0.03). A fourth finding was that no significant differences in self-efficacy and locus of control were observed based on gender or academic year level. Finally, the reliability of Rotter's LOC Scale in this context was notably low (Cronbach's alpha = 0.51), which suggests that there may be cultural limitations in its applicability.

**Contribution/Impact on Society:** This study contributes to the growing body of knowledge on psychological predictors of academic performance, particularly in Southeast Asian contexts. The findings challenge the widely held assumption that self-efficacy and locus of control strongly influence GPA, suggesting that additional cultural, social, and institutional factors may also play a mediating role. The research highlights the importance of contextualizing psychological theories when applying them across diverse student populations.

**Recommendations:** A number of recommendations can be derived from this research. First, educational institutions should adopt a holistic approach that considers cultural and institutional influences when designing academic interventions based on self-efficacy and locus of control. Second, universities should incorporate psychological support mechanisms, including academic counselling and self-efficacy training that is tailored to regional cultural contexts. Finally, researchers may find it beneficial to refine measurement tools like Rotter's LOC Scale to enhance reliability and validity across different cultures.

**Research Limitations:** A number of research limitations are acknowledged. First, the study relied on self-reported data, which may have introduced response bias. Second, the sample was limited to a single university, restricting its generalizability to broader populations. Third, the overrepresentation of freshmen (47.4%) may have skewed findings, as younger students might provide socially desirable responses or have underdeveloped self-perceptions. Finally, some language barriers and cultural influences may have affected participants' understanding of the survey questions.

**Future Research:** A number of suggestions for future research studies spring from this report. First, a longitudinal study could be conducted to assess changes in self-efficacy and locus of control over time. This would help to increase understanding about the dynamic or static nature of these concepts. Second, future studies could be expanded to multiple universities across different cultural contexts to compare findings and improve generalizability. Third, qualitative methods, such as interviews, could provide richer insights into students' academic motivations and self-perceptions. Finally, despite a majority of studies showing statistically significant relationships between grade point average and self-efficacy, and between grade point average and locus of control, a sizable minority of reports have indicated that no such relationships exist. Given the disparate nature of results, it is strongly advised that future work include additional factors, such as faith, social beliefs, and regional culture, and that these should be explored as potential mediators in the relationships between self-efficacy, locus of control, and grade point average.

**Keywords:** *Self-efficacy, control locus, academic performance, faith-based*

**Introduction**

In recent years, there has been a growing interest in the role of psychological constructs, such as self-efficacy and locus of control, in shaping academic performance (Auliya et al., 2023; Eze et al., 2022; Kader, 2022). While numerous studies have posited a positive correlation between an internal locus of control, high self-efficacy, and academic success, results have remained inconsistent across cultural and institutional boundaries. This article explores these relationships within the unique setting of a faith-based international university in Thailand, providing insight into how these constructs are manifest in a Southeast Asian context. By examining whether students' belief in their own abilities (self-efficacy) and their perceived control over outcomes (locus of control) relate to cumulative grade point average (CGPA), this study contributes to a global discourse on the psychological determinants of student achievement.

The links between psychological conceptions such as mental health, self-awareness, and academic performance are complex. When examining the antecedents of academic performance, these links have been shown to be multifaceted. Cassidy and Eachus (2000), Landis et al. (2007), and Lopez-Garrido (2025) have all stated that several predictors of GPA exist, including attitudes, learning strategies, personality, self-efficacy, and locus of control. Other researchers have also included mental and physical health as factors influencing university students' GPAs (Gordon, 2023).

These first three predictors are complex and challenging to measure. It is generally accepted that these are often developed in individuals during their elementary and high school years and are thus less susceptible to influence, making them less suitable for investigation.

Mental and physical health are also related to and interact with students' learning strategies, personality, self-efficacy, and locus of control (AbuSabha & Achterberg, 1997; Gordon, 2023; O'Leary, 1992; Roddenberry & Renk, 2010). The influencing factors developed include critical thinking, family

and community culture, psychological education, self-regulation, and social skills (Gordon, 2023). Inclusion of mental and physical health as influences on university GPA also has support; however, the extensive nature of these concepts would have made it difficult to maintain focus on the key variables examined in this research.

