

The University of Nottingham



A Longitudinal Study of Academic Self-Concept in a Streamed Setting: Home Environment and Classroom Climate Factors

by

LIU, Woon Chia



Thesis submitted to the University of Nottingham for the degree of
Doctor of Philosophy, October 2000.

Appendices

		Page
Appendix 1	Abbreviations and Short-Forms	430
Appendix 2	Summaries of Literature Reviews	431
	Table 1: Summary of studies examining age effect on general self-concept	
	Table 2: Summary of studies examining age effect on school-related self-concept	
	Table 3: Summary of studies examining gender effect on general self-concept	
	Table 4a: Summary of studies examining gender effect on school-related self-concept	
	Table 4b: Summary of studies examining gender effect on school-related self-concept	
	Table 5: Summary of studies examining stream effect on self-concept of streamed and unstreamed groups	
	Table 6: Summary of studies examining stream effect on self-concept of different ability streams	
	Table 7: Summary of studies examining age effect on home environment	
	Table 8a: Summary of studies examining gender effect on home environment	
	Table 8b: Summary of studies examining gender effect on home environment	
	Table 9: Summary of studies examining age effect on school social climate	
	Table 10: Summary of studies examining gender effect on school social climate	
	Table 11: Summary of studies examining stream effect on school social climate	
	Table 12a: Summary of studies examining the relationship between general self-concept and home environment	
	Table 12b: Summary of studies examining the relationship between general self-concept and home environment	
	Table 12c: Summary of studies examining the relationship between general self-concept and home environment	
	Table 13a: Summary of studies examining the relationship between school-related self-concept and home environment	
	Table 13b: Summary of studies examining the relationship between school-related self-concept and home environment	
	Table 14: Summary of studies examining the relationship between general self-concept and school environment	
	Table 15a: Summary of studies examining the relationship between school-related self-concept and school environment	

	Table 15b: Summary of studies examining the relationship between school-related self-concept and school environment	
	Table 15c: Summary of studies examining the relationship between school-related self-concept and school environment	
Appendix 3	Liu's (1994) Questionnaire	453
Appendix 4	Student's Questionnaire: Question Booklet and Answer Sheets	459
Appendix 5	Non-Verbal Reasoning Test	470
Appendix 6	Attrition Information of the Initial Sample	477
	Table 1: Attrition information of the initial sample of Express students	
	Table 2: Attrition information of the initial sample of Normal students	
Appendix 7	Items in the Scales and Subscales of the Questionnaire	478
	Table 1a: Items in the home environment scale	
	Table 1b: Items in the relationship with parents subscale	
	Table 1c: Items in the academic support subscale	
	Table 2a: Items in the classroom climate scale	
	Table 2b: Items in the relationship with teachers subscale	
	Table 2c: Items in the teachers' expectations subscale	
	Table 2d: Items in the peer relationship subscale	
	Table 3a: Items in the academic self-concept scale	
	Table 3b: Items in the students' confidence subscale	
	Table 3c: Items in the students' effort subscale	
Appendix 8	Description of Occupational Groupings	484
Appendix 9	Reliability Analysis of Liu's Questionnaire with Data from the Pilot Study	486
	Table 1: Reliability values and Pearson correlation coefficients of the home environment measures	
	Table 2a: Reliability values and Pearson correlation coefficients of the classroom climate measures	
	Table 2b: Reliability values and Pearson correlation coefficients of the classroom climate measures	
	Table 3: Reliability values and Pearson correlation coefficients of the academic self-concept measures	
Appendix 10	Factor Analysis of Measures with Data from the Pilot Study	490
	Table 1: Factor loadings of the home environment items	
	Table 2a: Factor loadings of the classroom climate items	
	Table 2b: Factor loadings of the classroom climate items	
	Table 3: Factor loadings of the academic self-concept items	
Appendix 11	Reliability Analysis of Liu's Questionnaire with Data from the Current Study	496
	Table 1: Reliability values and Pearson correlation coefficients of the home environment measures at time ₀	
	Table 2: Reliability values and Pearson correlation coefficients of the home environment measures at time ₁	

	Table 3:	Reliability values and Pearson correlation coefficients of the home environment measures at time ₂	
	Table 4:	Reliability values and Pearson correlation coefficients of the home environment measures at time ₃	
	Table 5a:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₀	
	Table 5b:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₀	
	Table 6a:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₁	
	Table 6b:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₁	
	Table 7a:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₂	
	Table 7b:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₂	
	Table 8a:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₃	
	Table 8b:	Reliability values and Pearson correlation coefficients of the classroom climate measures at time ₃	
	Table 9:	Reliability values and Pearson correlation coefficients of the academic self-concept measures at time ₀	
	Table 10:	Reliability values and Pearson correlation coefficients of the academic self-concept measures at time ₁	
	Table 11:	Reliability values and Pearson correlation coefficients of the academic self-concept measures at time ₂	
	Table 12:	Reliability values and Pearson correlation coefficients of the academic self-concept measures at time ₃	
Appendix 12		Negative Items in Section II of the Questionnaire	512
Appendix 13		Transformation of r to z_r Table	513
Appendix 14		Dendrogram of Cluster Analysis	514
Appendix 15		8-Cluster Solution	515
	Table 1:	Standardised mean scores of the measures for the 8 clusters of students	
	Figure 1:	Profile chart of the 8 clusters of students	
	Figure 2:	Profile chart of 5 out of the 8 clusters of students	
	Figure 3:	Profile chart of 3 out of the 8 clusters of students	
Appendix 16		4-Cluster Solution	519
	Table 1:	Standardised mean scores of the measures for the 4 clusters of students	
	Figure 1:	Profile chart of the 4 clusters of students	
	Table 2:	Mean scores of the measures for the 4 clusters of students	
	Figure 2:	Mean scores of the measures for the 4 clusters of students	
Appendix 17		Raw Data	523

Appendix 18	Gender Effects on the Scores of the Items in the Academic Self-Concept Measures	539
	Table 1: Gender effects on the scores of the items in the students' effort subscale at time ₀	
	Table 2: Gender effects on the scores of the items in the students' effort subscale at time ₁	
	Table 3: Gender effects on the scores of the items in the students' effort subscale at time ₂	
	Table 4: Gender effects on the scores of the items in the students' effort subscale at time ₃	
	Table 5: Gender effects on the scores of the items in the students' confidence subscale at time ₂	
Appendix 19	Interaction Effects on the Scores of the Academic Self-Concept Measures	541
	Table 1: Interaction effects on the scores of the academic self-concept scale at time ₀	
	Table 2: Interaction effects on the scores of the students' confidence subscale at time ₀	
Appendix 20	Stream Effects on the Scores of the Items in the Academic Self-Concept Measures	542
	Table 1: Stream effects on the scores of the items in the academic self-concept scale at time ₀	
	Table 2: Stream effects on the scores of the items in the students' effort subscale at time ₀	
	Table 3: Stream effects on the scores of the items in the academic self-concept scale at time ₃	
	Table 4: Stream effects on the scores of the items in the students' confidence subscale at time ₃	
Appendix 21	Marginal Stream Effects on the Scores of the Items in the Academic Self-Concept Measures	544
	Table 1: Marginal stream effects on the scores of the items in the academic self-concept scale at time ₀	
	Table 2: Marginal stream effects on the scores of the items in the students' effort subscale at time ₀	
	Table 3: Marginal stream effects on the scores of the items in the students' confidence subscale at time ₃	
Appendix 22	Gender Effects on the Scores of the Items in the Home Environment Measures	545
	Table 1: Gender effects on the scores of the items in the home environment scale at time ₀	
	Table 2: Gender effects on the scores of the items in the relationship with parents subscale at time ₀	
Appendix 23	Marginal Stream Effects on the Scores of the Items in the Home Environment Measures	546
	Table 1: Marginal stream effects on the scores of the items in the relationship with parents subscale at time ₀	

Appendix 24	Gender Effects on the Scores of the Items in the Classroom Climate Measures	547
	Table 1: Gender effects on the scores of the items in the peer relationship subscale at time ₀	
	Table 2: Gender effects on the scores of the items in the peer relationship subscale at time ₂	
	Table 3: Gender effects on the scores of the items in the peer relationship subscale at time ₃	
Appendix 25	Stream Effects on the Scores of the Items in the Classroom Climate Measures	549
	Table 1: Stream effects on the scores of the items in the classroom climate scale at time ₀	
	Table 2: Stream effects on the scores of the items in the relationship with teachers subscale at time ₀	
	Table 3: Stream effects on the scores of the items in the teachers' expectations subscale at time ₀	
	Table 4: Stream effects on the scores of the items in the peer relationship subscale at time ₀	
	Table 5: Stream effects on the scores of the items in the relationship with teachers subscale at time ₁	
	Table 6: Stream effects on the scores of the items in the relationship with teachers subscale at time ₃	
Appendix 26	Marginal Stream Effects on the Scores of the Items in the Classroom Climate Measures	551
	Table 1: Marginal stream effects on the scores of the items in the classroom climate scale at time ₀	
	Table 2: Marginal stream effects on the scores of the items in the relationship with teachers subscale at time ₀	
	Table 3: Marginal stream effects on the scores of the items in the teachers' expectations subscale at time ₀	
	Table 4: Marginal stream effects on the scores of the items in the peer relationship subscale at time ₀	
Appendix 27	Stepwise Multiple Linear Regression Results of the Overall Sample	553
	Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the overall sample	
	Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the overall sample	
	Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the overall sample	

	Table 4:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the overall sample	
	Table 5:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the overall sample	
	Table 6:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the overall sample	
Appendix 28	Stepwise Multiple Linear Regression Results of the Male Students		558
	Table 1:	Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the male students	
	Table 2:	Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the male students	
	Table 3:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the male students	
	Table 4:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the male students	
	Table 5:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the male students	
	Table 6:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the male students	
Appendix 29	Stepwise Multiple Linear Regression Results of the Female Students		562
	Table 1:	Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the female students	
	Table 2:	Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the female students	

	Table 3:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the female students	
	Table 4:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the female students	
	Table 5:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the female students	
	Table 6:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the female students	
Appendix 30	Stepwise Multiple Linear Regression Results of the Express students		567
	Table 1:	Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Express students	
	Table 2:	Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Express students	
	Table 3:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Express students	
	Table 4:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Express students	
	Table 5:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Express students	
	Table 6:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Express students	
Appendix 31	Stepwise Multiple Linear Regression Results of the Normal Students		572
	Table 1:	Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Normal students	

	Table 2:	Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Normal students	
	Table 3:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Normal students	
	Table 4:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Normal students	
	Table 5:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Normal students	
	Table 6:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Normal students	
Appendix 32	Stepwise Multiple Linear Regression Results of the Lower Express Students		577
	Table 1:	Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Lower Express students	
	Table 2:	Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Lower Express students	
	Table 3:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Lower Express students	
	Table 4:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Lower Express students	
	Table 5:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Lower Express students	
	Table 6:	Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Lower Express students	

Appendix 33	Stepwise Multiple Linear Regression Results of the Higher Normal Students	582
	Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Higher Normal students	
	Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Higher Normal students	
	Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Higher Normal students	
	Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Higher Normal students	
	Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Higher Normal students	
	Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Higher Normal students	
Appendix 34	Results of the 6 Ability Bands	585
	Table 1: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time ₀	
	Table 2: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time ₁	
	Table 3: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time ₂	
	Table 4: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time ₃	
Appendix 35	Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Home Environment Measures at time ₁	587
	Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with parents subscale at time ₁	

Appendix 36	Significant Differences between the 6 Ability Bands in the Scores of the Items in the Classroom Climate Measures at time ₀	588
	Table 1: Significant differences between the 6 ability bands in the scores of the items in the classroom climate scale at time ₀	
	Table 2: Significant differences between the 6 ability bands in the scores of the items in the relationship with teachers subscale at time ₀	
	Table 3: Significant differences between the 6 ability bands in the scores of the items in the peer relationship subscale at time ₀	
Appendix 37	Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Classroom Climate Measures at time ₀	590
	Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the classroom climate scale at time ₀	
	Table 2: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with teachers subscale at time ₀	
Appendix 38	Significant Differences between the 6 Ability Bands in the Scores of the Items in the Classroom Climate Measures at time ₁	591
	Table 1a: Significant differences between the 6 ability bands in the scores of the items in the classroom climate scale at time ₁	
	Table 1b: Significant differences between the 6 ability bands in the scores of the items in the classroom climate scale at time ₁	
	Table 2: Significant differences between the 6 ability bands in the scores of the items in the relationship with teachers subscale at time ₁	
	Table 3: Significant differences between the 6 ability bands in the scores of the items in the teachers' expectations subscale at time ₁	
Appendix 39	Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Classroom Climate Measures at time ₁	594
	Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the classroom climate scale at time ₁	
	Table 2: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with teachers subscale at time ₁	
	Table 3: Significant differences between the 3 Express ability bands in the scores of the items in the teachers' expectations subscale at time ₁	

Appendix 40	Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Classroom Climate Measures at time ₂	596
	Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with teachers subscale at time ₂	
Appendix 41	Developmental Patterns of the Clusters over time	597
	Table 1a: Paired t-tests on the scores of repeated measures of Cluster 1 over time	
	Table 1b: Paired t-tests on the scores of repeated measures of Cluster 1 over time	
	Table 2a: Paired t-tests on the scores of repeated measures of Cluster 2 over time	
	Table 2b: Paired t-tests on the scores of repeated measures of Cluster 2 over time	
	Table 3a: Paired t-tests on the scores of repeated measures of Cluster 3 over time	
	Table 3b: Paired t-tests on the scores of repeated measures of Cluster 3 over time	
	Table 4a: Paired t-tests on the scores of repeated measures of Cluster 4 over time	
	Table 4b: Paired t-tests on the scores of repeated measures of Cluster 4 over time	
Appendix 42	Changes in the Academic Self-Concept Scores of the Clusters over time	605
	Table 1: Scheffe tests on the changes in the academic self-concept scores of the clusters over time	
Appendix 43	Changes in the Home Environment Scores of the Clusters over time	606
	Table 1: Scheffe tests on the changes in the home environment scores of the clusters over time	
Appendix 44	Changes in the Classroom Climate Scores of the Clusters over time	607
	Table 1: Scheffe tests on the changes in the classroom climate scores of the clusters over time	

Abbreviations and Short-Forms

Educational Levels

- Primary 6: Year 6 in Primary Level, similar to Grade 6 (average age 12)
- Primary 7: Year 7 in Primary Level
- Primary 8: Year 8 in Primary Level
- Secondary 1: Year 1 in Secondary Level, similar to Grade 7 (average age 13)
- Secondary 2: Year 2 in Secondary Level, similar to Grade 8 (average age 14)
- Secondary 3: Year 3 in Secondary Level, similar to Grade 9 (average age 15)
- Secondary 4: Year 4 in Secondary Level, similar to Grade 10 (average age 16)
- Secondary 5: Year 5 in Secondary Level (average age 17)

Education System

- MOE: Ministry of Education
- N(A): Normal Academic Course
- N(T): Normal Technical Course
- SAP: Special Assisted Plan

Examinations

- PSLE: Primary School Leaving Examination
- GCE ‘O’ Level: Singapore-Cambridge General Certificate of Education ‘Ordinary’ Level
- GCE ‘N’ Level: Singapore-Cambridge General Certificate of Education ‘Normal’ Level

Figures and Tables

- Self: Academic self-concept scale
- Confid: Students’ confidence subscale
- Effort: Students’ effort subscale

- Home: Home environment scale
- RelatP: Relationship with parents subscale
- SupporA: Academic support subscale

- Class: Classroom climate scale
- RelatT: Relationship with teachers subscale
- TExpect: Teachers’ expectations subscale
- Peer: Peer relationship subscale

- SES: Socio-economic status

Summaries of Literature Reviews


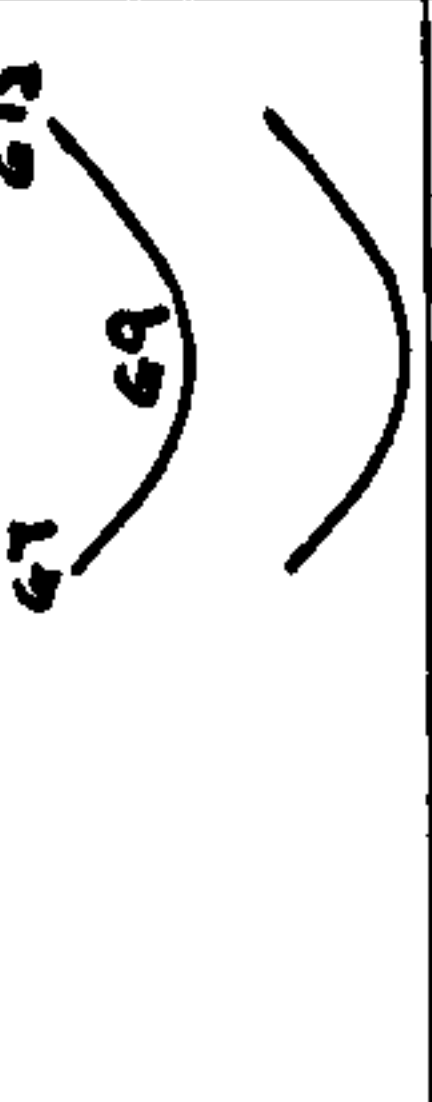
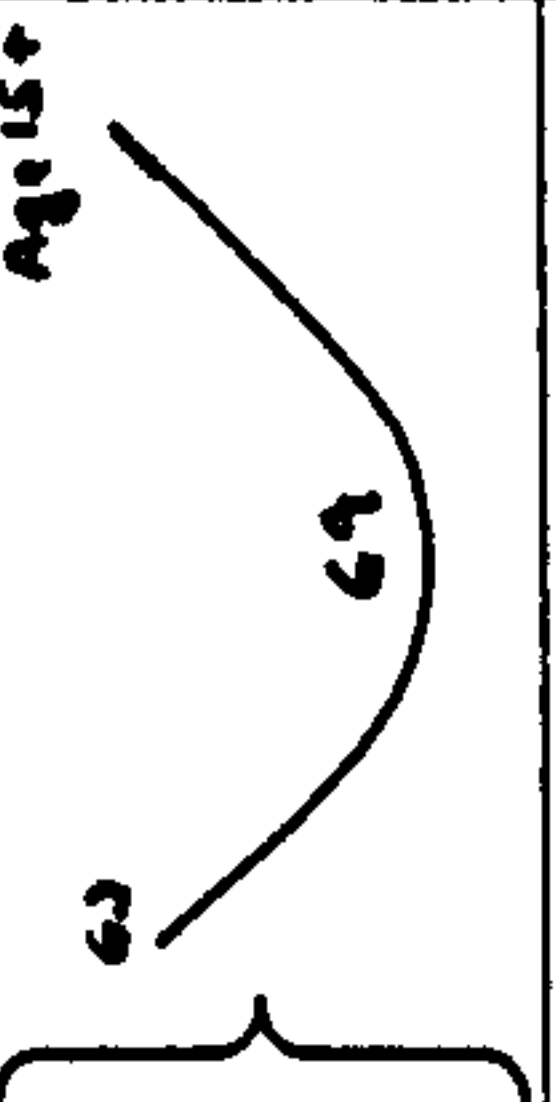
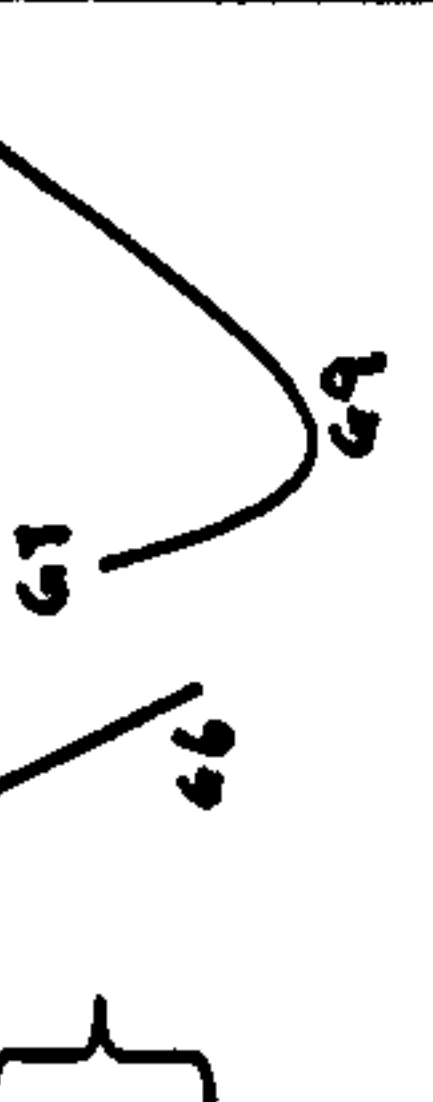

Table 1: Summary of studies examining age effect on general self-concept

Study	Country	N	Grade Level/Age	Measure	Age Effect	Comments
Zimmerman et al. (1997)	America	1160	Grade 6 → Grade 10	SE	“ Age 6 Age 10	4-year longitudinal study Grade 6: approximate age 12
Wylie (1979)	—	—	Age 6 – Age 50	Overall SC	0	Review of studies conducted prior to 1977
Alsaker + Olweus (1993)	Norway	1689	Grade 4 → Grade 6 Grade 5 → Grade 7 Grade 6 → Grade 8 Grade 7 → Grade 9	Global negative self-evaluation	0	2-year longitudinal study of 4 adjacent cohorts Grades 4 – 7: modal age 11 – 14
Block + Robins (1993)	America	91	Grade 9 → Grade 12 + 5 years	SE	0	Longitudinal study Grade 9: mean age 14.8 Assessed at age 14, 18 + 23
Chubb et al. (1997)	America	174	Grade 9 → Grade 12	SE	0	4-year longitudinal study Grade 9: average age 15
Keltikangas (1990)	Finland	894	Age 12 → Age 18 Age 15 → Age 21 Age 18 → Age 24	Total SC GSE subscale	Age 12 Age 18 0	6-year follow-up study

Abbreviations:


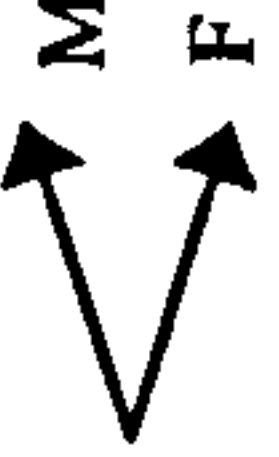
- : Longitudinal study
- SC: Self-concept
- SE: Self-esteem
- GSE: General self-esteem

Table 2: Summary of studies examining age effect on school-related self-concept

Study	Country	N	Grade Level/Age	Measure	Age Effect	Comments
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	ASC scale	0	Cross-sectional study Secondary 1 + 4: average age 13 + 16
				Students' confidence subscale	0	
				Students' effort subscale	0	
Alawiye + Alawiye (1988)	Ghana	195	Grades 2, 4, 6 + 8	Academic success SE		Academic success SE is significantly higher in Grade 4 than Grades 2, 6 + 8.
Marsh et al. (1985)	Australia	901	Grades 7 – 11/12	General school SC Total ASC		Cross-sectional study Grades 7 – 11/12: average age 12 – 17 Lowest points in Grade 9 (average age 14)
Marsh (1989)	Australia	3679	Grades 2 – 9 Grades 7 – 11 Age 15 + older	General school SC		Cross-sectional study Grades 2 – 9: average age 7 – 14 Grades 7 – 11: average age 12 – 16 Lowest point in Grade 9 (average age 14)
		3073				
		1202				
Lau (1990)	Hong Kong	2096	Grades 4 + 6 Grades 7, 9, 11 + 13	ASC		Cross-sectional study Grades 4 + 6: age 10 + 12 Grades 7, 9, 11 + 13: age 13, 15, 17 + 19 For adolescents, lowest point in Grade 9 (age 15)
		3880				
		701	Grades 7 – 9	ASC		Cross-sectional study Grades 7 – 9: age 13 – 15 Lowest point in Grade 9 (age 15)

Abbreviations:
ASC: Academic self-concept
SC: Self-concept
SE: Self-esteem

Table 3: Summary of studies examining gender effect on general self-concept




Study	Country	N	Grade Level/Age	Measure	Age Effect	Sex Effect	Age x Sex Interaction	Comments
Wylie (1979)	--	--	Age 6 – Age 50	Overall SC	0	0	--	Review of studies conducted prior to 1977
Cheung + Lau (1985)	Hong Kong	713	Grade 10	SE	--	0	--	Grade 10: approximate age 16
Demo et al. (1987)	America	139	Age 10 – Age 17	SE	--	0	--	
Isberg et al. (1989)	America	95	Average Age 14.0 – 14.6	Global SE	--	0	--	
Masqud + Rouhani (1991)	S. Africa	135	Age 16 – Age 17	SC	--	0	--	
Lawler + Lennings (1992)	Australia	219	Grade 8 + 9	SC	--	0	--	Grade 8 + 9: Average age 14 + 15
Keltikangas (1990)	Finland	894	Age 12 → Age 18 Age 15 → Age 21 Age 18 → Age 24	} Total SC GSE subscale		0	--	Sex differences, in favour of young male adults (age 21- + age 24-) were detected for the general self-esteem subscale.
					0	M ↑ (Age 21-) (Age 24-)	--	
Chubb et al. (1997)	America	174	Grade 9 → Grade 12	SE	0	M ↑	0	Grade 9: average age 15
Block + Robins (1993)	America	91	Grade 9 → Grade 12 + 5 years	SE	0	M ↑ (Age 23)		Developmental divergence between genders was statistically significant. Grade 9: mean age 14.80 Assessed at age 14, 18 + 23
Rosenberg + Simmons (1975)	America	1917	Grades 3 – 12	SE	--	M ↑	--	More girls with low self-esteem than boys in early adolescence + the difference increased by late adolescence. Grades 3 – 12: age 8 – 15+

Abbreviations:

→: Longitudinal study
SC: Self-concept
SE: Self-esteem

GSE: General self-esteem
M: Male
F: Female

Table 4a: Summary of studies examining gender effect on school-related self-concept

Study	Country	N	Grade Level/Age	Measure	Age Effect	Sex Effect	Age x Sex Interaction	Comments
Skaalvik (1990)	Norway	231	Grade 6	ASE	--	0	--	
Bosacki et al. (1997)	Canada	63	Grade 6	School SE	--	0	--	
Quek (1988)	Singapore	473	Secondary 3 (Grade 9)	ASC scale	--	0	--	Secondary 3: average age 15
				Students' confidence subscale	--	0	--	
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	Students' effort subscale	--	0	--	Secondary 1 + 4: average age 13 + 16
				ASC scale	0	0	0	
				Students' confidence subscale	0	M ↑	0	
Alawiye + Alawiye (1988)	Ghana	195	Grades 2, 4, 6 + 8	Students' effort subscale	0	F ↑	0	Academic success SE significantly higher in Grade 4
				Academic success SE		0	0	
Marsh et al. (1985)	Australia	901	Grades 7 – 11/12	School SC		0	0	Grades 7 – 11/12: average 12 – 17 Lowest points in Grade 9 (average age 14) Gender differences established for other self-concept measures, e.g., like maths + verbal self-concepts.
				ASC		0	0	

Abbreviations:

ASE: Academic self-esteem

SC: Self-concept

M: Male

SE: Self-esteem

F: Female

Table 4b: Summary of studies examining gender effect on school-related self-concept

Study	Country	N	Grade Level/Age	Measure	Age Effect	Sex Effect	Age x Sex Interaction	Comments
Marsh (1989)	Australia	3679	Grades 2 – 9	School SC		F ↑	0	Grades 2 – 9: average age 7 – 14
		3073	Grades 7 – 11			0	0	Grades 7 – 11: average age 12 – 16
		1202	Age 15 + older			F ↑	0	Lowest point in Grade 9 (average age 14) Gender differences established for other self-concept measures, e.g., like maths + verbal self-concepts.
Lau (1990)	Hong Kong	2096	Grades 4 + 6	ASC		0		Grades 4 + 6: age 10 + 12
		3880	Grades 7, 9, 11 + 13			M ↑		Grades 7, 9, 11 + 13: age 13, 15, 17 + 19 For adolescents, lowest point in Grade 9 (age 15)
		701	Grades 7 – 9			M ↑		Grades 7 – 9: age 13 – 15 Lowest point in Grade 9 (age 15) Decline of boys appeared less pronounced than that of girls. No check for age by sex interaction effect.
Lau + Leung (1992)	Hong Kong	1668	Grades 7 – 9	ASC	–	M ↑	–	Grades 7 – 9: average age 13 – 15

Abbreviations:


ASC: Academic self-concept

SC: Self-concept

M: Male

F: Female

Table 5: Summary of studies examining stream effect on self-concept of streamed and unstreamed groups

Study	Country	N	Grade Level/Age	Measure	Stream Effect
Kulik + Kulik (1982)	--	15 studies	Meta-analysis	SC	ES = 0.01
Kulik (1985)	--	24 studies	Meta-analysis	SC	ES ≈ 0
Lunn (1970)	England/ Wales	2311	Junior schools	Academic self-image	Below average-ability students: +ve for boys Above average-ability students: 0
Yehezheh + Resh (1984)	Israel	4000	Grades 8 + 9	Academic self-image	Low-ability students: +ve
Carlberg + Kavale (1980)	--	--	Meta-analysis	Social + Personality measures	Low-ability students: -ve
Noland + Taylor (1986)	--	50 studies	Meta-analysis	ASC	ES = -0.30 
				SE	High-ability students: ES = -0.09 Average-ability students: ES = -0.15 Low-ability students: ES = -0.35
					Negative impact of streaming on affective measures
Fuligni et al. (1995)	America	1139	Grade 7 → 10 (longitudinal)	Maths SC	Low-ability students: 0 Medium-ability students: 0 High-ability students: 0
				SC of leadership	Low-ability students: 0 Medium-ability students: +ve High-ability students: +ve
				SC of intelligence	Low-ability students: 0 Medium-ability students: 0 High-ability students: +ve

Abbreviations:

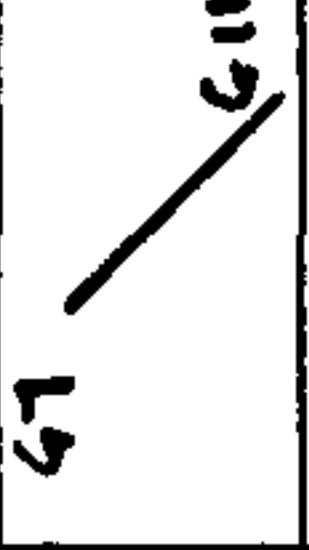





- : Longitudinal study
- ASC: Academic self-concept
- SC: Self-concept
- SE: Self-esteem
- ES: Effective size
- +ve: Positive stream effect, that is, higher in streamed setting
- ve: Negative stream effect, that is, higher in unstreamed setting

Table 6: Summary of studies examining stream effect on self-concept of different ability streams

Study	Country	N	Grade Level/Age	Measure	Stream Effect
Abadzi (1984)	America	667	Grade 4	SE	High- + regular-ability streams: 0 for pre-test; 0 for post-test Marginal high- + marginal regular-ability streams: 0 for pre-test; -ve for post-test
Abadzi (1985)	America	667	Grade 5 (follow-up)	SE	High- + regular-ability streams: 0 for follow-up test Marginal high- + marginal regular-ability streams: -ve for follow-up test
Oakes (1982, 1985)	America	-	High school classes	ASC General SC Educational aspiration	High- + low-ability streams: -ve
Vanfossen et al. (1987)	America	14825	Grade 10	SE College aspiration in Grade 12	Academic + general tracks: -ve Academic + vocational tracks: -ve General + vocational tracks: -ve
Berends (1995)	America	25875	Grade 10	College aspiration in Grade 12	Academic + general tracks: -ve Academic + vocational tracks: -ve
Galloway + Schwartz (1994)	America	--	High School	SE	High- + low-ability streams: -ve
Byrne (1988)	Canada	830	Grades 11 + 12	General SC ASC	High- + low-ability streams: 0 High- + low-ability streams: -ve
Byrne (1990)	Canada	1897	Grades 9 - 12	General SC ASC	High- + low-ability streams: 0 High- + low-ability streams: -ve
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	ASC Students' confidence subscale Students' effort subscale	High- + low-ability streams: -ve Marginal high- + marginal low-ability streams: 0 High- + low-ability streams: 0 Marginal high- + marginal low-ability streams: 0 High- + low-ability streams: -ve Marginal high- + marginal low-ability streams: -ve

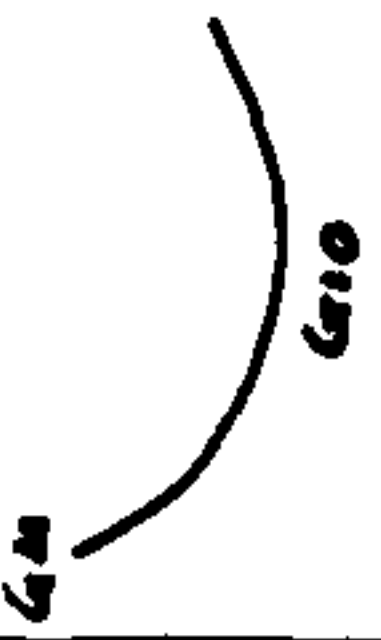




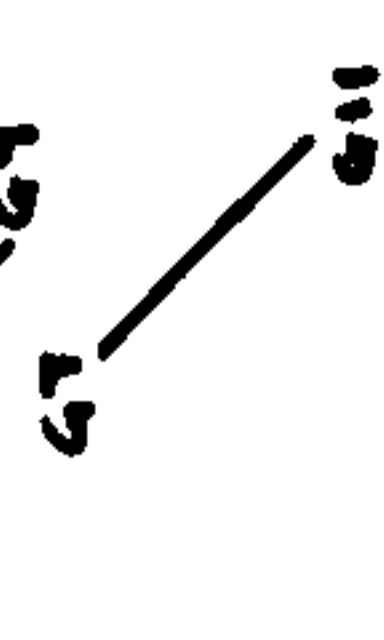
Abbreviations:
ASC: Academic self-concept
SC: Self-concept
SE: Self-esteem
-ve: Negative stream effect in favour of higher ability stream

Table 7: Summary of studies examining on age effect on home environment

Study	Country	N	Grade Level/Age	Measure	Age Effect	Comments
Marsh et al. (1985)	Australia	901	Grades 7 – 11	Parents relations		Grades 7 – 11/12: average age 12 – 17 Linear effect: 2.1% variance Quadratic effect: 1.2% variance
Marsh (1989)	Australia	3679	Grades 2 – 9	Parents relations		Grades 2 – 9: average age 7 – 14 Linear effect: 1.28% variance Quadratic effect: 0.67% variance
		3073	Grades 7 – 11	Parents relations		Grades 7 – 11: average age 12 – 16 Linear effect: 2.97% variance Quadratic effect: 0.63% variance
		1202	Age 15 + older	Parents relations	0	
Keltikangas (1990)	Finland	894	Age 12 → Age 18 Age 15 → Age 21 Age 18 → Age 24	Home-parent	0	6-year follow-up study Age effect, in favour of younger students, <u>almost significant</u> (p<0.07).
Furnan + Buhrmester (1992)	America	549	Grades 4, 7, 10 + college youth	Father support		Grades 4, 7, 10 + college youth: average age 9.3, 12.4, 15.5 + 19.3 Significant decrease from Grade 4 to Grade 7, and from Grade 7 to Grade 10. Non-significant increase from Grade 10 to college.
				Mother support		
Ryan et al. (1994)	America	606	Grades 7 + 8	Felt security	0	Cross-sectional study
				Emulation	0	
				Emotional utilisation	0	
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	School utilisation		Cross-sectional study Secondary 1 + 4: average 13 + 16
				Home environment scale	0	
				Relationship with parents subscale	0	
Smith + Muenchen (1995)	Jamaica	174	Age 14 – Age 15 Age 16 – Age 18	Academic support subscale	0	Cross-sectional study
				Family relationships self-image	0	

Abbreviations:
→: Longitudinal study

Table 8a: Summary of studies examining gender effect on home environment

Study	Country	N	Grade Level/Age	Measure	Age Effect	Sex Effect	Age x Sex Interaction	Comments
Keltikangas (1990)	Finland	894	Age 12 → Age 18	Home-parent }	0	F ↑	—	6-year follow-up study Age effect, in favour of younger students, almost significant ($p < 0.07$)
			Age 15 → Age 21					
			Age 18 → Age 24					
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	Home environment scale	0	0	0	Cross-sectional study Secondary 1 + 4: average 13 + 16
				Relationship with parents subscale	0	F ↑	0	
				Academic support subscale	0	0	0	
Furman + Buhrmester (1992)	America	549	Grades 4, 7, 10 + college	Father support		0	0	Grades 4, 7, 10 + college youth: average age 9.3, 12.4, 15.5 + 19.3 Males' ratings tended to be higher ($p < 0.10$).
			Grades 4 + 7	Mother support		0		Sex differences at Grade 10 + college. Females' ratings greater at college than at Grades 7 + 10. Males' rating at college similar to that at Grade 10.
			Grade 10 + college			F ↑		
Marsh et al. (1985)	Australia	901	Grades 7 – 11	Parents relations		0	0	Grades 7 – 11/12: average age 12 – 17
Marsh (1989)	Australia	3679	Grades 2 – 9	Parents relations		0	0	Grades 2 – 9: average age 7 – 14
		3073	Grades 7 – 11	Parents relations		0	0	Grades 7 – 11: average age 12 – 16
		1202	Age 15 + older	Parents relations	0	0	0	

Abbreviations:

- : Longitudinal study
F: Female
M: Male

Table 8b: Summary of studies examining gender effect on home environment

Study	Country	N	Grade Level/Age	Measure	Age Effect	Sex Effect	Age x Sex Interaction	Comments
Smith + Muenchen (1995)	Jamaica	174	Age 14 – Age 15 Age 16 – Age 18	Family relationships self-image	0	0	0	Cross-sectional study
Ryan et al. (1994)	America	606	Grades 7 + 8	Felt security	0	0	0	
				Emulation	0	0	0	
				Emotional utilisation	0	0	0	
				School utilisation	0	0	0	

Abbreviations:

- : Longitudinal study
- F: Female
- M: Male

Table 9: Summary of studies examining age effect on school social climate








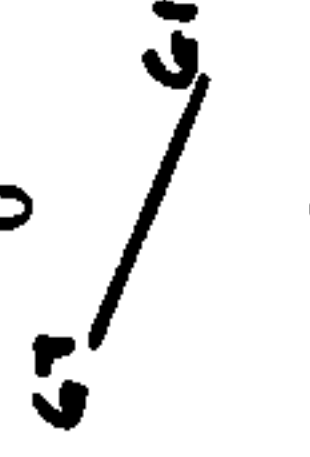
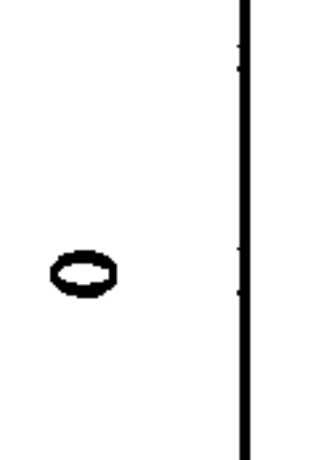



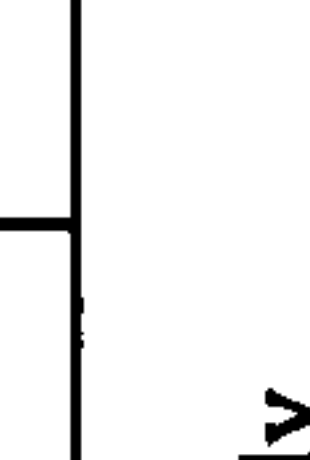

Study	Country	N	Grade Level/Age	Measure	Age Effect (Peer)	Age Effect (Teacher)	Comments
Claes (1998)	Canada Belgium Italy	377	Grades 7, 9 + 11	Contact with friend			Grades 7, 9 + 11: age 11 to 18 Length of time spent with friends peaked at Grade 9 and diminished by Grade 11 ($p<0.01$). Level of intimacy of conversations increased with age ($p<0.001$).
				Intimacy			
				Shared activity	0		
				Closest member	0		
Ryan et al. (1994)	America	606	Grades 7 + 8	Felt security	0		Cross-sectional study
				Emulation			
				Emotional Support			
				School Support			
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	Classroom climate scale	0		Cross-sectional study Secondary 1 + 4: average age 13 + 16
				Relationship with teachers subscale Teachers' expectations subscale Peer relationship subscale			
Furman + Buhrmester (1992)	America	549	Grades 4, 7, 10 + college youth	Support from same sex friend			Grades 4, 7, 10 + college youth: average age 9.3, 12.4, 15.5 + 19.3 Significant decline from Grade 7 and 10 to college. Peak at grade 7 (average age 12.4) Significant decline from Grade 4 to Grade 7, and from Grade 4 to Grade 10.
				Support from teachers			

Table 10: Summary of studies examining gender effect on school social climate

Study	Country	N	Grade Level/Age	Measure	Peer Measure			Teacher Measure		
					Age	Gender	Age x Gender	Age	Gender	Age x Gender
Liu (1994)	Singapore	432	Sec 1 + 4 (Grades 7 + 10) (average age 13 + 16)	Classroom climate scale	0	0	0		0	0
				Relationship with teachers subscale					0	0
				Teachers' expectations subscale				0	0	0
Claes (1998)	Canada Belgium Italy	377	Grades 7, 9 + 11 (age 11 – 18)	Peer relationship subscale		0	0			
				Contact with friend		0	–			
				Intimacy		F ↑	–			
Furman + Buhrmester (1992)	America	549	Grades 4, 7, 10 + college youth (average age 9.3, 12.4, 15.5 + 19.3)	Shared activity	0	0	–			
				Closest member	0	0	–			
				Support from same sex friend		F ↑	0		F ↑ (Grade 4)	
Ryan et al. (1994)	America	606	Grades 7 + 8	Support from teachers						
				Felt security	0	0	0		F ↑	0
				Emulation		F ↑	0	–	F ↑	0
				Emotional utilisation	–	F ↑	Grade 7 M ↓	–	0	0
Wentzel (1997)	America	248	Grade 6 → 8	School utilisation	–	F ↑	0	–	0	0
				Perceived caring from teachers				–	F ↑	–

Abbreviations:
→: Longitudinal study
F: Female
M: Male

Table 11: Summary of studies examining stream effect on school social climate

Study	Country	N	Grade Level/Age	Measure	Stream Effect
Hargreaves (1967)	England	-	Secondary school classes	Attitude towards school Commitment to schooling Attitude towards teachers	-ve stream effects (in favour of high-stream students)
Ball (1981)	England	-	Secondary school classes	Attitude towards school Attitude towards students	
Oakes (1982, 1985)	America	-	High school classes	Student-teacher relationship Student-peer relationship	
Vanfossen et al. (1987)	America	14825	Grade 10 (2-year follow-up)	Teacher treatment	-ve stream effects (in favour of academic track) No stream effect between general + vocational tracks
Liu (1994)	Singapore	432	Secondary 1 + 4 (Grades 7 + 10)	Classroom climate scale Relationship with teachers subscale Teachers' expectations subscale Peer relationship subscale	-ve stream effect (in favour of high-stream students) -ve stream effect (in favour of high-stream) on girls but not boys

Abbreviations:
-ve: Negative

Table 12a: Summary of studies examining the relationship between general self-concept and home environment

