University of Wollongong

Research Online

University of Wollongong Thesis Collection 1954-2016

University of Wollongong Thesis Collections

1994

Academic achievement and its relation to family background and locus of control

Mohammad Khayyer University of Wollongong

Follow this and additional works at: https://ro.uow.edu.au/theses

University of Wollongong Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study. The University does not authorise you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following: This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part of this work may be reproduced by any process, nor may any other exclusive right be exercised, without the permission of the author. Copyright owners are entitled to take legal action against persons who infringe their copyright. A reproduction of material that is protected by copyright may be a copyright infringement. A court may impose penalties and award damages in relation to offences and infringements relating to copyright material. Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

Unless otherwise indicated, the views expressed in this thesis are those of the author and do not necessarily represent the views of the University of Wollongong.

Recommended Citation

Khayyer, Mohammad, Academic achievement and its relation to family background and locus of control, Doctor of Philosophy thesis, Graduate School of Education, University of Wollongong, 1994. https://ro.uow.edu.au/theses/1873

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

NOTE

This online version of the thesis may have different page formatting and pagination from the paper copy held in the University of Wollongong Library.

UNIVERSITY OF WOLLONGONG

COPYRIGHT WARNING

You may print or download ONE copy of this document for the purpose of your own research or study. The University does not authorise you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site. You are reminded of the following:

Copyright owners are entitled to take legal action against persons who infringe their copyright. A reproduction of material that is protected by copyright may be a copyright infringement. A court may impose penalties and award damages in relation to offences and infringements relating to copyright material. Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.



Academic Achievement and its Relation to Family Background and Locus of Control

A thesis submitted in fulfilment of the requirements for the award of the degree

Doctor of Philosophy

from

University of Wollongong

by

Mohammad Khayyer, B.A., M.A.

Graduate School of Education 1994

Table of Contents

		Pag
	Acknowledgments	i
	Abstract	ii
	Chapter 1: Introduction	
1.	Statement of the Problem	1
2.	Justification and Educational Implications of the Study	2
3.	Objective of the Study	5
4.	Key Words	6
5.	A Brief Review of Research Relating to the Study	6
6.	A Brief Account of the Sources of the Data, the Methods and	
	Procedures	12
	Chapter 2: Theoretical Background	
1.	Introduction	15
2.	Social-Learning Theory	17
2.1	Some Important Principles of Social-Learning Theory	17
2.2	Basic Concepts in Social-Learning Theory	21
2.2.1	Behaviour Potential	21
2.2.2	Expectancy	22
2.2.3	Reinforcement Value	23

2.2.4	The Psychological Situation	24
2.3	Internal-External Locus of Control	25
2.4	Locus of Control and Academic Achievement	27
3.	Attributional Model of Achievement-Related Behaviour	29
4.	Comparison of Locus-of-Control Concept with Attributional	
	model of Achievement-Related Behaviour	32
5.	Changes in Expectancy (Expectancy Shifts)	36
6.	Locus of Control and Achievement Motivation	41
7.	Antecedents of Locus of Control and Achievement Behaviour	43
7.1	Sex	43
7.2	Age (Grade)	45
7.3	Family Background	45
	Chapter 3: Literature Review	
	Chapter 3. Enterature Review	
1.	Locus of Control	48
1. 2.	-	48 51
	Locus of Control	
2.	Locus of Control Academic Achievement	51
 3. 	Locus of Control Academic Achievement Locus of Control and Academic Achievement	51 54
 3. 4. 	Locus of Control Academic Achievement Locus of Control and Academic Achievement Academic-Achievement Feedback and Locus of Control	51 54 70
 2. 3. 4. 5. 	Locus of Control Academic Achievement Locus of Control and Academic Achievement Academic-Achievement Feedback and Locus of Control Sex, Locus of Control and Academic Achievement	51 54 70 73
 2. 3. 4. 5. 6. 	Locus of Control Academic Achievement Locus of Control and Academic Achievement Academic-Achievement Feedback and Locus of Control Sex, Locus of Control and Academic Achievement Age or Grade, Locus of Control and Academic Achievement	51 54 70 73

9.	Non-English-Speaking and English-Speaking Background,	
	Locus of Control and Academic Achievement	106
	Chapter 4: Methods and Procedures	
1.	Models for the Present Study	120
2.	Definition of Variables	126
2.1	Sex	126
2.2	Grade	126
2.3	Socioeconomic Status	126
2.4	Family Size	127
2.5	Language Background	127
2.6	Mother's Work	127
2.7	Locus of Control	128
2.8	Academic Achievement	129
3.	Population and Sampling	129
3.1	Population	131
3.2	Sampling	131
4.	Instruments	133
4.1	Family Background Questionnaire	133
4.2	Reading Comprehension Achievement Test	133
4.2.1	Test Scoring	134
4.2.2	Technical Information	135
4.2.3	Reliability and Validity	135
4.3	Progressive Achievement Test in Mathematics (PATMATHS)	136