In contrast to these psychological elements, the two predictors of self-efficacy and locus of control can be described as more focused, but less fixed in nature. Bandura (1997) suggested that self-efficacy is highly malleable. Further research from Gerhardt and Brown (2006) showed that the level of self-efficacy can be changed through training. Similarly, locus of control is also considered malleable. Although it was previously thought to be relatively fixed (Rotter, 1966a), more recent research has shown that it can be influenced (Hunter, 1994; Newton, 1998). Therefore, the more pliable nature of self-efficacy and locus of control led to their inclusion in the current research project. Because these factors may be influenced, they were considered suitable for further investigation. Institutions and students may reflect on possible structural or cognitive changes that could be implemented to encourage positive academic outcomes.

**Statement of the Problem and Research Questions**

A significant part of finding a sense of belonging is identifying levels of self-efficacy and locus of control (Li et al., 2021; Torres, 2007). The problem that this research attempted to address is the lack of understanding of how self-efficacy, locus of control, and academic performance interact in an Asian context. Previous research studies of these variables have produced mixed outcomes; thus, this study aimed to provide some clarity in a Southeast Asian context. Furthermore, it appears that limited work has been done by educational institutions to assist students in developing an understanding of their self-efficacy and locus of control in Southeast Asian countries. Because the predictors of academic success are complex and varied, this study aimed to add to the body of knowledge on relationships between the variables under study.

Consequently, this study was guided by the following research questions:

1. To what extent is students' academic performance, as measured by CGPA, influenced by their levels of self-efficacy in an Asian context?
2. To what extent is students' academic performance, as measured by CGPA, influenced by their level of locus of control in an Asian context?
3. What influence do gender and year of study have on self-efficacy and locus of control, and their respective impacts on academic performance?

**Literature Review**

***Definition of Terms***

Locus of Control (LOC), as a psychological concept, commonly refers to individuals' beliefs about their ability to influence outcomes in their lives. In an educational context, it pertains to how students perceive the causes of their academic success or failure. Introduced by Rotter (1966a), locus of control can be either internal (a belief in personal control) or external (a belief in control by external factors) (Kasilingam & Sudha, 2010).

Self-Efficacy was defined first in the late 1970s, and it reflects belief in one's ability to accomplish specific tasks and adapt to challenges (Bandura, 1978). Students with high self-efficacy view challenges as opportunities for growth and typically exhibit an internal locus of control, fostering a sense of influence over their circumstances (Sagone & De Caroli, 2014).

Cumulative Grade Point Average (CGPA) is a standardized measure of a student's academic performance, usually on a scale from 1.0 to 4.0, indicating the average grades earned over a specified period. It serves as a key indicator of a student's knowledge and skills (Potter, 2025).

***Correlates of University GPA***

Numerous studies highlight the complex factors influencing university GPA, including study habits (Meepradit et al., 2022), student learning goals (Robbins et al., 2004), and socio-economic factors

(Bukodi & Goldthorpe, 2013). Research has indicated that an internal locus of control is often associated with higher academic performance, while the conviction that external factors are prevalent can negatively impact motivation and outcomes (Alfred & Idoghor, 2020). This study aimed to explore the roles of locus of control and self-efficacy in a Southeast Asian context, contributing to existing literature in this region (Chinedu & Nwizuzu, 2021).

### *Types of Self-Efficacy*

Self-efficacy influences student academic behaviours, including motivation, resilience, and stress management (Schunk & Ertmer, 2000). Four categories of self-efficacy include mastery experiences, social modelling, social persuasion, and psychological responses (Cherry, 2024).

### *Influence of Gender, Age, and Academic Experience*

Research indicates that females generally report higher self-efficacy than males, though results can vary by subject or discipline. For instance, females often excel in language arts, while males may show greater self-efficacy in STEM fields (Huang, 2013; Li & Singh, 2021). Societal stereotypes can significantly affect these perceptions, influencing students' confidence and interest in various subjects (Sachitra & Bandara, 2017). Huang has also pointed out that the impact of academic self-efficacy by gender varied with age, especially for those over 23 years of age.