Study	Country	N	Grade Level/Age	SC Measure	Home Environment Measure	Comments
Bachman (1970)	America	2213	High school boys	SE	Family relations	Positive relationship
Gecas + Schwalbe (1986)	America	128 families	Age 17 – Age 19	SE	Adolescents' report Fathers' support Fathers' participation Fathers' control Mothers' support Mothers' participation Mothers' control	<div><div>$r = 0.24$ $r = 0.25$ ns $r = 0.24$ ns ns</div><div>Parental variables, excluding parental participation, reported by adolescents and parents explained over twice the variance in boys' SE as compared to girls' SE</div></div> <div>Gender difference Boys' SE significantly related to parental control/autonomy, whilst girls' SE significantly related to parental support and participation</div>
Demo et al. (1987)	America	139 families	Age 10 – Age 17	SE	Adolescents' report Support of parents Parental control Communication Participation Support of adolescents	<div><div>$r = 0.254$ $r = -0.183$ $r = 0.361$ $r = 0.360$ ns</div><div>Parent-adolescent relationship measures, excluding participation and adolescents' support of parents, reported by adolescents and parents, and gender explained 16.1% variance of adolescents' SE. In particular, adding communication explained an extra 11.8% of the variance.</div></div> <div>Gender differences in % of variances explained: Parent-adolescent relationship measures explained over twice the variance in boys' SE as compared to girls' SE</div> <div>Gender differences in relationships: Boys' SE appeared to be more strongly correlated with parent-adolescent relationship measures than girls' SE</div>

Abbreviations:

SE: Self-esteem

r: Correlation coefficient

ns:

not significant

Table 12b: Summary of studies examining the relationship between general self-concept and home environment

Study	Country	N	Grade Level/Age	SC Measure	Home Environment Measure	Comments
Cheung + Lau (1985)	Hong Kong	713	Grade 10	SE	Cohesion	<div><div></div><div>$r = 0.44$</div><div>$r = -0.35$</div><div>$r = -0.01$</div><div>$r = -0.19$</div><div>$0.21 \leq r \leq 0.25$</div></div> Explained 29% variance in students' SE
					Conflict	
Leonardson (1986)	America	165	Grades 9 – 12	SC	Achievement motivation	<div><div></div><div>$r = 0.413$</div><div>r for married = 0.222</div><div>r for divorced = -0.219</div><div>$r = ns$</div><div>$r = ns$</div></div> Explained 6.07% unique variance in SC
					Control	
					Other FES subscales	
					Home life	
Hoelter + Harper (1987)	America	655	Grades 9 – 12	SE	Marital status	<div><div></div><div>r for married = 0.222</div><div>r for divorced = -0.219</div><div>$r = ns$</div><div>$r = ns$</div></div> No unique contribution to variance in SC
					Birth order	
					Number of siblings	
					Family support	
				Identity salience	Family conflict	<div><div></div><div>β of SE: 0.434 (M) and 0.346 (F)</div><div>β of identity salience: 0.243 (M) and 0.256 (F)</div><div>Negative effects on SE: -0.175 (M) and -0.173 (F)</div><div>Indirect effect through family support on boys' SE (-0.074) and identity salience (-0.041)</div><div>Indirect effect through family support on girls' SE (-0.043) and identity salience (-0.031)</div></div>
					Family type (intact+ others)	
					Family size	

Abbreviations:

SE: Self-esteem
SC: Self-concept

r: Correlation coefficient
ns: not significant

M: Male
F: Female

Table 12c: Summary of studies examining the relationship between general self-concept and home environment

Study	Country	N	Grade Level/Age	SC Measure	Home Environment Measure	Comments
Ryan et al. (1994)	America	606	Grades 7 + 8	SE	Felt security Emotional utilisation School utilisation Emulation	<div><div>$r = 0.32$</div><div>$r = 0.29$</div><div>$r = 0.25$</div><div>$r = 0.21$</div></div> <div>The 4 representations of relationship with parents were significant predictors of adolescents' SE.</div>
Lawler + Lenning (1992)	Australia	219	Grades 8 + 9	SC	Family structure (intact, blended + sole-parent) Conflict SES	<div>Explained an additional 2.65% of variance in SC after conflict</div> <div>Explained 14.23% of variance in SC</div> <div>No significant contribution to variance in SC</div> <div>$r = 0.24$</div>

Abbreviations:

SC: Self-concept
SE: Self-esteem

r: Correlation coefficient

SES: Socio-economic status measure

Table 13a: Summary of studies examining the relationship between school-related self-concept and home environment

Study	Country	N	Grade Level/Age	SC Measure	Home Environment Measure	Comments
Song + Hattie (1984)	Korea	2297	Age 14 – Age 15	ASC	Family psychological characteristics Social status indicator Family structure (birth order + number of children)	Positive relationship Gender difference: Family psychological characteristics had stronger effects on the male students' ASC than that of the female students Small indirect effect via family psychological characteristics No support for indirect effect
Lau + Leung (1992)	Hong Kong	1668	Grades 7 – 9	ASC	Relation with parents	$r = 0.27$ No gender difference: 0.26 (M) and 0.29 (F)
Leung + Leung (1992)	Hong Kong	1156	Grades 7 – 9	ASC	Relationship with parents	$r = 0.27$
Quek (1988)	Singapore	473	Secondary 3 (Grade 9)	ASC	Academic support	$r = 0.18$ } Significant predictor of ASC (extra 0.73%) and students' confidence (extra 1.02%) Positive relationships between academic support + the academic self-concept subscales, i.e., students' confidence ($r = 0.19$) + students' effort ($r = 0.12$)

Abbreviations:

ASC: Academic self-concept

r:

Correlation coefficient

Table 14: Summary of studies examining the relationship between general self-concept and school environment

Study	Country	N	Grade Level/Age	SC Measure	School Environment Measure	Comments
Cheung + Lau (1985)	Hong Kong	713	Grade 10	SE	Affiliation	<div><div><div><div><div>$r = 0.17$</div></div><div>$r = 0.17$</div><div>$r = 0.13$</div><div>$r = 0.17$</div><div>$r = 0.10$</div><div>$-0.03 \leq r \leq 0.07, ns$</div></div></div><div>CES subscales explained 7% variance in students' SE</div></div>
					Teacher support	
					Involvement	
					Order + organization	
					Rule clarity	
Ryan et al. (1994)	America	606	Grades 7 + 8	SE	Other CES subscales	<div><div><div><div><div>$r = 0.13$</div></div><div>$r = 0.13$</div><div>$r = 0.16$</div><div>$r = ns$</div></div></div><div>Not significant predictors of students' SE</div></div>
					Teacher: Felt security	
					Teacher: Emotional utilisation	
					Teacher: School utilisation	
					Teacher: Emulation	
					Friend: Felt security	<div><div><div><div><div>$r = 0.30$</div></div><div>$r = 0.12$</div><div>$r = ns$</div><div>$r = ns$</div></div></div><div>Significant predictors of students' SE</div></div>
					Friend: Emotional utilisation	
					Friend: School utilisation	
					Friend: Emulation	

Abbreviations:

SE: Self-esteem

r: Correlation coefficient

ns: not significant

Table 15a: Summary of studies examining the relationship between school-related self-concept and school environment

Study	Country	N	Grade Level/Age	SC Measure	School Environment Measure	Comments
Mboya (1995)	South Africa	874	Grades 8 – 12	General school SC	Teachers' support, interest + encouragement Teachers' expectations Teachers' participation	<div><div>r = 0.23</div><div>r = 0.30</div><div>r = 0.22</div></div> Significant predictor of students' general school SC
Wentzel (1997)	America	248	Grade 6 → 8	Academic effort	Perceived caring from teachers	<div>r = 0.36</div> Explained additional 7% variance in students' academic effort
Spencer (1976)	Bolivia	1225	Grade 7	SC of ability	Significant others' influence (teacher + best friend)	<div>r = 0.66</div> Significant predictor of students' SC of ability
Hoge et al. (1990)	America	322	Grade 6 → 7	ASE	School climate	School climate, together with other school variables explained additional 4 to 6 % variance of students' ASE
Lau + Leung (1992)	Hong Kong	1668	Grades 7 – 9	ASC	Relation with school	<div>r = 0.11</div> No gender effect was detected.
Leung + Leung (1992)	Hong Kong	1156	Grades 7 – 9	ASC	Relationship with school	r = 0.12

Abbreviations:

- SE: Self-esteem
- ASC: Academic self-concept
- ASE: Academic self-esteem

r: Correlation coefficient

Table 15c: Summary of studies examining the relationship between school-related self-concept and school environment

Study	Country	N	Grade Level/Age	SC Measure	School Environment Measure	Comments
Raw + Marjoribanks (1991)	Australia	312	Age 16	ASC	School environment	Explained 5.15% variance of students' ASC (3.15% unique contribution, 2% joint contribution with family environment)
Sanders (1996)	America	826	Grade 8	ASC	Teacher support	$r = 0.109$ } No significant effect on ASC

Abbreviations:

ASC: Academic self-concept

SC: Self-concept

r: Correlation coefficient

M: Male

F: Female

STUDENT'S QUESTIONNAIRE

SECTION I

Background Information

Please write down your name and class index number for question 1, and your class for question 2. Provide the information requested for question 3 and 4 by ticking the relevant boxes.

(1) Name : _____ ()

(2) Class : _____

(3) Stream	Express	<input type="checkbox"/>	1
	Normal	<input type="checkbox"/>	2

(4) Sex	Male	<input type="checkbox"/>	1
	Female	<input type="checkbox"/>	2

SECTION II

Socioeconomic Status

Answer either question 1 or 2 by providing the necessary information in the space given.

(1) What type of work does your father do?
(Give a short description of his job where necessary.)

(2) (i) If your father is not working, who supports the family?

(ii) What type of work does he/she do?

Official

SECTION III

Student's Opinion

Read each sentence carefully and decide to what extent you agree with it. Think about the past few days and indicate how you feel most of the time by writing the number in the box to the right of the sentence.

(1 -- strongly disagree; 2 -- disagree; 3 -- agree; 4 -- strongly agree)

(A) Towards home	Strongly Disagree Disagree Agree Strongly Agree				
	1	2	3	4	
(1) My parents and I have a lot of fun together.	1	2	3	4	<input type="text"/>
(2) My parents never tell me to study hard.	1	2	3	4	<input type="text"/>
(3) I like my parents.	1	2	3	4	<input type="text"/>
(4) My parents praise me when I do well in school.	1	2	3	4	<input type="text"/>
(5) My parents like to spend time with me.	1	2	3	4	<input type="text"/>
(6) My parents think that I am stupid.	1	2	3	4	<input type="text"/>
(7) There are many times when I would like to run away from home.	1	2	3	4	<input type="text"/>
(8) My parents believe that I can do well in my study.	1	2	3	4	<input type="text"/>
(9) My parents always scold me.	1	2	3	4	<input type="text"/>
(10) I can get help for my school work from my family members.	1	2	3	4	<input type="text"/>
(11) My parents dislike me because I am not good enough.	1	2	3	4	<input type="text"/>
(12) My parents pay no attention when I bring home my report card.	1	2	3	4	<input type="text"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree	
(13) When I have problems, I can talk to my parents.	1	2	3	4	<input type="checkbox"/>
(14) I have a quiet place at home to do my work.	1	2	3	4	<input type="checkbox"/>
(15) My parents do not understand me.	1	2	3	4	<input type="checkbox"/>
(16) My parents think that I am a failure in school.	1	2	3	4	<input type="checkbox"/>
(17) My parents support the things I do.	1	2	3	4	<input type="checkbox"/>
(18) My parents make sure I do my homework everyday.	1	2	3	4	<input type="checkbox"/>
(19) My parents do not trust me.	1	2	3	4	<input type="checkbox"/>
(20) My parents encourage me to work harder when I do badly in a test.	1	2	3	4	<input type="checkbox"/>

(B) Towards class

(1) Our teachers give extra lessons to the weaker students.	1	2	3	4	<input type="checkbox"/>
(2) Our teachers are confident that we can get good results.	1	2	3	4	<input type="checkbox"/>
(3) Our teachers do not trust us.	1	2	3	4	<input type="checkbox"/>
(4) Students in my class get to know each other really well.	1	2	3	4	<input type="checkbox"/>
(5) Our teachers believe that our class is weaker than other classes.	1	2	3	4	<input type="checkbox"/>
(6) It is easy to get a group together for a project.	1	2	3	4	<input type="checkbox"/>
(7) Our teachers are only interested in the clever students in my class.	1	2	3	4	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree	
(8) Our teachers make sure that we work hard for our exams.	1	2	3	4	<input type="checkbox"/>
(9) Some classmates often quarrel among themselves.	1	2	3	4	<input type="checkbox"/>
(10) Our teachers try to get to know 1 us.	2	3	4		<input type="checkbox"/>
(11) Our teachers feel that our class is stupid.	1	2	3	4	<input type="checkbox"/>
(12) It took a long time for me to get to know everybody by their names.	1	2	3	4	<input type="checkbox"/>
(13) Our teachers embarrass us for not knowing the right answers.	1	2	3	4	<input type="checkbox"/>
(14) Our teachers only expect good students to do well in exams.	1	2	3	4	<input type="checkbox"/>
(15) There are groups of students who cannot get along in my class.	1	2	3	4	<input type="checkbox"/>
(16) We find it easy to talk to our teachers about our problems.	1	2	3	4	<input type="checkbox"/>
(17) Our teachers do not care whether we get low marks for our exams.	1	2	3	4	<input type="checkbox"/>
(18) We help one another with our homework.	1	2	3	4	<input type="checkbox"/>
(19) Our teachers spend very little time talking to us.	1	2	3	4	<input type="checkbox"/>
(20) Our teachers believe that we can pass our 'O' level if we work hard.	1	2	3	4	<input type="checkbox"/>
(21) Some students in class do not like one another.	1	2	3	4	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree	
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	1	2	3	4	<input type="checkbox"/>
(23) Our teachers stress the importance of doing well in exams.	1	2	3	4	<input type="checkbox"/>
(24) We show care and concern for our classmates who have problems.	1	2	3	4	<input type="checkbox"/>
(25) Our teachers often praise us when we have done a good piece of work.	1	2	3	4	<input type="checkbox"/>
(26) Our teachers encourage those who failed to work harder.	1	2	3	4	<input type="checkbox"/>
(27) We respect our monitors and cooperate with them.	1	2	3	4	<input type="checkbox"/>

(C) Towards self

(1) I can follow the lessons easily.	1	2	3	4	<input type="checkbox"/>
(2) I daydream a lot in class.	1	2	3	4	<input type="checkbox"/>
(3) I am able to help my classmates in their school work.	1	2	3	4	<input type="checkbox"/>
(4) I often do my homework without thinking.	1	2	3	4	<input type="checkbox"/>
(5) If I work hard, I think I can go to the Polytechnic or University.	1	2	3	4	<input type="checkbox"/>
(6) I pay attention to the teachers during lessons.	1	2	3	4	<input type="checkbox"/>
(7) Most of my classmates are smarter than I am.	1	2	3	4	<input type="checkbox"/>
(8) I study hard for my tests.	1	2	3	4	<input type="checkbox"/>

	<table><tr><td>Strongly Disagree</td><td>Disagree</td><td>Agree</td><td>Strongly Agree</td></tr></table>				Strongly Disagree	Disagree	Agree	Strongly Agree	
Strongly Disagree	Disagree	Agree	Strongly Agree						
(9) My teachers feel that I am poor in my work.	1	2	3	4	<input type="checkbox"/>				
(10) I am usually interested in my school work.	1	2	3	4	<input type="checkbox"/>				
(11) I often forget what I have learned.	1	2	3	4	<input type="checkbox"/>				
(12) I will do my best to pass all the subjects.	1	2	3	4	<input type="checkbox"/>				
(13) I get frightened when I am asked a question by the teachers.	1	2	3	4	<input type="checkbox"/>				
(14) I often feel like quitting school.	1	2	3	4	<input type="checkbox"/>				
(15) I am good in most of my school subjects.	1	2	3	4	<input type="checkbox"/>				
(16) I am always waiting for the lessons to end.	1	2	3	4	<input type="checkbox"/>				
(17) I always do poorly in tests.	1	2	3	4	<input type="checkbox"/>				
(18) I do not give up easily when I am faced with a difficult question in my school work.	1	2	3	4	<input type="checkbox"/>				
(19) I am able to do better than my friends in most subjects.	1	2	3	4	<input type="checkbox"/>				
(20) I am not willing to put in more effort in my school work.	1	2	3	4	<input type="checkbox"/>				

Please check that you have given an answer for every question.
Thank you for helping out in the survey.

The University of Nottingham



STUDENT'S QUESTIONNAIRE QUESTION BOOKLET

by

LIU, Woon Chia

STUDENT' S QUESTIONNAIRE QUESTION BOOKLET

DO NOT WRITE ANYTHING IN THE QUESTION BOOKLET.

SECTION I

Background Information

Please write down the relevant background information on the Answer Sheet.

SECTION II

Student's Opinion

Read each sentence carefully and decide to what extent you agree with it. Think about the past few days and indicate how you feel **most of the time** by writing the number in the relevant box on the Answer Sheet.

(1 -- strongly disagree; 2 -- disagree; 3 -- agree; 4 -- strongly agree)

(A) Towards home

	Strongly Disagree	Disagree	Agree	Strongly Agree
(1) My parents and I have a lot of fun together.	1	2	3	4
(2) My parents never tell me to study hard.	1	2	3	4
(3) I like my parents.	1	2	3	4
(4) My parents praise me when I do well in school.	1	2	3	4
(5) My parents like to spend time with me.	1	2	3	4
(6) My parents think that I am stupid.	1	2	3	4
(7) There are many times when I would like to run away from home.	1	2	3	4
(8) My parents believe that I can do well in my study.	1	2	3	4
(9) My parents always scold me.	1	2	3	4

	Strongly Disagree	Disagree	Agree	Strongly Agree
(10) I can get help for my schoolwork from my family members.	1	2	3	4
(11) My parents dislike me because I am not good enough.	1	2	3	4
(12) My parents pay no attention when I bring home my report card.	1	2	3	4
(13) When I have problems, I can talk to my parents.	1	2	3	4
(14) I have a quiet place at home to do my work.	1	2	3	4
(15) My parents do not understand me.	1	2	3	4
(16) My parents think that I am a failure in school.	1	2	3	4
(17) My parents support the things I do.	1	2	3	4
(18) My parents make sure I do my homework everyday.	1	2	3	4
(19) My parents do not trust me.	1	2	3	4
(20) My parents encourage me to work harder when I do badly in a test.	1	2	3	4

(B) Towards class

	Strongly Disagree	Disagree	Agree	Strongly Agree
(1) Our teachers give extra lessons to the weaker students.	1	2	3	4
(2) Our teachers are confident that we can get good results.	1	2	3	4
(3) Our teachers do not trust us.	1	2	3	4
(4) Students in my class get to know each other really well.	1	2	3	4
(5) Our teachers believe that our class is weaker than other classes.	1	2	3	4

		Strongly Disagree	Disagree	Agree	Strongly Agree
(6)	It is easy to get a group together for a project.	1	2	3	4
(7)	Our teachers are only interested in the clever students in my class.	1	2	3	4
(8)	Our teachers make sure that we work hard for our exams.	1	2	3	4
(9)	Some classmates often quarrel among themselves.	1	2	3	4
(10)	Our teachers try to get to know us.	1	2	3	4
(11)	Our teachers feel that our class is stupid.	1	2	3	4
(12)	It took a long time for me to get to know everybody by their names.	1	2	3	4
(13)	Our teachers embarrass us for not knowing the right answers.	1	2	3	4
(14)	Our teachers only expect good students to do well in exams.	1	2	3	4
(15)	There are groups of students who cannot get along in my class.	1	2	3	4
(16)	We find it easy to talk to our teachers about our problems.	1	2	3	4
(17)	Our teachers do not care whether we get low marks for our exams.	1	2	3	4
(18)	We help one another with our homework.	1	2	3	4
(19)	Our teachers spend very little time talking to us.	1	2	3	4
(20)	Our teachers believe that we can pass our 'O' level if we work hard.	1	2	3	4
(21)	Some students in class do not like one another.	1	2	3	4

	Strongly Disagree	Disagree	Agree	Strongly Agree
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	1	2	3	4
(23) Our teachers stress the importance of doing well in exams.	1	2	3	4
(24) We show care and concern for our classmates who have problems.	1	2	3	4
(25) Our teachers often praise us when we have done a good piece of work.	1	2	3	4
(26) Our teachers encourage those who failed to work harder.	1	2	3	4
(27) We respect our monitors and co-operate with them.	1	2	3	4

(C) Towards self

	Strongly Disagree	Disagree	Agree	Strongly Agree
(1) I can follow the lessons easily.	1	2	3	4
(2) I daydream a lot in class.	1	2	3	4
(3) I am able to help my classmates in their schoolwork.	1	2	3	4
(4) I often do my homework without thinking.	1	2	3	4
(5) If I work hard, I think I can go to the Polytechnic or University.	1	2	3	4
(6) I pay attention to the teachers during lessons.	1	2	3	4
(7) Most of my classmates are smarter than I am.	1	2	3	4
(8) I study hard for my tests.	1	2	3	4
(9) My teachers feel that I am poor in my work.	1	2	3	4

	Strongly Disagree	Disagree	Agree	Strongly Agree
(10) I am usually interested in my schoolwork.	1	2	3	4
(11) I often forget what I have learned.	1	2	3	4
(12) I will do my best to pass all the subjects.	1	2	3	4
(13) I get frightened when I am asked a question by the teachers.	1	2	3	4
(14) I often feel like quitting school.	1	2	3	4
(15) I am good in most of my school subjects.	1	2	3	4
(16) I am always waiting for the lessons to end.	1	2	3	4
(17) I always do poorly in tests.	1	2	3	4
(18) I do not give up easily when I am faced with a difficult question in my schoolwork.	1	2	3	4
(19) I am able to do better than my friends in most subjects.	1	2	3	4
(20) I am not willing to put in more effort in my schoolwork.	1	2	3	4

Please check that you have given an answer for every statement.
Thank you for helping out in the survey.

STUDENT' S QUESTIONNAIRE
ANSWER SHEET 1

SECTION I

Background Information

Please write down the relevant background information.

(1) Dialect name: _____ ()
Hanyu Pinyin name (if applicable): _____

(2) Class: _____

(3)	Stream	Express	<input type="checkbox"/>	1
		Normal	<input type="checkbox"/>	2

(4)	Sex	Male	<input type="checkbox"/>	1
		Female	<input type="checkbox"/>	2

(5) Answer either part (a) or (b) by providing the necessary information in the space given.

(a) What type of work does your father do?
(Give a short description of his job where necessary.)

Official

☐

☐

☐

☐

(b) (i) If your father is not working, who supports the family?

(ii) What type of work does he/she do?

SECTION II

Student's Opinion

Read each sentence carefully in the Question Booklet and indicate how you feel most of the time by writing the number in the relevant box.

(A) Towards home

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

(B) Towards class

(1)		(6)		(11)		(16)		(21)		(26)	
(2)		(7)		(12)		(17)		(22)		(27)	
(3)		(8)		(13)		(18)		(23)			
(4)		(9)		(14)		(19)		(24)			
(5)		(10)		(15)		(20)		(25)			

(C) Towards self

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

Please check that you have given an answer for every question.
Thank You.

STUDENT' S QUESTIONNAIRE
ANSWER SHEET 2

SECTION I

Background Information
Please write down the relevant background information.

- (1) Dialect name: _____ ()
Hanyu Pinyin name (if applicable): _____
- (2) Class: _____

SECTION II

Student's Opinion
Read each sentence carefully in the Question Booklet and indicate how you feel most of the time by writing the number in the relevant box.

(A) Towards home

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

(B) Towards class

(1)		(6)		(11)		(16)		(21)		(26)	
(2)		(7)		(12)		(17)		(22)		(27)	
(3)		(8)		(13)		(18)		(23)			
(4)		(9)		(14)		(19)		(24)			
(5)		(10)		(15)		(20)		(25)			

(C) Towards self

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

Please check that you have given an answer for every question.
Thank You.

STUDENT' S QUESTIONNAIRE
ANSWER SHEET 3

SECTION I

Background Information

Please write down the relevant background information.

(1) Dialect name: _____ ()
Hanyu Pinyin name (if applicable): _____

(2) Class in 1996: _____ Class in 1995: _____

SECTION II

Student's Opinion

Read each sentence carefully in the Question Booklet and indicate how you feel most of the time by writing the number in the relevant box.

(A) Towards home

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

(B) Towards class

(1)		(6)		(11)		(16)		(21)		(26)	
(2)		(7)		(12)		(17)		(22)		(27)	
(3)		(8)		(13)		(18)		(23)			
(4)		(9)		(14)		(19)		(24)			
(5)		(10)		(15)		(20)		(25)			

(C) Towards self

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

Please check that you have given an answer for every question.
Thank You.

STUDENT' S QUESTIONNAIRE
ANSWER SHEET 4

SECTION I

Background Information
Please write down the relevant background information.

- (1) Dialect name: _____ ()
 Hanyu Pinyin name (if applicable): _____
- (2) Class in 1997: _____ Class in 1996: _____ Class in 1995: _____

SECTION II

Student's Opinion
Read each sentence carefully in the Question Booklet and indicate how you feel most of the time by writing the number in the relevant box.

(A) Towards home

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

(B) Towards class

(1)		(6)		(11)		(16)		(21)		(26)	
(2)		(7)		(12)		(17)		(22)		(27)	
(3)		(8)		(13)		(18)		(23)			
(4)		(9)		(14)		(19)		(24)			
(5)		(10)		(15)		(20)		(25)			

(C) Towards self

(1)		(6)		(11)		(16)	
(2)		(7)		(12)		(17)	
(3)		(8)		(13)		(18)	
(4)		(9)		(14)		(19)	
(5)		(10)		(15)		(20)	

Please check that you have given an answer for every question.
Thank You.

Non-Verbal Reasoning Test

The non-verbal reasoning test used in the main study was a modified version of the British Ability Scales – Matrices B, D and E (Elliot, 1983a). Altogether 30 matrices were included in the test instead of 28 in the BAS scales. The two extra matrices were taken from the examples given in the BAS scales.

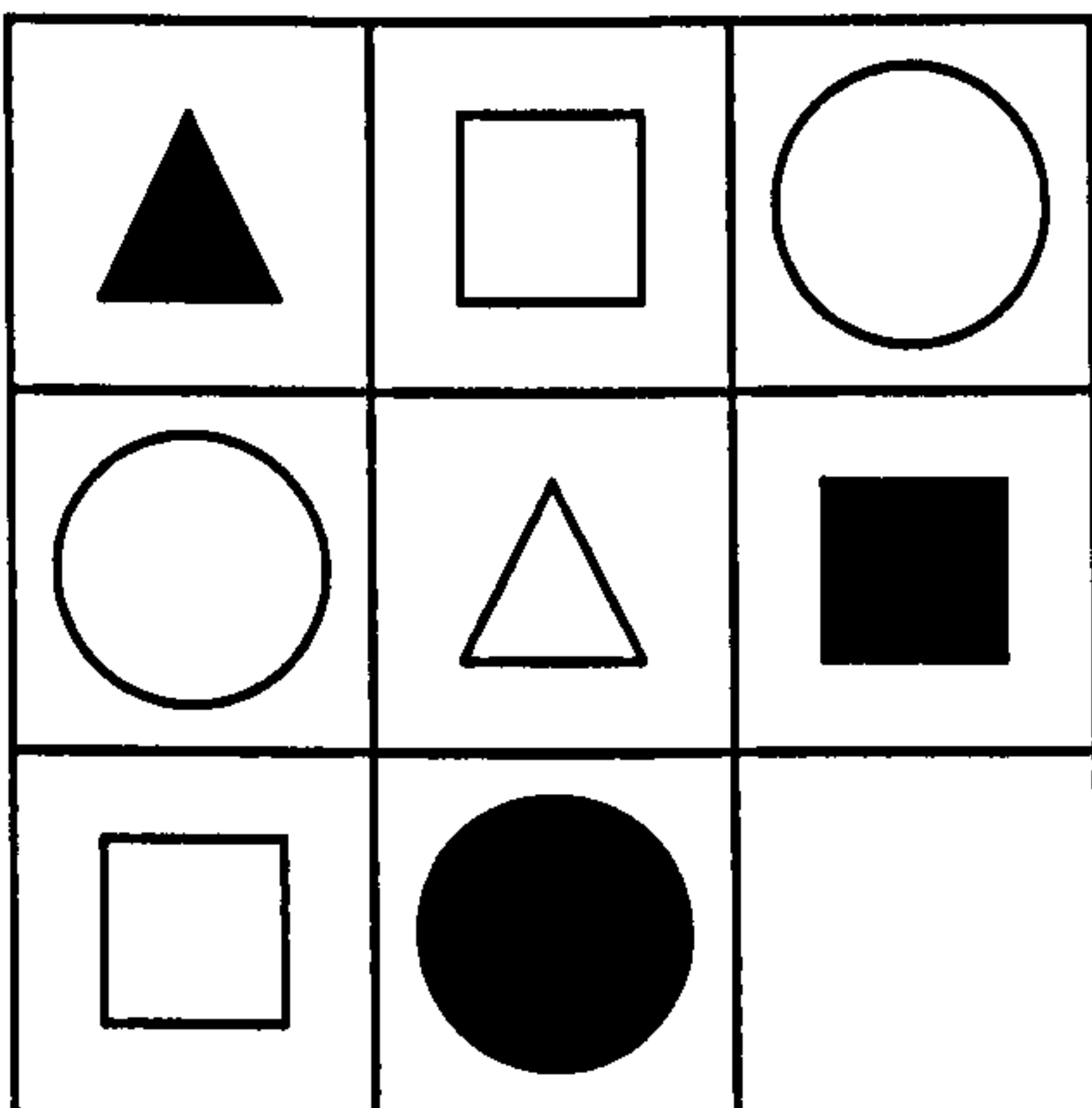
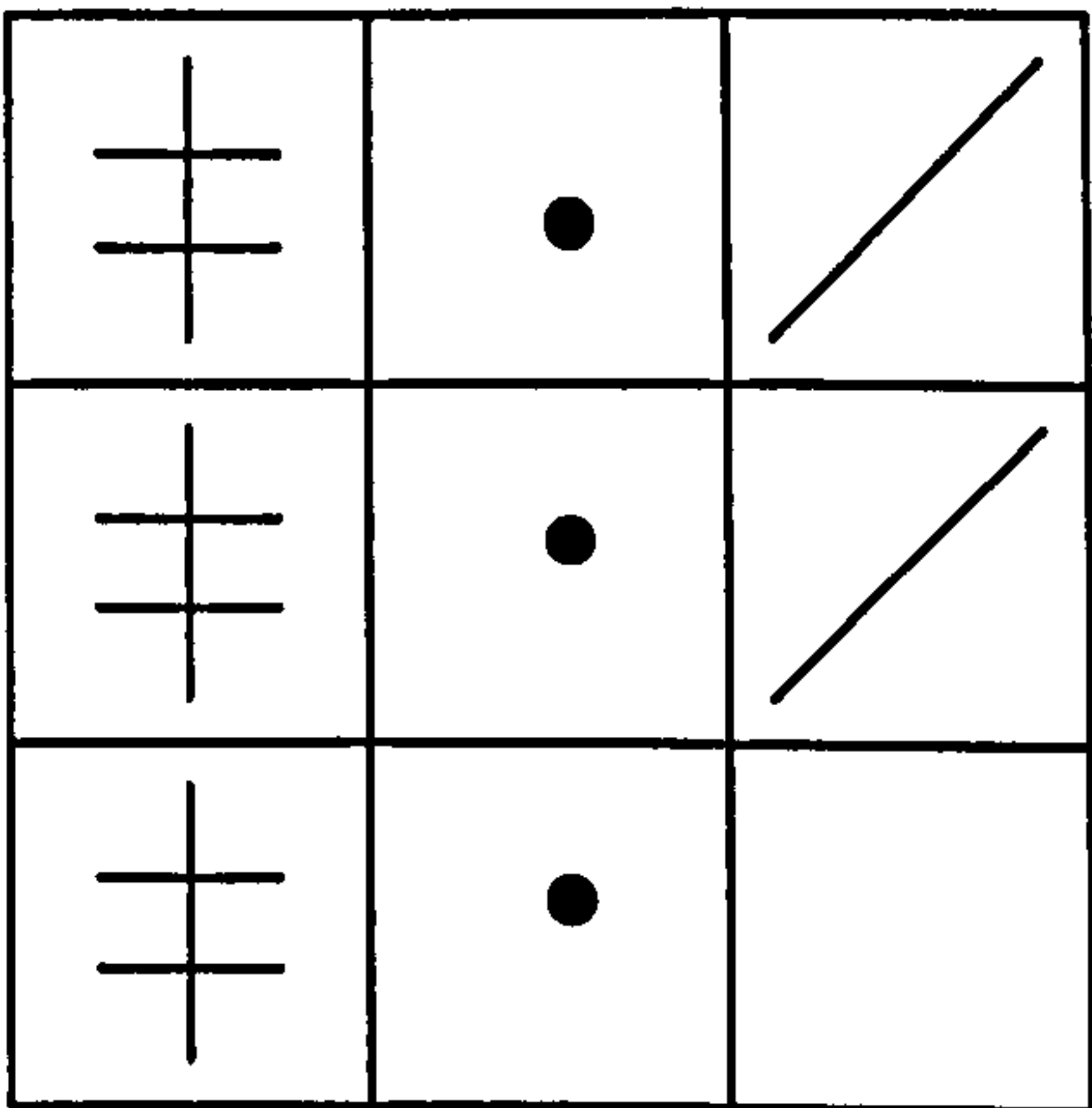
The average reliability value for the BAS – Matrices is 0.88 (Age 8 to Age 17.5), as calculated by Hoyt Method, and the test-retest reliability/alternate form reliability is 0.82 (Elliot, 1983b). Since the non-verbal reasoning test used in this study was essentially that of the BAS Scales plus an additional two extra matrices from the examples, its reliability was assumed to be acceptable for its assessment purpose.

