

## **TABLE OF CONTENTS**

Chapter One	INTRODUCTION	1
1.1	Research Motivation	1
1.1.1	Why Self-concept and Self-efficacy are chosen?	2
1.1.2	Why Choose Mathematics?	3
1.1.3	Why Use PISA Database?	4
1.2	Purpose of Research	6
1.3	Research Hypothesis	7
1.4	Definition	8
Chapter Two	LITERATURE REVIEW	10
2.1	Self-Concept and Its Relationship with Achievement	10
2.1.1	Definitions of Self-Concept	10
2.1.2	Components of Self-Concept	14
2.1.3	Academic Self-Concept and Academic Performances	17
2.2	Self-Efficacy and Its Relationship with Achievement	18
2.2.1	Definition of Self-Efficacy	18
2.2.2	Academic Self-efficacy and Academic Performances	20
2.3	Comparison between Academic Self-concept and Academic Self-Efficacy	22
2.4	Comparison between the Roles of Academic Self-Concept and Academic Self-Efficacy in Achievement	28
Chapter Three	RESEARCH METHOD	30
3.1	Research Structure	30
3.2	Data Source and Sample	31
3.3	Research Constructs	32
3.4	Statistical Analysis	35
Chapter Four	RESULT	37
4.1	Component Structure of Mathematics Self-Concept and Mathematics Self-Efficacy	37
4.2	Relationship Among Self-Concept, Self-Efficacy, and Achievement	40
4.2.1	Correlation Matrix of Measurement Variables	41

4.2.2	Parameter Estimation	42
4.2.3	Assessment of Model Fit	44
4.2.3.1	Basic Model Fit of “Relationships among Self-Concept, Self-Efficacy and Achievement”	44
4.2.3.2	Overall Model Fit of “Relationships among Self-Concept, Self-Efficacy and Achievement”	47
4.2.3.3	Structural Model Fit of “Relationships among Self-Concept, Self-Efficacy and Achievement”	49
4.2.4	Effect between Latent Variables	51
4.2.5	Testing Mediation	52
4.2.6	Cross Validation	54
Chapter Five	DISCUSSION AND CONCLUSION	57
5.1	Measurement Models of Self-Concept and Self-Efficacy	57
5.2	The Predictive Utility of Self-Efficacy and Self-Concept	57
5.3	Implications for Educational Practice	60
5.4	Limitations and Suggestions	62
	REFERENCE	64
	APPENDIX 1	69
	APPENDIX 2	70
	APPENDIX 3	71
	APPENDIX 4	72

## LIST OF FIGURES

Figure 2.1-1	The process of developing a self-concept, “Looking-Glass Self	11
Figure 2.1-2	Structure of academic self-concept.	16
Figure 3.1-1	The research framework	30
Figure 4.2-1	The model of relationships among self-concept, self-efficacy and achievement	40
Figure 4.2.2-1	The parameters in the model of relationships among self-concept, self-efficacy and achievement	42
Figure 4.2.5-1	Mediational model	53

## LIST OF TABLE

Table 2.5-1	Comparison between academic self-concept and academic self-efficacy	26
Table 3.3-1	Items for mathematics self-concept	33
Table 3.3-2	Items for mathematics self-efficacy	34
Table 4.1-1	Factorial matrix for self-concept items	38
Table 4.1-2	Factorial matrix for self-efficacy items	39
Table 4.1-7	Factor loadings of modified self-concept measurement model in group 1 and group 2	41
Table 4.2.1-1	Zero-Order correlations among measured items at subject-specific level of Mathematics	41
Table 4.2.2-1	Parameter estimation, standard deviation and t-values of "the model of relationship among self-concept, self-efficacy and achievement"	43
Table 4.2.3-1	Summary of goodness-of-fit measures	45
Table 4.2.3.3-1	Correlation matrix between latent variables	50
Table 4.2.4-1	Effect between latent variables	52
Table 4.2.5-1	Regression equations for mediational model	54
Table 4.2.6-1	Fit indice for cross-validation	56