Self-efficacy tends to improve with academic experience. Lower-level students often seek peer support, while those in higher years demonstrate increased self-efficacy due to accumulated experiences (Sachitra & Bandara, 2017). Positive academic outcomes can also enhance students' confidence and engagement, reinforcing their self-efficacy (Loo & Choy, 2013).

### *Relationships Between Locus of Control, Self-Efficacy, and University GPA*

Locus of control can be a significant predictor of academic success. Students who perceive their achievements as a result of internal factors (ability, effort) are more likely to succeed (Rose et al., 1996). Conversely, those with a high external locus of control may experience stress and lower academic performance (Roddenberry & Renk, 2010). Research has linked higher self-efficacy to better academic engagement and outcomes (Lee et al., 2021; Schunk & Ertmer, 2000).

The independent variables of self-efficacy and locus of control have been shown to have an impact on the dependent variable of university GPA. Nevertheless, the impact of psychological factors on educational outcomes is varied.

### *Contradictory Results*

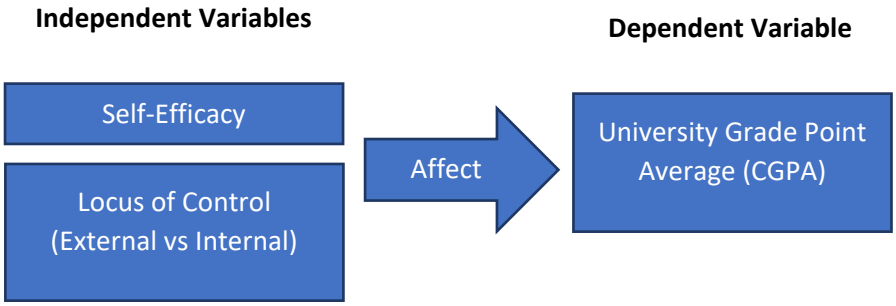
Some studies, like those of Naik (2015), along with Rastegar and Heidari (2013), have indicated no significant gender differences in locus of control among students. However, many investigations have suggested that gender influences locus of control. For instance, Sherman et al. (1997) noted that both males and females shift from internal to external locus of control, with females generally exhibiting a higher external orientation. The key differences between the genders were related to relationships and life events; an internal locus of control aids females in adapting to social changes, while it predicts success for males.

Additionally, Parsons and Schneider (1974) found that locus of control varies by country, with Japanese students showing a higher external locus compared to Indian students, who exhibited more internal traits. Notably, differences among Asian countries are more pronounced than in European ones, leading to potentially contradictory findings. For example, Waghmare's (2016) concluded that females have a higher internal locus of control than males, contrary to Naik's results in 2015. These inconsistencies may stem from social or cultural factors, highlighting the need for further research to understand these variables better. This paper aimed to contribute to this understanding.

## Conceptual Framework

Many factors may potentially impact CGPA, such as academic experience, adaptability, attitudes toward university, effort, gender, habits, learning strategies, mental and physical health, self-efficacy, and locus of control. However, the choice to restrict this research to the last two independent variables was justified for the following reasons. First, many personal factors are more fixed in nature, and second, it was deemed appropriate to focus on the more malleable factors of self-efficacy and locus of control. In summary, locus of control and self-efficacy were selected as the independent variables for this study, as can be seen in blue in Figure 1.

**Figure 1** *Independent and Dependent Variables for the Study*




There were also two categorical variables, gender and year of study level, and these were considered as intermediate factors that may affect self-efficacy and locus of control involved in this study.

## Methodology

This study used quantitative data to explore the relationship between locus of control, self-efficacy, and university CGPA. A number of categorical variables, such as gender and year level, were also analysed to determine how they may affect levels of locus of control and self-efficacy. Questionnaires were used in this study, as they have proven to be very effective and useful tools for knowledge or attitude research (Singh, 2017). In addition, the confidentiality and anonymity provided by a questionnaire affords respondents with peace of mind about their privacy (Bartram, 2019).