NON-VERBAL REASONING TEST

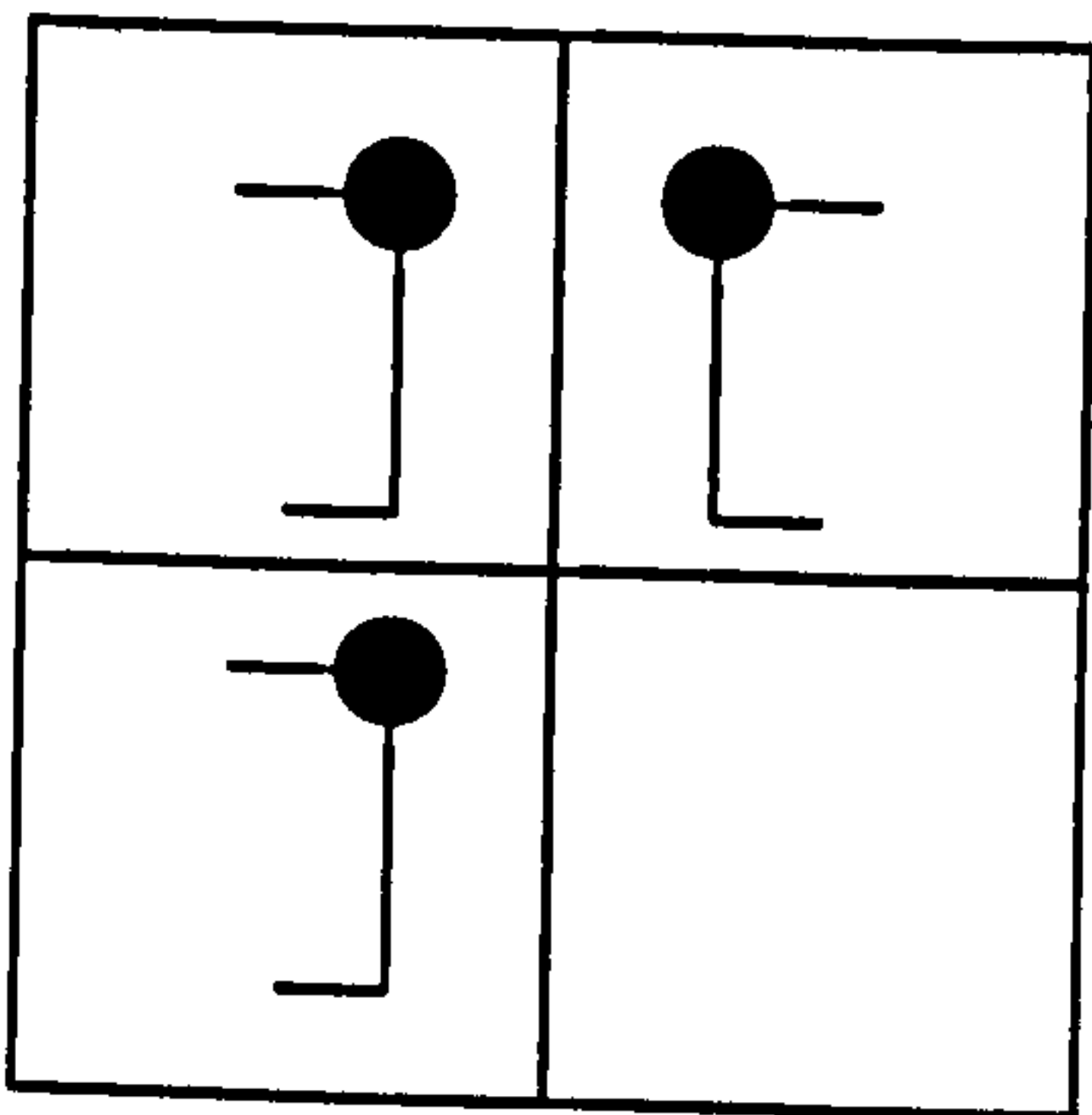
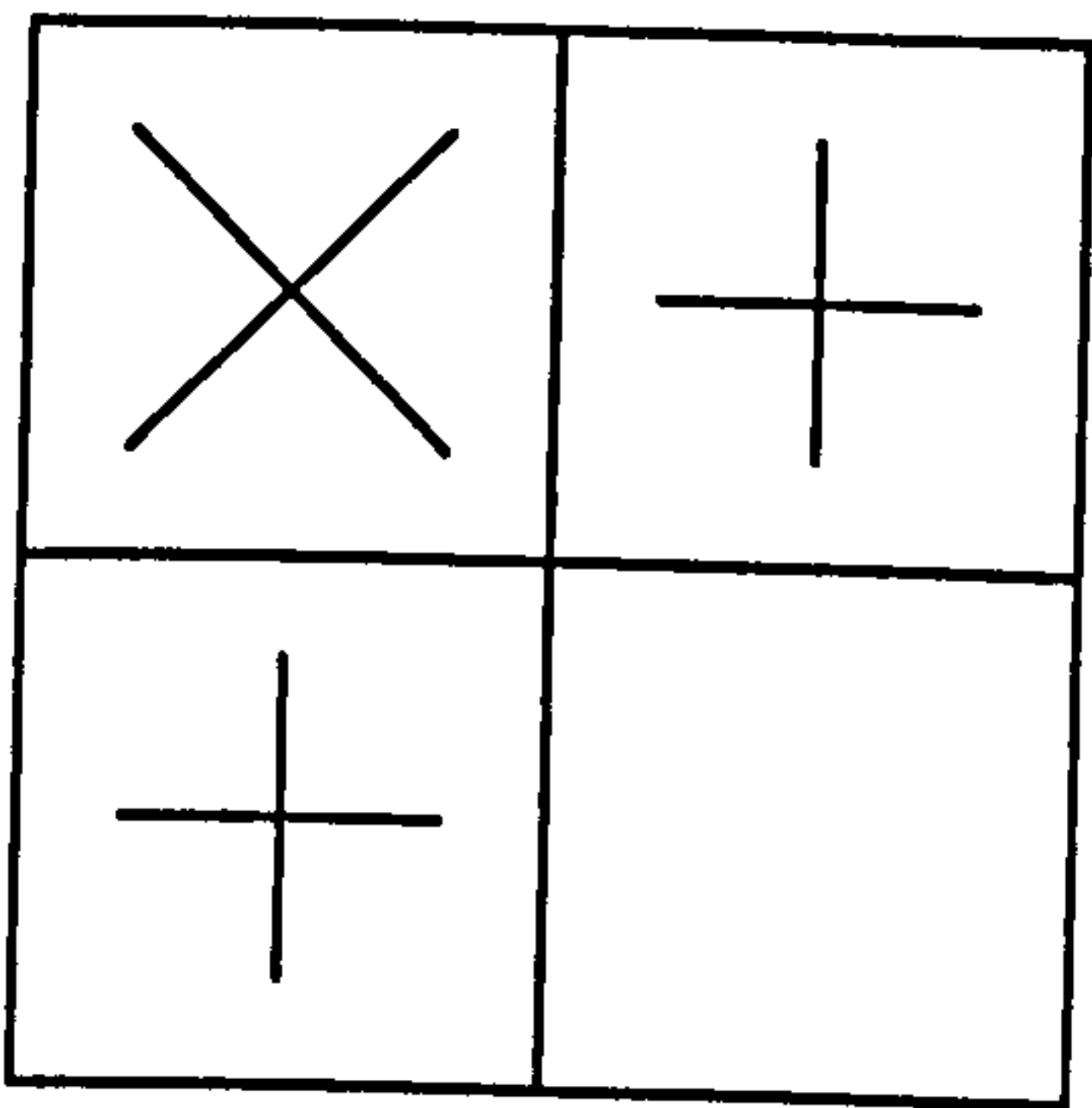
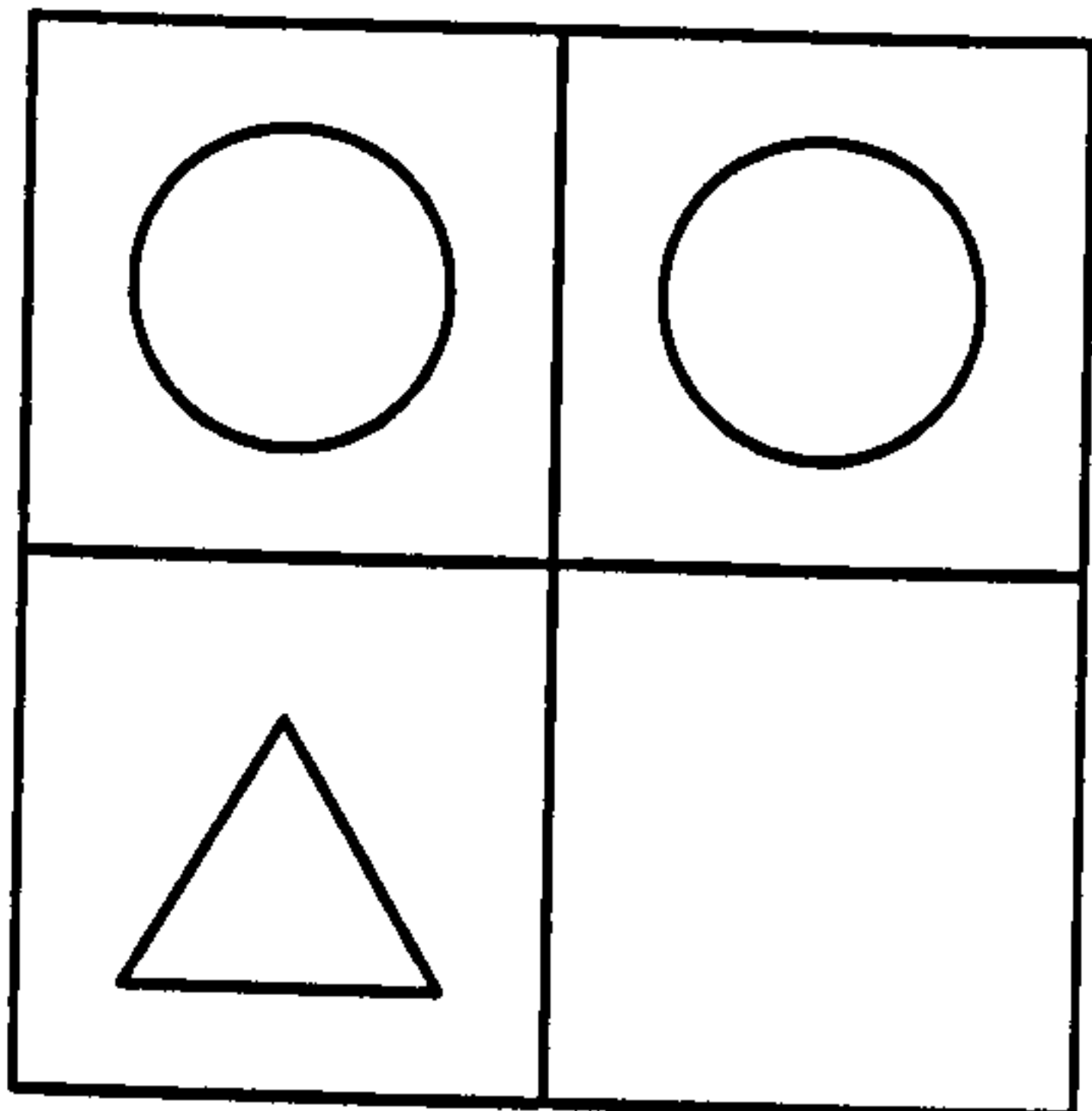
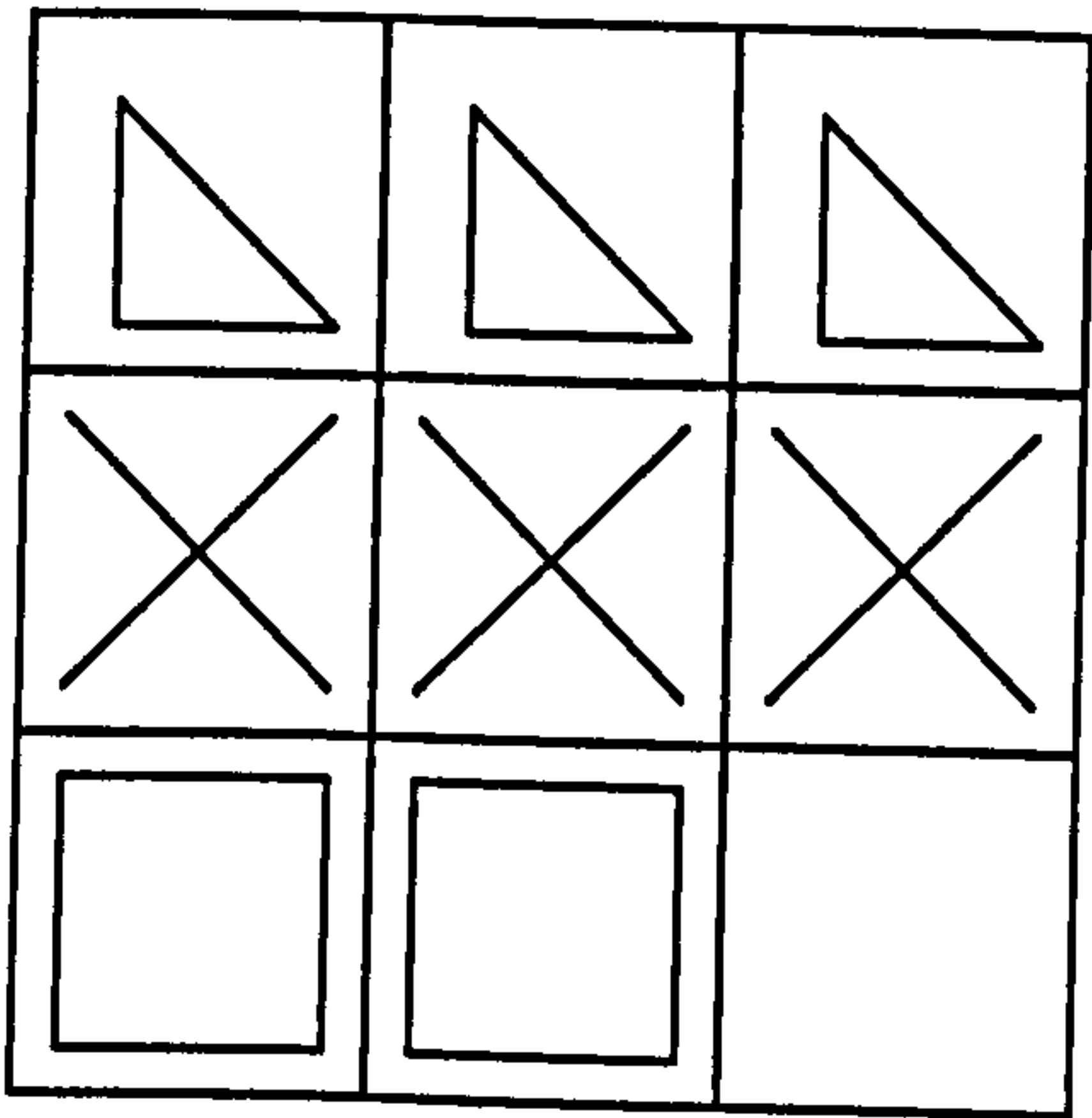
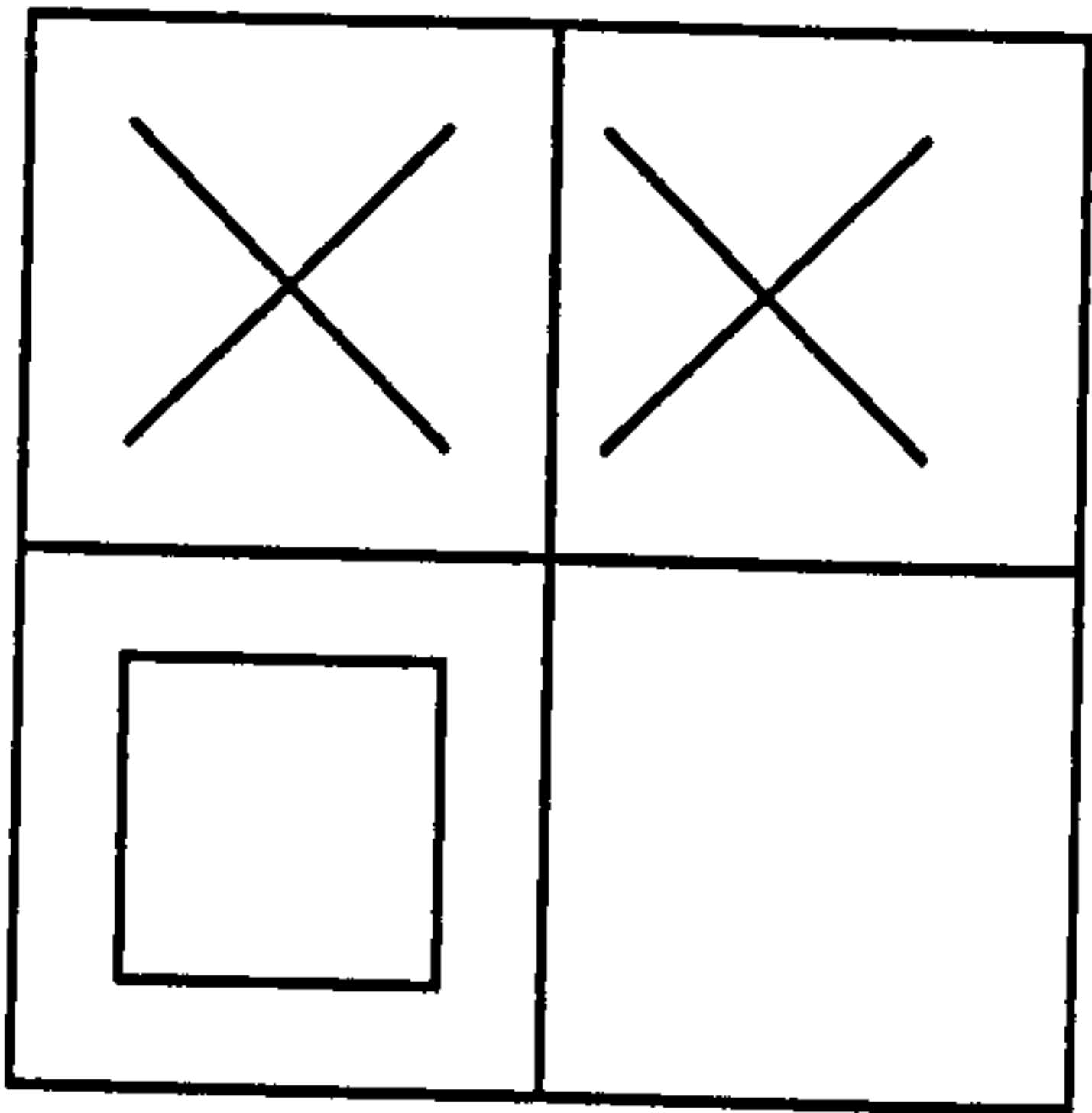
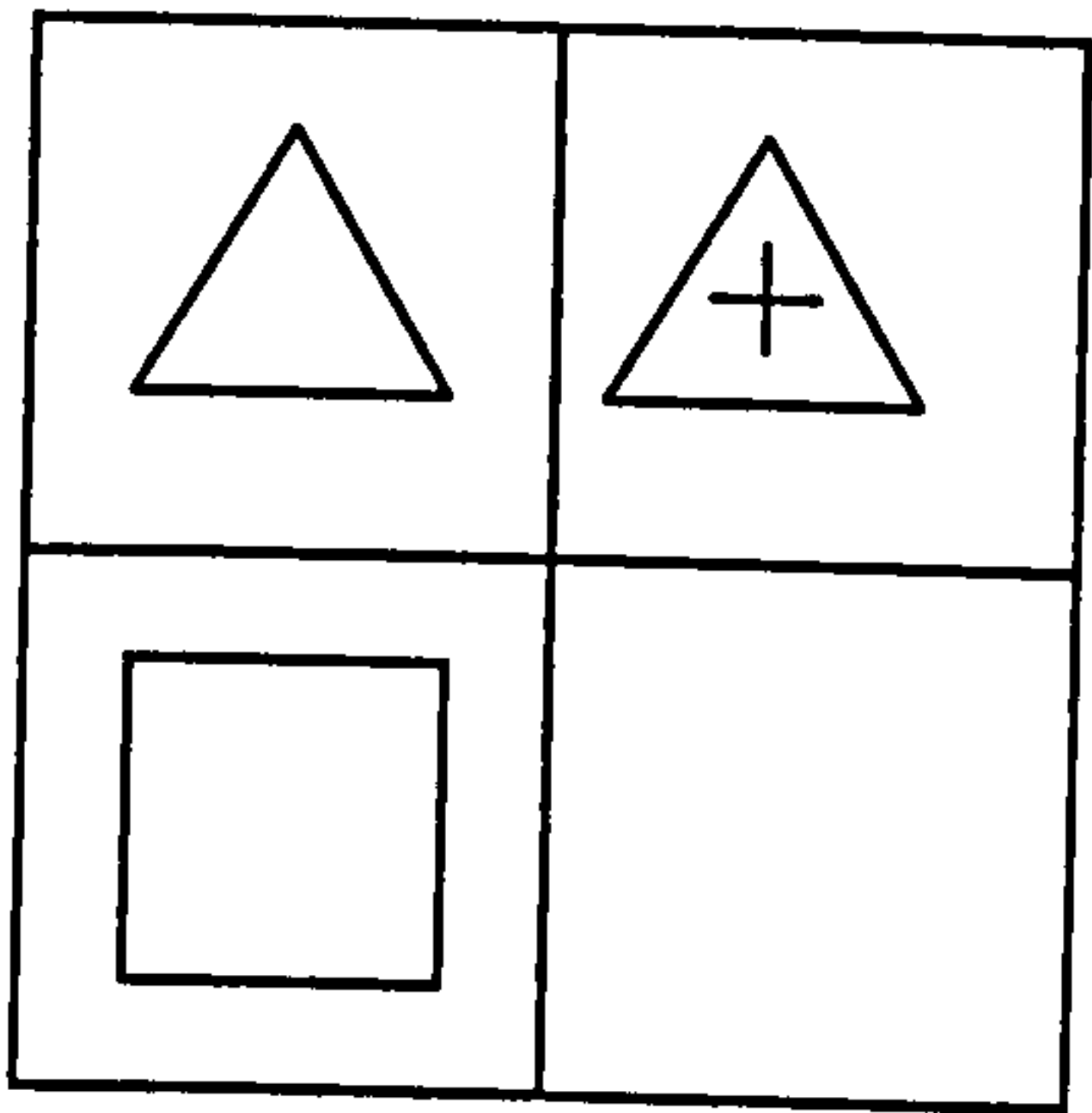
- (1) Dialect Name: _____ ()
Hanyu Pinyin Name (if applicable): _____
- (2) Class in 1995: _____ Class in 1996: _____

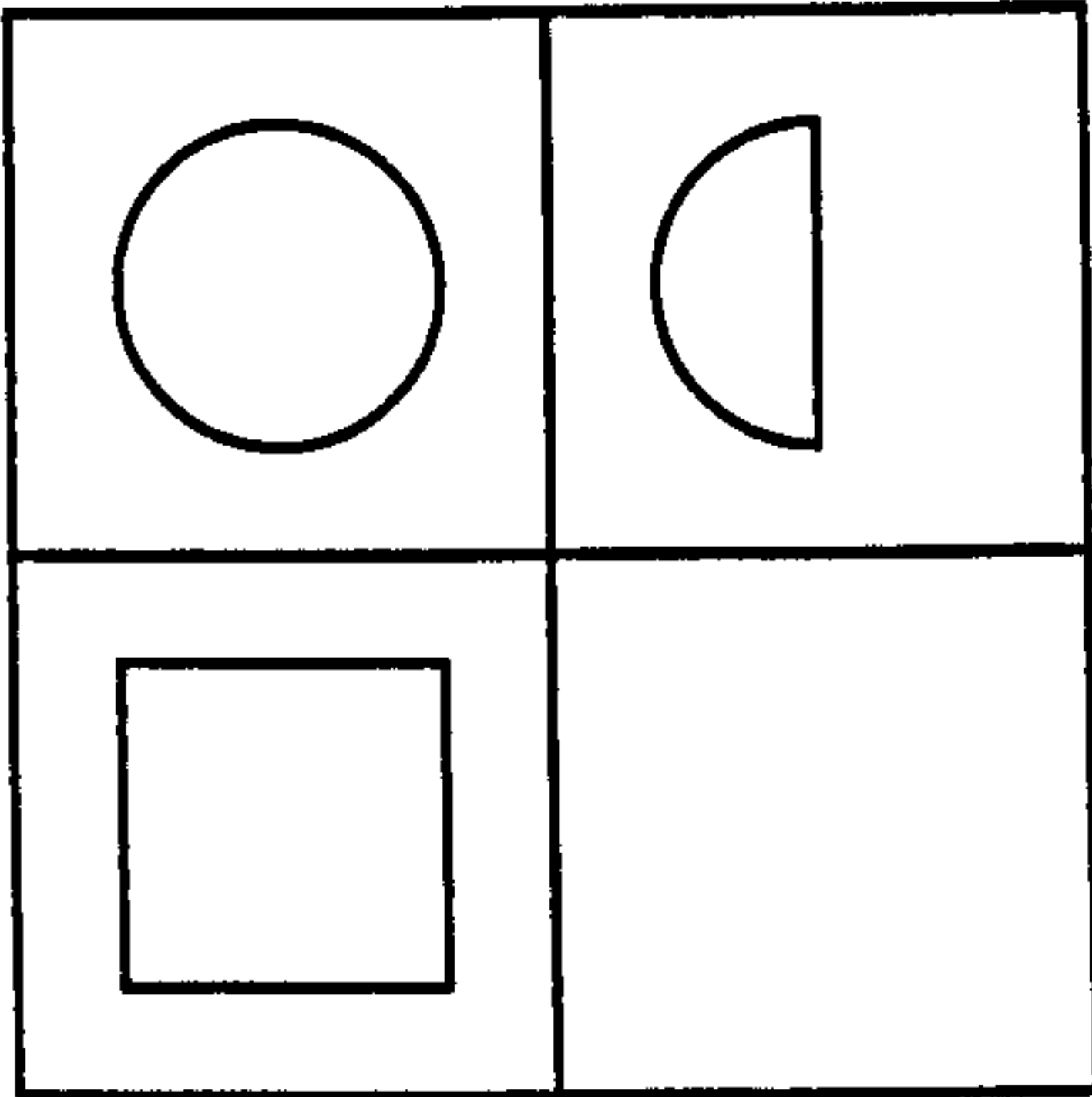
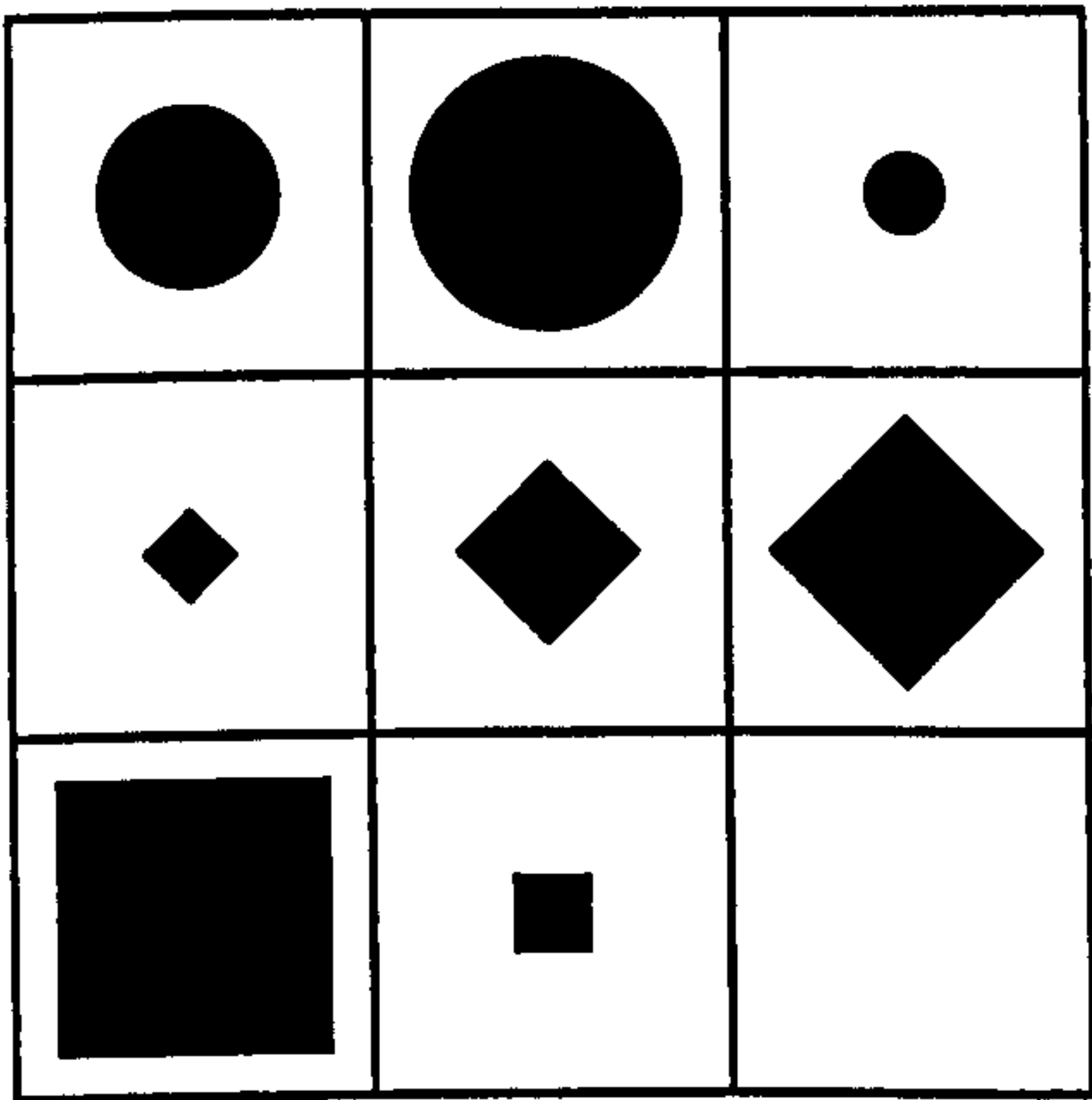
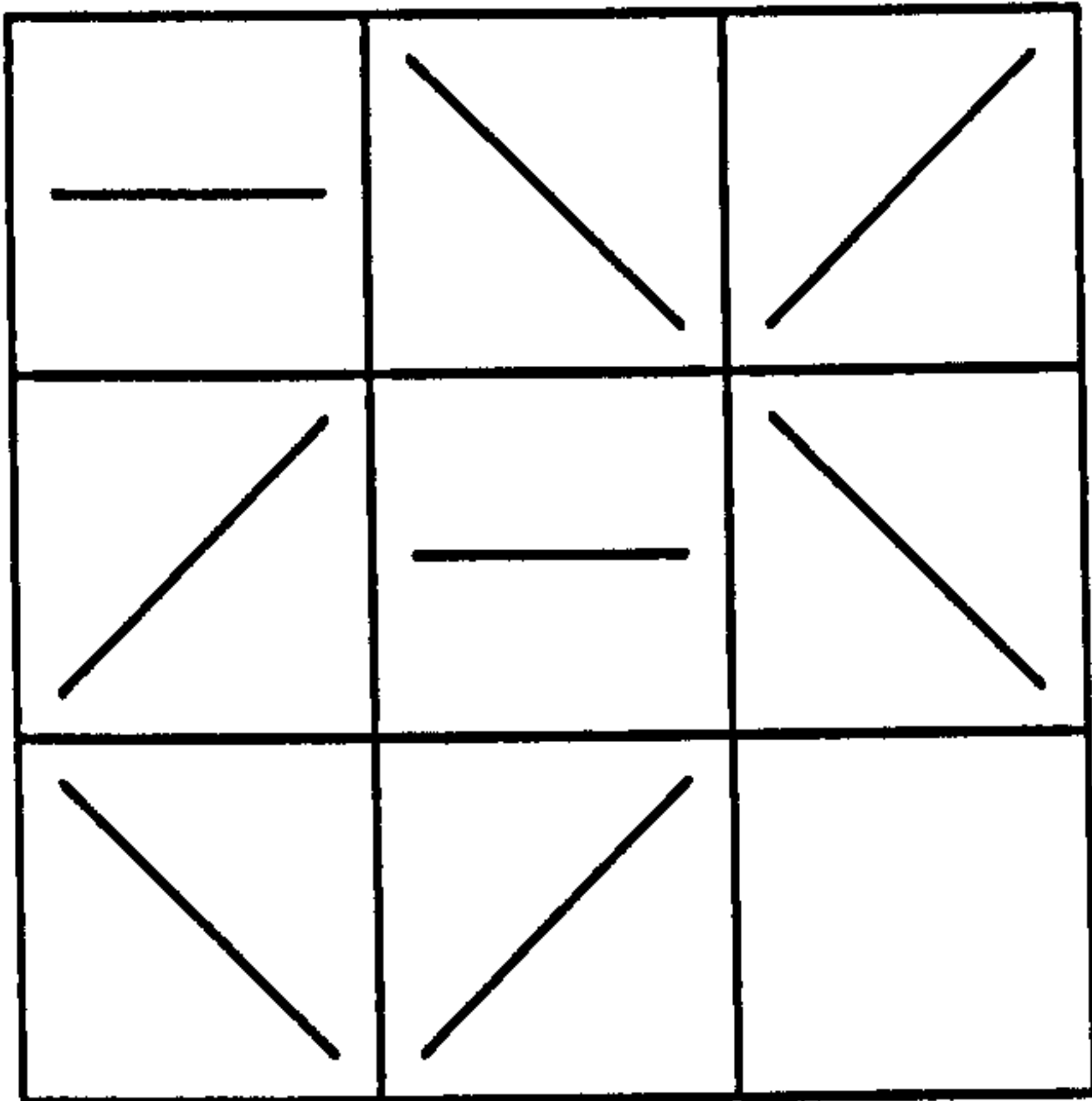
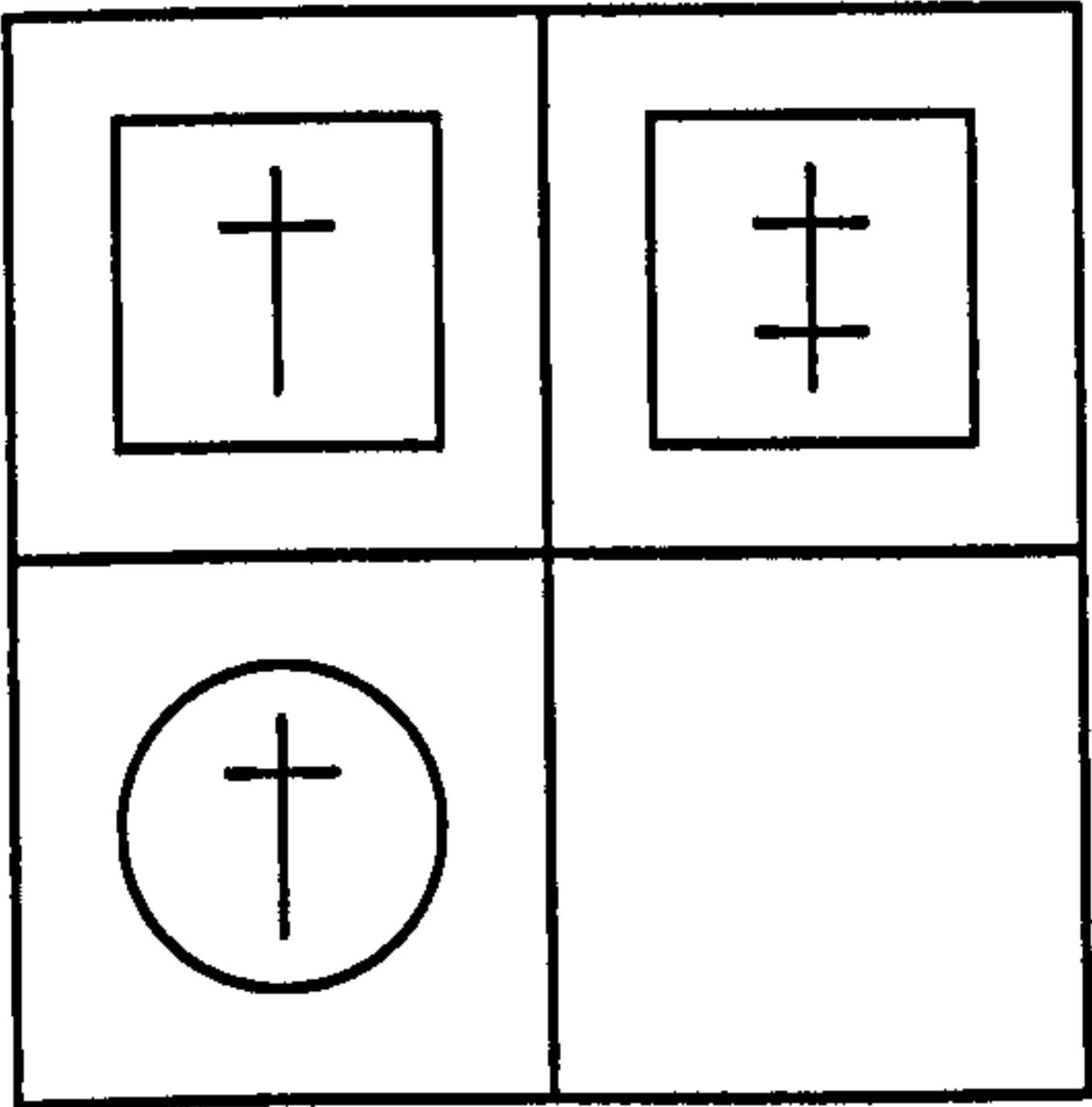
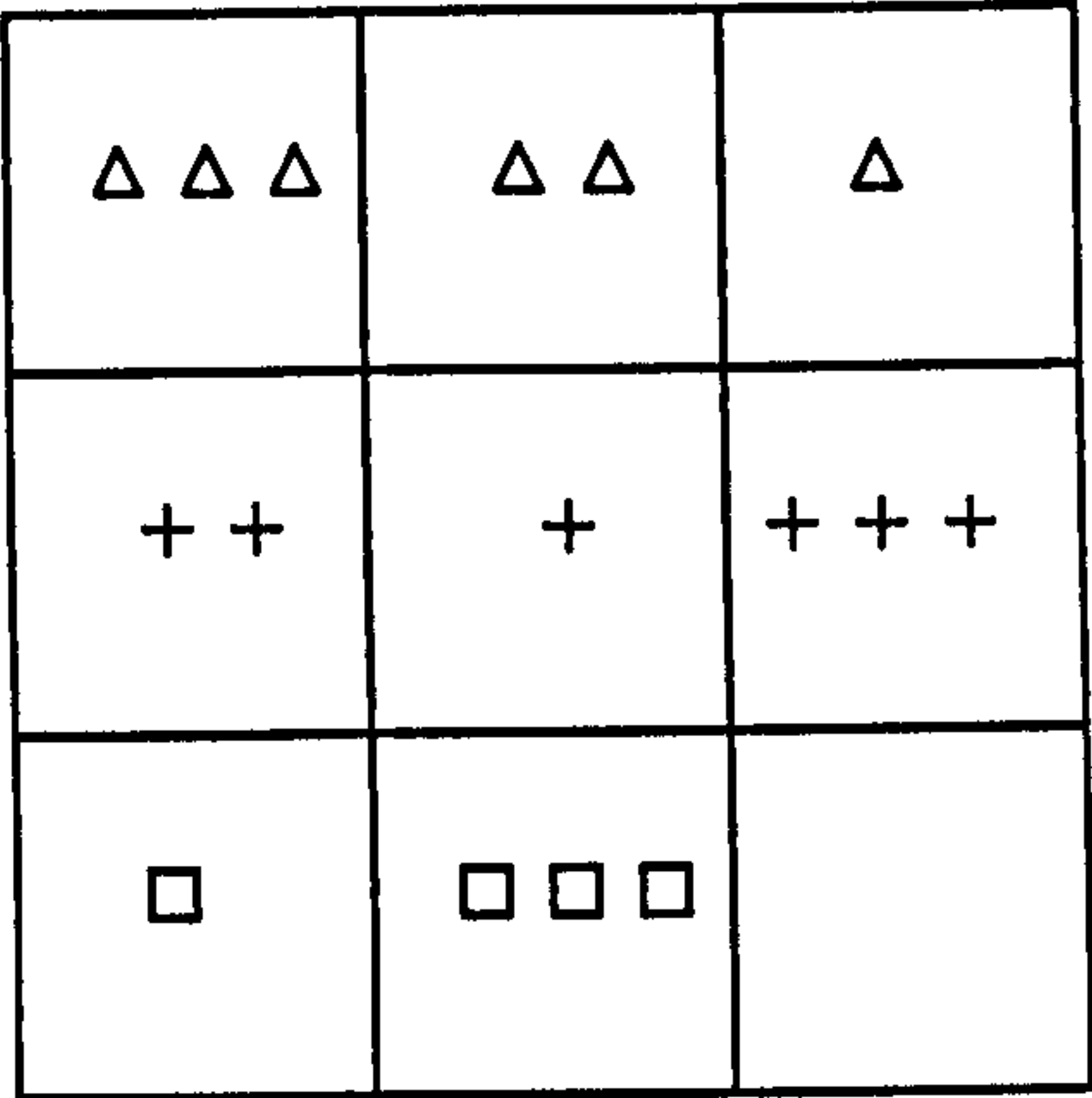
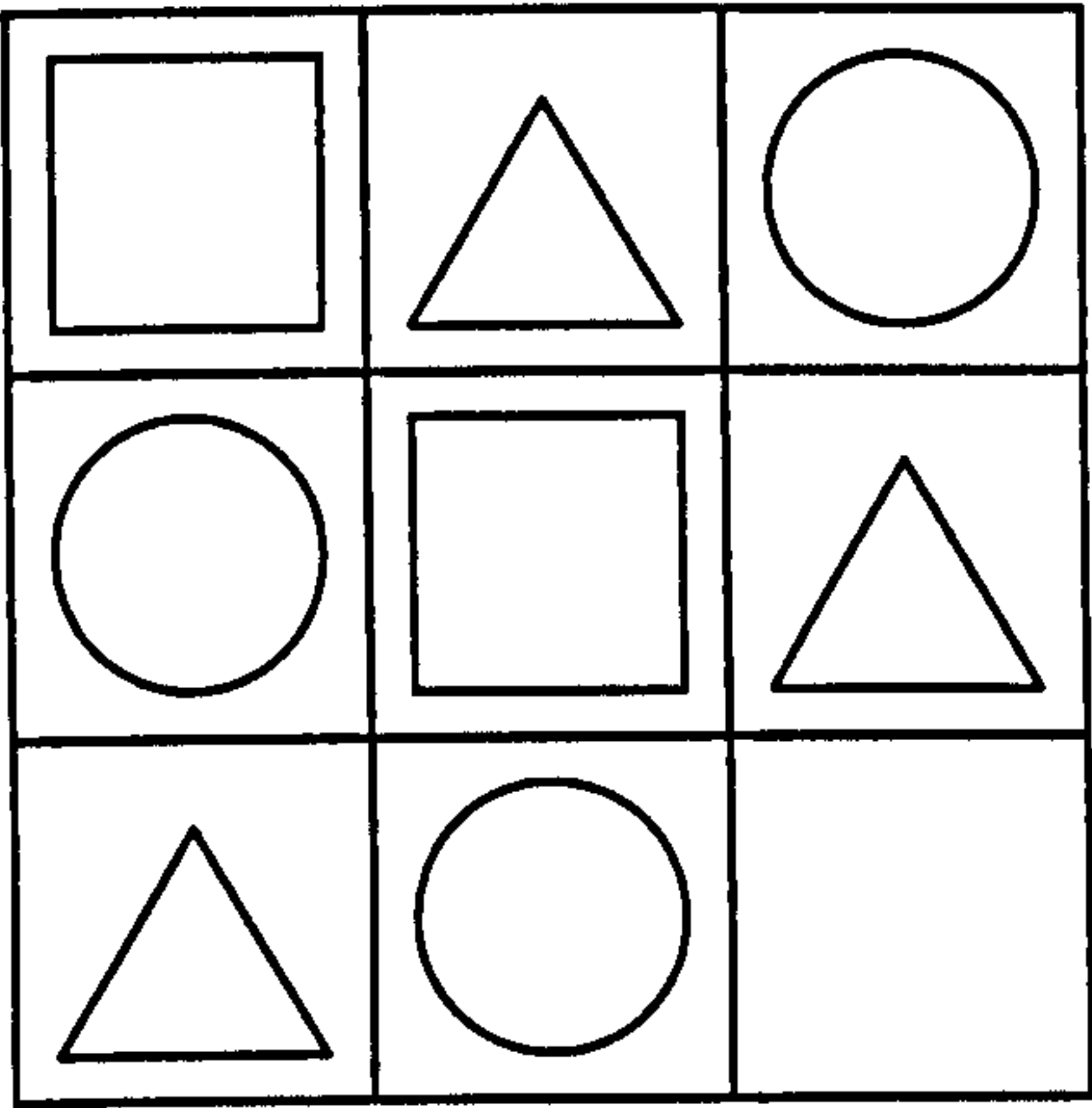
INSTRUCTIONS TO STUDENTS:

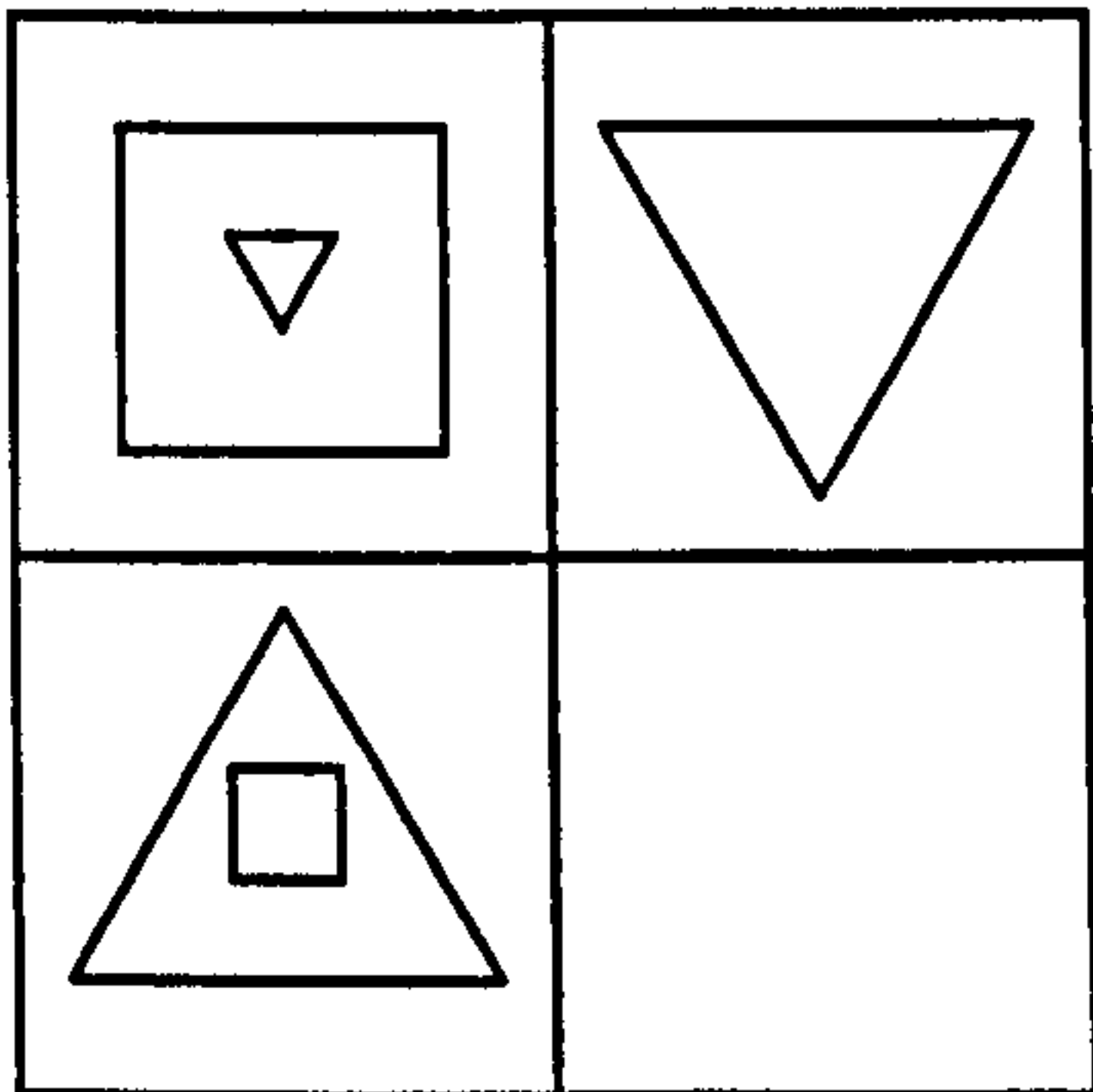
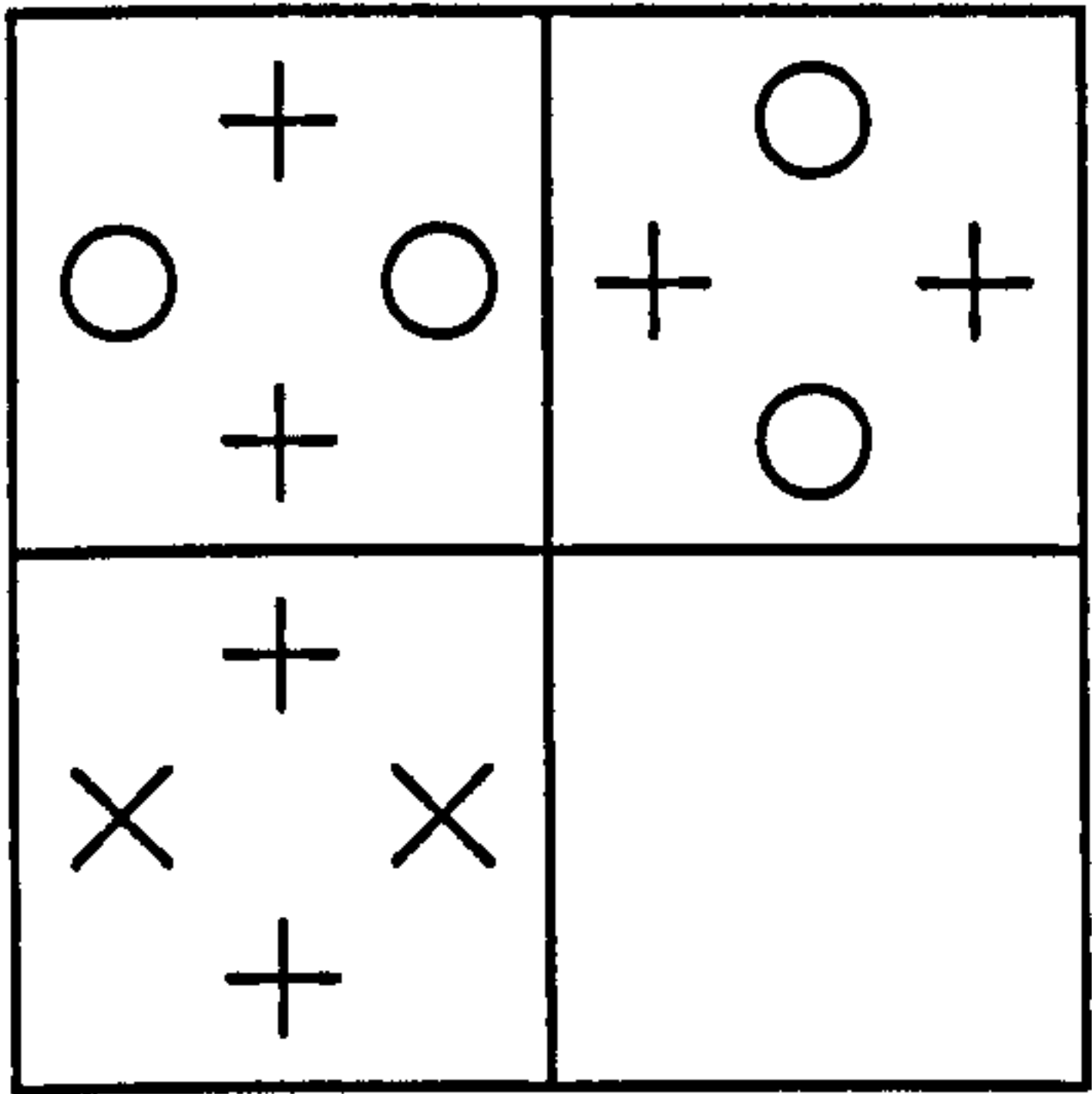
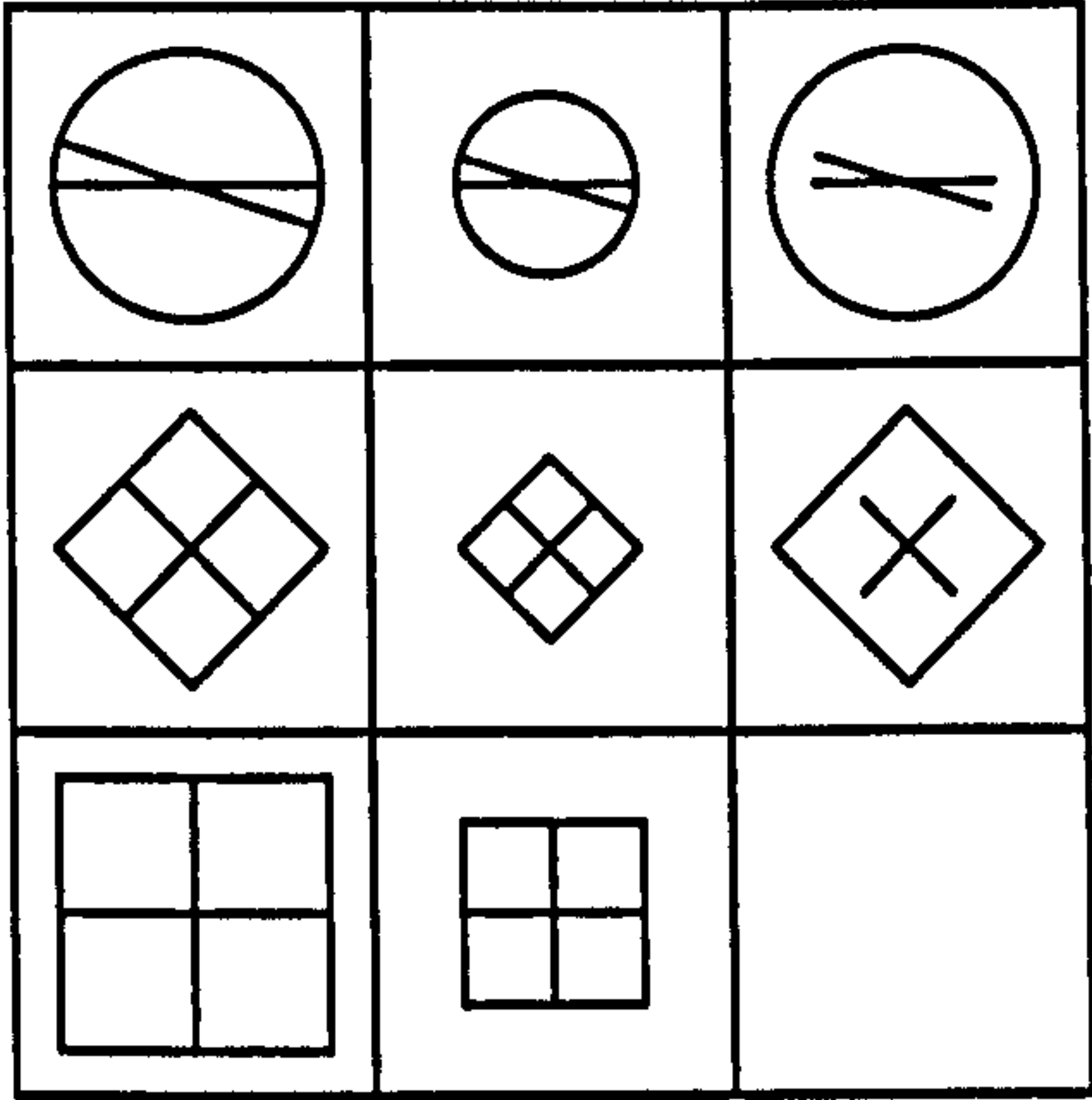
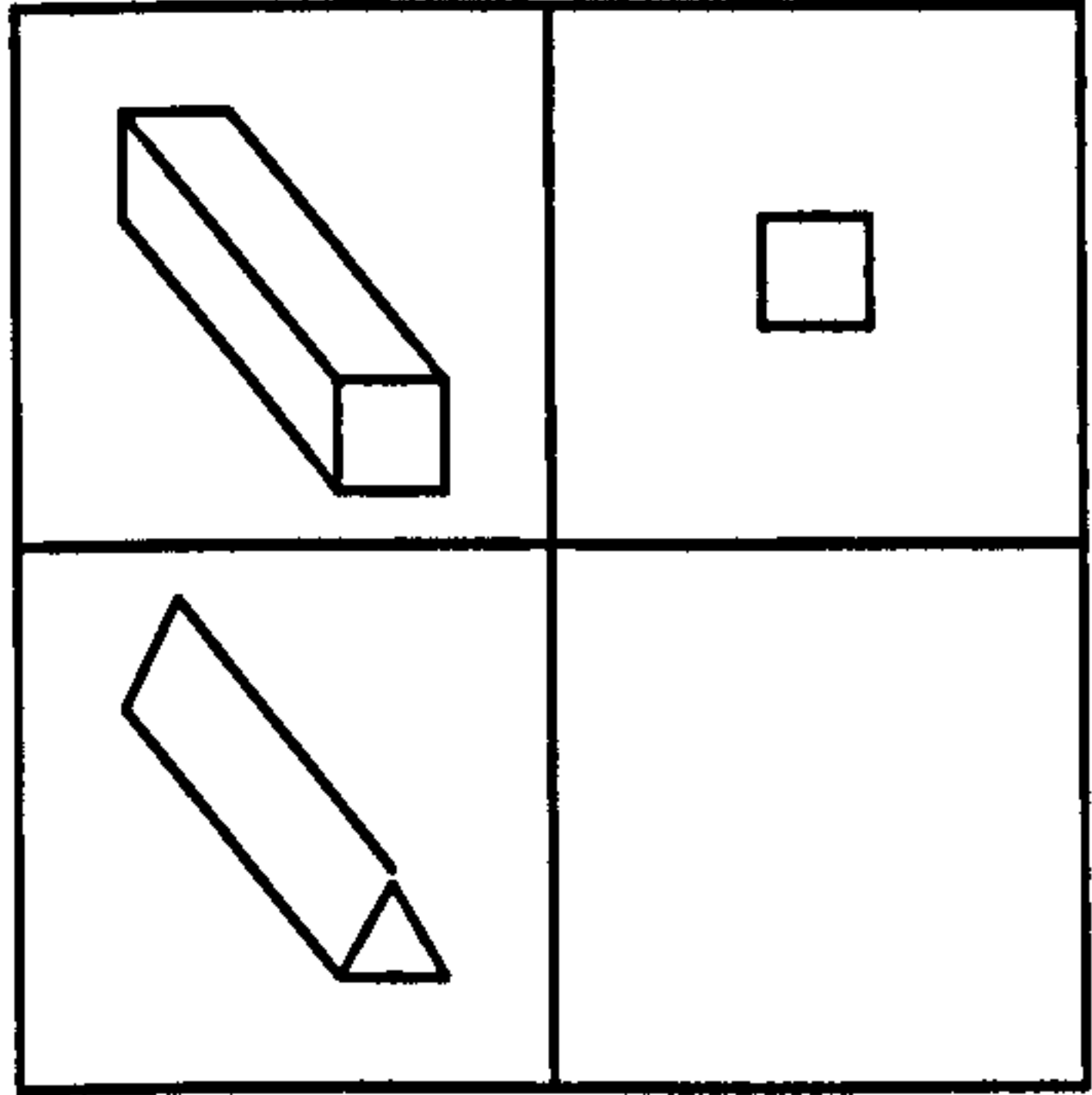
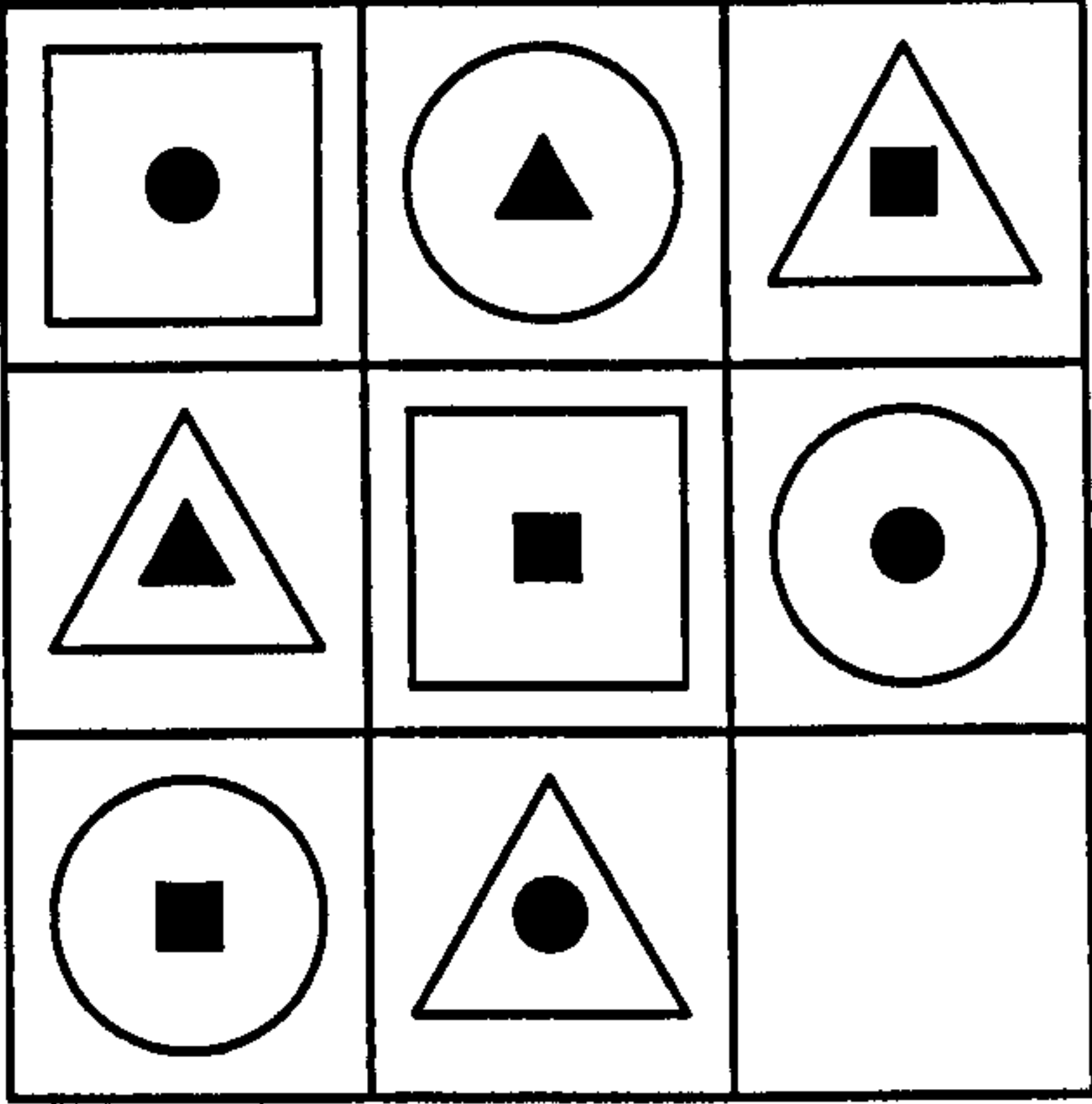
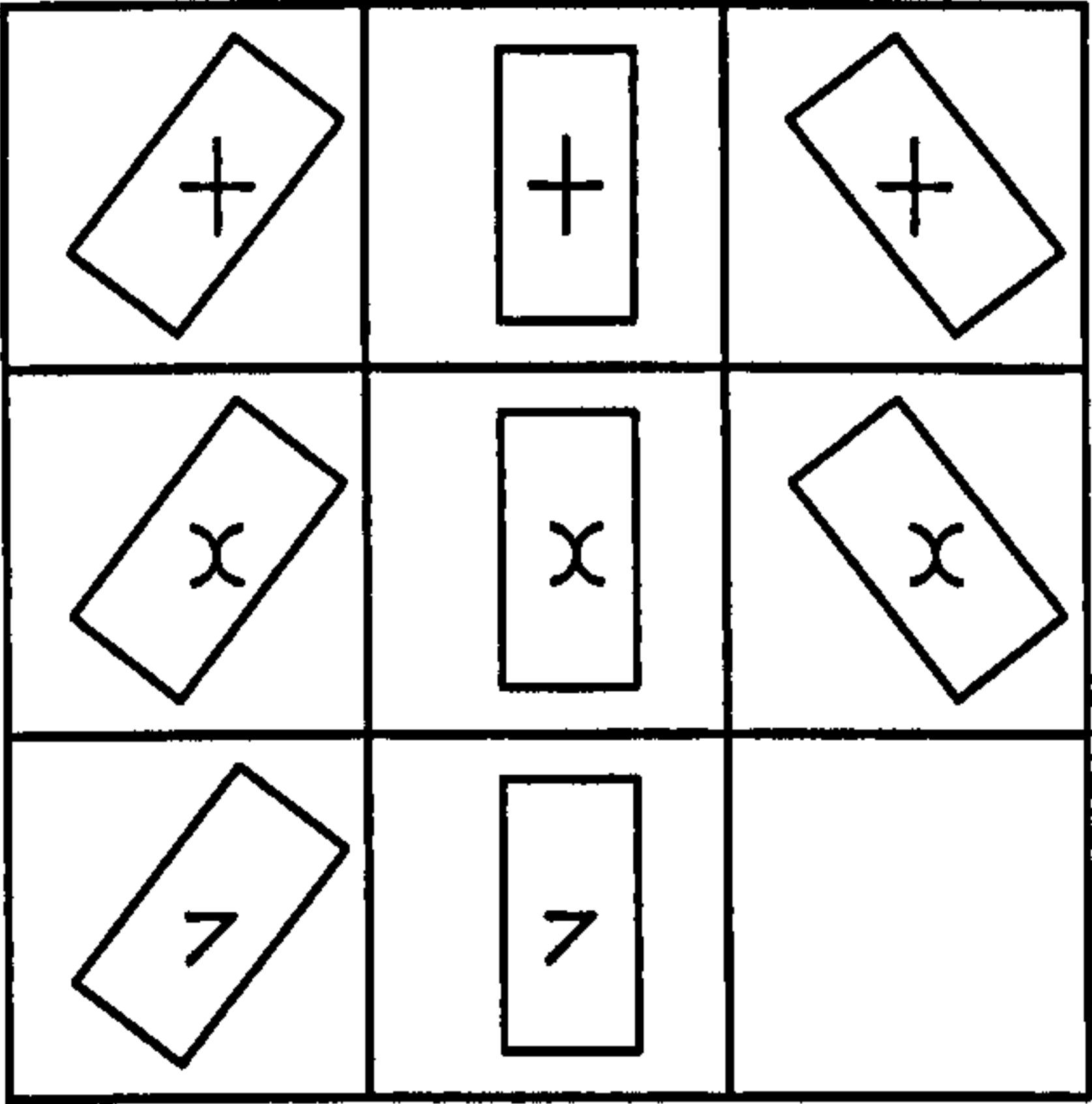
1. Do not turn to the next page until you are told to do so.
2. Use a pencil to fill in your answers.
3. Each page contains 6 puzzles, and there are 30 puzzles altogether. For each puzzle draw your answer in the blank box on the question paper.
4. You will have 20 minutes to do the puzzles. If you cannot do a puzzle, do not waste time but go on to the next puzzle.
5. Your teacher will be explaining the following 2 examples to help you get started.

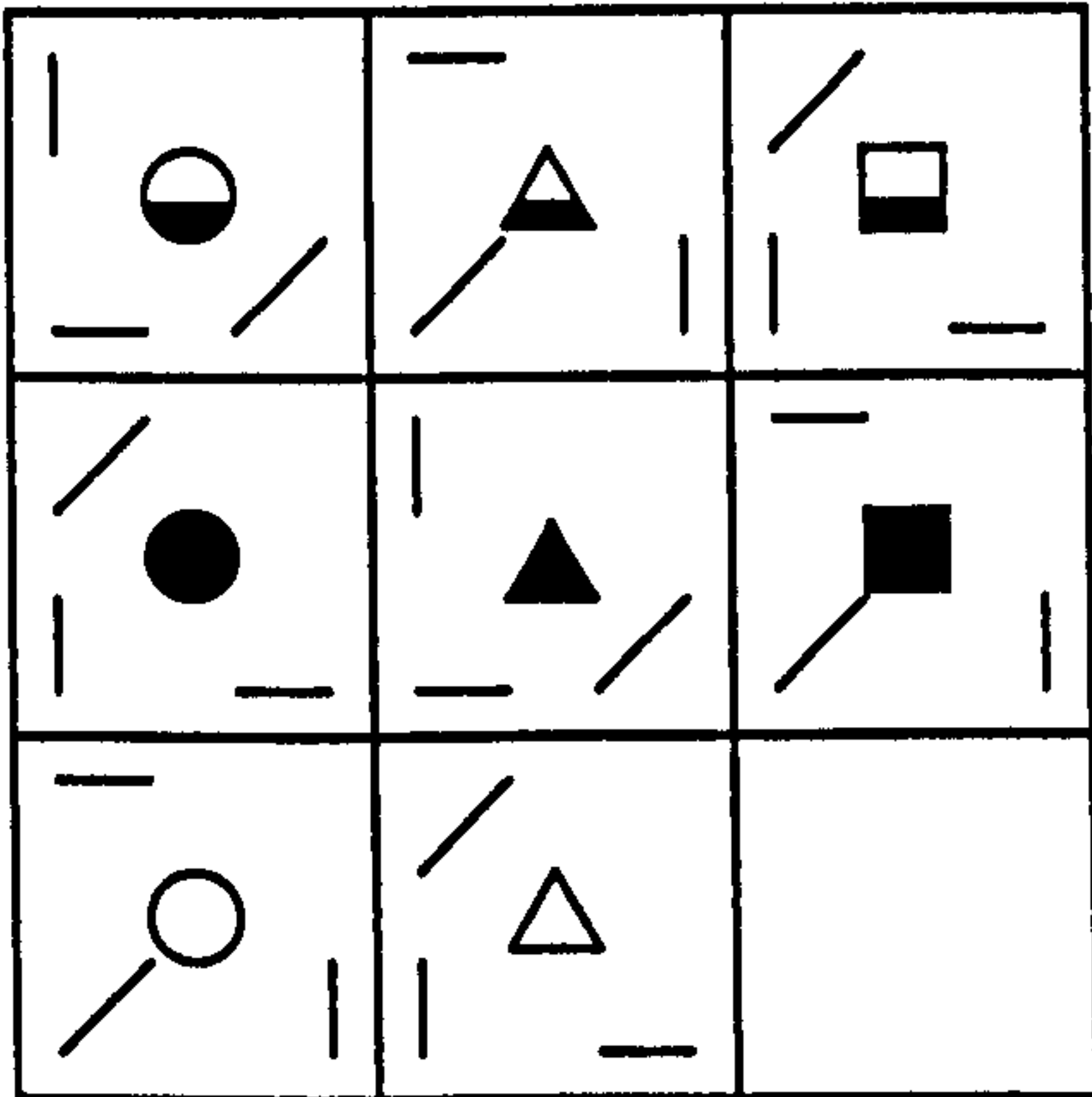
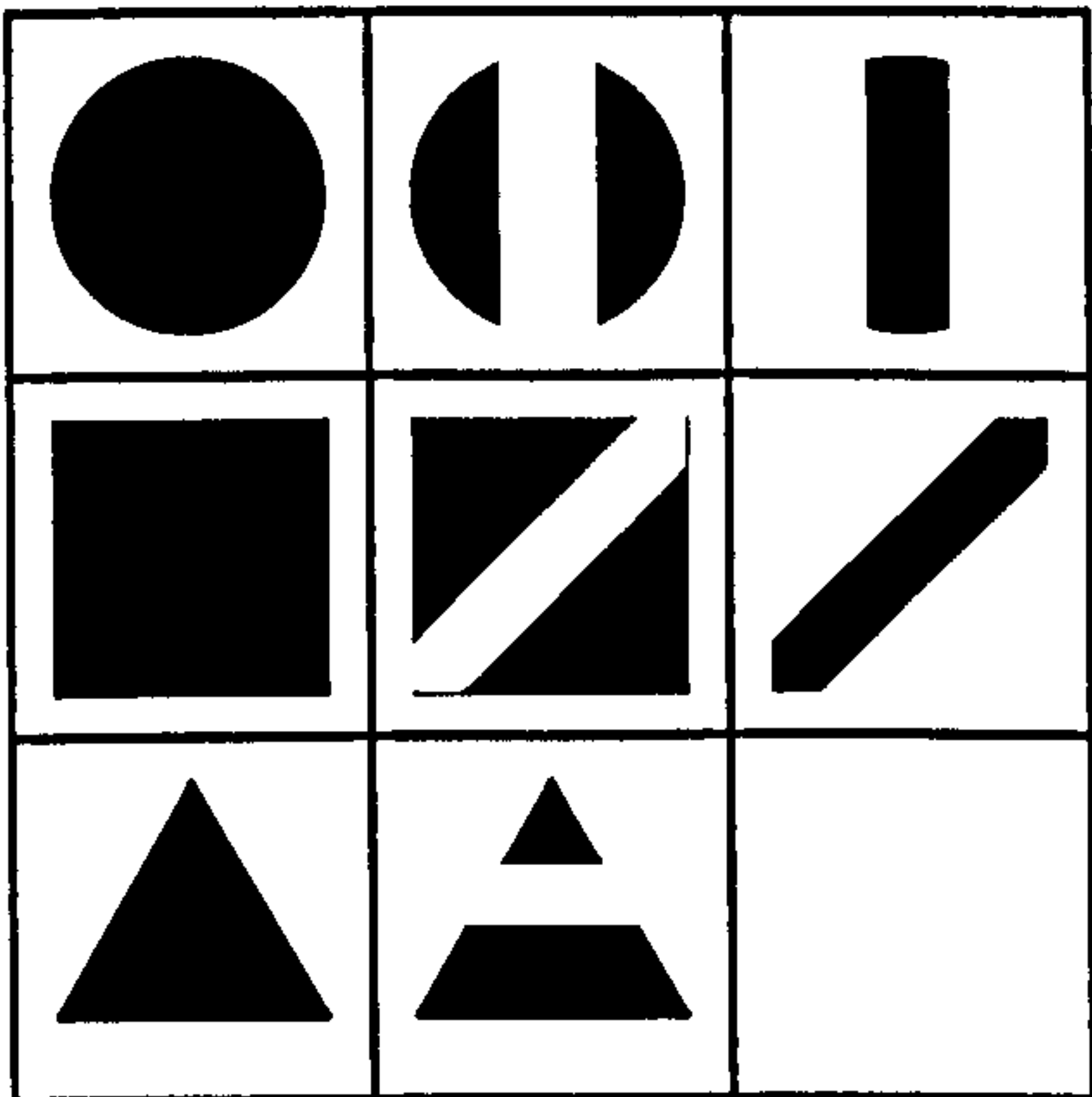
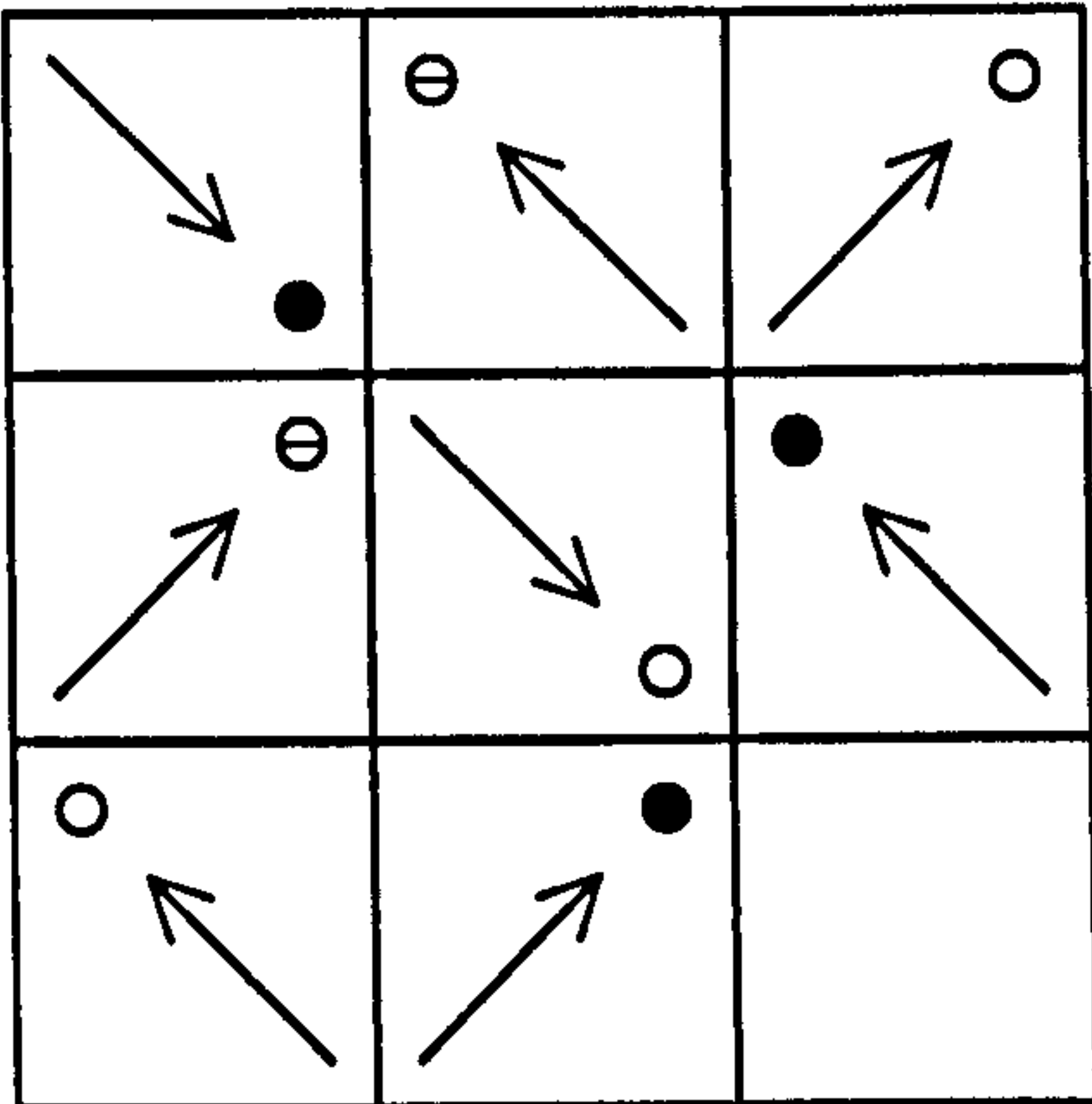
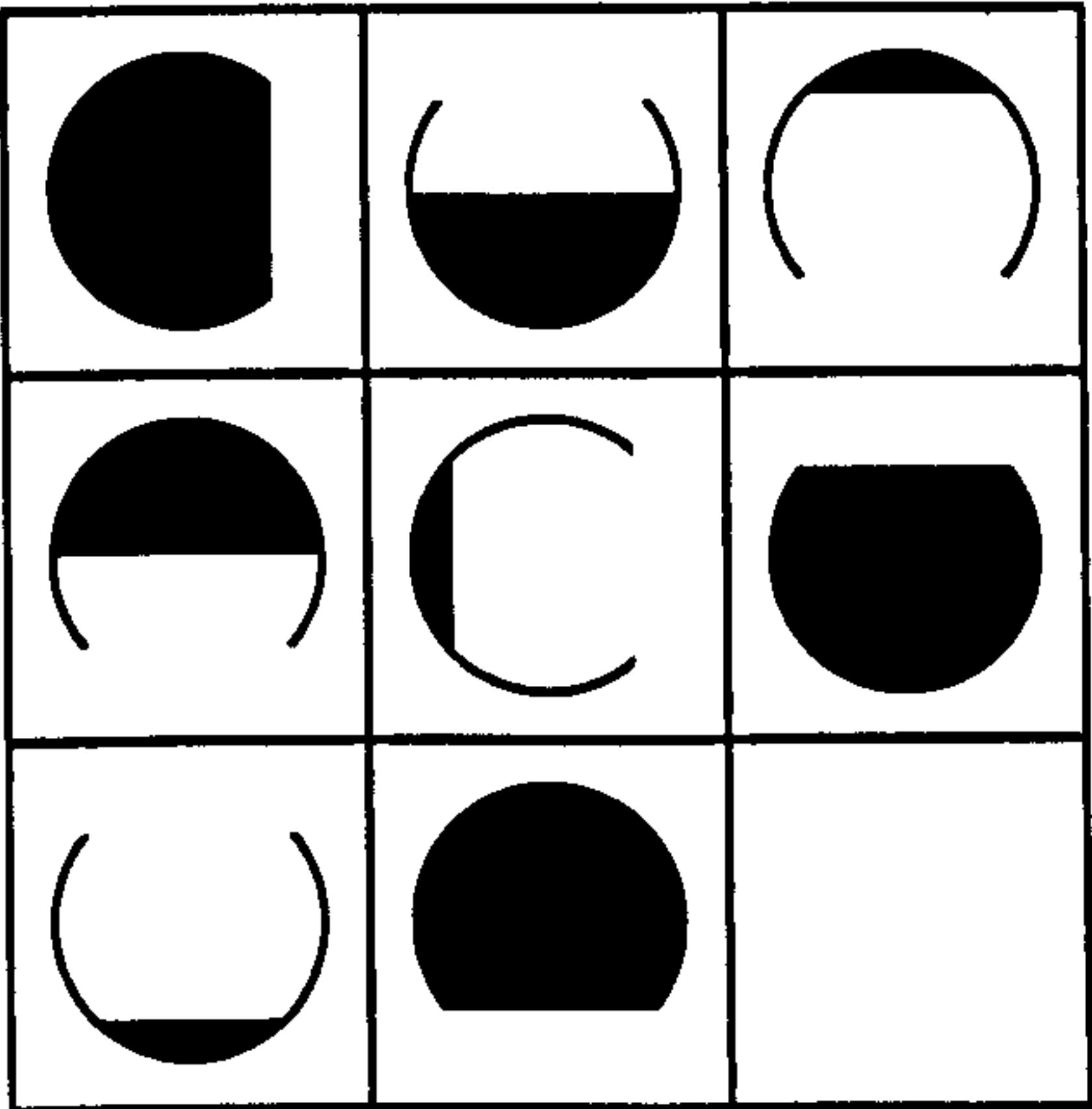
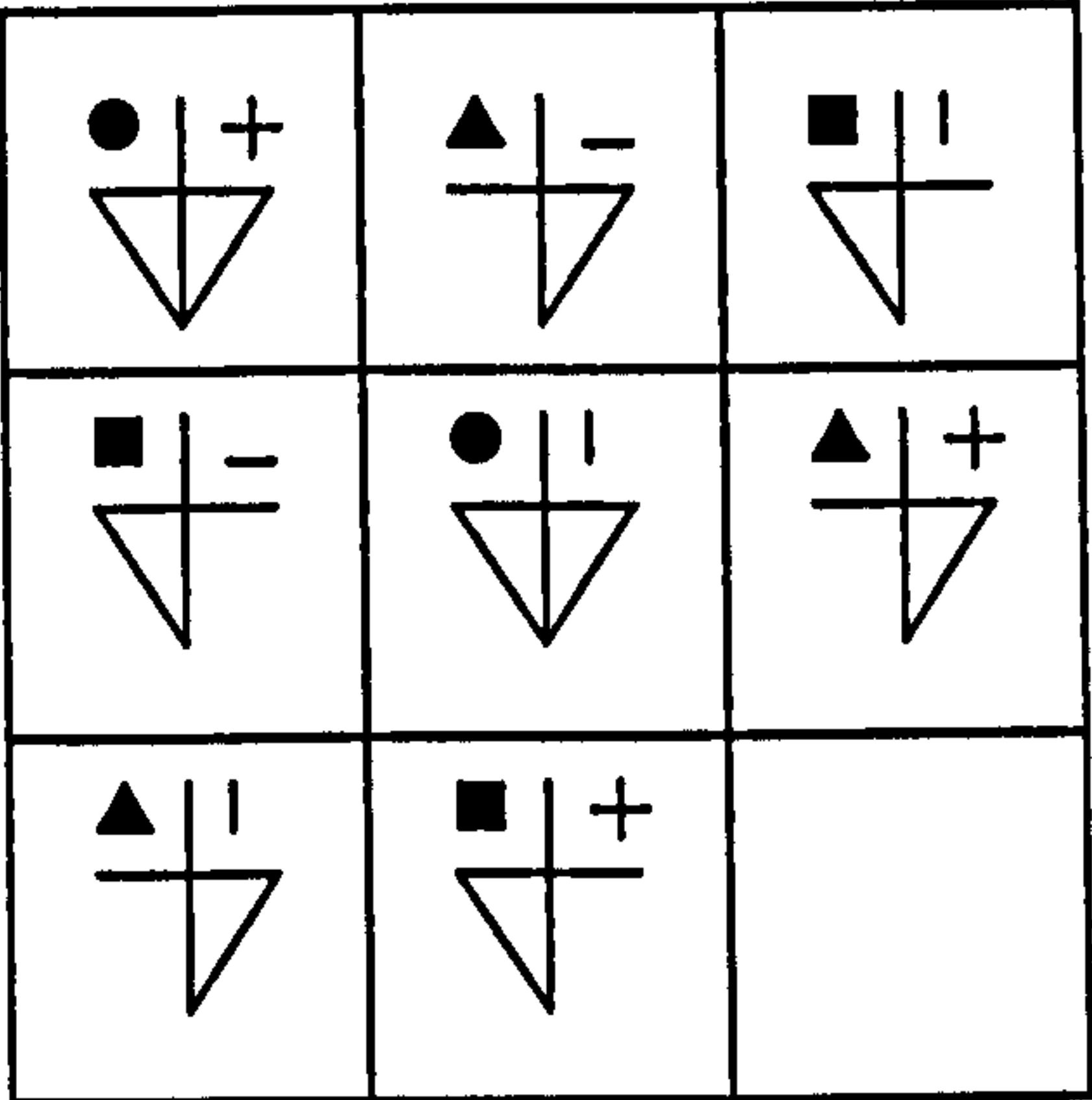
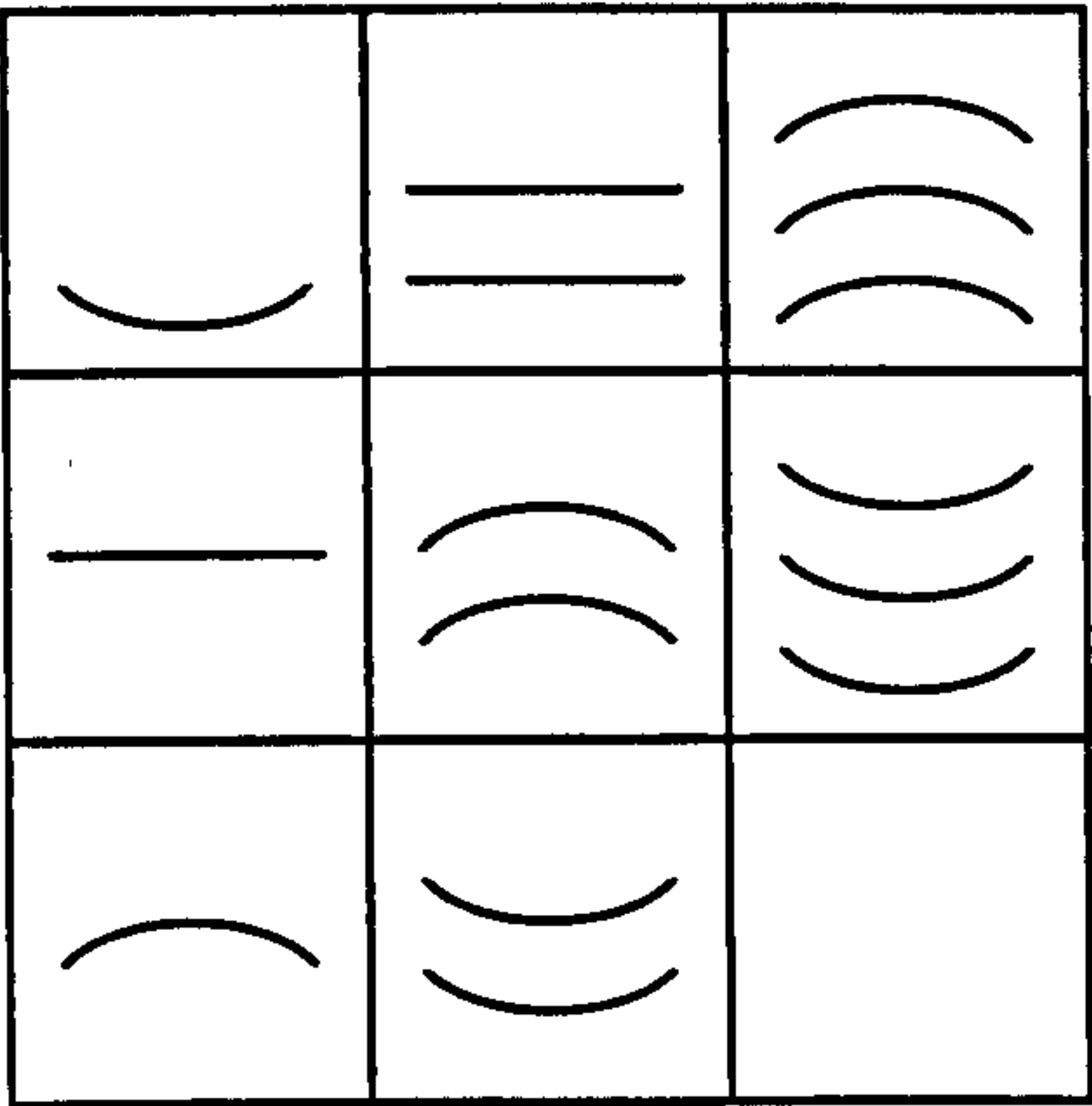