4.3.1	Scoring	137
4.3.2	Technical Information	137
4.3.3	Reliability and Validity	138
4.4	Nowicki-Strickland Locus of Control Scale	138
4.4.1	Scoring	139
4.4.2	Technical Information	139
4.4.3	Reliability and Validity	140
5.	Procedures	142
5.1	Permission	142
5.1.1	New South Wales, Department of School Education,	
	South Coast Region	142
5.1.2	Human Experimentation Ethics Committee in The	
	University of Wollongong	142
5.1.3	Publishers or Authors of Standardized Instruments	143
5.1.4	Principals of the Schools	143
5.1.5	Parents	143
5.2	Pilot Study	144
5.3	Administration of Instruments	144
6.	Scoring and Coding	146
6.1	Scoring the Instruments	146
6.2	Coding Information	147
7.	Design	148
7.1	Independent and Dependent Variables	148
7.2	Stages of Analysis	149
7.2.1	Stage One	149
7.2.2	Stage Two	150

7.2.3	Stage Three	151
7.2.4	Stage Four	151
7.2.5	Stage Five	153
8.	Statistical Procedures	155
8.1	Descriptive Statistics	155
8.2	Inferential Statistics	155
Chapter 5	5- Results: Academic Achievement and Its Relatio	n to
	Family Background of the Students	
1.	Characteristics of the Sample	157
2.	Academic Achievement Tests in Relation to Independent	
	Variables	163
2.1	Academic Achievement and Sex	164
2.2	Academic Achievement and Socioeconomic Status	164
2.3	Academic Achievement and Language Background	166
2.4	Academic Achievement and Mother's Work	166
2.5	Relationships between Independent Variables and	
	Academic Achievement	170
Chapte	er 6- Results: Locus of Control and Its Relation t	0
Fa	mily Background and Academic Achievement	
1.	Locus of Control in Relation to Independent Variables	174
1.1	Locus of Control and Grade of the Student	174
1.2	Locus of Control and Sex	177

1.3	Locus of Control and Socioeconomic Status	177
1.4	Locus of Control and Language Background	179
1.5	Locus of Control and Mother's Work	179
1.6	Relationship of Locus of Control with other Variables of the Study	181
2.	Academic Achievement and Its Relation to Locus of Control in	
	Different Sexes	184
3.	Comparison of Academic Achievement in Internal-	
	External Locus of Control	185
4.	Comparison of Locus of Control between High Achievers	
	and Low Achievers	186
6.	Family Size, Locus of Control and Academic Achievement	188
7.	Summary of the Above Results	189
-	7- Results: Prediction of Academic Achievement	and
	f Control, and the Effects of Academic-Achievem	ent
	f Control, and the Effects of Academic-Achievem Feedback on the Locus of Control	ent
1.	•	ent
1.	Feedback on the Locus of Control	196
 2. 	Feedback on the Locus of Control Prediction of Academic Achievement from Independent	
	Feedback on the Locus of Control Prediction of Academic Achievement from Independent Variables of the Study	
	Feedback on the Locus of Control Prediction of Academic Achievement from Independent Variables of the Study Prediction of Locus of Control from Independent	196
2.	Feedback on the Locus of Control Prediction of Academic Achievement from Independent Variables of the Study Prediction of Locus of Control from Independent Variables of the Study	196
2.	Feedback on the Locus of Control Prediction of Academic Achievement from Independent Variables of the Study Prediction of Locus of Control from Independent Variables of the Study Prediction of Academic Achievement from the	196 198

Causal Model of Academic Achievement

5.