### *Sample*

The selection criteria used for this sample involved ensuring that all respondents were students at a private faith-based university in Thailand, where $N \approx 1{,}100$. The acceptable criteria for inclusion involved both males and females who were actively involved in their studies for the following year levels: freshman to senior.

Based on the work of Conroy (2018) and Krejcie and Morgan (1970), a sample size of around 200–250 respondents was planned for this research project. The collection of data, as shown in the results section, was determined to be a satisfactory outcome, with $n = 211$.

### *Measurement Tool and Procedure*

The questionnaire had three parts, including the range of the student's self-reported GPA in the previous year, the General Self-Efficacy scale (GSE) (Schwarzer & Jerusalem, 1995) (10 questions), and the LOC scale (29 questions). The final questionnaire contained 42 questions that were beta-tested for clarity, and the test could be completed within 15 minutes as planned. Students were invited to participate in the research by email, with both a QR code and a link provided. The survey request included a consent form that explained the ethical considerations, and noted that ethics approval was obtained from the Institutional Review Board before data collection commenced.

The GSE is a psychometric scale that uses 10 questions to measure how optimistic people are when dealing with life's difficulties. It uses a four-point Likert scale that has the following categories: 1 = *not at all true*; 2 = *hardly true*; 3 = *moderately true*; 4 = *exactly true*. Originally published with 20 questions in the German language, it has since been shortened and translated into English, resulting

in its use in numerous studies with hundreds of thousands of participants (Schwarzer & Jerusalem, 1995).

The LOC scale uses a forced-choice from paired statements approach. The total score is calculated by summing all items. People with high scores are considered to have an external locus of control, and a low score indicates an internal locus of control. All data were analysed using a software package 29 during the statistical analysis phase.

***Reliability of Measurement Instrument***

The reliability analysis of Rotter's 23-item Locus of Control (LOC) scale yielded a Cronbach's alpha of .51, which was below the acceptable threshold. This finding contrasted with previous studies that reported higher reliability (.65–.79) scores. Since variability across countries may have affected these results, caution is advised when interpreting findings related to LOC. In contrast, the General Self-Efficacy (GSE) scale demonstrated high reliability with a Cronbach's alpha of .88, indicating strong internal consistency.

**Results of the Study**

***Participant Demographics***

A total of 211 participants were surveyed, comprising 67 males (31.8%) and 144 females (68.2%). This cohort was primarily composed of freshmen (47.4%), with the remaining students distributed fairly evenly across sophomores (18.5%), juniors (18.5%), and seniors (15.6%). This predominance of younger participants may have influenced the data and its interpretation.

***GPA Distribution***

The GPA distribution reflected relatively high academic performance, with 61.1% of respondents achieving a GPA above 3.0. The breakdown was as follows:

- Below 2.50: 21 (10.0%)
- 2.50–3.00: 61 (28.9%)
- 3.01–3.50: 60 (28.4%)
- Above 3.50: 69 (32.7%)

The majority of students (32.7%) fell into the highest GPA category; only 10.0% scored below 2.50.

***Correlation Analysis***

Table 1 presents the frequencies and percentages of respondent Cumulative Grade Point Averages (CGPA). The mean rank of the categories of CGPA was 2.84, indicating that most students (*n* = 121, 57.3%) reported CGPAs of between 2.50 and 3.50.

**Table 1** *Frequency and Percentage of CGPAs*

| | | Frequency | Percent |
|---|---|---|---|
| Valid | Below 2.50 | 21 | 10.0 |
| | 2.50 to 3.00 | 61 | 28.9 |
| | 3.01 to 3.50 | 60 | 28.4 |
| | Above 3.50 | 69 | 32.7 |
| | **Total** | 211 | 100.0 |

***Correlation Analysis***

Correlation results in Table 2 showed that there was a very weak positive relationship between CGPA and GSE (*r* = .04), suggesting minimal influence of self-efficacy on GPA. A similar weak negative correlation was found between CGPA and LOC (*r* = -.03) and between GSE and LOC (*r* = -.04), indicating that neither self-efficacy nor locus of control significantly predicted academic performance.