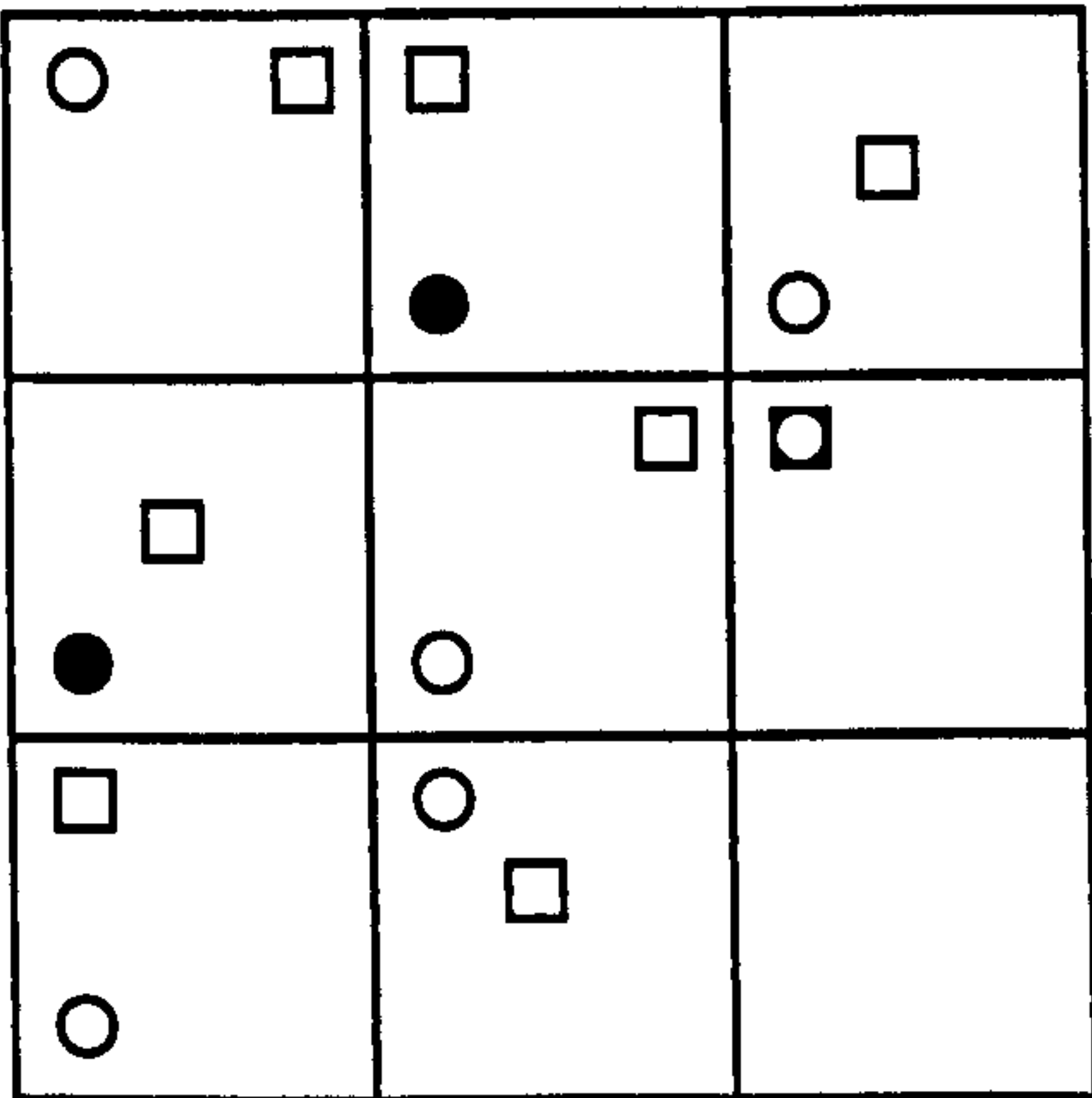
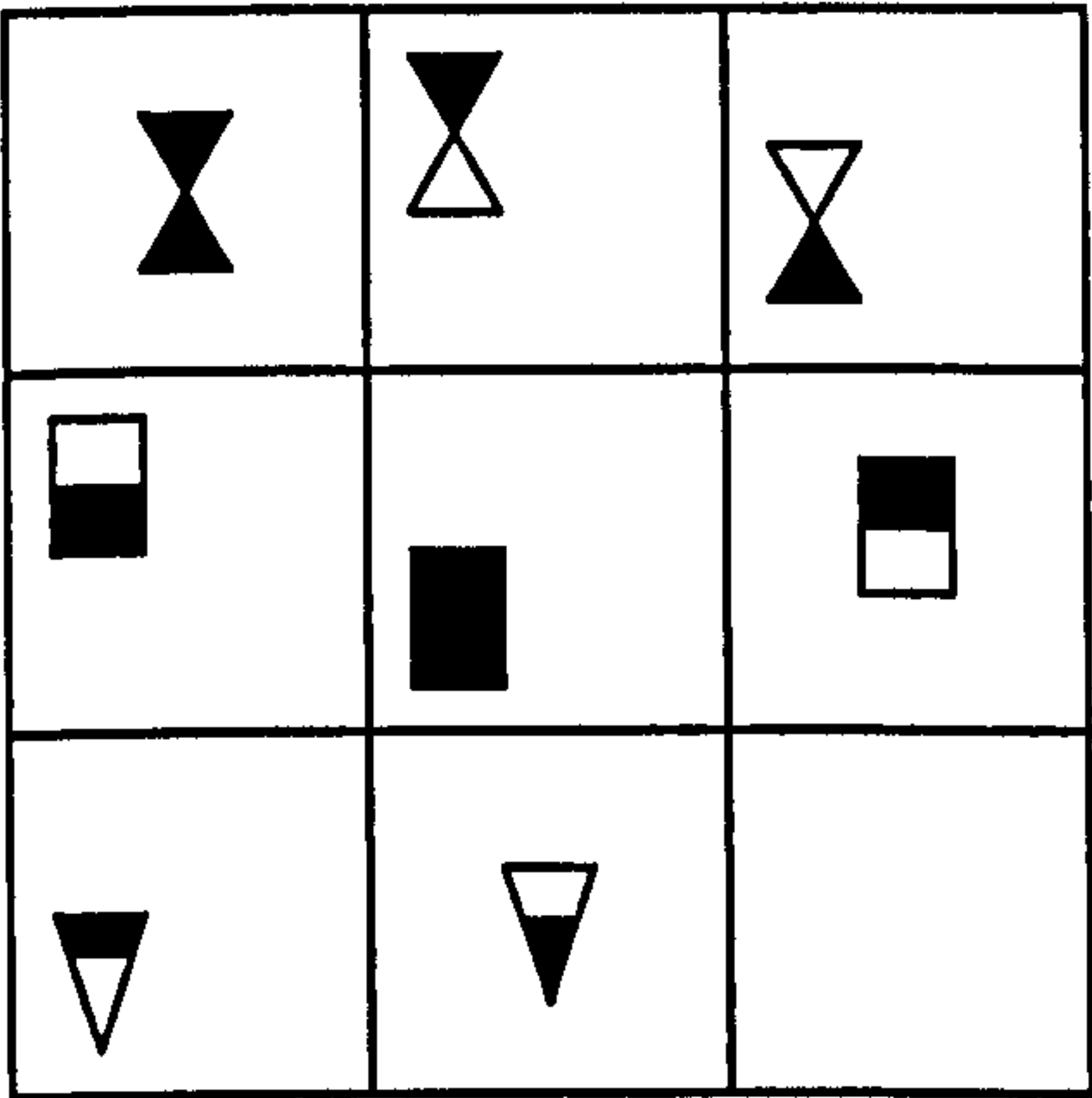
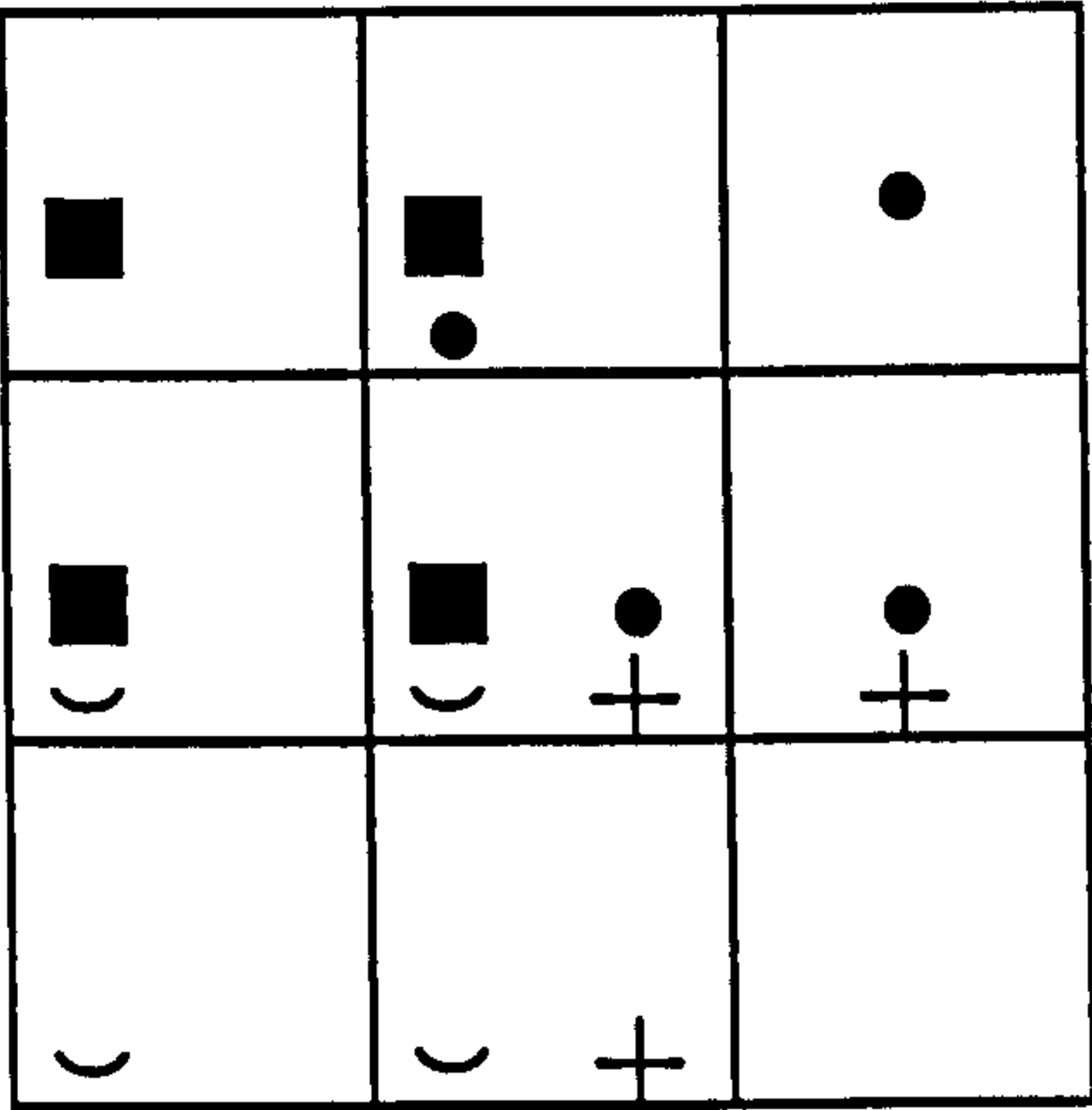
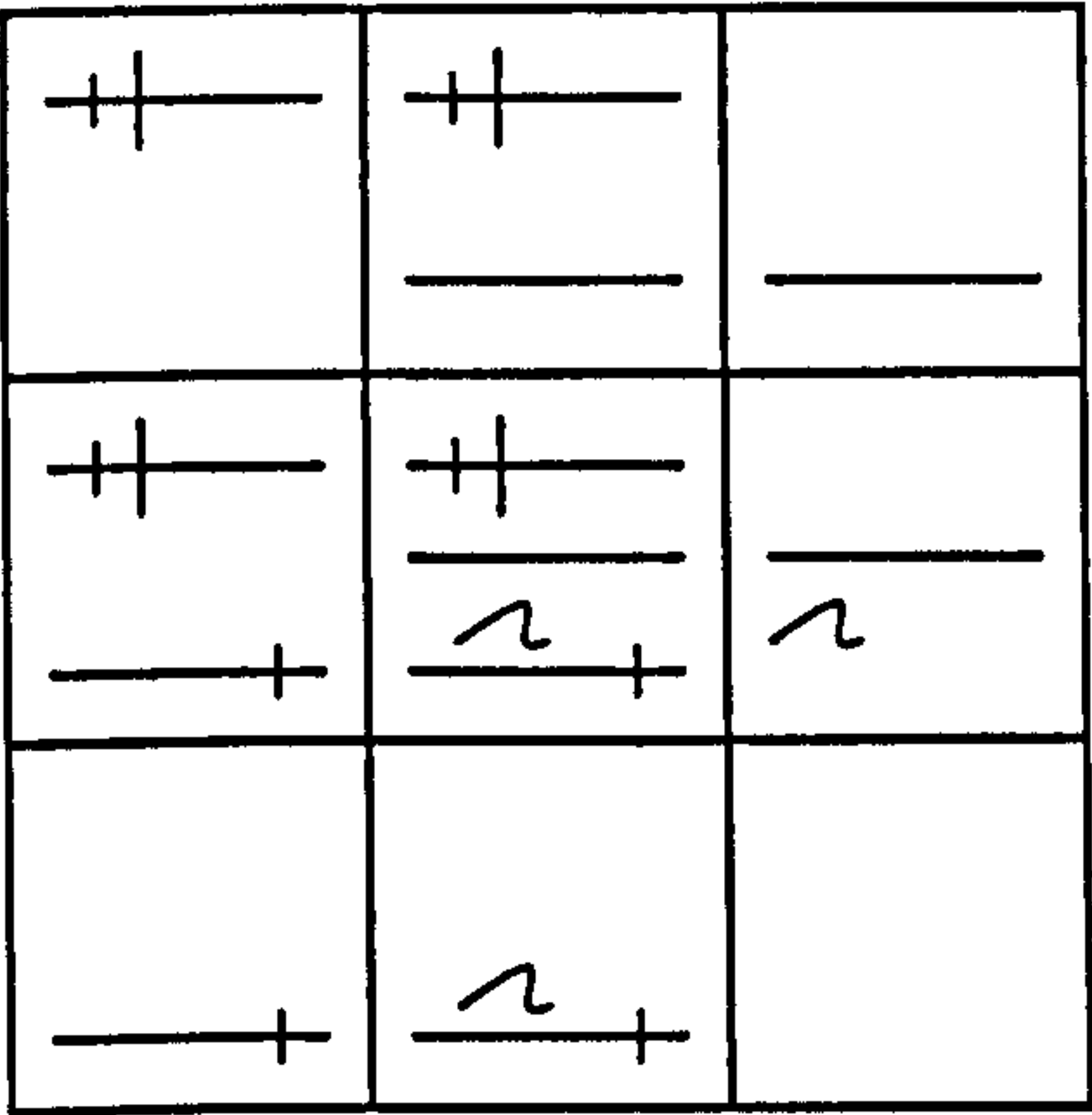
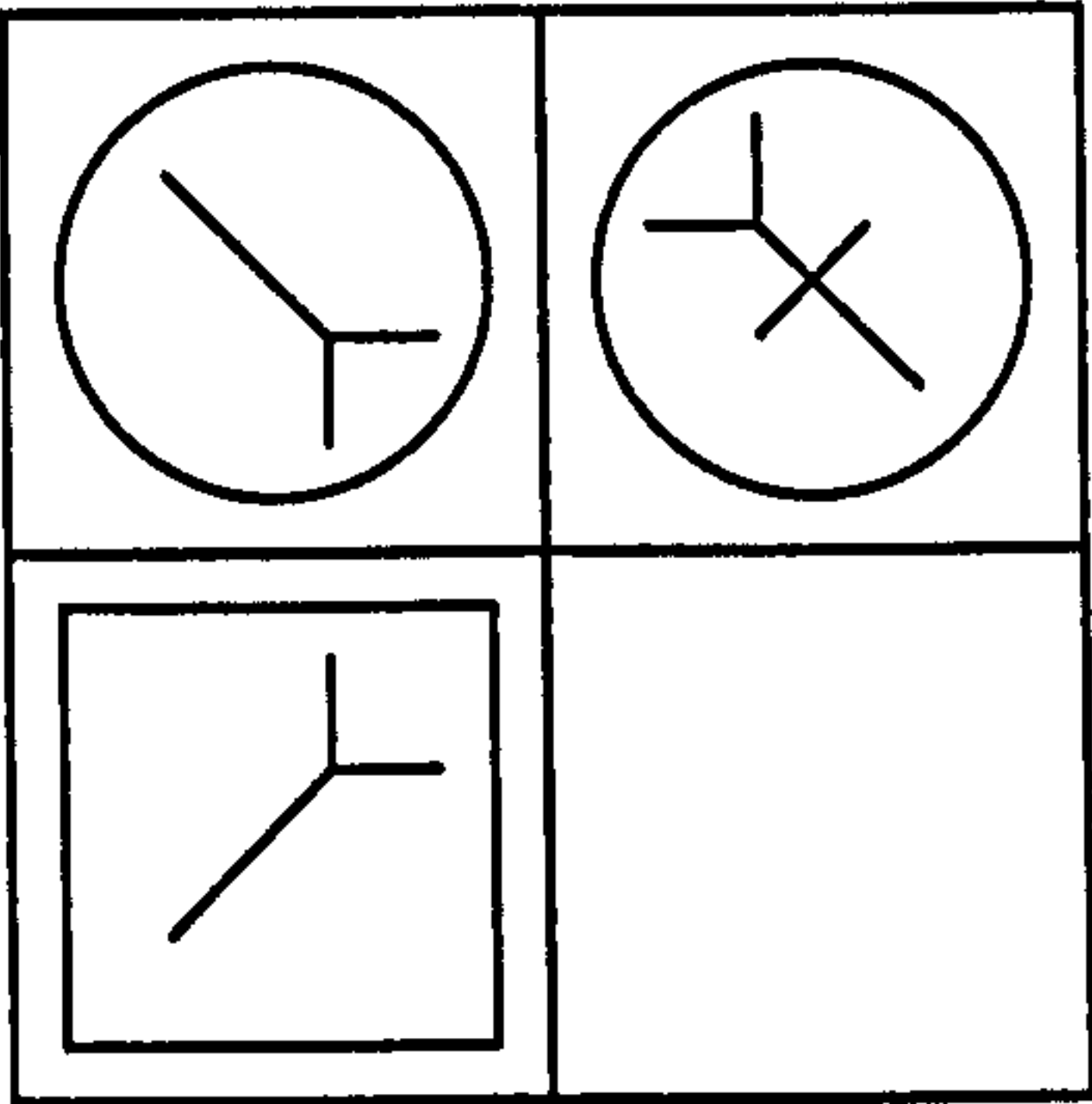
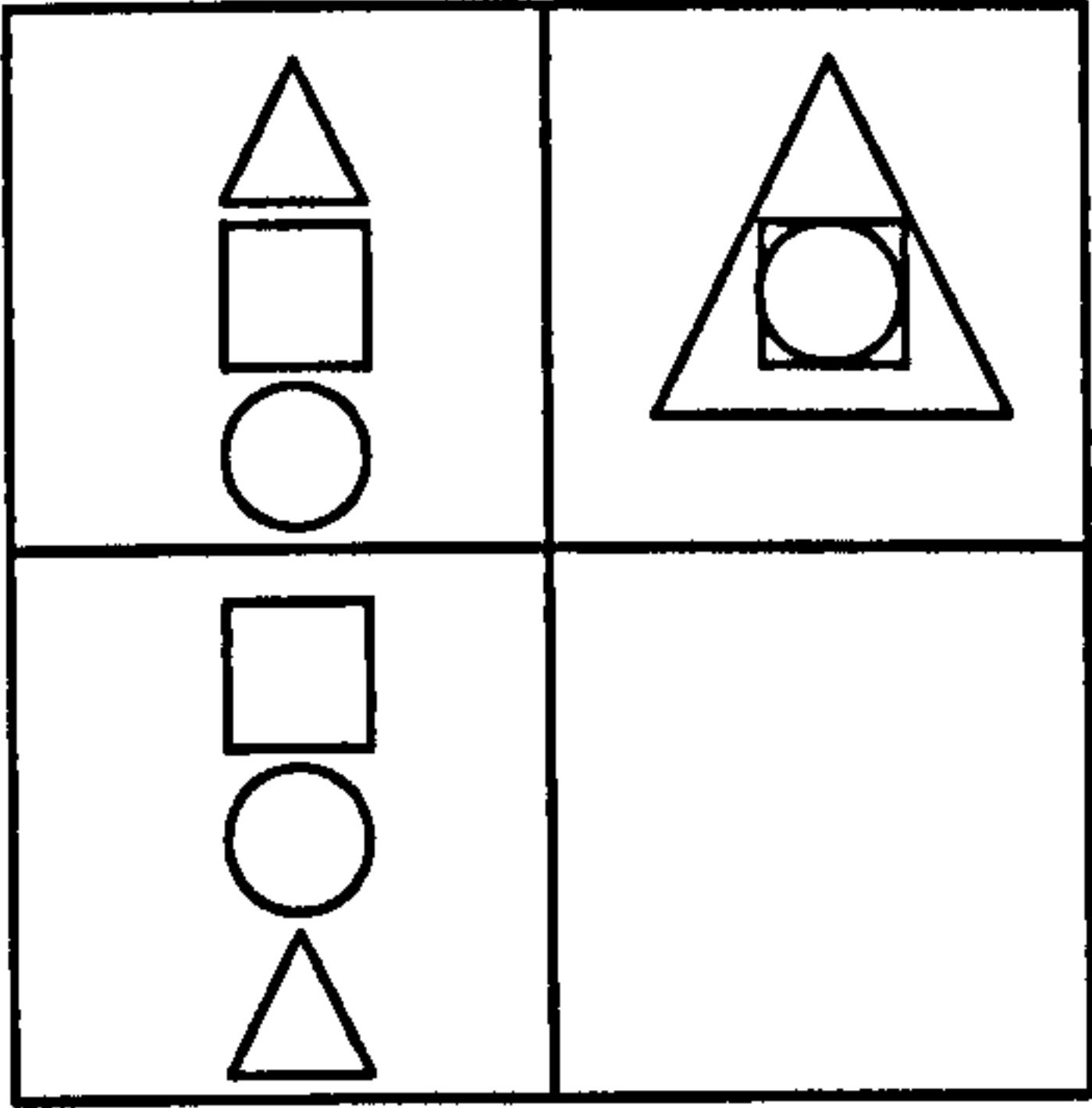
DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE TOLD TO DO SO.











Attrition Information of the Initial Sample

(I) Express students (N = 339)

Table 1: Attrition information of the initial sample of Express students

	Not in School	Transfer stream	Non-response	Total per survey
Survey 2	7	0	4	11 (3.24%)
Survey 3	4	10	11	25 (7.37%)
Survey 4	7	4	8	19 (5.60%)
Total	18 (5.31%)	14 (4.13%)	23 (6.78%)	55

(II) Normal students (N = 306)

Table 2: Attrition information of the initial sample of Normal students

	Not in School	Transfer stream	Non-response	Total per survey
Survey 2	3	0	12	15 (4.90%)
Survey 3	10	5	27	42 (13.7%)
Survey 4	8	13	17	38 (12.42%)
Total	21 (6.86%)	18 (5.88%)	56 (18.3%)	95

Note:

- ‘Not in school’ included students who left school, and students who transferred to other school.
- ‘Transfer stream’ included students who were transferred from the Express stream to the Normal stream, from the Normal stream to the Express stream, and from the Normal stream to the Normal Technical stream.
- ‘Non-response’ included cases with response bias, missing names, and students who failed to complete the survey after a second attempt.

Items in the Scales and Subscales of the Questionnaire

(I) Home Environment Measures

Table 1a: Items in the home environment scale

No.	Item
(1)	My parents and I have a lot of fun together.
* (2)	My parents never tell me to study hard.
(3)	I like my parents.
(4)	My parents praise me when I do well in school.
(5)	My parents like to spend time with me.
* (6)	My parents think that I am stupid.
* (7)	There are many times when I would like to run away from home.
(8)	My parents believe that I can do well in my study.
* (9)	My parents always scold me.
(10)	I can get help for my school work from my family members.
* (11)	My parents dislike me because I am not good enough.
* (12)	My parents pay no attention when I bring home my report card.
(13)	When I have problems, I can talk to my parents.
(14)	I have a quiet place at home to do my work.
* (15)	My parents do not understand me.
* (16)	My parents think that I am a failure in school.
(17)	My parents support the things I do.
(18)	My parents make sure I do my homework everyday.
* (19)	My parents do not trust me.
(20)	My parents encourage me to work harder when I do badly in a test.

Table 1b: Items in the relationship with parents subscale

No.	Item
(1)	My parents and I have a lot of fun together.
(3)	I like my parents.
(5)	My parents like to spend time with me.
* (7)	There are many times when I would like to run away from home.
* (9)	My parents always scold me.
* (11)	My parents dislike me because I am not good enough.
(13)	When I have problems, I can talk to my parents.
* (15)	My parents do not understand me.
(17)	My parents support the things I do.
* (19)	My parents do not trust me.

* negative items

Table 1c: Items in the academic support subscale

No.	Item
* (2)	My parents never tell me to study hard.
(4)	My parents praise me when I do well in school.
* (6)	My parents think that I am stupid.
(8)	My parents believe that I can do well in my study.
(10)	I can get help for my school work from my family members.
* (12)	My parents pay no attention when I bring home my report card.
(14)	I have a quiet place at home to do my work.
* (16)	My parents think that I am a failure in school.
(18)	My parents make sure I do my homework everyday.
(20)	My parents encourage me to work harder when I do badly in a test.

* negative items

(II) Classroom Climate Measures

Table 2a: Items in the classroom climate scale

No.	Item
(1)	Our teachers give extra lessons to the weaker students.
(2)	Our teachers are confident that we can get good results.
* (3)	Our teachers do not trust us.
(4)	Students in my class get to know each other really well.
* (5)	Our teachers believe that our class is weaker than other classes.
(6)	It is easy to get a group together for a project.
* (7)	Our teachers are only interested in the clever students in my class.
(8)	Our teachers make sure that we work hard for our exams.
* (9)	Some classmates often quarrel among themselves.
(10)	Our teachers try to get to know us.
* (11)	Our teachers feel that our class is stupid.
* (12)	It took a long time for me to get to know everybody by their names.
* (13)	Our teachers embarrass us for not knowing the right answers.
* (14)	Our teachers only expect good students to do well in exams.
* (15)	There are groups of students who cannot get along in my class.
(16)	We find it easy to talk to our teachers about our problems.
* (17)	Our teachers do not care whether we get low marks for our exams.
(18)	We help one another with our homework.
* (19)	Our teachers spend very little time talking to us.
(20)	Our teachers believe that we can pass our 'O' level if we work hard.
* (21)	Some students in class do not like one another.
(22)	Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).
(23)	Our teachers stress the importance of doing well in exams.
(24)	We show care and concern for our classmates who have problems.
(25)	Our teachers often praise us when we have done a good piece of work.
(26)	Our teachers encourage those who failed to work harder.
(27)	We respect our monitors and co-operate with them.

* negative items

Table 2b: Items in the relationship with teachers subscale

No.	Item
(1)	Our teachers give extra lessons to the weaker students.
* (3)	Our teachers do not trust us.
* (7)	Our teachers are only interested in the clever students in my class.
(10)	Our teachers try to get to know us.
* (13)	Our teachers embarrass us for not knowing the right answers.
(16)	We find it easy to talk to our teachers about our problems.
* (19)	Our teachers spend very little time talking to us.
(22)	Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).
(25)	Our teachers often praise us when we have done a good piece of work.

Table 2c: Items in the teachers' expectations subscale

No.	Item
(2)	Our teachers are confident that we can get good results.
* (5)	Our teachers believe that our class is weaker than other classes.
(8)	Our teachers make sure that we work hard for our exams.
* (11)	Our teachers feel that our class is stupid.
* (14)	Our teachers only expect good students to do well in exams.
* (17)	Our teachers do not care whether we get low marks for our exams.
(20)	Our teachers believe that we can pass our 'O' level if we work hard.
(23)	Our teachers stress the importance of doing well in exams.
(26)	Our teachers encourage those who failed to work harder.

Table 2d: Items in the peer relationship subscale

No.	Item
(4)	Students in my class get to know each other really well.
(6)	It is easy to get a group together for a project.
* (9)	Some classmates often quarrel among themselves.
* (12)	It took a long time for me to get to know everybody by their names.
* (15)	There are groups of students who cannot get along in my class.
(18)	We help one another with our homework.
* (21)	Some students in class do not like one another.
(24)	We show care and concern for our classmates who have problems.
(27)	We respect our monitors and co-operate with them.

* negative items

(III) Academic Self-Concept Measures

Table 3a: Items in the academic self-concept scale

No.	Item
(1)	I can follow the lessons easily.
* (2)	I daydream a lot in class.
(3)	I am able to help my classmates in their school work.
* (4)	I often do my homework without thinking.
(5)	If I work hard, I think I can go to the Polytechnic or University.
(6)	I pay attention to the teachers during lessons.
* (7)	Most of my classmates are smarter than I am.
(8)	I study hard for my tests.
* (9)	My teachers feel that I am poor in my work.
(10)	I am usually interested in my school work.
* (11)	I often forget what I have learned.
(12)	I will do my best to pass all the subjects.
* (13)	I get frightened when I am asked a question by the teachers.
* (14)	I often feel like quitting school.
(15)	I am good in most of my school subjects.
* (16)	I am always waiting for the lessons to end.
* (17)	I always do poorly in tests.
(18)	I do not give up easily when I am faced with a difficult question in my school work.
(19)	I am able to do better than my friends in most subjects.
* (20)	I am not willing to put in more effort in my school work.

Table 3b: Items in the students' confidence subscale

No.	Item
(1)	I can follow the lessons easily.
(3)	I am able to help my classmates in their school work.
(5)	If I work hard, I think I can go to the Polytechnic or University.
* (7)	Most of my classmates are smarter than I am.
* (9)	My teachers feel that I am poor in my work.
* (11)	I often forget what I have learned.
* (13)	I get frightened when I am asked a question by the teachers.
(15)	I am good in most of my school subjects.
* (17)	I always do poorly in tests.
(19)	I am able to do better than my friends in most subjects.

* negative items

Table 3c: Items in the students’ effort subscale

No.	Item
* (2)	I daydream a lot in class.
* (4)	I often do my homework without thinking.
(6)	I pay attention to the teachers during lessons.
(8)	I study hard for my tests.
(10)	I am usually interested in my school work.
(12)	I will do my best to pass all the subjects.
* (14)	I often feel like quitting school.
* (16)	I am always waiting for the lessons to end.
(18)	I do not give up easily when I am faced with a difficult question in my school work.
* (20)	I am not willing to put in more effort in my school work.

* negative items

Description of Occupational Groupings

(1) Unskilled Occupations

- Caretakers, Cleaners and related workers
- Housekeeping and related service supervisors
- Labourers
- Launderers and Dry-cleaners
- Maids and related housekeeping service workers
- Protective Service Workers
- Waiters

(2) Semi-skilled Occupations

- Agricultural and Animal Husbandry Workers
- Bookkeepers and Cashiers
- Computing Machine Operators
- Cooks
- Farm Managers and Supervisors
- Farmers
- Fishermen
- Food and Beverage Processors
- Forestry Workers
- General Supervisors
- Hairdressers, Barbers and Beauticians
- Insurance, Real Estate and Securities Salesmen
- Miners
- Proprietors (Wholesale and Retail Trade)
- Sales Supervisors and Salesmen
- Shop Assistants
- Spinners, Weavers, Knitters, Dyers and related workers
- Stenographers, Typists and Clerks
- Tailors, Dressmakers, Upholsterers and related workers
- Tanners
- Telephone and Telegraph Operators
- Transport and Communication Supervisors
- Transport Operators

(3) Skilled Occupations

- Blacksmiths, Toolmakers and Machine Tool Operators
- Bricklayers and other construction workers
- Broadcasting Station, Sound Equipment Operators and Cinema Projectionists
- Cabinet Makers, Furniture Makers and related wood workers
- Dockers and Freight Handlers
- Electrical Fitters and related electrical and electronic workers
- Engine Operators
- Glass Makers and Potters
- Jewellery and Precious Metal Makers
- Machine Fitters and Precision-instrument Makers
- Painters
- Paper-products' Makers
- Plumbers and Welders
- Printers and related workers
- Production Supervisors and General Foremen
- Rubber and Plastic-products' Makers
- Shoemakers and Leather-goods Makers
- Stone cutters and Carvers
- Transport Equipment Operators

(4) Managerial and Professional Occupations

- Accountants
- Aircraft and Ships' Officers
- Architects and Draughtsmen
- Athletes and Sportsmen
- Authors and Journalists
- Composers and Performing Artists
- Doctors and Dental Surgeons
- Economists
- Engineers
- Executive Officers
- Jurists
- Legislative Officers and Government Administrators
- Managers and Directors
- Nurses, Opticians and Midwives
- Police and Army Officers
- Religious Ministers
- Scientists
- Sculptors, Artists and Photographers
- Statisticians and System Analysts
- Surveyors
- Teachers
- Professional Workers not elsewhere classified.

Reliability Analysis of Liu’s Questionnaire with Data from the Pilot Study

Table 1: Reliability values and Pearson correlation coefficients of the home environment measures

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Home Environment	(a) 0.878 (b) 0.865 (c) 0.867	Home1	0.628
		Home2	0.315
		Home3	0.639
		Home4	0.584
		Home5	0.647
		Home6	0.534
		Home7	0.581
		Home8	0.442
		Home9	0.507
		Home10	0.440
		Home11	0.592
		Home12	0.493
		Home13	0.655
		Home14	0.480
		Home15	0.720
		Home16	0.540
		Home17	0.644
		Home18	0.518
		Home19	0.591
		Home20	0.502
(i) Relationship with Parents	(a) 0.849	Home1	0.694
		Home3	0.677
		Home5	0.669
		Home7	0.638
		Home9	0.539
		Home11	0.624
		Home13	0.685
		Home15	0.743
		Home17	0.671
		Home19	0.642
(ii) Academic Support	(a) 0.720	Home2	0.430
		Home4	0.620
		Home6	0.560
		Home8	0.546
		Home10	0.479
		Home12	0.540
		Home14	0.466
		Home16	0.539
		Home18	0.592
		Home20	0.583

Note: All the correlations are significant to 0.001 level.
(a) Cronbach alpha
(b) Guttman split-half reliability coefficient
(c) Spearman-Brown split-half reliability coefficient

Table 2a: Reliability values and Pearson correlation coefficients of the classroom climate measures

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Classroom Climate	(a) 0.837 (b) 0.804 (c) 0.807	Class1	0.310
		Class2	0.518
		Class3	0.496
		Class4	0.400
		Class5	0.485
		Class6	0.321
		Class7	0.596
		Class8	0.481
		Class9	0.307
		Class10	0.617
		Class11	0.581
		Class12	0.091
		Class13	0.494
		Class14	0.512
		Class15	0.343
		Class16	0.481
		Class17	0.516
		Class18	0.481
		Class19	0.488
		Class20	0.354
		Class21	0.362
		Class22	0.471
		Class23	0.342
		Class24	0.418
		Class25	0.483
		Class26	0.558
		Class27	0.482
(i) Relationship with Teachers	(a) 0.743	Class1	0.360
		Class3	0.537
		Class7	0.671
		Class10	0.655
		Class13	0.622
		Class16	0.596
		Class19	0.621
		Class22	0.576
		Class25	0.540

Note: All the correlations are significant to 0.001 level.
(a) Cronbach alpha
(b) Guttman split-half reliability coefficient
(c) Spearman-Brown split-half reliability coefficient

Table 2b: Reliability values and Pearson correlation coefficients of the classroom climate measures

Scale	Reliability Value	Item	Pearson Correlation Coeff.
(ii) Teachers' Expectations	(a) 0.742	Class2	0.576
		Class5	0.570
		Class8	0.554
		Class11	0.657
		Class14	0.600
		Class17	0.584
		Class20	0.507
		Class23	0.489
		Class26	0.641
(iii) Peer Relationship	(a) 0.743	Class4	0.525
		Class6	0.485
		Class9	0.560
		Class12	0.263
		Class15	0.541
		Class18	0.539
		Class21	0.575
		Class24	0.496
		Class27	0.468

Note: All the correlations are significant to 0.001 level.
 (a) Cronbach alpha

Table 3: Reliability values and Pearson correlation coefficients of the academic self-concept measures

Scale	Reliability Value	Item	Pearson Correlation Coeff.
Academic Self-Concept	(a) 0.826 (b) 0.848 (c) 0.848	Self1	0.554
		Self2	0.578
		Self3	0.498
		Self4	0.515
		Self5	0.480
		Self6	0.556
		Self7	0.315
		Self8	0.533
		Self9	0.502
		Self10	0.513
		Self11	0.477
		Self12	0.493
		Self13	0.316
		Self14	0.576
		Self15	0.539
		Self16	0.437
		Self17	0.579
		Self18	0.455
		Self19	0.477
		Self20	0.391
(i) Students' Confidence	(a) 0.737	Self1	0.578
		Self3	0.547
		Self5	0.512
		Self7	0.482
		Self9	0.563
		Self11	0.525
		Self13	0.432
		Self15	0.655
		Self17	0.616
		Self19	0.586
(ii) Students' Effort	(a) 0.767	Self2	0.648
		Self4	0.546
		Self6	0.615
		Self8	0.625
		Self10	0.588
		Self12	0.551
		Self14	0.637
		Self16	0.548
		Self18	0.483
		Self20	0.499

Note: All the correlations are significant to 0.001 level.
 (a) Cronbach alpha
 (b) Guttman split-half reliability coefficient
 (c) Spearman-Brown split-half reliability coefficient

Factor Analysis of Measures with Data from the Pilot Study

For the **home environment** scale, in accordance to the operation definition in Section 2.9, a two-factor solution was predetermined to reflect the two subscales of the measure (Appendix 10, Table 1). In essence, 8 items with unique loading and 1 item with higher loading on factor 1 corresponded to the items of the *relationship with parents* subscale. Although item 11 had higher loading on factor 2 than factor 1, it was decided to consider it under the relationship with parents subscale because of its relational content.

On the other hand, 3 items with unique loading and 3 items with higher loading on factor 2 matched the items of the *academic support* subscale. Although items 10 and 14 had unique loading on factor 1, and items 4 and 20 had higher loading on factor 1 than factor 2, they were classified under the academic support subscale because of their academic emphasis.

With respect to the **classroom climate** scale, a three-factor solution was predetermined to represent the three subscales of the measure (Appendix 10, Table 2a and Table 2b). In this case, 5 items with unique loading on factor 1 corresponded to the items of the *relationship with teachers* subscale. Although item 1 had unique loading on factor 2, and items 10, 22 and 25 had higher loading on factor 2 than factor 1, they were considered relevant for the relationship with teachers subscale because they assess students' perceived extent of help, concern and friendship the teachers direct to them.

Furthermore, 3 items with unique loading and 3 items with higher loading on factor 2 coincided with the items of the *teachers' expectations* subscale. Albeit items 5 and 14 had unique loading on factor 1, and item 11 had higher loading on factor 1 than factor 2, it was deemed acceptable to classify them under the teachers' expectations

subscale because they reflect perceived teachers' beliefs in students' academic competencies.

In addition, 7 items with unique loading on factor 3 matched the items of the *peer relationship* subscale. Although item 24 had higher loading on factor 2 than factor 3, it was decided to consider it under the peer relationship subscale because of its peer support content. In addition, albeit item 12 did not load onto factor 3, or other factors, it was not removed from the peer relationship subscale as it measures the ease in which students get to know their classmates. Basically, the absence of significant loading suggests that item 12 may be assessing a different aspect of peer relationship from the rest of the items in the subscale.

With regard to the **academic self-concept** scale, a two-factor solution was predetermined to mirror the two subscales of the measure (Appendix 10, Table 3). In this case, 8 items with unique loading and 1 item with higher loading on factor 1 corresponded to the *students' confidence* subscale. Although item 5 had higher loading on factor 2 than factor 1, it was classified under the students' confidence subscale because of its content. Whilst 9 items with unique loading and 1 item with higher loading on factor 2 matched the items of the *students' effort* subscale.

Table 1: Factor loadings of the home environment items

Item	Factors	
	RelatP	SupporA
(1) My parents and I have a lot of fun together.	0.685	
(3) I like my parents.	0.625	
(5) My parents like to spend time with me.	0.683	
* (7) There are many times when I would like to run away from home.	0.490	
* (9) My parents always scold me.	0.438	
* (11) My parents dislike me because I am not good enough.	0.377	0.456
(13) When I have problems, I can talk to my parents.	0.667	
* (15) My parents do not understand me.	0.685	0.343
(17) My parents support the things I do.	0.669	
* (19) My parents do not trust me.	0.585	
* (2) My parents never tell me to study hard.		0.641
(4) My parents praise me when I do well in school.	0.473	0.358
* (6) My parents think that I am stupid.	0.455	0.463
(8) My parents believe that I can do well in my study.		0.512
(10) I can get help for my school work from my family members.	0.530	
* (12) My parents pay no attention when I bring home my report card.		0.668
(14) I have a quiet place at home to do my work.	0.466	
* (16) My parents think that I am a failure in school.	0.432	0.486
(18) My parents make sure I do my homework everyday.	0.338	0.498
(20) My parents encourage me to work harder when I do badly in a test.	0.418	0.377

Note: RelatP : Relationship with Parents
SupporA : Academic Support

* Negative items have been recoded before factor analysis

Table 2a: Factor loadings of the classroom climate items

Item	Factors		
	RelatT	TExpect	Peer
(1) Our teachers give extra lessons to the weaker students.		0.357	
* (3) Our teachers do not trust us.	0.534		
* (7) Our teachers are only interested in the clever students in my class.	0.579		
(10) Our teachers try to get to know us.	0.361	0.444	
* (13) Our teachers embarrass us for not knowing the right answers.	0.596		
(16) We find it easy to talk to our teachers about our problems.	0.434		
* (19) Our teachers spend very little time talking to us.	0.544		
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	0.333	0.507	
(25) Our teachers often praise us when we have done a good piece of work.	0.320	0.568	
(2) Our teachers are confident that we can get good results.	0.388	0.473	
* (5) Our teachers believe that our class is weaker than other classes.	0.579		
(8) Our teachers make sure that we work hard for our exams.		0.586	
* (11) Our teachers feel that our class is stupid.	0.547	0.331	
* (14) Our teachers only expect good students to do well in exams.	0.639		
* (17) Our teachers do not care whether we get low marks for our exams.	0.385	0.401	
(20) Our teachers believe that we can pass our 'O' level if we work hard.		0.526	
(23) Our teachers stress the importance of doing well in exams.		0.517	
(26) Our teachers encourage those who failed to work harder.	0.392	0.609	

Note: RelatT : Relationship with Teachers
TExpect : Teachers' Expectations
Peer : Peer Relationship

* Negative items have been recoded before factor analysis.

Table 2b: Factor loadings of the classroom climate items

Item	Factors		
	RelatT	TExpect	Peer
(4) Students in my class get to know each other really well.			0.548
(6) It is easy to get a group together for a project.			0.576
* (9) Some classmates often quarrel among themselves.			0.546
* (12) It took a long time for me to get to know everybody by their names.			
* (15) There are groups of students who cannot get along in my class.			0.594
(18) We help one another with our homework.			0.557
* (21) Some students in class do not like one another.			0.614
(24) We show care and concern for our classmates who have problems.		0.525	0.357
(27) We respect our monitors and co-operate with them.			0.427

Note: RelatT : Relationship with Teachers
TExpect : Teachers' Expectations
Peer : Peer Relationship

* Negative items have been recoded before factor analysis.

Table 3: Factor loadings of the academic self-concept items

Item	Factors	
	Confid	Effort
(1) I can follow the lessons easily.	0.467	0.314
(3) I am able to help my classmates in their school work.	0.391	
(5) If I work hard, I think I can go to the Polytechnic or University.	0.341	0.408
* (7) Most of my classmates are smarter than I am.	0.661	
* (9) My teachers feel that I am poor in my work.	0.469	
* (11) I often forget what I have learned.	0.509	
* (13) I get frightened when I am asked a question by the teachers.	0.448	
(15) I am good in most of my school subjects.	0.591	
* (17) I always do poorly in tests.	0.627	
(19) I am able to do better than my friends in most subjects.	0.533	
* (2) I daydream a lot in class.		0.543
* (4) I often do my homework without thinking.		0.493
(6) I pay attention to the teachers during lessons.		0.699
(8) I study hard for my tests.		0.699
(10) I am usually interested in my school work.		0.584
(12) I will do my best to pass all the subjects.		0.606
* (14) I often feel like quitting school.		0.409
* (16) I am always waiting for the lessons to end.	0.399	0.436
(18) I do not give up easily when I am faced with a difficult question in my school work.		0.533
* (20) I am not willing to put in more effort in my school work.		0.511

Note: Confid : Students' Confidence
Effort : Students' Effort

* Negative items have been recoded before factor analysis.