202

6.	Academic Achievement Feedback and Its Effects on	
	Locus of Control	208
7.	Summary of results	217
	Chapter 8: Discussion	
1.	Academic Achievement	219
1.1	Sex and Academic Achievement	220
1.2	Grade and Academic Achievement	223
1.3	Socioeconomic Status and Academic Achievement	223
1.4	Language Background and Academic Achievement	225
1.5	Mother's Work and Academic Achievement	227
1.6	Family Size and Academic Achievement	229
2.	Locus of Control	229
2.1	Sex and Locus of Control	230
2.2	Grade (Age) and Locus of Control	230
2.3	Socioeconomic Status and Locus of Control	231
2.4	Language Background and Locus of Control	233
2.5	Mother's work and Locus of Control	234
2.6	Family Size and Locus of Control	235
3.	Academic Achievement and Locus of Control	235
4.	Academic Achievement and Locus of Control in Relation	
	to Independent Variables	238
5.	Academic Achievement Feedback and Its Effects on	
	Locus of Control	248
6.	Summary of Results and Conclusion	251

7.	Implication of the study	254
8.	Suggestions for Further Studies	256
8.	Limitation of the Present Study	258
References		260

Appendix A (permission)

Appendix B (Instruments)

Appendix C (Prediction of mathematics achievement and reading achievement from some demographic, familial and locus of control variables)

List of Tables

	rag
Table 4.1: Expectancy-shift model	125
Table 4.2: Selected achievement tests for administration	144
Table 4.3: Control for order effects	145
Table 4.4: Stages and variables in path analysis	153
Table 5.1: Distribution of students according to grade and sex in the sample	157
Table 5.2: Percent distribution of father's occupation in the sample by comparison with ANU 1 scale in 1971	158
Table 5.3: Distribution of father's occupation across students' grade	159
Table 5.4: Distribution of mother's work	160
Table 5.5: Distribution of job status among mothers who work	160
Table 5.6: Distribution of mother's work according to father's occupation	161

	Page
Table 5.7: Distribution of English-speaking and non-English-	
speaking background according to sex of the student	162
Table 5.8: Distribution of family language background	
according to father's occupation	163
Table 5.9: Mean and standard deviation of scaled scores	
in achievement tests	165
Table 5.10: Means and standard deviations of scaled scores	
in achievement tests	165
Table 5.11: Means and standard deviations of mathematics	
scaled scores in low, middle and high SES	167
Table 5.12: Means and standard deviations of reading-comprehension	
scaled scores in low, middle and high SES	167
Table 5.13: Means and standard deviations of academic achievement	
in low, middle and high SES	168
Table 5.14: Means and standard deviations of achievement scaled scores	
in English-speaking and non-English-speaking background	168

	Page
Table 5.15: Means and standard deviations of scaled scores	
in working and non-working mothers	169
Table 5.16: Means and standard deviations of scaled scores	
in job status among working mothers	169
Table 5.17: Matrix correlation between variables	171
Table 6.1: Means and standard deviations of LOC in Grade 3-6	175
Table 6.2: Comparison of LOC means by ANOVA in various	
grade levels	175
Table 6.3: Summary of ANOVA (LOC in various grade levels)	176
Table 6.4: Means and standard deviations of LOC in boys and girls	176
Table 6.5: Means and standard deviations of LOC at three	
levels of SES	178
Table 6.6: Means and standard deviations of LOC in English-	
speaking and non-English-speaking background	180
Table 6.7: Means and standard deviations of LOC for children	
with working mothers and non-working mothers	180

	Page
Table 6.8: Means and standard deviation of LOC in job status	
among working mothers	181
Table 6.9: Correlations of LOC with the other variables	182
Table 6.10: Pearson product-moment correlations between	
achievement tests and LOC in Grade 3-6	184
Table 6.11: Pearson product-moment correlations between	
achievement test and LOC in boys and girls	185
Table 6.12: Comparison of mathematics means in internal	
and external LOC groups	186
Table 6.13: Comparison of reading comprehension means in	
internal and external LOC groups	187
Table 6.14: Comparison of academic achievement means in	
internal and external LOC groups	187
Table 6.15: Comparison of LOC means in high and low	
achiever groups	187
Till C1C. Incomption of independent contables as 1 his 1	
Table 6.16: Interaction of independent variables and high	
versus low achievers on LOC	189

	Page
Table 7.1: Regression coefficients, and standard errors (in parentheses)	
of the independent predictors of academic achievement	197
Table 7.2: Regression coefficients and standard errors (in parentheses)	
of the independent predictors of the LOC	199
Table 7.3: Stepwise regression coefficients of the independent	
predictors (including LOC) of academic achievement	201
Table 7.4: Stepwise regression coefficients of the independent	
predictors (including academic achievement) of LOC	203
Table 7.5: Regression coefficients, standard errors (in parentheses)	
of the independent predictors (including LOC) of the	
academic achievement	204
Table 7.6: Intercorrelation between exogenous variables	205
Table 7.7: Means of raw scores (mathematics and reading)	
and LOC1 in feedback and non-feedback groups	210
Table 7.8: Distribution of socioeconomic status of the students in	
non-feedback and feedback groups	211
Table 7.9: Distribution of language background of the students	
in non-feedback and feedback groups	212
AAA AAWAA AWWWWWWWWWWWWWWWWWWWWWWWWWWW	