**Table 2** *Correlation Analysis*

| | Correlation | |
|---|---|---|
| **Variable** | **GSE** | **LOC** |
| Cumulative Grade Point Average | .04 | -.03 |
| General Self-Efficacy (GSE) | - | -.04 |
| Locus of Control (LOC) | | - |

***Regression Analysis***

Regression analysis revealed an $R^2$ value of .03, indicating that GSE and LOC explained only 3.0% of the variance in CGPA. This low predictive power suggested that neither variable significantly contribute to variations in academic performance.

***Chi-Square Analysis***

Chi-square tests examined the relationship between gender and CGPA across four levels (below 2.50, 2.50-3.00, 3.01-3.50, above 3.50). The *p*-value of .154 indicated no statistically significant differences in CGPA between genders, despite a higher percentage of females in the above 3.50 category (37.5% vs. 22.4%). Similarly, no significant relationship was found between class status and CGPA ($\chi^2 = 4.82$, $p = .85$), indicating uniform distribution across year levels, as seen in Table 3.

**Table 3** *Chi-Square Test for Class Status and CGPA**

| | | | CGPA | | | | |
|---|---|---|---|---|---|---|---|
| | | | **< 2.50** | **2.50–3.00** | **3.01–3.50** | **> 3.50** | **Total** |
| **CLASS STATUS** | **Freshman** | Count | 11 | 24 | 29 | 36 | 100 |
| | | % within CLASS | 11.0% | 24.0% | 29.0% | 36.0% | 100.0% |
| | **Sophomore** | Count | 4 | 15 | 11 | 9 | 39 |
| | | % within CLASS | 10.3% | 38.5% | 28.2% | 23.1% | 100.0% |
| | **Junior** | Count | 4 | 11 | 12 | 12 | 39 |
| | | % within CLASS | 10.3% | 28.2% | 30.8% | 30.8% | 100.0% |
| | **Senior** | Count | 2 | 11 | 8 | 12 | 33 |
| | | % within CLASS | 6.1% | 33.3% | 24.2% | 36.4% | 100.0% |
| **Total** | | Count | 21 | 61 | 60 | 69 | 211 |
| | | % within CLASS | 10.0% | 28.9% | 28.4% | 32.7% | 100.0% |

**Note.* $\chi 2 = 4.82$, $df = 9$, $p = .85$

***Gender Differences in GSE and LOC***

A *t*-test revealed no significant differences in GSE scores between genders (Males: $M = 2.90$, Females: $M = 2.81$; $t = 1.19$, $p = .24$). A slight trend was observed in LOC scores, with males scoring lower ($M = 0.47$) than females ($M = 0.51$), though this did not reach significance ($t = -1.79$, $p = .08$) as seen in Table 4.

**Table 4** *Gender Differences in Self-Efficacy and Locus of Control*

| Variable | Gender | *n* | *M* | *SD* | *t* | *df* | *p* | ES(d) |
|---|---|---|---|---|---|---|---|---|
| **GSE** | **Male** | 67 | 2.90 | 0.52 | 1.19 | 209 | .24 | 0.18 |
| | **Female** | 144 | 2.81 | 0.48 | | | | |
| **LOC** | **Male** | 67 | 0.47 | 0.16 | -1.79 | 209 | .08 | -0.27 |
| | **Female** | 144 | 0.51 | 0.13 | | | | |

***Class Differences in GSE and LOC***

Analysis of variance showed no significant differences in GSE or LOC scores across class levels. GSE means ranged from 2.78 to 2.86, with a *p*-value of .89. LOC scores ranged from .46 to .53, with a *p*-value of .14, suggesting slight trends, but no significant findings. This data provides a framework for

further discussion on implications, limitations, and potential future directions for research, which are addressed in the next section.