Reliability Analysis of Liu’s Questionnaire with Data from the Current Study

Table 1: Reliability values and Pearson correlation coefficients of the home environment measures at time₀

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Home Environment ₀	(a) 0.862 (b) 0.863 (c) 0.865	Home1	0.607
		Home2	0.221
		Home3	0.630
		Home4	0.551
		Home5	0.624
		Home6	0.620
		Home7	0.505
		Home8	0.503
		Home9	0.529
		Home10	0.419
		Home11	0.538
		Home12	0.285
		Home13	0.671
		Home14	0.512
		Home15	0.620
		Home16	0.557
		Home17	0.579
		Home18	0.473
		Home19	0.619
		Home20	0.482
(i) Relationship with Parents ₀	(a) 0.816 (b) 0.822 (c) 0.830	Home1	0.642
		Home3	0.642
		Home5	0.658
		Home7	0.569
		Home9	0.583
		Home11	0.542
		Home13	0.703
		Home15	0.693
		Home17	0.630
		Home19	0.642
(ii) Academic Support ₀	(a) 0.740 (b) 0.741 (c) 0.700	Home2	0.322
		Home4	0.593
		Home6	0.601
		Home8	0.586
		Home10	0.512
		Home12	0.336
		Home14	0.541
		Home16	0.583
		Home18	0.577
		Home20	0.544

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 2: Reliability values and Pearson correlation coefficients of the home environment measures at time₁

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Home Environment ₁	(a) 0.884	Home1	0.613
	(b) 0.885	Home2	0.318
	(c) 0.888	Home3	0.637
		Home4	0.579
		Home5	0.692
		Home6	0.619
		Home7	0.562
		Home8	0.520
		Home9	0.526
		Home10	0.497
		Home11	0.556
		Home12	0.358
		Home13	0.707
		Home14	0.399
		Home15	0.760
		Home16	0.622
		Home17	0.647
		Home18	0.554
		Home19	0.604
		Home20	0.545
(i) Relationship with Parents ₁	(a) 0.843	Home1	0.655
	(b) 0.848	Home3	0.653
	(c) 0.854	Home5	0.697
		Home7	0.611
		Home9	0.567
		Home11	0.549
		Home13	0.734
		Home15	0.808
		Home17	0.681
		Home19	0.652
(ii) Academic Support ₁	(a) 0.751	Home2	0.414
	(b) 0.751	Home4	0.609
	(c) 0.740	Home6	0.612
		Home8	0.590
		Home10	0.546
		Home12	0.449
		Home14	0.451
		Home16	0.625
		Home18	0.630
		Home20	0.567

Note: All the correlations are significant to 0.001 level.
 (a) Guttman split-half reliability coefficient
 (b) Spearman-Brown split-half reliability coefficient
 (c) Cronbach alpha

Table 3: Reliability values and Pearson correlation coefficients of the home environment measures at time₂

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Home Environment ₂	(a) 0.888 (b) 0.892 (c) 0.898	Home1	0.664
		Home2	0.317
		Home3	0.640
		Home4	0.556
		Home5	0.621
		Home6	0.616
		Home7	0.624
		Home8	0.569
		Home9	0.533
		Home10	0.461
		Home11	0.633
		Home12	0.405
		Home13	0.702
		Home14	0.470
		Home15	0.731
		Home16	0.660
		Home17	0.680
		Home18	0.500
		Home19	0.689
		Home20	0.548
(i) Relationship with Parents ₂	(a) 0.849 (b) 0.856 (c) 0.873	Home1	0.702
		Home3	0.674
		Home5	0.640
		Home7	0.675
		Home9	0.594
		Home11	0.617
		Home13	0.742
		Home15	0.774
		Home17	0.717
		Home19	0.713
(ii) Academic Support ₂	(a) 0.771 (b) 0.771 (c) 0.757	Home2	0.436
		Home4	0.606
		Home6	0.630
		Home8	0.623
		Home10	0.523
		Home12	0.465
		Home14	0.501
		Home16	0.679
		Home18	0.541
		Home20	0.588

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 4: Reliability values and Pearson correlation coefficients of the home environment measures at time₃

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Home Environment ₃	(a) 0.871 (b) 0.872 (c) 0.904	Home1	0.696
		Home2	0.287
		Home3	0.692
		Home4	0.597
		Home5	0.690
		Home6	0.667
		Home7	0.618
		Home8	0.597
		Home9	0.521
		Home10	0.494
		Home11	0.601
		Home12	0.437
		Home13	0.678
		Home14	0.483
		Home15	0.683
		Home16	0.674
		Home17	0.689
		Home18	0.520
		Home19	0.676
		Home20	0.626
(i) Relationship with Parents ₃	(a) 0.851 (b) 0.854 (c) 0.875	Home1	0.723
		Home3	0.714
		Home5	0.698
		Home7	0.672
		Home9	0.571
		Home11	0.625
		Home13	0.711
		Home15	0.744
		Home17	0.722
		Home19	0.706
(ii) Academic Support ₃	(a) 0.771 (b) 0.771 (c) 0.784	Home2	0.413
		Home4	0.632
		Home6	0.685
		Home8	0.668
		Home10	0.567
		Home12	0.526
		Home14	0.518
		Home16	0.659
		Home18	0.548
		Home20	0.645

Note: All the correlations are significant to 0.001 level.
 (a) Guttman split-half reliability coefficient
 (b) Spearman-Brown split-half reliability coefficient
 (c) Cronbach alpha

Table 5a: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₀

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Classroom Climate ₀	(a) 0.825 (b) 0.825 (c) 0.842	Class1	0.386
		Class2	0.473
		Class3	0.536
		Class4	0.415
		Class5	0.384
		Class6	0.391
		Class7	0.520
		Class8	0.506
		Class9	0.384
		Class10	0.570
		Class11	0.538
		Class12	0.188
		Class13	0.439
		Class14	0.526
		Class15	0.379
		Class16	0.452
		Class17	0.524
		Class18	0.464
		Class19	0.389
		Class20	0.482
		Class21	0.418
		Class22	0.464
		Class23	0.450
		Class24	0.569
		Class25	0.565
		Class26	0.500
		Class27	0.500
(i) Relationship with Teachers ₀	(a) 0.680 (b) 0.684 (c) 0.693	Class1	0.495
		Class3	0.578
		Class7	0.557
		Class10	0.594
		Class13	0.493
		Class16	0.557
		Class19	0.539
		Class22	0.518
		Class25	0.570

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 5b: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₀

Scale	Reliability Value	Item	Pearson Correlation Coeff.
(ii) Teachers' Expectations ₀	(a) 0.734 (b) 0.747 (c) 0.759	Class2	0.535
		Class5	0.551
		Class8	0.590
		Class11	0.661
		Class14	0.612
		Class17	0.627
		Class20	0.614
		Class23	0.556
		Class26	0.597
(iii) Peer Relationship ₀	(a) 0.624 (b) 0.635 (c) 0.641	Class4	0.523
		Class6	0.497
		Class9	0.551
		Class12	0.402
		Class15	0.549
		Class18	0.509
		Class21	0.545
		Class24	0.584
		Class27	0.511

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 6a: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₁

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Classroom Climate ₁	(a) 0.843 (b) 0.846 (c) 0.868	Class1	0.360
		Class2	0.548
		Class3	0.620
		Class4	0.525
		Class5	0.518
		Class6	0.403
		Class7	0.596
		Class8	0.545
		Class9	0.404
		Class10	0.619
		Class11	0.522
		Class12	* 0.111
		Class13	0.542
		Class14	0.524
		Class15	0.427
		Class16	0.502
		Class17	0.512
		Class18	0.437
		Class19	0.509
		Class20	0.525
		Class21	0.435
		Class22	0.575
		Class23	0.275
		Class24	0.512
		Class25	0.463
		Class26	0.581
		Class27	0.547
(i) Relationship with Teachers ₁	(a) 0.747 (b) 0.761 (c) 0.776	Class1	0.536
		Class3	0.625
		Class7	0.638
		Class10	0.698
		Class13	0.607
		Class16	0.600
		Class19	0.591
		Class22	0.668
		Class25	0.463

Note: All the correlations are significant to 0.001 level except *, where $p < 0.05$.
 (a) Guttman split-half reliability coefficient
 (b) Spearman-Brown split-half reliability coefficient
 (c) Cronbach alpha

Table 6b: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₁

Scale	Reliability Value	Item	Pearson Correlation Coeff.
(ii) Teachers' Expectations ₁	(a) 0.697	Class2	0.621
	(b) 0.717	Class5	0.569
	(c) 0.758	Class8	0.635
		Class11	0.597
		Class14	0.587
		Class17	0.599
		Class20	0.641
		Class23	0.444
		Class26	0.622
(iii) Peer Relationship ₁	(a) 0.675	Class4	0.621
	(b) 0.692	Class6	0.549
	(c) 0.682	Class9	0.609
		Class12	0.216
		Class15	0.643
		Class18	0.527
		Class21	0.581
		Class24	0.533
		Class27	0.536

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 7a: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₂

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Classroom Climate ₂	(a) 0.836 (b) 0.840 (c) 0.860	Class1	0.364
		Class2	0.563
		Class3	0.574
		Class4	0.356
		Class5	0.513
		Class6	0.397
		Class7	0.520
		Class8	0.503
		Class9	0.346
		Class10	0.558
		Class11	0.601
		Class12	*** 0.136
		Class13	0.494
		Class14	0.602
		Class15	0.296
		Class16	0.460
		Class17	0.512
		Class18	0.467
		Class19	0.471
		Class20	0.442
		Class21	0.400
		Class22	0.536
		Class23	0.301
		Class24	0.509
		Class25	0.563
		Class26	0.613
		Class27	0.526
(i) Relationship with Teachers ₂	(a) 0.708 (b) 0.717 (c) 0.736	Class1	0.501
		Class3	0.615
		Class7	0.590
		Class10	0.617
		Class13	0.509
		Class16	0.564
		Class19	0.588
		Class22	0.575
		Class25	0.576

Note: All the correlations are significant to 0.001 level except ***, where $p < 0.005$.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 7b: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₂

Scale	Reliability Value	Item	Pearson Correlation Coeff.
(ii) Teachers' Expectations ₂	(a) 0.691	Class2	0.632
	(b) 0.722	Class5	0.568
	(c) 0.773	Class8	0.615
		Class11	0.680
		Class14	0.639
		Class17	0.595
		Class20	0.554
		Class23	0.412
		Class26	0.685
(iii) Peer Relationship ₂	(a) 0.661	Class4	0.513
	(b) 0.667	Class6	0.564
	(c) 0.653	Class9	0.561
		Class12	0.222
		Class15	0.558
		Class18	0.594
		Class21	0.589
		Class24	0.493
		Class27	0.541

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 8a: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₃

Scale	Reliability Values	Item	Pearson Correlation Coeff.
Classroom Climate ₃	(a) 0.811 (b) 0.818 (c) 0.849	Class1	0.429
		Class2	0.618
		Class3	0.559
		Class4	0.418
		Class5	0.472
		Class6	0.304
		Class7	0.541
		Class8	0.587
		Class9	0.264
		Class10	0.571
		Class11	0.556
		Class12	0.181
		Class13	0.478
		Class14	0.545
		Class15	0.311
		Class16	0.448
		Class17	0.523
		Class18	0.433
		Class19	0.407
		Class20	0.502
		Class21	0.344
		Class22	0.427
		Class23	0.413
		Class24	0.488
		Class25	0.487
		Class26	0.580
		Class27	0.471
(i) Relationship with Teachers ₃	(a) 0.684 (b) 0.701 (c) 0.727	Class1	0.550
		Class3	0.597
		Class7	0.632
		Class10	0.628
		Class13	0.516
		Class16	0.552
		Class19	0.545
		Class22	0.515
		Class25	0.521

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 8b: Reliability values and Pearson correlation coefficients of the classroom climate measures at time₃

Scale	Reliability Value	Item	Pearson Correlation Coeff.
(ii) Teachers' Expectations ₃	(a) 0.684	Class2	0.680
	(b) 0.706	Class5	0.558
	(c) 0.777	Class8	0.647
		Class11	0.657
		Class14	0.540
		Class17	0.598
		Class20	0.609
		Class23	0.529
		Class26	0.615
(iii) Peer Relationship ₃	(a) 0.575	Class4	0.541
	(b) 0.591	Class6	0.480
	(c) 0.606	Class9	0.488
		Class12	0.334
		Class15	0.573
		Class18	0.473
		Class21	0.581
		Class24	0.494
		Class27	0.473

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

**Table 9: Reliability values and Pearson correlation coefficients of the academic self-
concept measures at time₀**

Scale	Reliability Value	Item	Pearson Correlation Coeff.
Academic Self-Concept ₀	(a) 0.840 (b) 0.841 (c) 0.825	Self1	0.533
		Self2	0.536
		Self3	0.472
		Self4	0.514
		Self5	0.504
		Self6	0.621
		Self7	0.372
		Self8	0.536
		Self9	0.485
		Self10	0.604
		Self11	0.515
		Self12	0.404
		Self13	0.387
		Self14	0.482
		Self15	0.467
		Self16	0.595
		Self17	0.492
		Self18	0.445
		Self19	0.440
		Self20	0.344
(i) Students' Confidence ₀	(a) 0.757 (b) 0.760 (c) 0.725	Self1	0.559
		Self3	0.492
		Self5	0.494
		Self7	0.558
		Self9	0.545
		Self11	0.536
		Self13	0.473
		Self15	0.591
		Self17	0.595
		Self19	0.554
(ii) Students' Effort ₀	(a) 0.774 (b) 0.775 (c) 0.776	Self2	0.602
		Self4	0.568
		Self6	0.684
		Self8	0.648
		Self10	0.640
		Self12	0.496
		Self14	0.541
		Self16	0.620
		Self18	0.542
		Self20	0.501

Note: All the correlations are significant to 0.001 level.
 (a) Guttman split-half reliability coefficient
 (b) Spearman-Brown split-half reliability coefficient
 (c) Cronbach alpha

Table 10: Reliability values and Pearson correlation coefficients of the academic self-concept measures at time₁

Scale	Reliability Value	Item	Pearson Correlation Coeff.
Academic Self-Concept ₁	(a) 0.848 (b) 0.849 (c) 0.843	Self1	0.538
		Self2	0.567
		Self3	0.498
		Self4	0.543
		Self5	0.534
		Self6	0.545
		Self7	0.348
		Self8	0.546
		Self9	0.544
		Self10	0.562
		Self11	0.576
		Self12	0.454
		Self13	0.444
		Self14	0.471
		Self15	0.571
		Self16	0.628
		Self17	0.611
		Self18	0.460
		Self19	0.437
		Self20	0.306
(i) Students' Confidence ₁	(a) 0.767 (b) 0.775 (c) 0.768	Self1	0.563
		Self3	0.523
		Self5	0.504
		Self7	0.539
		Self9	0.600
		Self11	0.582
		Self13	0.565
		Self15	0.646
		Self17	0.668
		Self19	0.529
(ii) Students' Effort ₁	(a) 0.756 (b) 0.756 (c) 0.764	Self2	0.628
		Self4	0.606
		Self6	0.650
		Self8	0.620
		Self10	0.632
		Self12	0.541
		Self14	0.497
		Self16	0.668
		Self18	0.503
		Self20	0.445

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 11: Reliability values and Pearson correlation coefficients of the academic self-concept measures at time₂

Scale	Reliability Value	Item	Pearson Correlation Coeff.
Academic Self-Concept ₂	(a) 0.811	Self1	0.557
	(b) 0.812	Self2	0.532
	(c) 0.828	Self3	0.576
		Self4	0.545
		Self5	0.483
		Self6	0.488
		Self7	0.290
		Self8	0.486
		Self9	0.563
		Self10	0.488
		Self11	0.503
		Self12	0.446
		Self13	0.340
		Self14	0.545
		Self15	0.500
		Self16	0.587
		Self17	0.486
		Self18	0.474
		Self19	0.473
		Self20	0.375
(i) Students' Confidence ₂	(a) 0.759	Self1	0.605
	(b) 0.760	Self3	0.589
	(c) 0.734	Self5	0.450
		Self7	0.475
		Self9	0.619
		Self11	0.540
		Self13	0.438
		Self15	0.595
		Self17	0.553
		Self19	0.567
(ii) Students' Effort ₂	(a) 0.728	Self2	0.622
	(b) 0.728	Self4	0.615
	(c) 0.751	Self6	0.556
		Self8	0.606
		Self10	0.537
		Self12	0.504
		Self14	0.588
		Self16	0.614
		Self18	0.490
		Self20	0.466

Note: All the correlations are significant to 0.001 level.
(a) Guttman split-half reliability coefficient
(b) Spearman-Brown split-half reliability coefficient
(c) Cronbach alpha

Table 12: Reliability values and Pearson correlation coefficients of the academic self-concept measures at time₃

Scale	Reliability Value	Item	Pearson Correlation Coeff.
Academic Self-Concept ₃	(a) 0.867	Self1	0.654
	(b) 0.868	Self2	0.561
	(c) 0.860	Self3	0.542
		Self4	0.548
		Self5	0.511
		Self6	0.537
		Self7	0.326
		Self8	0.445
		Self9	0.597
		Self10	0.539
		Self11	0.492
		Self12	0.464
		Self13	0.372
		Self14	0.533
		Self15	0.573
		Self16	0.586
		Self17	0.636
		Self18	0.552
		Self19	0.564
		Self20	0.472
(i) Students' Confidence ₃	(a) 0.790	Self1	0.672
	(b) 0.791	Self3	0.609
	(c) 0.788	Self5	0.475
		Self7	0.509
		Self9	0.648
		Self11	0.532
		Self13	0.470
		Self15	0.653
		Self17	0.676
		Self19	0.653
(ii) Students' Effort ₃	(a) 0.752	Self2	0.629
	(b) 0.755	Self4	0.596
	(c) 0.786	Self6	0.605
		Self8	0.524
		Self10	0.595
		Self12	0.546
		Self14	0.599
		Self16	0.647
		Self18	0.559
		Self20	0.562

Note: All the correlations are significant to 0.001 level.
 (a) Guttman split-half reliability coefficient
 (b) Spearman-Brown split-half reliability coefficient
 (c) Cronbach alpha

Negative Items in Section II of the Questionnaire

(A) **Towards Home:** Home 2
 Home 6
 Home 7
 Home 9
 Home 11
 Home 12
 Home 15
 Home 16
 Home 19

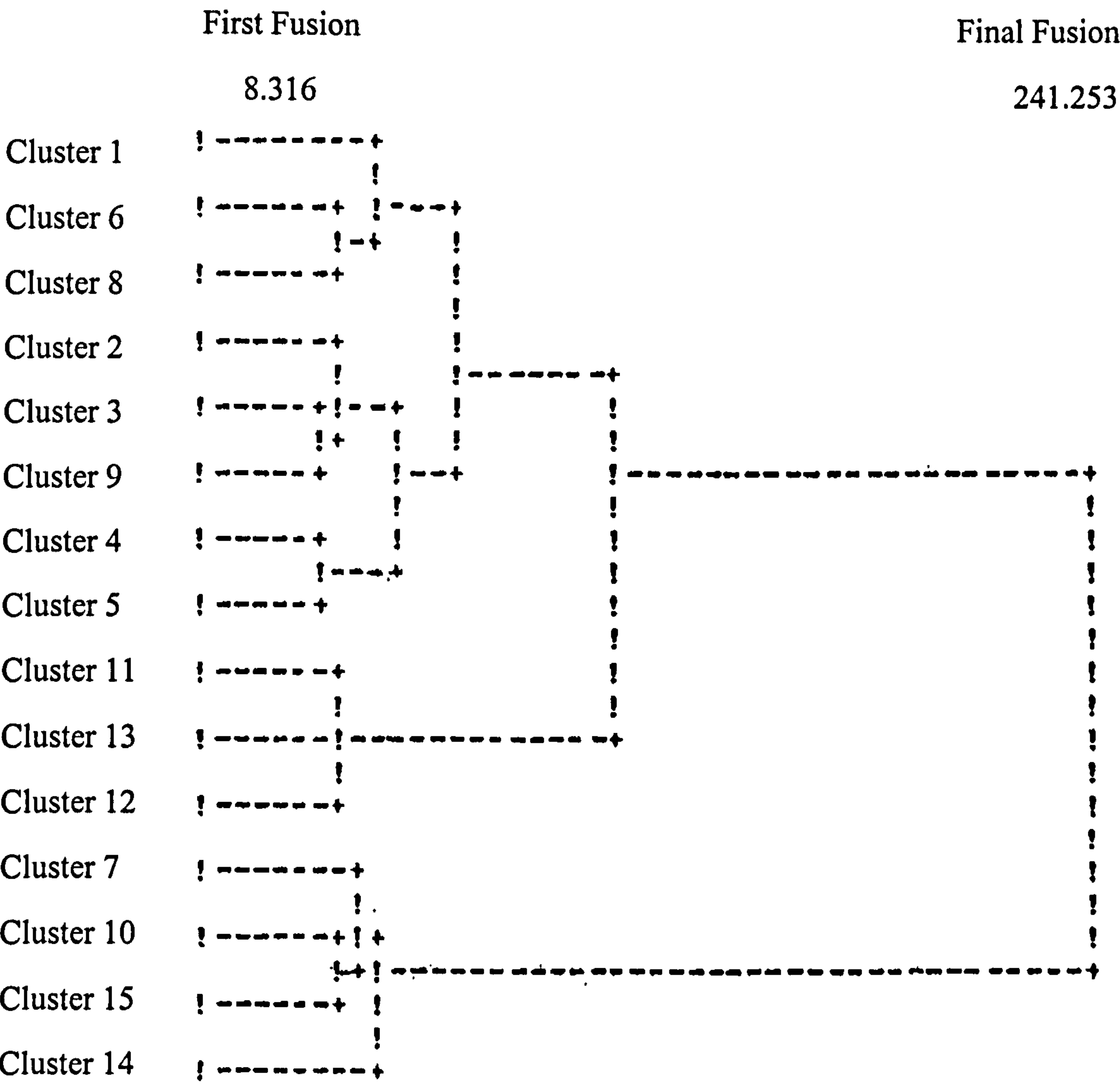
(B) **Towards Class:** Class 3
 Class 5
 Class 7
 Class 9
 Class 11
 Class 12
 Class 13
 Class 14
 Class 15
 Class 17
 Class 19
 Class 21

(C) **Towards Self:** Self 2
 Self 4
 Self 7
 Self 9
 Self 11
 Self 13
 Self 14
 Self 16
 Self 17
 Self 20

Transformation of r to z_r Table

r	z _r	r	z _r	r	z _r	r	z _r	r	z _r
.000	.000	.200	.203	.400	.424	.600	.693	.800	1.099
.005	.005	.205	.208	.405	.430	.605	.701	.805	1.113
.010	.010	.210	.213	.410	.436	.610	.709	.810	1.127
.015	.015	.215	.218	.415	.442	.615	.717	.815	1.142
.020	.020	.220	.224	.420	.448	.620	.725	.820	1.157
.025	.025	.225	.229	.425	.454	.625	.733	.825	1.172
.030	.030	.230	.234	.430	.460	.630	.741	.830	1.188
.035	.035	.235	.239	.435	.466	.635	.750	.835	1.204
.040	.040	.240	.245	.440	.472	.640	.758	.840	1.221
.045	.045	.245	.250	.445	.478	.645	.767	.845	1.238
.050	.050	.250	.255	.450	.485	.650	.775	.850	1.256
.055	.055	.255	.261	.455	.491	.655	.784	.855	1.274
.060	.060	.260	.266	.460	.497	.660	.793	.860	1.293
.065	.065	.265	.271	.465	.504	.665	.802	.865	1.313
.070	.070	.270	.277	.470	.510	.670	.811	.870	1.333
.075	.075	.275	.282	.475	.517	.675	.820	.875	1.354
.080	.080	.280	.288	.480	.523	.680	.829	.880	1.376
.085	.085	.285	.293	.485	.530	.685	.838	.885	1.398
.090	.090	.290	.299	.490	.536	.690	.848	.890	1.422
.095	.095	.295	.304	.495	.543	.695	.858	.895	1.447
.100	.100	.300	.310	.500	.549	.700	.867	.900	1.472
.105	.105	.305	.315	.505	.556	.705	.877	.905	1.499
.110	.110	.310	.321	.510	.563	.710	.887	.910	1.528
.115	.116	.315	.326	.515	.570	.715	.897	.915	1.557
.120	.121	.320	.332	.520	.576	.720	.908	.920	1.589
.125	.126	.325	.337	.525	.583	.725	.918	.925	1.623
.130	.131	.330	.343	.530	.590	.730	.929	.930	1.658
.135	.136	.335	.348	.535	.597	.735	.940	.935	1.697
.140	.141	.340	.354	.540	.604	.740	.950	.940	1.738
.145	.146	.345	.360	.545	.611	.745	.962	.945	1.783
.150	.151	.350	.365	.550	.618	.750	.973	.950	1.832
.155	.156	.355	.371	.555	.626	.755	.984	.955	1.886
.160	.161	.360	.377	.560	.633	.760	.996	.960	1.946
.165	.167	.365	.383	.565	.640	.765	1.008	.965	2.014
.170	.172	.370	.388	.570	.648	.770	1.020	.970	2.092
.175	.177	.375	.394	.575	.655	.775	1.033	.975	2.185
.180	.182	.380	.400	.580	.662	.780	1.045	.980	2.298
.185	.187	.385	.406	.585	.670	.785	1.058	.985	2.443
.190	.192	.390	.412	.590	.678	.790	1.071	.990	2.647
.195	.198	.395	.418	.595	.685	.795	1.085	.995	2.994

Dendrogram of Cluster Analysis



8-Cluster Solution

Table 1: Standardised mean scores of the measures for the 8 clusters of students

Measures	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8
Self at time ₀	0.95	0.40	-0.92	-0.33	-0.89	0.20	0.80	-1.41
Confid at time ₀	0.82	0.37	-0.73	-0.30	-0.67	0.11	0.62	-1.44
Effort at time ₀	0.82	0.33	-0.87	-0.28	-0.86	0.23	0.76	-1.02
Home at time ₀	0.75	-0.14	-1.06	-0.23	-0.41	0.50	0.75	-3.25
RelatP at time ₀	0.71	-0.20	-0.98	-0.23	-0.31	0.41	0.75	-3.12
SupporA at time ₀	0.66	-0.04	-0.95	-0.18	-0.48	0.53	0.61	-2.79
Class at time ₀	1.14	0.56	-0.85	-0.24	-0.88	-0.22	0.71	-0.64
RelatT at time ₀	0.96	0.58	-0.86	-0.10	-0.82	-0.20	0.63	-0.49
TExpect at time ₀	0.89	0.49	-0.67	-0.11	-0.91	-0.09	0.57	-0.26
Peer at time ₀	0.97	0.31	-0.57	-0.37	-0.47	-0.24	0.55	-0.82
Self at time ₁	0.53	-0.05	-0.93	0.06	-0.61	0.07	1.08	-2.41
Confid at time ₁	0.47	0.01	-0.78	0.07	-0.50	0.06	0.86	-2.33
Effort at time ₁	0.47	-0.11	-0.87	0.04	-0.57	0.07	1.05	-1.92
Home at time ₁	0.64	-0.53	-1.29	0.09	-0.24	0.49	0.82	-2.98
RelatP at time ₁	0.61	-0.56	-1.16	0.03	-0.19	0.43	0.80	-2.77
SupporA at time ₁	0.58	-0.42	-1.27	0.16	-0.27	0.49	0.72	-2.80
Class at time ₁	0.65	0.10	-1.09	0.29	-0.56	-0.31	1.00	-1.15
RelatT at time ₁	0.42	0.15	-0.89	0.39	-0.48	-0.33	0.85	-0.91
TExpect at time ₁	0.63	0.26	-1.02	0.35	-0.68	-0.30	0.80	-0.17
Peer at time ₁	0.58	-0.13	-0.83	-0.02	-0.26	-0.14	0.86	-1.73
Self at time ₂	-0.03	-0.28	-0.73	0.53	-0.61	0.02	1.14	-1.95
Confid at time ₂	0.07	-0.17	-0.52	0.38	-0.55	-0.04	0.92	-1.79
Effort at time ₂	-0.12	-0.32	-0.75	0.54	-0.53	0.07	1.09	-1.65
Home at time ₂	0.30	-0.97	-1.08	0.58	-0.11	0.32	0.84	-3.24
RelatP at time ₂	0.31	-0.99	-1.00	0.52	-0.06	0.29	0.79	-2.97
SupporA at time ₂	0.25	-0.80	-1.02	0.58	-0.16	0.31	0.77	-3.10
Class at time ₂	0.10	-0.05	-1.01	0.77	-0.37	-0.47	1.06	-1.06
RelatT at time ₂	0.05	0.11	-0.92	0.68	-0.39	-0.42	0.93	-0.62
TExpect at time ₂	0.01	0.17	-0.96	0.76	-0.41	-0.42	0.90	-0.52
Peer at time ₂	0.18	-0.44	-0.60	0.46	-0.11	-0.31	0.80	-1.56
Self at time ₃	0.17	-0.60	-0.84	0.10	-0.28	0.14	1.25	-2.39
Confid at time ₃	0.16	-0.37	-0.71	0.05	-0.26	0.12	1.03	-2.02
Effort at time ₃	0.15	-0.69	-0.79	0.13	-0.24	0.13	1.20	-2.23
Home at time ₃	0.37	-1.06	-1.09	0.29	-0.03	0.23	1.07	-2.51
RelatP at time ₃	0.35	-0.99	-1.00	0.22	0.01	0.24	0.98	-2.59
SupporA at time ₃	0.35	-1.00	-1.05	0.32	-0.08	0.19	1.02	-2.05
Class at time ₃	0.16	-0.32	-0.95	0.59	-0.30	-0.48	1.21	-0.90
RelatT at time ₃	0.18	-0.24	-0.82	0.52	-0.25	-0.47	1.03	-0.85
TExpect at time ₃	0.16	-0.16	-0.85	0.68	-0.38	-0.50	1.04	-0.77
Peer at time ₃	0.04	-0.40	-0.65	0.22	-0.07	-0.17	0.89	-0.60

Figure 1: Profile chart of the 8 clusters of students

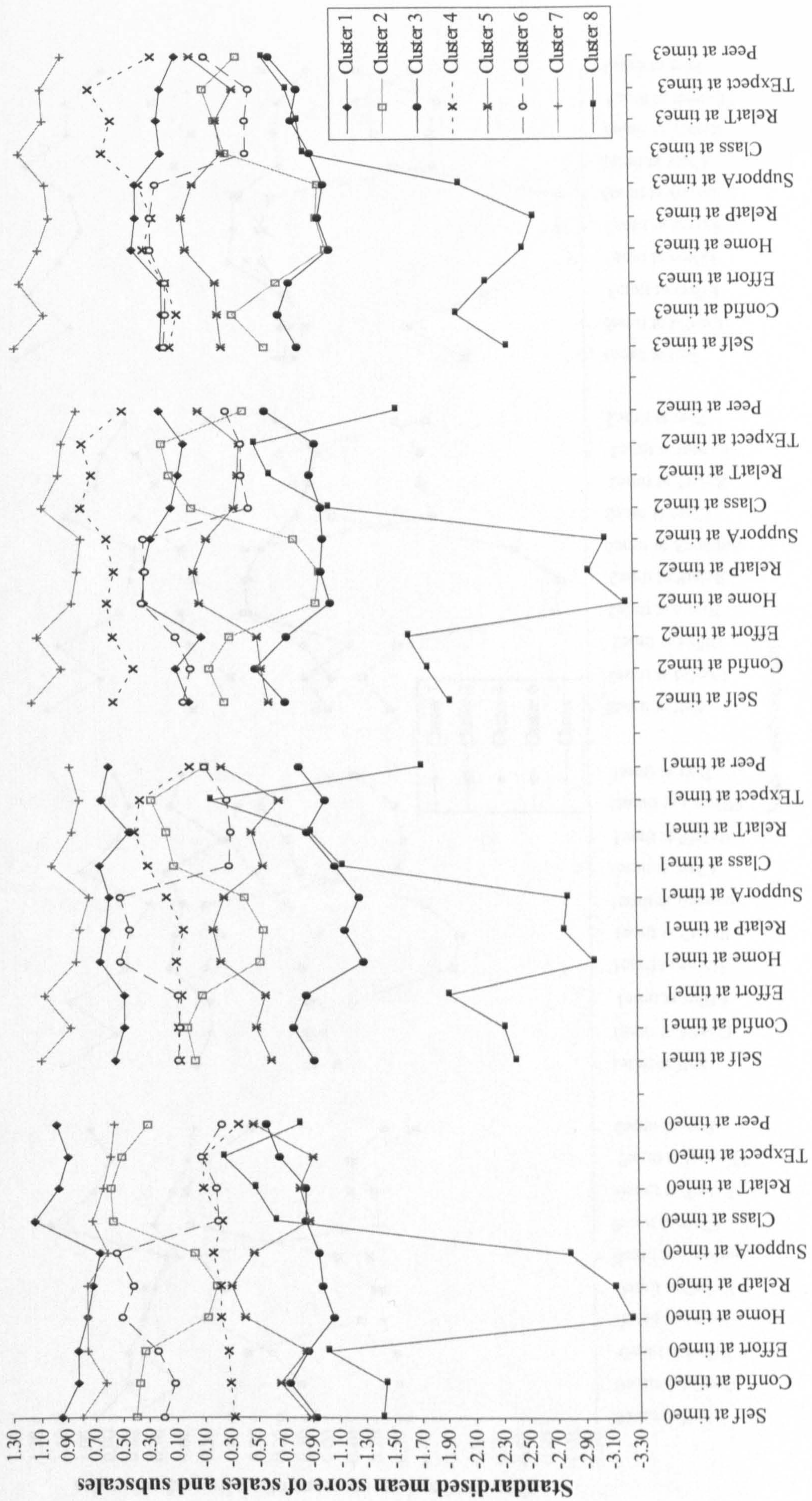
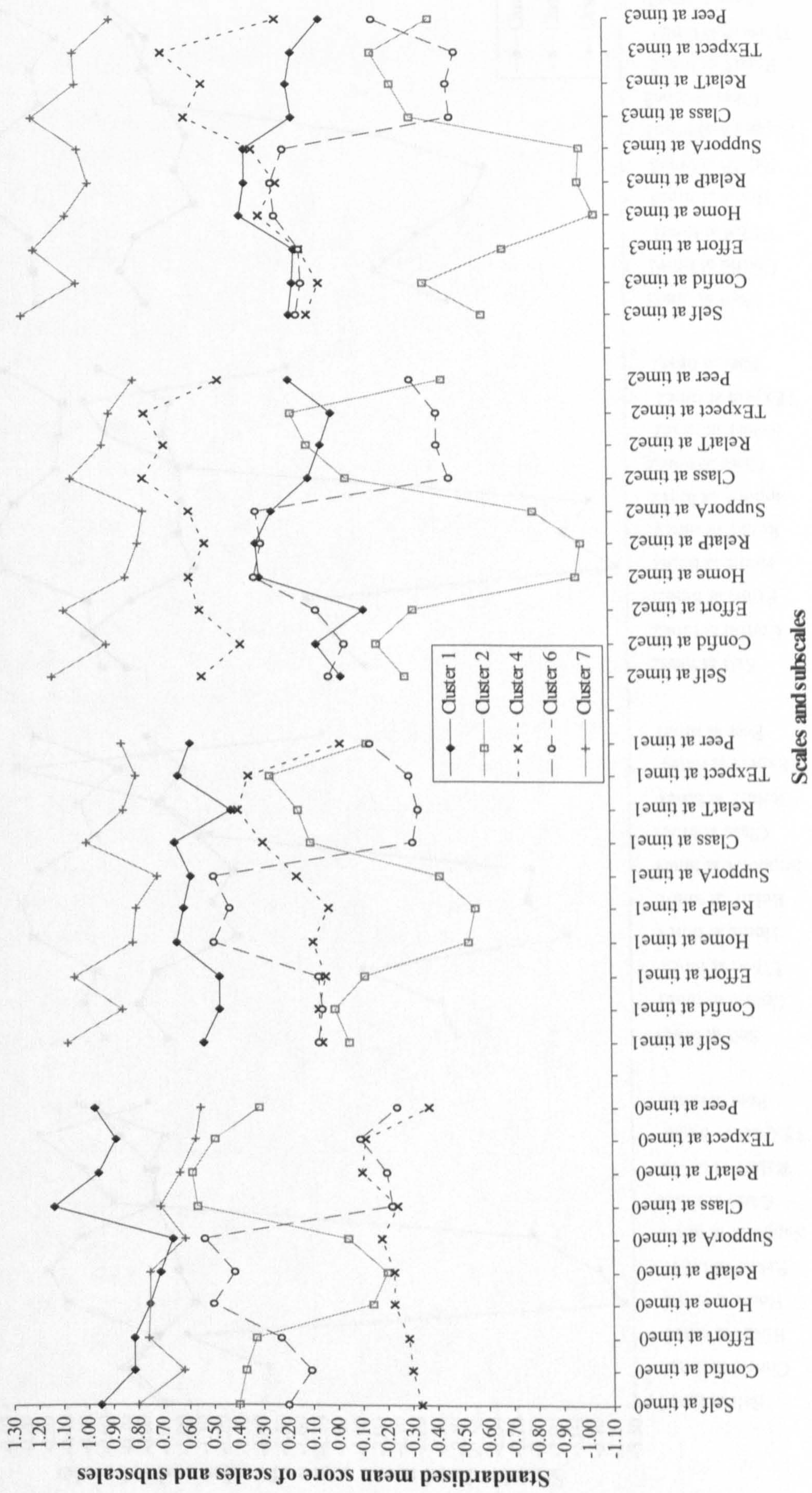


Figure 2: Profile chart of 5 out of the 8 clusters of students



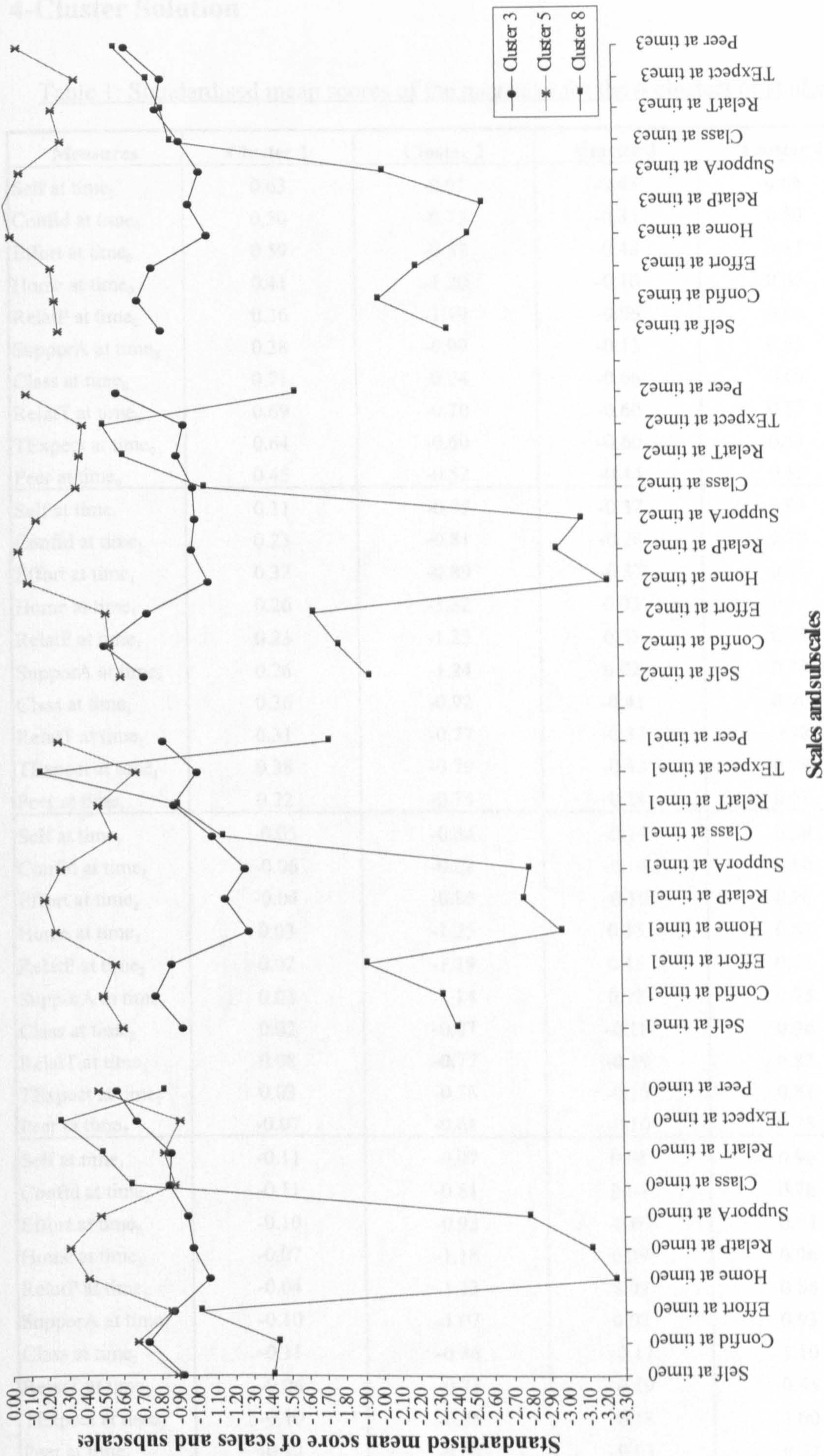


Figure 3: Profile chart of 3 out of the 8 clusters of students

4-Cluster Solution

Table 1: Standardised mean scores of the measures for the 4 clusters of students

Measures	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Self at time ₀	0.63	-0.91	-0.48	0.66
Confid at time ₀	0.50	-0.75	-0.35	0.50
Effort at time ₀	0.59	-0.82	-0.48	0.63
Home at time ₀	0.41	-1.20	-0.10	0.65
RelatP at time ₀	0.36	-1.19	-0.06	0.64
SupporA at time ₀	0.38	-0.99	-0.13	0.55
Class at time ₀	0.71	-0.74	-0.66	0.66
RelatT at time ₀	0.69	-0.70	-0.60	0.57
TExpect at time ₀	0.64	-0.60	-0.60	0.55
Peer at time ₀	0.45	-0.52	-0.44	0.50
Self at time ₁	0.31	-0.95	-0.37	0.94
Confid at time ₁	0.23	-0.81	-0.28	0.79
Effort at time ₁	0.32	-0.89	-0.37	0.87
Home at time ₁	0.26	-1.32	0.03	0.76
RelatP at time ₁	0.23	-1.23	0.03	0.72
SupporA at time ₁	0.26	-1.24	0.02	0.70
Class at time ₁	0.36	-0.92	-0.41	0.90
RelatT at time ₁	0.31	-0.77	-0.37	0.78
TExpect at time ₁	0.38	-0.79	-0.43	0.79
Peer at time ₁	0.22	-0.75	-0.24	0.69
Self at time ₂	-0.05	-0.84	-0.14	0.96
Confid at time ₂	-0.06	-0.62	-0.14	0.80
Effort at time ₂	-0.04	-0.85	-0.10	0.90
Home at time ₂	0.03	-1.25	0.15	0.82
RelatP at time ₂	0.02	-1.19	0.15	0.78
SupporA at time ₂	0.03	-1.14	0.13	0.75
Class at time ₂	0.02	-0.87	-0.18	0.96
RelatT at time ₂	0.08	-0.77	-0.19	0.82
TExpect at time ₂	0.03	-0.76	-0.15	0.81
Peer at time ₂	-0.07	-0.61	-0.10	0.73
Self at time ₃	-0.11	-0.97	0.01	0.96
Confid at time ₃	-0.11	-0.81	0.04	0.76
Effort at time ₃	-0.10	-0.93	-0.03	0.94
Home at time ₃	-0.07	-1.18	0.09	0.96
RelatP at time ₃	-0.04	-1.13	0.09	0.88
SupporA at time ₃	-0.10	-1.07	0.07	0.93
Class at time ₃	-0.11	-0.86	-0.17	1.10
RelatT at time ₃	-0.06	-0.72	-0.19	0.95
TExpect at time ₃	-0.10	-0.75	-0.18	1.00
Peer at time ₃	-0.12	-0.64	-0.03	0.72

Figure 1: Profile chart of the 4 clusters of students

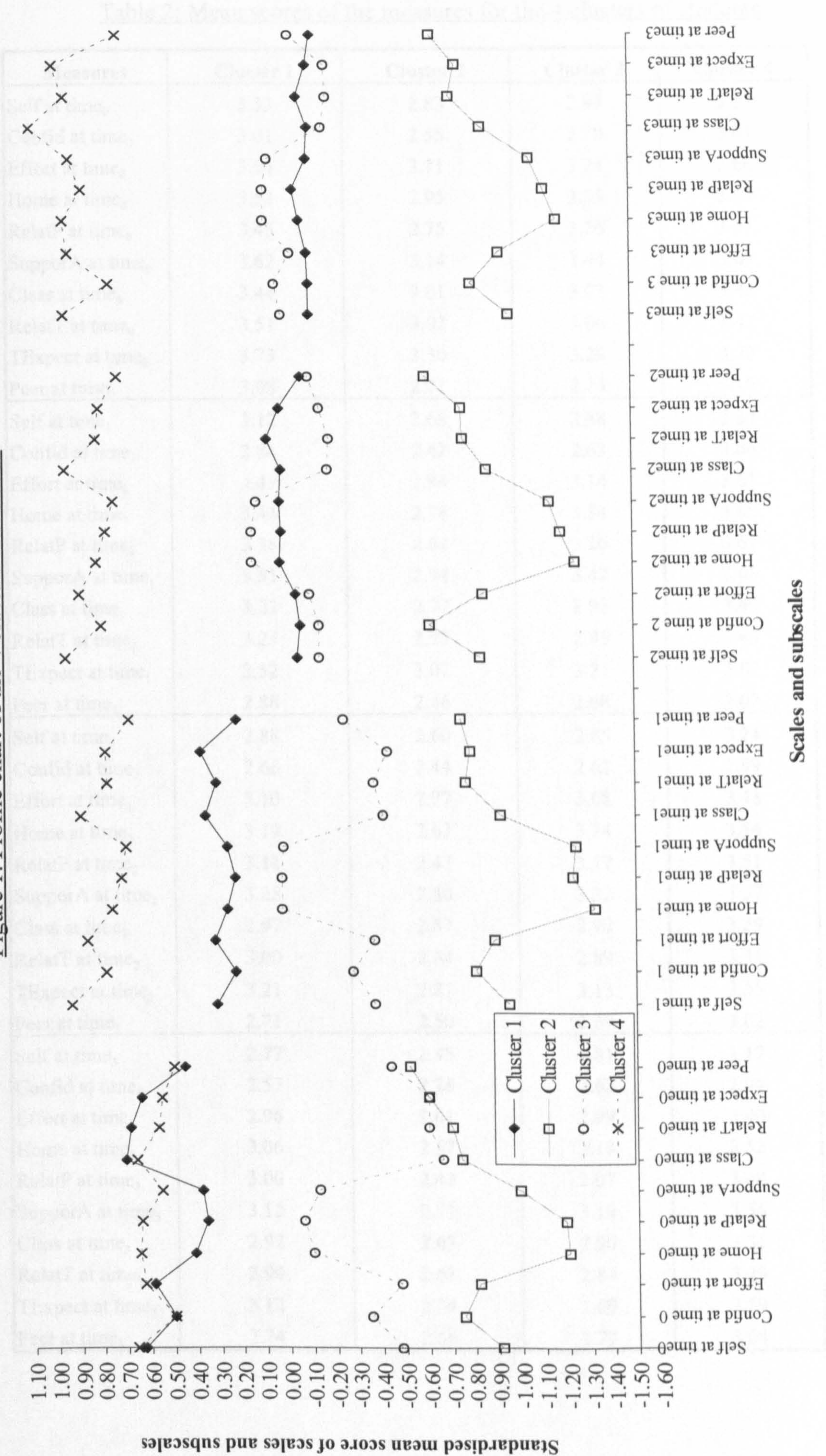
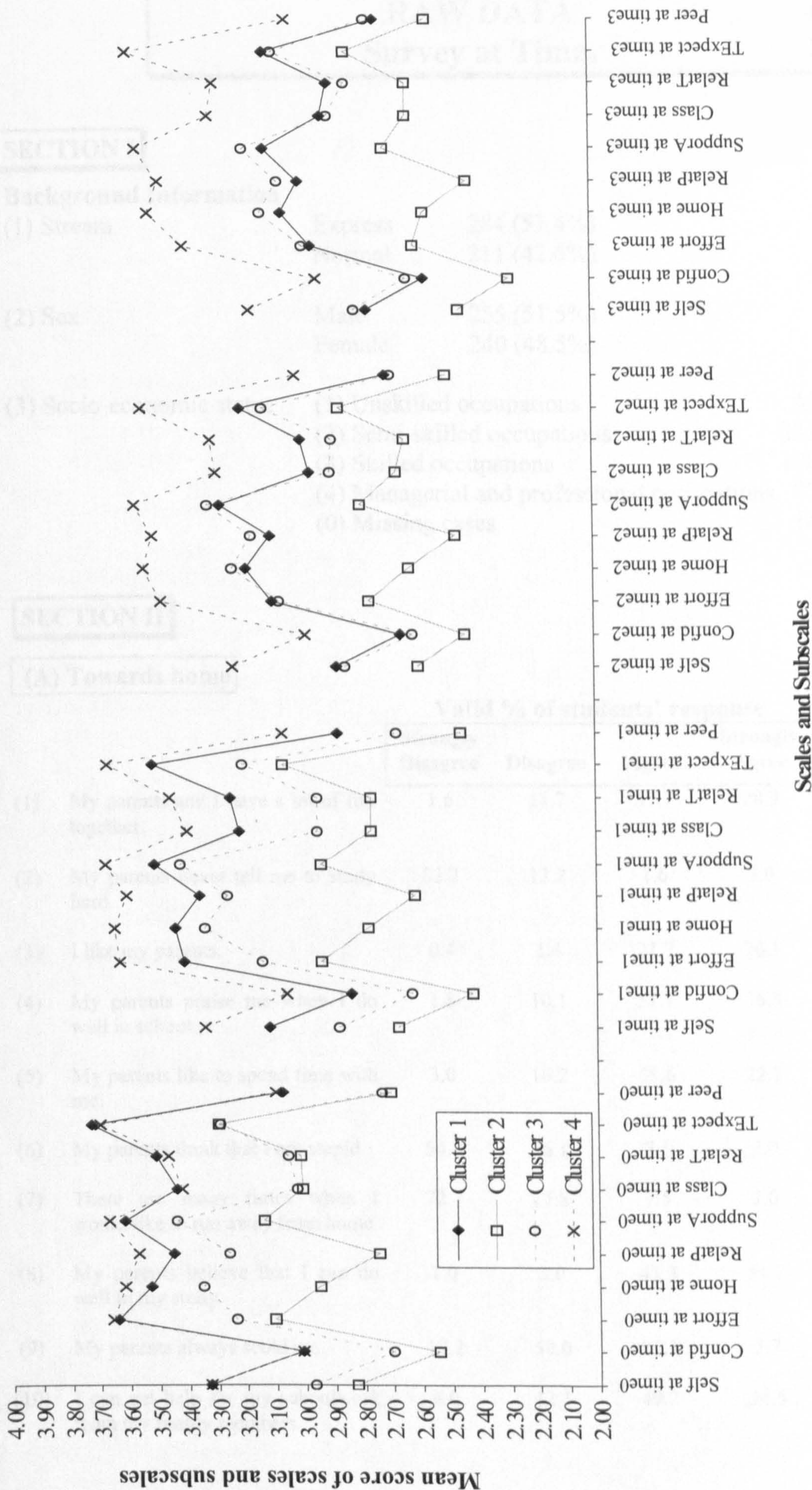