	Page
Table 7.10: Means of raw scores (reading and mathematics) in	
feedback and non-feedback groups by comparison	
with approximate means of normative data	213
Table 7.11: Correlation coefficient between LOC1 and LOC2	
in the non-feedback and feedback groups	214
Table 7.12: Mean of LOCs in feedback and non-feedback groups	
with type of information in feedback group	215
Table 7.13: Two way analysis of variance between internal-external	
LOC1 and type of feedback (independent variables) and	
LOC2 (dependent variable) in feedback groups	216
Table 7.14: Comparison of shifts of LOC1 and LOC2 in various	
feedback groups	217

List of Figures

	Page
Figure 4.1: Prediction of academic achievement from	
independent variables	121
Figure 4.2: Prediction of LOC from independent variables	122
Figure 4.3: Prediction of academic achievement from independent variables	
(including LOC)	122
Figure 4.4: Prediction of LOC from independent variables	
(including academic achievement)	123
Figure 4.5: Causal model of academic achievement	124
Figure 7.1: Causal model of academic achievement (modified)	207

Acknowledgments

The investigator wishes to acknowledge, with deep appreciation, the valuable advice and encouragement of the supervisors of the study, Associate Professor P. de Lacey (principal supervisor) and Professor K. Gannicott (co-supervisor), for their technical and professional advice, personal assistance and commitment to the study.

Thanks are also due to Professor S. Nowicki and to the Australian Council for Educational Research (ACER) for their permission to the investigator for using their instruments in this study. I am also grateful to the ACER for their agreement to reproduce relavent passages of the TORCH and PATHMATHS tests as Appendix B of this thesis.

Also, thanks are due to Dr. T. R. Burke, Assistant Director-General, Department of School Education, South Coast Region, for permission to conduct the field work in Departmental Schools.

The investigator wishes to express appreciation to the Shiraz University for a full scholarship for this study, and also to the Graduate School of Education, University of Wollongong for their financial support, in order to present a part of this study at the AAER Conference in 1994.

The assistance of the principals, teachers, and students of the schools in the Illawarra region, who were involved in this study, is also greatly appreciated.

Academic Achievement and its Relation to Family Background and Locus of Control

Abstract

The relationship between academic achievement and locus of control is considered with some key demographic and familial factors that can affect both academic achievement and locus of control. The size of the effects of each of these factors on both academic achievement and locus of control was investigated. The effect of academic-achievement feedback on the locus of control was also considered.

Six primary public schools, in the Illawarra region, New South Wales, were selected by stratified random sampling. In each school, one class in each year (3, 4, 5 and 6) was selected to provide subjects, consisting of 502 students, 235 boys and 267 girls. Four kinds of instruments were administered to the subjects of the study: a demographic and family background questionnaire, a locus-of-control questionnaire (Nowicki-Strickland), a reading-comprehension test (TORCH) and a mathematics test (PATMATHS). In order to investigate the effects of academic-achievement feedback on locus-of-control attitude, two of the six schools, were selected randomly. In one of these schools the general results of students' academic achievement were used as group achievement feedback, while in the second school the group feedback was not administered. Group-achievement feedback appeared to influence locus-of-control attitude subsequently.

The results of the study showed that the girls' academic achievement was significantly higher than the boys' academic achievement. No significant difference was found between the locus-of-control means of boys and girls. The academic achievement significantly increased with SES from low to high levels. Also, the internal locus-of-control attitude increased with SES from low to high levels. The academic achievement of the English-speaking students was significantly higher than the academic achievement of the non-English-speaking students. Also, the non-English-speaking students had a more external locus-of-control attitude than English-speaking students. Also, the results showed that the locus of control of students receiving encouraging feedback for both tasks (reading comprehension and mathematics) shifted towards internality, while the locus of control of other groups who received encouraging-discouraging or discouraging-discouraging feedback, did not change significantly.

Locus of control, socioeconomic status, grade, sex, and language background had significant direct effects in determining academic achievement, while grade, socioeconomic status and language background had significant direct effects in determining locus of control. Neither mother's work patterns nor family size had significant effects on academic achievement or locus of control.

Although the results showed that locus of control is the best predictor of academic achievement, it cannot be concluded that locus of control is the cause of academic achievement.

Some implications are indicated for educational policy.