**Discussion**

This section compares the study's findings to previous research that examined links between locus of control (LOC) and general self-efficacy (GSE) to student CGPAs (Brallier, 2020; González Fernández et al., 2020; van Raalte & Posteher, 2019). While its findings contradict studies showing a positive impact, they were aligned with concerns raised by others about these variables (Norman & Bennett, 1996). Many researchers have documented negative or non-significant relationships between self-efficacy (GSE), LOC, and academic outcomes (Oberle, 1991; Vancouver et al., 2002), reinforcing the complexity of these concepts.

The absence of significant gender differences supports the findings of Schultz and Schultz (2009), but does not negate the potential influence of self-efficacy and LOC on CGPA. Future research could balance gender and year-level distributions while exploring the effects of faith, social beliefs, and regional culture on these variables. A multi-country study might better assess these influences.

Most studies have reported a positive correlation between LOC, GSE, and GPA, but some have indicated that they are poor predictors. This raises questions about mixed results, potentially linked to participant demographics and unexamined factors like faith and social beliefs. Freshmen may be particularly inclined to choose socially desirable responses due to inexperience. Measurement tools like surveys may also not fully capture participants' perspectives, and language barriers could affect comprehension.

This research aimed to assess the relationships between GSE, LOC, and academic performance at a faith-based university in Thailand. It was hypothesized that higher internal LOC and self-efficacy would be correlated with higher GPAs. However, the findings suggested no significant relationship, highlighting the multifaceted nature of these concepts. The regression analysis indicated that the proposed model was not a good fit for the data.

***Cultural Impact on the Reliability of Instruments***

The variability of Cronbach's Alpha in different cultural contexts (Mueller & Thomas, 2001) suggests that the LOC instrument may have been less effective in collectivistic cultures like Thailand. This may explain the lack of correlation between LOC, GSE, and GPA, as evidenced by a low Cronbach's Alpha (.51) for Rotter's LOC.

The overrepresentation of freshmen (47.4%) may also have skewed results, as their lack of experience may have led to socially desirable responses. Personal factors, including personality traits and familial influences, may further have shaped their self-efficacy and locus of control scores.

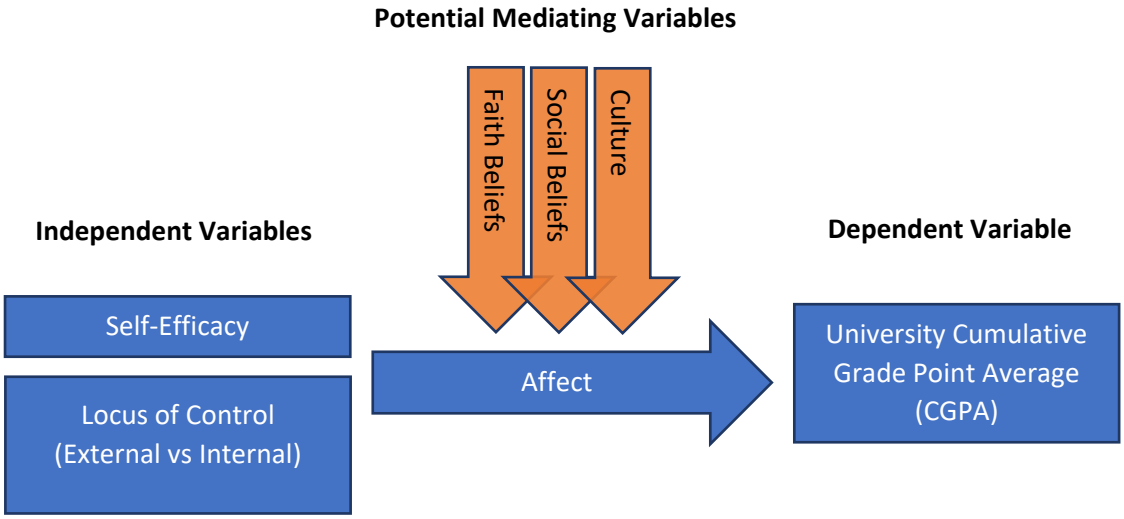
***Faith, Social Beliefs, and Regional Culture***

Factors such as faith, social beliefs, and regional culture may influence study outcomes, particularly in a faith-based context. Previous research has shown the mixed effects of faith on LOC and GSE (Iles-Caven et al., 2020; Welton et al., 1996). Despite some correlations, results have remained inconclusive. Social beliefs may impact these variables as well, as evidenced by diverse findings across different cultural contexts.