Table 2: Mean scores of the measures for the 4 clusters of students

Measures	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Self at time ₀	3.33	2.83	2.97	3.33
Confid at time ₀	3.01	2.55	2.70	3.01
Effort at time ₀	3.64	3.11	3.24	3.66
Home at time ₀	3.53	2.95	3.35	3.62
RelatP at time ₀	3.45	2.75	3.26	3.57
SupporA at time ₀	3.62	3.14	3.44	3.67
Class at time ₀	3.44	3.01	3.03	3.42
RelatT at time ₀	3.51	3.02	3.06	3.47
TExpect at time ₀	3.73	3.30	3.29	3.70
Peer at time ₀	3.08	2.71	2.74	3.10
Self at time ₁	3.12	2.68	2.88	3.34
Confid at time ₁	2.84	2.42	2.63	3.06
Effort at time ₁	3.41	2.94	3.14	3.63
Home at time ₁	3.44	2.78	3.34	3.65
RelatP at time ₁	3.36	2.62	3.26	3.61
SupporA at time ₁	3.51	2.94	3.42	3.68
Class at time ₁	3.22	2.77	2.95	3.40
RelatT at time ₁	3.25	2.77	2.95	3.46
TExpect at time ₁	3.52	3.07	3.21	3.67
Peer at time ₁	2.88	2.46	2.68	3.07
Self at time ₂	2.88	2.60	2.85	3.24
Confid at time ₂	2.66	2.44	2.62	2.99
Effort at time ₂	3.10	2.77	3.08	3.48
Home at time ₂	3.19	2.63	3.24	3.54
RelatP at time ₂	3.11	2.47	3.17	3.51
SupporA at time ₂	3.28	2.80	3.32	3.57
Class at time ₂	2.97	2.67	2.90	3.29
RelatT at time ₂	3.00	2.64	2.89	3.31
TExpect at time ₂	3.21	2.87	3.13	3.55
Peer at time ₂	2.71	2.50	2.69	3.02
Self at time ₃	2.77	2.45	2.81	3.17
Confid at time ₃	2.57	2.28	2.63	2.94
Effort at time ₃	2.96	2.61	2.99	3.40
Home at time ₃	3.06	2.57	3.13	3.52
RelatP at time ₃	3.00	2.42	3.07	3.48
SupporA at time ₃	3.12	2.71	3.19	3.56
Class at time ₃	2.92	2.63	2.90	3.31
RelatT at time ₃	2.90	2.63	2.84	3.29
TExpect at time ₃	3.12	2.84	3.09	3.59
Peer at time ₃	2.74	2.56	2.77	3.04

Figure 2: Mean scores of the measures for the 4 clusters of students



RAW DATA

Survey at Time₀

SECTION I

Background Information

(1) Stream	Express	284 (57.4%)
	Normal	211 (42.6%)
(2) Sex	Male	255 (51.5%)
	Female	240 (48.5%)
(3) Socio-economic status	(1) Unskilled occupations	43 (8.7%)
	(2) Semi-skilled occupations	235 (47.5%)
	(3) Skilled occupations	126 (25.5%)
	(4) Managerial and professional occupations	77 (15.6%)
	(0) Missing cases	14 (2.8%)

SECTION II

(A) Towards home

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	My parents and I have a lot of fun together.	1.6	11.7	57.7	28.9	3.14	0.67
(2)	My parents never tell me to study hard.	82.2	13.2	1.6	3.0	1.26	0.64
(3)	I like my parents.	0.4	1.4	21.7	76.5	3.74	0.49
(4)	My parents praise me when I do well in school.	1.8	10.1	51.7	36.3	3.23	0.70
(5)	My parents like to spend time with me.	3.0	16.2	58.6	22.1	3.00	0.71
(6)	My parents think that I am stupid.	54.8	36.1	7.1	2.0	1.56	0.71
(7)	There are many times when I would like to run away from home.	72.7	17.8	7.5	2.0	1.39	0.71
(8)	My parents believe that I can do well in my study.	1.0	3.0	41.3	54.7	3.50	0.61
(9)	My parents always scold me.	17.2	59.0	20.1	3.7	2.10	0.71
(10)	I can get help for my schoolwork from my family members.	4.0	12.1	49.2	34.6	3.14	0.78

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(11)	My parents dislike me because I am not good enough.	70.9	23.7	3.8	1.6	1.36	0.64
(12)	My parents pay no attention when I bring home my report card.	85.4	12.2	0.2	2.2	1.19	0.54
(13)	When I have problems, I can talk to my parents.	5.7	9.9	44.6	39.8	3.19	0.83
(14)	I have a quiet place at home to do my work.	3.8	13.8	44.3	38.1	3.17	0.80
(15)	My parents do not understand me.	40.5	40.5	14.4	4.7	1.83	0.84
(16)	My parents think that I am a failure in school.	63.2	30.6	4.3	2.0	1.45	0.67
(17)	My parents support the things I do.	3.0	15.8	54.1	27.1	3.05	0.74
(18)	My parents make sure I do my homework everyday.	0.6	4.8	33.5	61.0	3.55	0.62
(19)	My parents do not trust me.	55.0	35.7	6.9	2.4	1.57	0.73
(20)	My parents encourage me to work harder when I do badly in a test.	1.4	1.6	21.0	76.0	3.72	0.57

(B) Towards class

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	Our teachers give extra lessons to the weaker students.	1.8	6.9	55.4	35.8	3.25	0.66
(2)	Our teachers are confident that we can get good results.	0.4	5.1	53.8	40.8	3.35	0.59
(3)	Our teachers do not trust us.	43.7	51.0	4.0	1.2	1.63	0.62
(4)	Students in my class get to know each other really well.	1.6	18.4	58.8	21.2	3.00	0.68
(5)	Our teachers believe that our class is weaker than other classes.	42.7	49.0	6.1	2.2	1.68	0.69
(6)	It is easy to get a group together for a project.	4.1	14.4	54.8	26.8	3.04	0.76
(7)	Our teachers are only interested in the clever students in my class.	54.9	40.7	2.6	1.8	1.51	0.64
(8)	Our teachers make sure that we work hard for our exams.	1.0	0.4	34.6	64.0	3.62	0.55

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(9)	Some classmates often quarrel among themselves.	15.2	44.0	35.4	5.5	2.31	0.79
(10)	Our teachers try to get to know us.	0.4	1.6	40.0	58.0	3.56	0.55
(11)	Our teachers feel that our class is stupid.	64.7	33.5	1.4	0.4	1.38	0.54
(12)	It took a long time for me to get to know everybody by their names.	5.3	25.9	47.6	21.3	2.85	0.81
(13)	Our teachers embarrass us for not knowing the right answers.	52.4	42.1	3.8	1.6	1.55	0.65
(14)	Our teachers only expect good students to do well in exams.	55.2	39.8	2.6	2.4	1.52	0.67
(15)	There are groups of students who cannot get along in my class.	25.3	49.7	20.0	5.1	2.05	0.81
(16)	We find it easy to talk to our teachers about our problems.	7.7	27.1	47.7	17.5	2.75	0.83
(17)	Our teachers do not care whether we get low marks for our exams.	60.8	36.6	1.6	1.0	1.43	0.58
(18)	We help one another with our homework.	2.4	7.1	62.4	28.1	3.16	0.65
(19)	Our teachers spend very little time talking to us.	28.9	58.4	9.5	3.2	1.87	0.71
(20)	Our teachers believe that we can pass our 'O' level if we work hard.	0.2	0.6	28.4	70.8	3.70	0.49
(21)	Some students in class do not like one another.	16.0	40.2	36.8	7.1	2.35	0.83
(22)	Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	1.4	12.8	60.5	25.3	3.10	0.66
(23)	Our teachers stress the importance of doing well in exams.	1.2	3.8	53.8	41.1	3.35	0.61
(24)	We show care and concern for our classmates who have problems.	1.2	3.8	60.8	34.1	3.28	0.59
(25)	Our teachers often praise us when we have done a good piece of work.	0	2.6	63.4	34.0	3.31	0.52
(26)	Our teachers encourage those who failed to work harder.	2.0	1.0	37.9	59.1	3.54	0.63
(27)	We respect our monitors and co-operate with them.	2.0	6.7	55.3	36.0	3.25	0.67

(C) Towards self

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	I can follow the lessons easily.	0.8	15.0	63.6	20.6	3.04	0.62
(2)	I daydream a lot in class.	54.9	38.1	5.9	1.2	1.53	0.66
(3)	I am able to help my classmates in their schoolwork.	3.2	15.6	71.5	9.7	2.88	0.61
(4)	I often do my homework without thinking.	49.3	43.2	6.5	1.0	1.59	0.66
(5)	If I work hard, I think I can go to the Polytechnic or University.	1.2	2.8	44.3	51.6	3.46	0.62
(6)	I pay attention to the teachers during lessons.	0.8	2.6	52.2	44.3	3.40	0.58
(7)	Most of my classmates are smarter than I am.	2.6	29.1	52.6	15.6	2.81	0.72
(8)	I study hard for my tests.	1.2	3.4	40.4	55.0	3.49	0.63
(9)	My teachers feel that I am poor in my work.	22.9	61.5	14.2	1.4	1.94	0.65
(10)	I am usually interested in my schoolwork.	0.6	8.1	62.0	29.3	3.20	0.60
(11)	I often forget what I have learned.	20.0	57.2	20.0	2.6	2.05	0.71
(12)	I will do my best to pass all the subjects.	0	0.4	21.2	78.4	3.78	0.42
(13)	I get frightened when I am asked a question by the teachers.	11.9	40.0	38.0	10.1	2.46	0.83
(14)	I often feel like quitting school.	71.7	20.8	4.6	2.8	1.39	0.71
(15)	I am good in most of my school subjects.	3.8	39.4	48.7	8.1	2.61	0.69
(16)	I am always waiting for the lessons to end.	25.9	52.9	17.8	3.4	1.99	0.76
(17)	I always do poorly in tests.	22.6	61.0	15.6	0.8	1.95	0.64
(18)	I do not give up easily when I am faced with a difficult question in my schoolwork.	2.2	6.3	50.7	40.8	3.30	0.69
(19)	I am able to do better than my friends in most subjects.	5.1	49.5	38.6	6.9	2.47	0.70
(20)	I am not willing to put in more effort in my schoolwork.	67.5	24.8	3.2	4.4	1.45	0.76

RAW DATA

Survey at Time₁

SECTION II

(A) Towards home

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	My parents and I have a lot of fun together.	1.4	10.3	55.4	32.9	3.20	0.67
(2)	My parents never tell me to study hard.	77.8	17.8	1.8	2.6	1.29	0.63
(3)	I like my parents.	0.2	2.6	26.9	70.2	3.67	0.53
(4)	My parents praise me when I do well in school.	2.2	10.5	54.9	32.3	3.17	0.70
(5)	My parents like to spend time with me.	3.2	16.4	58.4	22.0	2.99	0.72
(6)	My parents think that I am stupid.	56.4	33.7	8.7	1.2	1.55	0.70
(7)	There are many times when I would like to run away from home.	59.8	22.0	12.7	5.5	1.64	0.90
(8)	My parents believe that I can do well in my study.	1.6	3.2	38.0	57.2	3.51	0.64
(9)	My parents always scold me.	37.4	41.8	16.2	4.6	1.88	0.84
(10)	I can get help for my schoolwork from my family members.	8.3	14.1	49.7	27.9	2.97	0.87
(11)	My parents dislike me because I am not good enough.	68.5	26.1	4.0	1.4	1.38	0.63
(12)	My parents pay no attention when I bring home my report card.	83.0	14.1	1.2	1.6	1.21	0.54
(13)	When I have problems, I can talk to my parents.	6.1	14.1	44.6	35.2	3.09	0.85
(14)	I have a quiet place at home to do my work.	4.2	14.1	47.9	33.7	3.11	0.80
(15)	My parents do not understand me.	36.6	40.8	16.0	6.7	1.93	0.89
(16)	My parents think that I am a failure in school.	63.8	28.1	5.9	2.2	1.46	0.71
(17)	My parents support the things I do.	4.0	18.2	52.5	25.3	2.99	0.77

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(18)	My parents make sure I do my homework everyday.	2.0	7.5	45.7	44.8	3.33	0.70
(19)	My parents do not trust me.	49.3	39.2	8.3	3.2	1.65	0.77
(20)	My parents encourage me to work harder when I do badly in a test.	2.2	3.8	29.9	64.0	3.56	0.68

(B) Towards class

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	Our teachers give extra lessons to the weaker students.	8.1	16.8	42.6	32.5	3.00	0.90
(2)	Our teachers are confident that we can get good results.	1.0	11.9	55.2	31.9	3.18	0.67
(3)	Our teachers do not trust us.	39.6	50.1	8.7	1.6	1.72	0.69
(4)	Students in my class get to know each other really well.	5.5	18.8	49.1	26.7	2.97	0.82
(5)	Our teachers believe that our class is weaker than other classes.	28.1	47.5	19.4	5.1	2.01	0.82
(6)	It is easy to get a group together for a project.	8.1	20.4	43.4	28.1	2.92	0.90
(7)	Our teachers are only interested in the clever students in my class.	47.3	43.0	6.5	3.2	1.66	0.74
(8)	Our teachers make sure that we work hard for our exams.	0.4	2.8	38.2	58.6	3.55	0.57
(9)	Some classmates often quarrel among themselves.	6.9	24.8	47.3	21.0	2.82	0.84
(10)	Our teachers try to get to know us.	1.6	7.3	56.2	34.9	3.24	0.65
(11)	Our teachers feel that our class is stupid.	54.3	41.4	3.0	1.2	1.51	0.62
(12)	It took a long time for me to get to know everybody by their names.	28.1	42.4	24.4	5.1	2.06	0.85
(13)	Our teachers embarrass us for not knowing the right answers.	40.6	48.7	7.9	2.8	1.73	0.73
(14)	Our teachers only expect good students to do well in exams.	41.4	49.5	6.3	2.8	1.71	0.71
(15)	There are groups of students who cannot get along in my class.	10.9	33.5	41.8	13.7	2.58	0.86

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(16)	We find it easy to talk to our teachers about our problems.	13.1	34.1	42.6	10.1	2.50	0.85
(17)	Our teachers do not care whether we get low marks for our exams.	51.7	43.4	2.8	2.0	1.55	0.65
(18)	We help one another with our homework.	3.4	8.1	64.2	24.2	3.09	0.67
(19)	Our teachers spend very little time talking to us.	25.1	55.6	16.2	3.2	1.98	0.74
(20)	Our teachers believe that we can pass our 'O' level if we work hard.	0.8	0.8	35.6	62.8	3.60	0.55
(21)	Some students in class do not like one another.	11.7	22.8	45.9	19.6	2.73	0.91
(22)	Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	4.8	11.3	53.3	30.5	3.09	0.78
(23)	Our teachers stress the importance of doing well in exams.	1.8	6.3	49.9	42.0	3.32	0.67
(24)	We show care and concern for our classmates who have problems.	1.6	5.9	60.8	31.7	3.23	0.62
(25)	Our teachers often praise us when we have done a good piece of work.	0.4	4.0	63.4	32.1	3.27	0.55
(26)	Our teachers encourage those who failed to work harder.	1.0	2.6	44.0	52.3	3.48	0.60
(27)	We respect our monitors and co-operate with them.	5.1	9.7	63.0	22.2	3.02	0.72

(C) Towards self

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	I can follow the lessons easily.	1.4	12.7	68.7	17.2	3.02	0.60
(2)	I daydream a lot in class.	41.0	48.9	8.5	1.6	1.71	0.69
(3)	I am able to help my classmates in their schoolwork.	2.6	17.2	70.7	9.5	2.87	0.60
(4)	I often do my homework without thinking.	43.8	48.7	5.9	1.6	1.65	0.66

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(5)	If I work hard, I think I can go to the Polytechnic or University.	1.6	2.8	40.2	55.4	3.49	0.64
(6)	I pay attention to the teachers during lessons.	1.0	4.6	64.6	29.7	3.23	0.58
(7)	Most of my classmates are smarter than I am.	2.6	20.2	53.7	23.4	2.98	0.74
(8)	I study hard for my tests.	1.0	4.8	53.3	40.8	3.34	0.62
(9)	My teachers feel that I am poor in my work.	20.6	54.1	23.0	2.2	2.07	0.72
(10)	I am usually interested in my schoolwork.	1.0	10.7	65.0	23.3	3.11	0.61
(11)	I often forget what I have learned.	16.4	49.9	29.1	4.6	2.22	0.77
(12)	I will do my best to pass all the subjects.	0.4	0.8	26.9	71.9	3.70	0.50
(13)	I get frightened when I am asked a question by the teachers.	13.9	38.4	35.2	12.5	2.46	0.88
(14)	I often feel like quitting school.	67.1	23.8	5.3	3.8	1.46	0.76
(15)	I am good in most of my school subjects.	5.7	41.0	46.3	7.1	2.55	0.71
(16)	I am always waiting for the lessons to end.	17.8	49.7	26.3	6.3	2.21	0.81
(17)	I always do poorly in tests.	13.1	58.2	25.9	2.8	2.18	0.69
(18)	I do not give up easily when I am faced with a difficult question in my schoolwork.	2.2	10.5	59.0	28.3	3.13	0.68
(19)	I am able to do better than my friends in most subjects.	9.1	45.5	39.6	5.9	2.42	0.74
(20)	I am not willing to put in more effort in my schoolwork.	58.4	28.7	5.1	7.9	1.62	0.90

RAW DATA

Survey at Time₂

SECTION II

(A) Towards home

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	My parents and I have a lot of fun together.	3.0	10.3	56.2	30.5	3.14	0.71
(2)	My parents never tell me to study hard.	71.1	25.9	2.2	0.8	1.33	0.56
(3)	I like my parents.	0.6	3.8	34.7	60.8	3.56	0.60
(4)	My parents praise me when I do well in school.	4.0	10.1	56.4	29.5	3.11	0.74
(5)	My parents like to spend time with me.	3.2	16.0	59.2	21.6	2.99	0.71
(6)	My parents think that I am stupid.	52.3	36.6	7.9	3.2	1.62	0.77
(7)	There are many times when I would like to run away from home.	47.1	28.7	18.4	5.9	1.83	0.93
(8)	My parents believe that I can do well in my study.	3.0	4.6	47.9	44.4	3.34	0.71
(9)	My parents always scold me.	11.7	61.8	22.6	3.8	2.19	0.68
(10)	I can get help for my schoolwork from my family members.	9.3	26.5	48.4	15.8	2.71	0.84
(11)	My parents dislike me because I am not good enough.	53.7	39.2	4.8	2.2	1.56	0.69
(12)	My parents pay no attention when I bring home my report card.	73.7	20.4	3.4	2.4	1.35	0.66
(13)	When I have problems, I can talk to my parents.	10.9	16.2	49.3	23.6	2.86	0.90
(14)	I have a quiet place at home to do my work.	5.3	17.4	53.3	24.0	2.96	0.79
(15)	My parents do not understand me.	26.3	43.2	21.4	9.1	2.13	0.91
(16)	My parents think that I am a failure in school.	52.3	38.0	6.5	3.2	1.61	0.75
(17)	My parents support the things I do.	5.3	18.6	58.2	18.0	2.89	0.75

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(18)	My parents make sure I do my homework everyday.	2.0	18.8	54.1	25.1	3.02	0.72
(19)	My parents do not trust me.	40.2	44.0	12.5	3.2	1.79	0.78
(20)	My parents encourage me to work harder when I do badly in a test.	2.4	6.3	39.0	52.3	3.41	0.72

(B) Towards class

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	Our teachers give extra lessons to the weaker students.	6.9	14.1	52.9	26.1	2.98	0.82
(2)	Our teachers are confident that we can get good results.	3.6	15.8	57.3	23.3	3.00	0.73
(3)	Our teachers do not trust us.	30.9	54.7	12.3	2.0	1.85	0.70
(4)	Students in my class get to know each other really well.	4.0	21.2	53.7	21.0	2.92	0.76
(5)	Our teachers believe that our class is weaker than other classes.	22.3	48.7	21.5	7.5	2.14	0.85
(6)	It is easy to get a group together for a project.	8.9	21.6	51.7	17.8	2.78	0.84
(7)	Our teachers are only interested in the clever students in my class.	26.1	55.6	12.3	6.1	1.98	0.79
(8)	Our teachers make sure that we work hard for our exams.	1.8	5.9	54.1	38.2	3.29	0.66
(9)	Some classmates often quarrel among themselves.	3.6	25.5	53.0	17.8	2.85	0.75
(10)	Our teachers try to get to know us.	3.2	11.1	60.4	25.3	3.08	0.70
(11)	Our teachers feel that our class is stupid.	46.5	43.4	7.5	2.6	1.66	0.73
(12)	It took a long time for me to get to know everybody by their names.	29.7	51.5	15.8	3.0	1.92	0.76
(13)	Our teachers embarrass us for not knowing the right answers.	31.1	52.5	13.1	3.2	1.88	0.75
(14)	Our teachers only expect good students to do well in exams.	27.3	49.7	16.8	6.3	2.02	0.83
(15)	There are groups of students who cannot get along in my class.	9.5	32.5	43.8	14.1	2.63	0.84

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(16)	We find it easy to talk to our teachers about our problems.	16.6	41.3	35.0	7.1	2.33	0.83
(17)	Our teachers do not care whether we get low marks for our exams.	36.0	52.6	7.9	3.4	1.79	0.73
(18)	We help one another with our homework.	4.7	10.1	67.2	18.0	2.99	0.68
(19)	Our teachers spend very little time talking to us.	17.8	58.9	18.6	4.7	2.10	0.74
(20)	Our teachers believe that we can pass our 'O' level if we work hard.	2.2	1.0	44.7	52.0	3.47	0.64
(21)	Some students in class do not like one another.	7.9	23.7	51.2	17.2	2.78	0.82
(22)	Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	3.5	15.4	60.8	20.3	2.98	0.70
(23)	Our teachers stress the importance of doing well in exams.	2.0	4.9	54.3	38.9	3.30	0.66
(24)	We show care and concern for our classmates who have problems.	2.4	6.9	67.1	23.5	3.12	0.62
(25)	Our teachers often praise us when we have done a good piece of work.	1.8	7.5	61.9	28.8	3.18	0.64
(26)	Our teachers encourage those who failed to work harder.	1.8	5.1	52.4	40.7	3.32	0.66
(27)	We respect our monitors and co-operate with them.	5.1	13.4	61.8	19.7	2.96	0.73

(C) Towards self

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	I can follow the lessons easily.	3.2	19.0	62.2	15.6	2.90	0.68
(2)	I daydream a lot in class.	29.5	53.9	13.5	3.0	1.90	0.74
(3)	I am able to help my classmates in their schoolwork.	5.1	20.0	68.7	6.3	2.76	0.64
(4)	I often do my homework without thinking.	29.1	55.4	11.9	3.6	1.90	0.74

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(5)	If I work hard, I think I can go to the Polytechnic or University.	1.8	1.8	44.6	51.7	3.46	0.63
(6)	I pay attention to the teachers during lessons.	1.8	9.1	67.5	21.6	3.09	0.61
(7)	Most of my classmates are smarter than I am.	3.8	19.0	56.5	20.6	2.94	0.74
(8)	I study hard for my tests.	2.4	9.1	55.2	33.3	3.19	0.70
(9)	My teachers feel that I am poor in my work.	13.0	58.3	25.5	3.2	2.19	0.69
(10)	I am usually interested in my schoolwork.	3.2	19.4	62.0	15.4	2.89	0.68
(11)	I often forget what I have learned.	9.3	44.6	37.0	9.1	2.46	0.79
(12)	I will do my best to pass all the subjects.	0.8	4.5	35.2	59.5	3.53	0.62
(13)	I get frightened when I am asked a question by the teachers.	9.9	41.5	37.9	10.7	2.49	0.82
(14)	I often feel like quitting school.	56.9	30.4	8.9	3.8	1.60	0.81
(15)	I am good in most of my school subjects.	8.5	39.0	45.7	6.7	2.51	0.75
(16)	I am always waiting for the lessons to end.	11.6	49.5	32.5	6.5	2.34	0.77
(17)	I always do poorly in tests.	12.2	58.6	24.9	4.3	2.21	0.71
(18)	I do not give up easily when I am faced with a difficult question in my schoolwork.	4.9	21.3	52.1	21.7	2.91	0.79
(19)	I am able to do better than my friends in most subjects.	7.3	46.7	39.0	6.9	2.46	0.73
(20)	I am not willing to put in more effort in my schoolwork.	51.0	33.3	8.3	7.3	1.72	0.90

RAW DATA

Survey at Time₃

SECTION II

(A) Towards home

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	My parents and I have a lot of fun together.	4.2	14.3	56.8	24.6	3.02	0.75
(2)	My parents never tell me to study hard.	63.8	30.3	3.8	2.0	1.44	0.67
(3)	I like my parents.	1.8	3.0	45.5	49.7	3.43	0.64
(4)	My parents praise me when I do well in school.	3.6	14.9	58.8	22.6	3.00	0.72
(5)	My parents like to spend time with me.	3.0	17.6	64.0	15.4	2.92	0.67
(6)	My parents think that I am stupid.	51.1	39.2	7.3	2.4	1.61	0.73
(7)	There are many times when I would like to run away from home.	47.8	30.0	15.6	6.7	1.81	0.93
(8)	My parents believe that I can do well in my study.	1.8	4.8	53.1	40.2	3.32	0.65
(9)	My parents always scold me.	12.9	60.6	22.6	3.8	2.17	0.69
(10)	I can get help for my schoolwork from my family members.	14.7	28.3	46.3	10.7	2.53	0.87
(11)	My parents dislike me because I am not good enough.	46.1	45.1	6.5	2.4	1.65	0.71
(12)	My parents pay no attention when I bring home my report card.	58.8	37.2	1.6	2.4	1.48	0.65
(13)	When I have problems, I can talk to my parents.	10.3	23.6	50.3	15.8	2.72	0.85
(14)	I have a quiet place at home to do my work.	7.1	19.0	51.7	22.2	2.89	0.83
(15)	My parents do not understand me.	22.4	47.5	20.6	9.5	2.17	0.88
(16)	My parents think that I am a failure in school.	42.8	47.5	8.3	1.4	1.68	0.68
(17)	My parents support the things I do.	5.7	21.0	59.6	13.7	2.81	0.74

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(18)	My parents make sure I do my homework everyday.	5.1	21.6	58.2	15.2	2.83	0.74
(19)	My parents do not trust me.	33.5	48.5	13.3	4.6	1.89	0.80
(20)	My parents encourage me to work harder when I do badly in a test.	2.8	9.3	46.7	41.2	3.26	0.74

(B) Towards class

		Valid % of students' response				Mean	S.D.
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	Our teachers give extra lessons to the weaker students.	4.5	14.0	62.6	19.0	2.96	0.71
(2)	Our teachers are confident that we can get good results.	3.0	16.8	59.4	20.8	2.98	0.71
(3)	Our teachers do not trust us.	24.8	57.4	15.4	2.4	1.95	0.71
(4)	Students in my class get to know each other really well.	4.0	22.0	52.3	21.6	2.92	0.77
(5)	Our teachers believe that our class is weaker than other classes.	24.2	45.5	23.0	7.3	2.13	0.86
(6)	It is easy to get a group together for a project.	6.9	24.2	52.3	16.6	2.79	0.80
(7)	Our teachers are only interested in the clever students in my class.	23.8	56.6	16.4	3.2	1.99	0.73
(8)	Our teachers make sure that we work hard for our exams.	1.2	6.5	55.6	36.8	3.28	0.64
(9)	Some classmates often quarrel among themselves.	7.3	33.7	48.7	10.3	2.62	0.77
(10)	Our teachers try to get to know us.	2.6	12.3	62.6	22.4	3.05	0.67
(11)	Our teachers feel that our class is stupid.	40.4	47.5	8.3	3.8	1.76	0.76
(12)	It took a long time for me to get to know everybody by their names.	28.9	52.6	15.4	3.0	1.93	0.75
(13)	Our teachers embarrass us for not knowing the right answers.	27.1	56.2	12.3	4.4	1.94	0.75
(14)	Our teachers only expect good students to do well in exams.	24.0	50.7	21.0	4.2	2.05	0.79
(15)	There are groups of students who cannot get along in my class.	12.3	35.4	42.0	10.3	2.50	0.84

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(16)	We find it easy to talk to our teachers about our problems.	16.0	44.4	33.9	5.7	2.29	0.80
(17)	Our teachers do not care whether we get low marks for our exams.	31.1	57.8	9.3	1.8	1.82	0.67
(18)	We help one another with our homework.	2.6	10.1	72.7	14.5	2.99	0.59
(19)	Our teachers spend very little time talking to us.	13.3	56.8	26.3	3.6	2.20	0.71
(20)	Our teachers believe that we can pass our 'O' level if we work hard.	3.2	4.4	43.0	49.3	3.38	0.72
(21)	Some students in class do not like one another.	7.3	30.5	50.9	11.3	2.66	0.77
(22)	Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	2.8	19.6	61.0	16.6	2.91	0.68
(23)	Our teachers stress the importance of doing well in exams.	2.2	3.0	56.8	38.0	3.31	0.64
(24)	We show care and concern for our classmates who have problems.	1.4	7.7	71.3	19.6	3.09	0.57
(25)	Our teachers often praise us when we have done a good piece of work.	1.4	7.5	66.4	24.7	3.14	0.60
(26)	Our teachers encourage those who failed to work harder.	1.2	6.1	55.4	37.4	3.29	0.63
(27)	We respect our monitors and co-operate with them.	3.8	11.1	67.7	17.4	2.99	0.66

(C) Towards self

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(1)	I can follow the lessons easily.	4.2	23.0	62.2	10.5	2.79	0.68
(2)	I daydream a lot in class.	19.8	53.7	22.2	4.2	2.11	0.76
(3)	I am able to help my classmates in their schoolwork.	4.6	23.0	66.3	6.1	2.74	0.64
(4)	I often do my homework without thinking.	22.6	60.0	13.7	3.6	1.98	0.71

		Valid % of students' response				<u>Mean</u>	<u>S.D.</u>
		Strongly Disagree	Disagree	Agree	Strongly Agree		
(5)	If I work hard, I think I can go to the Polytechnic or University.	2.4	4.8	45.7	47.1	3.37	0.69
(6)	I pay attention to the teachers during lessons.	1.6	12.3	71.7	14.4	2.99	0.58
(7)	Most of my classmates are smarter than I am.	3.4	17.4	58.6	20.6	2.96	0.72
(8)	I study hard for my tests.	1.4	11.9	65.3	21.4	3.07	0.62
(9)	My teachers feel that I am poor in my work.	11.1	55.4	29.7	3.8	2.26	0.70
(10)	I am usually interested in my schoolwork.	3.8	25.3	60.7	10.1	2.77	0.68
(11)	I often forget what I have learned.	5.9	41.9	43.5	8.7	2.55	0.73
(12)	I will do my best to pass all the subjects.	1.4	3.4	44.6	50.5	3.44	0.63
(13)	I get frightened when I am asked a question by the teachers.	10.5	41.8	37.6	10.1	2.47	0.81
(14)	I often feel like quitting school.	52.2	31.2	10.3	6.3	1.71	0.89
(15)	I am good in most of my school subjects.	8.7	45.1	39.8	6.5	2.44	0.74
(16)	I am always waiting for the lessons to end.	8.5	43.2	38.8	9.5	2.49	0.78
(17)	I always do poorly in tests.	8.7	58.8	29.5	3.0	2.27	0.66
(18)	I do not give up easily when I am faced with a difficult question in my schoolwork.	3.8	24.4	56.8	14.9	2.83	0.72
(19)	I am able to do better than my friends in most subjects.	9.5	50.5	34.5	5.5	2.36	0.73
(20)	I am not willing to put in more effort in my schoolwork.	43.9	40.9	10.3	4.9	1.76	0.83

Gender Effects on the Scores of the Items in the Academic Self-Concept Measures

(I) Students’ effort subscale at time₀

Table 1: Gender effects on the scores of the items in the students’ effort subscale at time₀

Item	Gender	Mean	SD	Level of Sign.
(6) I pay attention to the teachers during lessons.	Male	3.349	0.582	p<0.05
	Female	3.456	0.584	
* (16) I am always waiting for the lessons to end.	Male	2.906	0.808	p<0.005
	Female	3.125	0.685	

(II) Students’ effort subscale at time₁

Table 2: Gender effects on the scores of the items in the students’ effort subscale at time₁

Item	Gender	Mean	SD	Level of Sign.
* (2) I daydream a lot in class.	Male	3.212	0.728	p<0.01
	Female	3.379	0.635	
* (16) I am always waiting for the lessons to end.	Male	2.690	0.857	p<0.005
	Female	2.896	0.733	
* (20) I am not willing to put in more effort in my school work.	Male	3.286	0.968	p<0.05
	Female	3.471	0.813	

(III) Students’ effort subscale at time₂

Table 3: Gender effects on the scores of the items in the students’ effort subscale at time₂

Item	Gender	Mean	SD	Level of Sign
* (4) I often do my homework without thinking.	Male	3.031	0.803	p<0.05
	Female	3.171	0.660	
(8) I study hard for my tests.	Male	3.114	0.768	p<0.01
	Female	3.279	0.601	
* (14) I often feel like quitting school.	Male	3.331	0.872	p<0.05
	Female	3.479	0.726	

* negative item has been recoded such that a high mean is indicative of a positive feedback

(IV) Students' effort subscale at time₃

Table 4: Gender effects on the scores of the items in the students' effort subscale at time₃

Item	Gender	Mean	SD	Level of Sign.
* (2) I daydream a lot in class.	Male	2.796	0.802	p<0.005
	Female	2.992	0.703	
* (4) I often do my homework without thinking.	Male	2.937	0.750	p<0.05
	Female	3.100	0.665	
(6) I pay attention to the teachers during lessons.	Male	2.918	0.631	p<0.01
	Female	3.063	0.502	
(12) I will do my best to pass all the subjects.	Male	3.377	0.670	p<0.05
	Female	3.513	0.586	
* (14) I often feel like quitting school.	Male	3.192	0.938	p<0.01
	Female	3.402	0.824	
* (20) I am not willing to put in more effort in my school work.	Male	3.161	0.881	p<0.05
	Female	3.321	0.755	

(V) Students' confidence subscale at time₂

Table 5: Gender effects on the scores of the items in the students' confidence subscale at time₂

Item	Gender	Mean	SD	Level of Sign
* (7) Most of my classmates are smarter than I am.	Male	2.154	0.798	p<0.005
	Female	1.963	0.662	
* (13) I get frightened when I am asked a question by the teachers.	Male	2.677	0.774	p<0.001
	Female	2.325	0.820	
(19) I am able to do better than my friends in most subjects.	Male	2.524	0.753	p<0.05
	Female	2.382	0.700	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Interaction Effects on the Scores of the Academic Self-Concept Measures

(I) Academic self-concept scale at time₀

Table 1: Interaction effects on the scores of the academic self-concept scale at time₀

	Express	Normal
Male	3.097 (N = 133)	3.112 (N = 122)
	↕ p<0.01	
Female	3.200 (N = 151)	3.049 (N = 89)
	↔ p<0.001	

(II) Students' confidence subscale at time₀

Table 2: Interaction effects on the scores of the students' confidence subscale at time₀

	Express	Normal
Male	2.815 (N = 133)	2.848 (N = 122)
		↕ p<0.01
Female	2.880 (N = 151)	2.750 (N = 89)
	↔ p<0.001	

Stream Effects on the Scores of the Items in the Academic Self-Concept Measures

(I) Academic self-concept scale at time₀

Table 1: Stream effects on the scores of the items in the academic self-concept scale at time₀

Item	Stream	Mean	SD	Level of Sign.
(6) I pay attention to the teachers during lessons.	Express	3.452	0.533	p<0.05
	Normal	3.332	0.643	
* (9) My teachers feel that I am poor in my work.	Express	3.113	0.603	p<0.05
	Normal	2.986	0.707	
(12) I will do my best to pass all the subjects.	Express	3.824	0.391	p<0.01
	Normal	3.720	0.460	
(15) I am good in most of my school subjects.	Express	2.715	0.672	p<0.001
	Normal	2.469	0.692	
* (17) I always do poorly in tests.	Express	3.141	0.613	p<0.001
	Normal	2.938	0.663	
(19) I am able to do better than my friends in most subjects.	Express	2.569	0.761	p<0.05
	Normal	2.401	0.641	

(II) Students' effort subscale at time₀

Table 2: Stream effects on the scores of the items in the students' effort subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
(6) I pay attention to the teachers during lessons.	Express	3.452	0.533	p<0.05
	Normal	3.332	0.643	
(12) I will do my best to pass all the subjects.	Express	3.824	0.391	p<0.01
	Normal	3.720	0.460	

* negative item has been recoded such that a high mean is indicative of a positive feedback

(III) Academic self-concept scale at time₃

Table 3: Stream effects on the scores of the items in the academic self-concept scale at time₃

Item	Stream	Mean	SD	Level of Sign.
* (2) I daydream a lot in class.	Express Normal	2.803 3.010	0.795 0.697	p<0.005
(6) I pay attention to the teachers during lessons.	Express Normal	2.933 3.062	0.594 0.546	p<0.05
* (9) My teachers feel that I am poor in my work.	Express Normal	2.683 2.810	0.712 0.685	p<0.05
* (16) I am always waiting for the lessons to end.	Express Normal	2.433 2.607	0.756 0.806	p<0.05
* (17) I always do poorly in tests.	Express Normal	2.680 2.801	0.645 0.668	p<0.05
(19) I am able to do better than my friends in most subjects.	Express Normal	2.229 2.536	0.678 0.757	p<0.001

(IV) Students' confidence subscale at time₃

Table 4: Stream effects on the scores of the items in the students' confidence subscale at time₃

Item	Stream	Mean	SD	Level of Sign.
* (9) My teachers feel that I am poor in my work.	Express Normal	2.683 2.810	0.712 0.685	p<0.05
* (17) I always do poorly in tests.	Express Normal	2.680 2.801	0.645 0.668	p<0.05
(19) I am able to do better than my friends in most subjects.	Express Normal	2.229 2.536	0.678 0.757	p<0.001

* negative item has been recoded such that a high mean is indicative of a positive feedback

Marginal Stream Effects on the Scores of the Items in the Academic Self-Concept Measures

(I) Academic self-concept scale at time₀

Table 1: Marginal stream effects on the scores of the items in the academic self-concept scale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (2) I daydream a lot in class.	Lower Express	3.589	0.616	p<0.05
	Higher Normal	3.303	0.803	
(6) I pay attention to the teachers during lessons.	Lower Express	3.522	0.502	p<0.05
	Higher Normal	3.273	0.692	
(8) I study hard for my tests.	Lower Express	3.600	0.493	p<0.05
	Higher Normal	3.379	0.760	
(15) I am good in most of my school subjects.	Lower Express	2.667	0.687	p<0.05
	Higher Normal	2.455	0.612	

(II) Students' effort subscale at time₀

Table 2: Marginal stream effects on the scores of the items in the students' effort subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (2) I daydream a lot in class.	Lower Express	3.589	0.616	p<0.05
	Higher Normal	3.303	0.803	
(6) I pay attention to the teachers during lessons.	Lower Express	3.522	0.502	p<0.05
	Higher Normal	3.273	0.692	
(8) I study hard for my tests.	Lower Express	3.600	0.493	p<0.05
	Higher Normal	3.379	0.760	

(III) Students' confidence subscale at time₃

Table 3: Marginal stream effects on the scores of the items in the students' confidence subscale at time₃

Item	Stream	Mean	SD	Level of Sign.
(1) I can follow the lessons easily.	Lower Express	2.722	0.687	p<0.05
	Higher Normal	2.985	0.620	
(15) I am good in most of my school subjects.	Lower Express	2.367	0.741	p<0.05
	Higher Normal	2.652	0.794	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Gender Effects on the Scores of the Items in the Home Environment Measures

(I) Home environment scale at time₀

Table 1: Gender effects on the scores of the items in the home environment scale at time₀

Item	Gender	Mean	SD	Level of Sign.
(5) My parents like to spend time with me.	Male	2.898	0.721	p<0.005
	Female	3.105	0.687	
* (7) There are many times when I would like to run away from home.	Male	3.520	0.789	p<0.005
	Female	3.708	0.612	
* (9) My parents always scold me.	Male	2.814	0.679	p<0.01
	Female	2.988	0.740	
* (11) My parents dislike me because I am not good enough.	Male	3.563	0.696	p<0.01
	Female	3.717	0.559	
* (16) My parents think that I am a failure in school.	Male	3.441	0.729	p<0.001
	Female	3.663	0.592	
* (19) My parents do not trust me.	Male	3.308	0.797	p<0.001
	Female	3.563	0.624	

(II) Relationship with parents subscale at time₀

Table 2: Gender effects on the scores of the items in the relationship with parents subscale at time₀

Item	Gender	Mean	SD	Level of Sign.
(5) My parents like to spend time with me.	Male	2.898	0.721	p<0.005
	Female	3.105	0.687	
* (7) There are many times when I would like to run away from home.	Male	3.520	0.789	p<0.005
	Female	3.708	0.612	
* (9) My parents always scold me.	Male	2.814	0.679	p<0.01
	Female	2.988	0.740	
* (11) My parents dislike me because I am not good enough.	Male	3.563	0.696	p<0.01
	Female	3.717	0.559	
* (19) My parents do not trust me.	Male	3.308	0.797	p<0.001
	Female	3.563	0.624	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Marginal Stream Effects on the Scores of the Items in the Home Environment Measures

(I) Relationship with parents subscale at time₀

Table 1: Marginal stream effects on the scores of the items in the relationship with parents subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (7) There are many times when I would like to run away from home.	Lower Express Higher Normal	3.811 3.554	0.495 0.751	p<0.05

* negative item has been recoded such that a high mean is indicative of a positive feedback

Gender Effects on the Scores of the Items in the Classroom Climate Measures

(I) Peer relationship subscale at time₀

Table 1: Gender effects on the scores of the items in the peer relationship subscale at time₀