Additionally, the study had a significant gender imbalance (68.2% female), potentially influencing self-efficacy and LOC scores. Although no significant gender differences were found, the small male sample may limit the findings' generalizability. Differences across year levels showed no significant effects for self-efficacy, while trends in LOC were noted. One can also speculate that a large proportion of students with high CGPAs may have influenced results, as the data skewed towards higher academic achievement. Furthermore, the interplay of faith, social beliefs, regional culture, and participant demographics highlighted the complexity of LOC and GSE's relationship with GPA. Future research could incorporate these variables to enhance understanding.

To sum up the findings, the original model (dependent and independent variables, blue elements only) evidently lacks the complexity to identify all the influences that were in operation, and so the inclusion of other mediating factors could be beneficial. For this reason, a modified diagram that incorporates a number of mediating variables (salmon elements) is proposed. These factors of faith, social beliefs, and regional culture have been added to the diagram to illustrate their potential impact on how GSE and LOC may influence student GPA. This tentative suggestion is somewhat exploratory, and while time and space do not permit further data collection, this model is presented for future research in this domain. Until applicable testing has been performed, this concept should be treated with caution.

**Figure 2** *Potential Mediating Variables*




**Conclusions and Recommendations**

This study aimed to examine the degree to which a student's academic performance as measured by cumulative grade point average (CGPA) was influenced by locus of control (LOC) and general self-efficacy (GSE) at a faith-based university in Thailand. In Figure 2, a diagrammatic representation of these variables is presented; the proposed hypothesis stated that students with internal LOC and higher GSE would have higher GPAs than other students. The categorical variables of gender and year of study were also included to determine their impact on LOC and GSE.

This research clearly demonstrated that the impact of LOC and GSE was inconsistent, and as outlined in the results and the discussion, there were no significant correlations between self-efficacy, locus of control, and CGPA for this sample of students. Similarly, the gender and year of study showed a very weak impact on self-efficacy and locus of control. This study, while conflicting with the results of some previous studies, supported the findings of a minority of studies, and suggested that other 'hidden' factors may have a mediating impact on the independent variables. This proposed relationship is illustrated diagrammatically in Figure 2.

**Limitations**

There were some limitations in this study, such as methodological limitations. First, in this study, only a survey was used, which may have limited the fixed options that forced participants to only choose one answer, instead of collecting unstructured data via interviews. A further research limitation was the use of an online questionnaire, which excluded the rich data that comes from face-to-face interviews, which may help to give a more multifaceted understanding of the concepts under investigation. Further, this format can result in fewer potential candidates responding. Previous research has indicated that responses to online surveys is generally lower than questionnaires that involve pencil and paper (Dewaele, 2018).

Second, this study only collected the data from one university, so even though the targeted participants were from an international university, their geographical backgrounds were still quite restricted. Furthermore, the results may also have been limited by self-reported data, because all responses came from the participants' own beliefs as opposed to any third-party observations. Time constraints prevented this from being a practical alternative.

Last, there was also a process limitation. There was a translation in Thai for Thai students, but students from other countries may not have fully understood the meaning of all the questions, depending on their level of English.

### *Theoretical Contribution and Future Research Options*

As suggested in the discussion, a number of mediating variables, namely faith, social beliefs, and regional culture (see Figure 2), appeared to influence the strength of the impact of LOC and GSE on student academic performance (CGPA). This tentative suggestion is put forward as a possible model for future testing. To include a multi-country research project would involve a commitment of time and finance that was beyond the scope of this current project; however, it is proposed as a possible future framework for further research into explaining why mixed results have been gained for the impact of LOC and GSE.

Furthermore, additional studies on how self-efficacy and locus of control affect students' learning strategies and learning habits may add to the increased understanding of these complex variables. Additionally, future researchers may choose to incorporate discussions and data collection on faith, social beliefs, and regional culture into their studies.

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