Item	Gender	Mean	SD	Level of Sign.
* (9) Some classmates often quarrel among themselves.	Male	2.533	0.812	p<0.001
	Female	2.854	0.737	
(18) We help one another with our homework.	Male	3.078	0.677	p<0.005
	Female	3.250	0.610	
(24) We show care and concern for our classmates who have problems.	Male	3.228	0.617	p<0.05
	Female	3.333	0.516	
(27) We respect our monitors and co-operate with them.	Male	3.173	0.707	p<0.01
	Female	3.338	0.613	

(II) Peer relationship subscale at time₂

Table 2: Gender effects on the scores of the items in the peer relationship subscale at time₂

Item	Gender	Mean	SD	Level of Sign.
* (9) Some classmates often quarrel among themselves.	Male	2.071	0.795	p<0.05
	Female	2.234	0.683	
* (12) It took a long time for me to get to know everybody by their names.	Male	3.004	0.811	p<0.05
	Female	3.158	0.685	
* (15) There are groups of students who cannot get along in my class.	Male	2.275	0.880	p<0.01
	Female	2.479	0.787	
(18) We help one another with our homework.	Male	2.917	0.747	p<0.05
	Female	3.058	0.604	
(24) We show care and concern for our classmates who have problems.	Male	3.059	0.707	p<0.05
	Female	3.179	0.515	
(27) We respect our monitors and co-operate with them.	Male	2.862	0.869	p<0.005
	Female	3.067	0.530	

* negative item has been recoded such that a high mean is indicative of a positive feedback

(III) Peer relationship subscale at time₃

Table 3: Gender effects on the scores of the items in the peer relationship subscale at time₃

Item	Gender	Mean	SD	Level of Sign.
* (9) Some classmates often quarrel among themselves.	Male	2.271	0.769	p<0.005
	Female	2.496	0.749	
* (12) It took a long time for me to get to know everybody by their names.	Male	2.972	0.777	p<0.005
	Female	3.183	0.702	
(27) We respect our monitors and co-operate with them.	Male	2.914	0.743	p<0.05
	Female	3.063	0.557	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Stream Effects on the Scores of the Items in the Classroom Climate Measures

(I) Classroom climate scale at time₀

Table 1: Stream effects on the scores of the items in the classroom climate scale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (7) Our teachers are only interested in the clever students in my class.	Express	3.541	0.608	p<0.05
	Normal	3.412	0.680	
* (9) Some classmates often quarrel among themselves.	Express	2.835	0.773	p<0.001
	Normal	2.493	0.777	
* (11) Our teachers feel that our class is stupid.	Express	3.674	0.513	p<0.05
	Normal	3.559	0.561	
* (15) There are groups of students who cannot get along in my class.	Express	3.070	0.785	p<0.001
	Normal	2.792	0.813	
* (17) Our teachers do not care whether we get low marks for our exams.	Express	3.620	0.567	p<0.05
	Normal	3.507	0.597	
(20) Our teachers believe that we can pass our 'O' level if we work hard.	Express	3.748	0.443	p<0.01
	Normal	3.630	0.531	
(23) Our teachers stress the importance of doing well in exams.	Express	3.413	0.597	p<0.01
	Normal	3.261	0.627	

(II) Relationship with teachers subscale at time₀

Table 2: Stream effects on the scores of the items in the relationship with teachers subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (7) Our teachers are only interested in the clever students in my class.	Express	3.541	0.608	p<0.05
	Normal	3.412	0.680	

* negative item has been recoded such that a high mean is indicative of a positive feedback

(III) Teachers expectations subscale at time₀

Table 3: Stream effects on the scores of the items in the teachers' expectations subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (11) Our teachers feel that our class is stupid.	Express	3.674	0.513	p<0.05
	Normal	3.559	0.561	
* (17) Our teachers do not care whether we get low marks for our exams.	Express	3.620	0.567	p<0.05
	Normal	3.507	0.597	
(20) Our teachers believe that we can pass our 'O' level if we work hard.	Express	3.748	0.443	p<0.01
	Normal	3.630	0.531	
(23) Our teachers stress the importance of doing well in exams.	Express	3.413	0.597	p<0.01
	Normal	3.261	0.627	

(IV) Peer relationship subscale at time₀

Table 4: Stream effects on the scores of the items in the peer relationship subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (9) Some classmates often quarrel among themselves.	Express	2.835	0.773	p<0.001
	Normal	2.493	0.777	
* (15) There are groups of students who cannot get along in my class.	Express	3.070	0.785	p<0.001
	Normal	2.792	0.813	

(V) Relationship with teachers subscale at time₁

Table 5: Stream effects on the scores of the items in the relationship with teachers subscale at time₁

Item	Stream	Mean	SD	Level of Sign.
(1) Our teachers give extra lessons to the weaker students.	Express	2.859	0.981	p<0.001
	Normal	3.180	0.753	

(VI) Relationship with teachers subscale at time₃

Table 6: Stream effects on the scores of the items in the relationship with teachers subscale at time₃

Item	Stream	Mean	SD	Level of Sign.
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	Express	2.838	0.663	p<0.01
	Normal	3.014	0.700	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Marginal Stream Effects on the Scores of the Items in the Classroom Climate Measures

(I) Classroom climate scale at time₀

Table 1: Marginal stream effects on the scores of the items in the classroom climate scale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (3) Our teachers do not trust us.	Lower Express Higher Normal	3.522 3.333	0.545 0.536	p<0.05
* (7) Our teachers are only interested in the clever students in my class.	Lower Express Higher Normal	3.611 3.318	0.631 0.660	p<0.01
* (9) Some classmates often quarrel among themselves.	Lower Express Higher Normal	2.889 2.561	0.813 0.825	p<0.05
(10) Our teachers try to get to know us.	Lower Express Higher Normal	3.622 3.364	0.488 0.598	p<0.01
* (11) Our teachers feel that our class is stupid.	Lower Express Higher Normal	3.700 3.500	0.507 0.562	p<0.05
* (12) It took a long time for me to get to know everybody by their names.	Lower Express Higher Normal	2.289 2.000	0.838 0.765	p<0.05
* (15) There are groups of students who cannot get along in my class.	Lower Express Higher Normal	3.144 2.682	0.787 0.862	p<0.005
(16) We find it easy to talk to our teachers about our problems.	Lower Express Higher Normal	2.900 2.485	0.750 0.916	p<0.005
(20) Our teachers believe that we can pass our 'O' level if we work hard.	Lower Express Higher Normal	3.789 3.591	0.410 0.607	p<0.05
* (21) Some students in class do not like one another.	Lower Express Higher Normal	2.667 2.349	0.764 0.832	p<0.05
(24) We show care and concern for our classmates who have problems.	Lower Express Higher Normal	3.411 3.167	0.559 0.646	p<0.05
(27) We respect our monitors and co-operate with them.	Lower Express Higher Normal	3.382 3.046	0.554 0.773	p<0.005

* negative item has been recoded such that a high mean is indicative of a positive feedback

(II) Relationship with teachers subscale at time₀

Table 2: Marginal stream effects on the scores of the items in the relationship with teachers subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (3) Our teachers do not trust us.	Lower Express	3.522	0.545	p<0.05
	Higher Normal	3.333	0.536	
* (7) Our teachers are only interested in the clever students in my class.	Lower Express	3.611	0.631	p<0.01
	Higher Normal	3.318	0.660	
(10) Our teachers try to get to know us.	Lower Express	3.622	0.488	p<0.01
	Higher Normal	3.364	0.598	
(16) We find it easy to talk to our teachers about our problems.	Lower Express	2.900	0.750	p<0.005
	Higher Normal	2.485	0.916	

(III) Teachers' expectations subscale at time₀

Table 3: Marginal stream effects on the scores of the items in the teachers' expectations subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (11) Our teachers feel that our class is stupid.	Lower Express	3.700	0.507	p<0.05
	Higher Normal	3.500	0.562	
(20) Our teachers believe that we can pass our 'O' level if we work hard.	Lower Express	3.789	0.410	p<0.05
	Higher Normal	3.591	0.607	

(IV) Peer relationship subscale at time₀

Table 4: Marginal stream effects on the scores of the items in the peer relationship subscale at time₀

Item	Stream	Mean	SD	Level of Sign.
* (9) Some classmates often quarrel among themselves.	Lower Express	2.889	0.813	p<0.05
	Higher Normal	2.561	0.825	
* (12) It took a long time for me to get to know everybody by their names.	Lower Express	2.289	0.838	p<0.05
	Higher Normal	2.000	0.765	
* (15) There are groups of students who cannot get along in my class.	Lower Express	3.144	0.787	p<0.005
	Higher Normal	2.682	0.862	
* (21) Some students in class do not like one another.	Lower Express	2.667	0.764	p<0.05
	Higher Normal	2.349	0.832	
(24) We show care and concern for our classmates who have problems.	Lower Express	3.411	0.559	p<0.05
	Higher Normal	3.167	0.646	
(27) We respect our monitors and co-operate with them.	Lower Express	3.382	0.554	p<0.005
	Higher Normal	3.046	0.773	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Stepwise Multiple Linear Regression Results of the Overall Sample

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the overall sample

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Classroom Climate ₀	0.3702	0.3702	0.608	p<0.001
	2	Classroom Climate ₀	0.0778	0.4480	0.453	p<0.001
		Home Environment ₀			0.319	p<0.001
Time ₁	1	Classroom Climate ₁	0.3465	0.3465	0.589	p<0.001
	2	Classroom Climate ₁	0.0765	0.4230	0.430	p<0.001
		Home Environment ₁			0.319	p<0.001
Time ₂	1	Home Environment ₂	0.2481	0.2481	0.498	p<0.001
	2	Home Environment ₂	0.0893	0.3374	0.358	p<0.001
		Classroom Climate ₂			0.330	p<0.001
Time ₃	1	Home Environment ₃	0.3308	0.3308	0.575	p<0.001
	2	Home Environment ₃	0.0865	0.4173	0.400	p<0.001
		Classroom Climate ₃			0.343	p<0.001

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the overall sample

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Classroom Climate ₁	0.3465	0.3465	0.589	p<0.001
	2	Classroom Climate ₁	0.0765	0.4230	0.430	p<0.001
		Home Environment ₁			0.319	p<0.001
		Classroom Climate ₁			0.429	p<0.001
	3	Home Environment ₁	0.0066	0.4296	0.251	p<0.001
Time ₂	2	Home Environment ₁	0.0066	0.4296	0.106	p<0.05
		Home Environment ₀				
		Home Environment ₀				
	1	Home Environment ₂	0.2481	0.2481	0.498	p<0.001
Time ₃	2	Home Environment ₂	0.0893	0.3374	0.358	p<0.001
		Classroom Climate ₂			0.330	p<0.001
	1	Home Environment ₂	0.2481	0.2481	0.498	p<0.001
Time ₃	1	Home Environment ₂	0.2481	0.2481	0.498	p<0.001
	2	Home Environment ₂	0.0893	0.3374	0.358	p<0.001
		Classroom Climate ₂			0.330	p<0.001
		Classroom Climate ₂			0.330	p<0.001
	3	Home Environment ₂	0.0066	0.4296	0.429	p<0.001
Time ₃	2	Home Environment ₂	0.0893	0.3374	0.358	p<0.001
		Classroom Climate ₂			0.330	p<0.001
		Classroom Climate ₂			0.330	p<0.001
	3	Home Environment ₂	0.0092	0.4265	0.316	p<0.001
		Classroom Climate ₂			0.337	p<0.001
Time ₃	3	Home Environment ₂	0.0092	0.4265	0.316	p<0.001
		Classroom Climate ₂			0.337	p<0.001
	3	Home Environment ₂	0.0092	0.4265	0.316	p<0.001

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) Students' confidence subscales

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the overall sample

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Academic Support ₀	0.1865	0.1865	0.432	p<0.001
	2	Academic Support ₀	0.0719	0.2584	0.340	p<0.001
		Peer Relationship ₀			0.284	p<0.001
	3	Academic Support ₀	0.0304	0.2888	0.274	p<0.001
		Peer Relationship ₀			0.228	p<0.001
		Teachers' Expectations ₀			0.200	p<0.001
Time ₁	1	Teachers' Expectations ₁	0.2007	0.2007	0.448	p<0.001
	2	Teachers' Expectations ₁	0.0743	0.2750	0.355	p<0.001
		Relationship with Parents ₁			0.288	p<0.001
	3	Teachers' Expectations ₁	0.0326	0.3076	0.275	p<0.001
		Relationship with Parents ₁			0.220	p<0.001
		Peer Relationship ₁			0.217	p<0.001
Time ₂	1	Academic Support ₂	0.1822	0.1822	0.427	p<0.001
	2	Academic Support ₂	0.0375	0.2197	0.359	p<0.001
		Teachers' Expectations ₂			0.205	p<0.001
	3	Academic Support ₂	0.0293	0.2490	0.337	p<0.001
		Teachers' Expectations ₂			0.187	p<0.001
		Sec 1 Class Position			-0.174	p<0.001
Time ₃	1	Relationship with Teachers ₃	0.1917	0.1917	0.438	p<0.001
	2	Relationship with Teachers ₃	0.0820	0.2737	0.321	p<0.001
		Relationship with Parents ₃			0.309	p<0.001
	3	Relationship with Teachers ₃	0.0326	0.3063	0.319	p<0.001
		Relationship with Parents ₃			0.288	p<0.001
		Sec 2 Class Position			-0.182	p<0.001

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the overall sample

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Teachers ₀	0.2643	0.2643	0.514	p<0.001
	2	Relationship with Teachers ₀	0.0656	0.3299	0.402	p<0.001
		Relationship with Parents ₀			0.280	p<0.001
	3	Relationship with Teachers ₀	0.0422	0.3721	0.221	p<0.001
		Relationship with Parents ₀			0.272	p<0.001
		Teachers' Expectations ₀			0.276	p<0.001
Time ₁	1	Teachers' Expectations ₁	0.2317	0.2317	0.481	p<0.001
	2	Teachers' Expectations ₁	0.1115	0.3432	0.368	p<0.001
		Relationship with Parents ₁			0.353	p<0.001
Time ₂	1	Relationship with Parents ₂	0.1965	0.1965	0.443	p<0.001
	2	Relationship with Parents ₂	0.1028	0.2993	0.339	p<0.001
		Teachers' Expectations ₂			0.337	p<0.001
Time ₃	1	Relationship with Parents ₃	0.3117	0.3117	0.558	p<0.001
	2	Relationship with Parents ₃	0.0659	0.3776	0.451	p<0.001
		Teachers' Expectations ₃			0.278	p<0.001

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) Students' confidence subscales

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscale

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.2007	0.2007	0.448	p<0.001
	2	Teachers' Expectations ₁	0.0743	0.2750	0.355	p<0.001
	3	Relationship with Parents ₁	0.0326	0.3076	0.288	p<0.001
		Teachers' Expectations ₁			0.275	p<0.001
		Relationship with Parents ₁			0.220	p<0.001
		Peer Relationship ₁			0.217	p<0.001
Time ₂	1	Academic Support ₂	0.1822	0.1822	0.427	p<0.001
	2	Academic Support ₂	0.0375	0.2197	0.359	p<0.001
	3	Teachers' Expectations ₂	0.0293	0.2490	0.205	p<0.001
		Academic Support ₂			0.337	p<0.001
		Teachers' Expectations ₂			0.187	p<0.001
		Sec 1 Class Position			-0.174	p<0.001
	4	Academic Support ₂	0.0214	0.2704	0.302	p<0.001
	5	Teachers' Expectations ₂	0.0203	0.2907	0.154	p<0.001
		Sec 1 Class Position			-0.178	p<0.001
		Peer Relationship ₁			0.156	p<0.001
		Academic Support ₂			0.295	p<0.001
		Teachers' Expectations ₂			0.149	p<0.001
		Sec 1 Class Position			-0.208	p<0.001
Time ₃	1	Peer Relationship ₁	0.0208	0.2907	0.165	p<0.001
		Gender			-0.146	p<0.001
		Relationship with Teachers ₃			0.438	p<0.001
	2	Relationship with Teachers ₃	0.0820	0.2737	0.321	p<0.001
	3	Relationship with Parents ₃	0.0326	0.3063	0.309	p<0.001
		Relationship with Teachers ₃			0.319	p<0.001
		Relationship with Parents ₃			0.288	p<0.001
Time ₃	3	Sec 2 Class Position	0.0326	0.3063	-0.182	p<0.001
		Relationship with Parents ₃			0.288	p<0.001
		Relationship with Teachers ₃			0.319	p<0.001

(b) *Students' effort subscales*

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscale

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.2317	0.2317	0.481	p<0.001
	2	Teachers' Expectations ₁ Relationship with Parents ₁	0.1115	0.3432	0.368 0.353	p<0.001 p<0.001
Time ₂	1	Relationship with Parents ₂	0.1965	0.1965	0.443	p<0.001
	2	Relationship with Parents ₂ Teachers' Expectations ₂	0.1028	0.2993	0.339 0.337	p<0.001 p<0.001
Time ₃	1	Relationship with Parents ₃	0.3117	0.3117	0.558	p<0.001
	2	Relationship with Parents ₃ Teachers' Expectations ₃	0.0659	0.3776	0.451 0.278	p<0.001 p<0.001

Stepwise Multiple Linear Regression Results of the Male Students

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the male students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Classroom Climate ₀	0.3230	0.3230	0.568	p<0.001
	2	Classroom Climate ₀	0.0857	0.4087	0.420	p<0.001
		Home Environment ₀			0.328	p<0.001
Time ₁	1	Classroom Climate ₁	0.3492	0.3492	0.591	p<0.001
	2	Classroom Climate ₁	0.0822	0.4314	0.412	p<0.001
		Home Environment ₁			0.338	p<0.001
Time ₂	1	Classroom Climate ₂	0.2661	0.2661	0.516	p<0.001
	2	Classroom Climate ₂	0.0603	0.3264	0.381	p<0.001
		Home Environment ₂			0.280	p<0.001
Time ₃	1	Home Environment ₃	0.3208	0.3208	0.566	p<0.001
	2	Home Environment ₃	0.0806	0.4014	0.385	p<0.001
		Classroom Climate ₃			0.337	p<0.001

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the male students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Classroom Climate ₁	0.3492	0.3492	0.591	p<0.001
	2	Classroom Climate ₁	0.0822	0.4314	0.412	p<0.001
		Home Environment ₁			0.338	p<0.001
Time ₂	1	Classroom Climate ₂	0.2661	0.2661	0.516	p<0.001
	2	Classroom Climate ₂	0.0603	0.3264	0.381	p<0.001
		Home Environment ₂			0.280	p<0.001
Time ₃	1	Home Environment ₃	0.3208	0.3208	0.566	p<0.001
	2	Home Environment ₃	0.0806	0.4014	0.385	p<0.001
		Classroom Climate ₃			0.337	p<0.001
	3	Home Environment ₃	0.0120	0.4134	0.321	p<0.001
		Classroom Climate ₃			0.325	p<0.001
		Home environment ₁			0.131	p<0.05

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the male students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Academic Support ₀	0.1745	0.1745	0.418	p<0.001
	2	Academic Support ₀	0.0641	0.2386	0.339	p<0.001
		Peer Relationship ₀			0.265	p<0.001
	3	Academic Support ₀	0.0334	0.2720	0.271	p<0.001
		Peer Relationship ₀			0.213	p<0.001
		Teachers' Expectations ₀			0.207	p<0.005
Time ₁	1	Teachers' Expectations ₁	0.2256	0.2256	0.475	p<0.001
	2	Teachers' Expectations ₁	0.0978	0.3234	0.361	p<0.001
		Relationship with Parents ₁			0.333	p<0.001
Time ₂	1	Academic Support ₂	0.1634	0.1634	0.404	p<0.001
	2	Academic Support ₂	0.0655	0.2289	0.297	p<0.001
		Teachers' Expectations ₂			0.277	p<0.001
	3	Academic Support ₂	0.0273	0.2562	0.278	p<0.001
		Teachers' Expectations ₂			0.247	p<0.001
		Sec 1 Class Position			-0.170	p<0.005
Time ₃	1	Relationship with Parents ₃	0.2071	0.2071	0.455	p<0.001
	2	Relationship with Parents ₃	0.0553	0.2624	0.429	p<0.001
		Sec 2 Class Position			-0.236	p<0.001
	3	Relationship with Parents ₃	0.0419	0.3043	0.341	p<0.001
		Sec 2 Class Position			-0.212	p<0.001
		Relationship with Teachers ₃			0.225	p<0.001

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the male students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Teachers ₀	0.2061	0.2061	0.454	p<0.001
	2	Relationship with Teachers ₀	0.0847	0.2908	0.355	p<0.001
		Relationship with Parents ₀			0.307	p<0.001
	3	Relationship with Teachers ₀	0.0294	0.3202	0.216	p<0.005
		Relationship with Parents ₀			0.284	p<0.001
		Teachers' Expectations ₀			0.227	p<0.005
Time ₁	1	Teachers' Expectations ₁	0.2422	0.2422	0.492	p<0.001
	2	Teachers' Expectations ₁	0.1019	0.3441	0.376	p<0.001
		Relationship with Parents ₁			0.340	p<0.001
Time ₂	1	Teachers' Expectations ₂	0.2404	0.2404	0.490	p<0.001
	2	Teachers' Expectations ₂	0.0445	0.2849	0.402	p<0.001
		Academic Support ₂			0.229	p<0.001
Time ₃	1	Relationship with Parents ₃	0.2779	0.2779	0.527	p<0.001
	2	Relationship with Parents ₃	0.0703	0.3482	0.410	p<0.001
		Relationship with Teachers ₃			0.290	p<0.001
	3	Relationship with Parents ₃	0.0251	0.3733	0.401	p<0.001
		Relationship with Teachers ₃			0.269	p<0.001
		Sec 2 Class Position			-0.161	p<0.005

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the male students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.2256	0.2256	0.475	p<0.001
	2	Teachers' Expectations ₁	0.0978	0.3234	0.361	p<0.001
		Relationship with Parents ₁			0.333	p<0.001
Time ₂	1	Academic Support ₂	0.1634	0.1634	0.404	p<0.001
	2	Academic Support ₂	0.0655	0.2289	0.297	p<0.001
		Teachers' Expectations ₂			0.277	p<0.001
	3	Academic Support ₂	0.0273	0.2562	0.278	p<0.001
		Teachers' Expectations ₂			0.247	p<0.001
		Sec 1 Class Position			-0.170	p<0.005
Time ₃	1	Relationship with Parents ₃	0.2071	0.2071	0.455	p<0.001
	2	Relationship with Parents ₃	0.0553	0.2624	0.429	p<0.001
		Sec 2 Class Position			-0.236	p<0.001
	3	Relationship with Parents ₃	0.0419	0.3043	0.341	p<0.001
		Sec 2 Class Position			-0.212	p<0.001
		Relationship with Teachers ₃			0.225	p<0.001

(b) *Students' effort subscales*

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the male students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.2422	0.2422	0.492	p<0.001
	2	Teachers' Expectations ₁	0.1019	0.3441	0.376	p<0.001
		Relationship with Parents ₁			0.340	p<0.001
Time ₂	1	Teachers' Expectations ₂	0.2404	0.2404	0.490	p<0.001
	2	Teachers' Expectations ₂	0.0445	0.2849	0.402	p<0.001
		Academic Support ₂			0.229	p<0.001
Time ₃	1	Relationship with Parents ₃	0.2779	0.2779	0.527	p<0.001
	2	Relationship with Parents ₃	0.0703	0.3482	0.410	p<0.001
		Relationship with Teachers ₃			0.290	p<0.001
	3	Relationship with Parents ₃	0.0261	0.3743	0.339	p<0.001
		Relationship with Teachers ₃			0.273	p<0.001
		Academic Support ₁			0.180	p<0.005
	4	Relationship with Parents ₃	0.0223	0.3966	0.334	p<0.001
		Relationship with Teachers ₃			0.254	p<0.001
		Academic Support ₁			0.170	p<0.005
		Sec 2 Class Position			-0.152	p<0.005

Stepwise Multiple Linear Regression Results of the Female Students

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the female students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Classroom Climate ₀	0.4205	0.4205	0.648	p<0.001
	2	Classroom Climate ₀	0.0685	0.4890	0.489	p<0.001
		Home Environment ₀			0.306	p<0.001
Time ₁	1	Classroom Climate ₁	0.3462	0.3462	0.588	p<0.001
	2	Classroom Climate ₁	0.0722	0.4184	0.446	p<0.001
		Home Environment ₁			0.304	p<0.001
Time ₂	1	Home Environment ₂	0.2916	0.2916	0.540	p<0.001
	2	Home Environment ₂	0.0697	0.3613	0.442	p<0.001
		Classroom Climate ₂			0.282	p<0.001
Time ₃	1	Home Environment ₃	0.3444	0.3444	0.587	p<0.001
	2	Home Environment ₃	0.0927	0.4371	0.418	p<0.001
		Classroom Climate ₃			0.348	p<0.001

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the female students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Classroom Climate ₁	0.3462	0.3462	0.588	p<0.001
	2	Classroom Climate ₁	0.0722	0.4184	0.446	p<0.001
		Home Environment ₁			0.304	p<0.001
Time ₂	1	Home Environment ₂	0.2916	0.2916	0.540	p<0.001
	2	Home Environment ₂	0.0697	0.3613	0.442	p<0.001
		Classroom Climate ₂			0.282	p<0.001
	3	Home Environment ₂	0.0137	0.3750	0.425	p<0.001
		Classroom Climate ₂			0.198	p<0.005
		Classroom Climate ₁			0.148	p<0.005
Time ₃	1	Home Environment ₃	0.3444	0.3444	0.587	p<0.001
	2	Home Environment ₃	0.0927	0.4371	0.418	p<0.001
		Classroom Climate ₃			0.348	p<0.001

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) Students' confidence subscales

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the female students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Teachers ₀	0.2298	0.2298	0.479	p<0.001
	2	Relationship with Teachers ₀ Academic Support ₀	0.0651	0.2949	0.340 0.291	p<0.001 p<0.001
	3	Relationship with Teachers ₀ Academic Support ₀ Peer Relationship ₀	0.0335	0.3284	0.234 0.266 0.219	p<0.005 p<0.001 p<0.005
	4	Relationship with Teachers ₀ Academic Support ₀ Peer Relationship ₀ PSLE Result	0.0234	0.3518	0.227 0.255 0.223 0.153	p<0.005 p<0.001 p<0.001 p<0.005
Time ₁	1	Peer Relationship ₁	0.2171	0.2171	0.466	p<0.001
	2	Peer Relationship ₁ Academic Support ₁	0.0639	0.2810	0.376 0.268	p<0.001 p<0.001
	3	Peer Relationship ₁ Academic Support ₁ Teachers' Expectations ₁	0.0255	0.3065	0.298 0.222 0.191	p<0.001 p<0.001 p<0.005
Time ₂	1	Academic Support ₂	0.2136	0.2136	0.462	p<0.001
	2	Academic Support ₂ Sec 1 Class Position	0.0510	0.2646	0.429 -0.228	p<0.001 p<0.001
	3	Academic Support ₂ Sec 1 Class Position Relationship with Teachers ₂	0.0254	0.2900	0.383 -0.224 0.166	p<0.001 p<0.001 p<0.005
	4	Academic Support ₂ Sec 1 Class Position Relationship with Teachers ₂ Stream	0.0229	0.3129	0.397 -0.235 0.160 -0.153	p<0.001 p<0.001 p<0.01 p<0.01
Time ₃	1	Relationship with Teachers ₃	0.2303	0.2303	0.480	p<0.001
	2	Relationship with Teachers ₃ Sec 2 Class Position	0.0663	0.2966	0.482 -0.257	p<0.001 p<0.001
	3	Relationship with Teachers ₃ Sec 2 Class Position Academic Support ₃	0.0479	0.3445	0.395 -0.230 0.237	p<0.001 p<0.001 p<0.001

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the female students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Teachers ₀	0.3340	0.3340	0.578	p<0.001
	2	Relationship with Teachers ₀	0.0622	0.3962	0.442	p<0.001
		Academic Support ₀			0.284	p<0.001
	3	Relationship with Teachers ₀	0.0383	0.4345	0.271	p<0.001
		Academic Support ₀			0.248	p<0.001
		Teachers' Expectations ₀			0.273	p<0.001
Time ₁	1	Academic Support ₁	0.2502	0.2502	0.500	p<0.001
	2	Academic Support ₁	0.0966	0.3468	0.372	p<0.001
		Teachers' Expectations ₁			0.336	p<0.001
Time ₂	1	Academic Support ₂	0.2702	0.2702	0.520	p<0.001
	2	Academic Support ₂	0.0731	0.3433	0.441	p<0.001
		Relationship with Teachers ₂			0.282	p<0.001
	3	Academic Support ₂	0.0302	0.3735	0.249	p<0.005
		Relationship with Teachers ₂			0.267	p<0.001
		Relationship with Parents ₂			0.262	p<0.005
Time ₃	1	Relationship with Parents ₃	0.3628	0.3628	0.602	p<0.001
	2	Relationship with Parents ₃	0.0650	0.4278	0.510	p<0.001
		Teachers' Expectations ₃			0.271	p<0.001

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) Students' confidence subscales

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the female students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Peer Relationship ₁	0.2171	0.2171	0.466	p<0.001
	2	Peer Relationship ₁ Academic Support ₁	0.0639	0.2810	0.376 0.268	p<0.001 p<0.001
	3	Peer Relationship ₁ Academic Support ₁ Teachers' Expectations ₁	0.0255	0.3065	0.298 0.222 0.191	p<0.001 p<0.001 p<0.005
	1	Academic Support ₂	0.2136	0.2136	0.462	p<0.001
	2	Academic Support ₂ Sec 1 Class Position	0.0510	0.2646	0.429 -0.228	p<0.001 p<0.001
Time ₂	3	Academic Support ₂ Sec 1 Class Position Peer Relationship ₁	0.0477	0.3123	0.368 -0.240 0.227	p<0.001 p<0.001 p<0.001
	4	Academic Support ₂ Sec 1 Class Position Peer Relationship ₁ Stream	0.0230	0.3353	0.382 -0.251 0.223 -0.153	p<0.001 p<0.001 p<0.01 p<0.01
	1	Relationship with Teachers ₃	0.2303	0.2303	0.480	p<0.001
	2	Relationship with Teachers ₃ Academic Support ₂	0.0800	0.3103	0.390 0.297	p<0.001 p<0.001
	3	Relationship with Teachers ₃ Academic Support ₂ Sec 1 Class Position	0.0405	0.3508	0.387 0.268 -0.204	p<0.001 p<0.001 p<0.001
Time ₃						

(b) *Students' effort subscales*

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the female students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Academic Support ₁	0.2502	0.2502	0.500	p<0.001
	2	Academic Support ₁ Teachers' Expectations ₁	0.0966	0.3468	0.372 0.336	p<0.001 p<0.001
Time ₂	1	Academic Support ₂	0.2702	0.2702	0.520	p<0.001
	2	Academic Support ₂	0.0731	0.3433	0.441	p<0.001
		Relationship with Teachers ₂			0.282	p<0.001
	3	Academic Support ₂	0.0302	0.3735	0.249	p<0.005
		Relationship with Teachers ₂			0.267	p<0.001
		Relationship with Parents ₂			0.262	p<0.005
	4	Academic Support ₂	0.0215	0.3950	0.220	p<0.01
		Relationship with Teachers ₂			0.184	p<0.005
		Relationship with Parents ₂			0.274	p<0.001
		Teachers' Expectations ₁			0.172	p<0.005
Time ₃	1	Relationship with Parents ₃	0.3628	0.3628	0.602	p<0.001
	2	Relationship with Parents ₃ Teachers' Expectations ₃	0.0650	0.4278	0.510 0.271	p<0.001 p<0.001

Stepwise Multiple Linear Regression Results of the Express Students

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Classroom Climate ₀	0.3623	0.3623	0.602	p<0.001
	2	Classroom Climate ₀ Home Environment ₀	0.0864	0.4487	0.449 0.331	p<0.001 p<0.001
Time ₁	1	Classroom Climate ₁	0.3770	0.3770	0.614	p<0.001
	2	Classroom Climate ₁ Home Environment ₁	0.0591	0.4361	0.469 0.283	p<0.001 p<0.001
Time ₂	1	Home Environment ₂	0.2830	0.2830	0.532	p<0.001
	2	Home Environment ₂ Classroom Climate ₂	0.0738	0.3568	0.393 0.305	p<0.001 p<0.001
Time ₃	1	Home Environment ₃	0.2945	0.2945	0.543	p<0.001
	2	Home Environment ₃ Classroom Climate ₃	0.0946	0.3891	0.384 0.346	p<0.001 p<0.001

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Classroom Climate ₁	0.3770	0.3770	0.614	p<0.001
	2	Classroom Climate ₁ Home Environment ₁	0.0591	0.4361	0.469 0.283	p<0.001 p<0.001
	3	Classroom Climate ₁ Home Environment ₁ Home Environment ₀	0.0081	0.442	0.465 0.211 0.117	p<0.001 p<0.005 p<0.05
Time ₂	1	Home Environment ₂	0.2830	0.2830	0.532	p<0.001
	2	Home Environment ₂ Classroom Climate ₂	0.0738	0.3568	0.393 0.305	p<0.001 p<0.001
Time ₃	1	Home Environment ₃	0.2945	0.2945	0.543	p<0.001
	2	Home Environment ₃ Classroom Climate ₃	0.0946	0.3891	0.384 0.346	p<0.001 p<0.001
	3	Home Environment ₃ Classroom Climate ₃ Home Environment ₂	0.0110	0.4001	0.281 0.336 0.151	p<0.001 p<0.001 p<0.05

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Academic Support ₀	0.1823	0.1823	0.427	p<0.001
	2	Academic Support ₀ Peer Relationship ₀	0.0578	0.2401	0.340 0.256	p<0.001 p<0.001
	3	Academic Support ₀ Peer Relationship ₀ Teachers' Expectations ₀	0.0213	0.2614	0.297 0.199 0.168	p<0.001 p<0.005 p<0.01
Time ₁	1	Peer Relationship ₁	0.2359	0.2359	0.468	p<0.001
	2	Peer Relationship ₁ Teachers' Expectations ₁	0.0670	0.3029	0.346 0.294	p<0.001 p<0.001
	3	Peer Relationship ₁ Teachers' Expectations ₁ Academic Support ₁	0.0229	0.3258	0.310 0.234 0.173	p<0.001 p<0.001 p<0.005
Time ₂	1	Academic Support ₂	0.2075	0.2075	0.456	p<0.001
	2	Academic Support ₂ Sec 1 Class Position	0.0846	0.2921	0.432 -0.292	p<0.001 p<0.001
	3	Academic Support ₂ Sec 1 Class Position Relationship with Teachers ₂	0.0221	0.3142	0.382 -0.284 0.157	p<0.001 p<0.001 p<0.005
Time ₃	1	Relationship with Teachers ₃	0.1725	0.1725	0.415	p<0.001
	2	Relationship with Teachers ₃ Relationship with Parents ₃	0.0763	0.2488	0.307 0.297	p<0.001 p<0.001
	3	Relationship with Teachers ₃ Relationship with Parents ₃ Sec 2 Class Position	0.0286	0.2774	0.311 0.275 -0.170	p<0.001 p<0.001 p<0.005

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Teachers' Expectations ₀	0.2915	0.2915	0.540	p<0.001
	2	Teachers' Expectations ₀	0.1083	0.3998	0.452	p<0.001
		Relationship with Parents ₀			0.341	p<0.001
	3	Teachers' Expectations ₀	0.0254	0.4251	0.386	p<0.001
		Relationship with Parents ₀			0.293	p<0.001
		Peer Relationship ₀			0.183	p<0.005
Time ₁	1	Teachers' Expectations ₁	0.2790	0.2790	0.528	p<0.001
	2	Teachers' Expectations ₁	0.0949	0.3739	0.414	p<0.001
		Relationship with Parents ₁			0.329	p<0.001
Time ₂	1	Academic Support ₂	0.2588	0.2588	0.509	p<0.001
	2	Academic Support ₂	0.1016	0.3604	0.394	p<0.001
		Teachers' Expectations ₂			0.339	p<0.001
	3	Academic Support ₂	0.0381	0.3985	0.383	p<0.001
		Teachers' Expectations ₂			0.322	p<0.001
		Sec 1 Class Position			-0.196	p<0.001
	4	Academic Support ₂	0.0184	0.4169	0.392	p<0.001
		Teachers' Expectations ₂			0.320	p<0.001
		Sec 1 Class Position			-0.170	p<0.001
		Gender			0.138	p<0.005
	5	Academic Support ₂	0.0202	0.4371	0.248	p<0.001
		Teachers' Expectations ₂			0.305	p<0.001
		Sec 1 Class Position			-0.154	p<0.005
		Gender			0.145	p<0.005
		Relationship with Parents ₂			0.208	p<0.005
Time ₃	1	Relationship with Parents ₃	0.2781	0.2781	0.527	p<0.001
	2	Relationship with Parents ₃	0.0714	0.3495	0.439	p<0.001
		Teachers' Expectations ₃			0.282	p<0.001

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Peer Relationship ₁	0.2359	0.2359	0.468	p<0.001
	2	Peer Relationship ₁	0.0670	0.3029	0.346	p<0.001
		Teachers' Expectations ₁			0.294	p<0.001
	3	Peer Relationship ₁	0.0229	0.3258	0.310	p<0.001
		Teachers' Expectations ₁			0.234	p<0.001
		Academic Support ₁			0.173	p<0.005
Time ₂	1	Academic Support ₂	0.2075	0.2075	0.456	p<0.001
	2	Academic Support ₂	0.0846	0.2921	0.432	p<0.001
		Sec 1 Class Position			-0.292	p<0.001
	3	Academic Support ₂	0.0221	0.3142	0.382	p<0.001
		Sec 1 Class Position			-0.284	p<0.001
		Relationship with Teachers ₂			0.157	p<0.005
Time ₃	1	Relationship with Teachers ₃	0.1725	0.1725	0.415	p<0.001
	2	Relationship with Teachers ₃	0.0763	0.2488	0.307	p<0.001
		Relationship with Parents ₃			0.297	p<0.001
	3	Relationship with Teachers ₃	0.0286	0.2774	0.311	p<0.001
		Relationship with Parents ₃			0.275	p<0.001
		Sec 2 Class Position			-0.170	p<0.005
	4	Relationship with Teachers ₃	0.0223	0.2997	0.287	p<0.001
		Relationship with Parents ₃			0.194	p<0.005
		Sec 2 Class Position			-0.159	p<0.005
		Academic Support ₂			0.177	p<0.005

(b) *Students' effort subscales*

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.2790	0.2790	0.528	p<0.001
	2	Teachers' Expectations ₁	0.0949	0.3739	0.414	p<0.001
		Relationship with Parents ₁			0.329	p<0.001
Time ₂	1	Academic Support ₂	0.2588	0.2588	0.509	p<0.001
	2	Academic Support ₂	0.1016	0.3604	0.394	p<0.001
		Teachers' Expectations ₂			0.339	p<0.001
	3	Academic Support ₂	0.0381	0.3985	0.383	p<0.001
		Teachers' Expectations ₂			0.322	p<0.001
		Sec 1 Class Position			-0.196	p<0.001
	4	Academic Support ₂	0.0184	0.4169	0.392	p<0.001
		Teachers' Expectations ₂			0.320	p<0.001
		Sec 1 Class Position			-0.170	p<0.001
		Gender			0.138	p<0.005
	5	Academic Support ₂	0.0202	0.4371	0.248	p<0.001
		Teachers' Expectations ₂			0.305	p<0.001
		Sec 1 Class Position			-0.154	p<0.005
		Gender			0.145	p<0.005
		Relationship with Parents ₂			0.208	p<0.005
Time ₃	1	Relationship with Parents ₃	0.2781	0.2781	0.527	p<0.001
	2	Relationship with Parents ₃	0.0714	0.3495	0.439	p<0.001
		Teachers' Expectations ₃			0.282	p<0.001

Stepwise Multiple Linear Regression Results of the Normal Students

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Classroom Climate ₀	0.3659	0.3659	0.605	p<0.001
	2	Classroom Climate ₀	0.0722	0.4381	0.447	p<0.001
		Home Environment ₀			0.312	p<0.001
Time ₁	1	Classroom Climate ₁	0.3115	0.3115	0.558	p<0.001
	2	Classroom Climate ₁	0.0993	0.4108	0.383	p<0.001
		Home Environment ₁			0.360	p<0.001
Time ₂	1	Classroom Climate ₂	0.2351	0.2351	0.485	p<0.001
	2	Classroom Climate ₂	0.0856	0.3207	0.361	p<0.001
		Home Environment ₂			0.318	p<0.001
Time ₃	1	Home Environment ₃	0.3768	0.3768	0.614	p<0.001
	2	Home Environment ₃	0.0727	0.4495	0.423	p<0.001
		Classroom Climate ₃			0.330	p<0.001

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Classroom Climate ₁	0.3115	0.3115	0.558	p<0.001
	2	Classroom Climate ₁	0.0993	0.4108	0.383	p<0.001
		Home Environment ₁			0.360	p<0.001
Time ₂	1	Classroom Climate ₂	0.2351	0.2351	0.485	p<0.001
	2	Classroom Climate ₂	0.0856	0.3207	0.361	p<0.001
		Home Environment ₂			0.318	p<0.001
	3	Classroom Climate ₂	0.0398	0.3605	0.253	p<0.001
		Home Environment ₂			0.289	p<0.001
		Classroom Climate ₁			0.234	p<0.001
Time ₃	1	Home Environment ₃	0.3768	0.3768	0.614	p<0.001
	2	Home Environment ₃	0.0727	0.4495	0.423	p<0.001
		Classroom Climate ₃			0.330	p<0.001
	3	Home Environment ₃	0.0204	0.4699	0.334	p<0.001
		Classroom Climate ₃			0.313	p<0.001
		Home Environment ₁			0.175	p<0.01

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Teachers' Expectations ₀	0.1915	0.1915	0.438	p<0.001
	2	Teachers' Expectations ₀	0.0932	0.2847	0.337	p<0.001
		Relationship with Parents ₀			0.321	p<0.001
	3	Teachers' Expectations ₀	0.0366	0.3213	0.295	p<0.001
		Relationship with Parents ₀			0.244	p<0.001
		Peer Relationship ₀			0.215	p<0.005
	4	Teachers' Expectations ₀	0.0418	0.3631	0.269	p<0.001
		Relationship with Parents ₀			0.245	p<0.001
		Peer Relationship ₀			0.254	p<0.001
		Gender			-0.208	p<0.001
Time ₁	1	Teachers' Expectations ₁	0.1957	0.1957	0.442	p<0.001
	2	Teachers' Expectations ₁	0.1018	0.2975	0.345	p<0.001
		Relationship with Parents ₁			0.334	p<0.001
Time ₂	1	Academic Support ₂	0.1594	0.1594	0.399	p<0.001
	2	Academic Support ₂	0.0546	0.2140	0.320	p<0.001
		Teachers' Expectations ₂			0.247	p<0.001
	3	Academic Support ₂	0.0429	0.2569	0.332	p<0.001
		Teachers' Expectations ₂			0.238	p<0.001
		Gender			-0.208	p<0.005
	4	Academic Support ₂	0.0203	0.2772	0.307	p<0.001
		Teachers' Expectations ₂			0.184	p<0.01
		Gender			-0.225	p<0.001
		Peer Relationship ₂			0.159	p<0.05
Time ₃	1	Teachers' Expectations ₃	0.2324	0.2324	0.482	p<0.001
	2	Teachers' Expectations ₃	0.0730	0.3054	0.336	p<0.001
		Relationship with Parents ₃			0.307	p<0.001
	3	Teachers' Expectations ₃	0.0215	0.3269	0.335	p<0.001
		Relationship with Parents ₃			0.314	p<0.001
		Gender			-0.147	p<0.05
	4	Teachers' Expectations ₃	0.0342	0.3611	0.280	p<0.001
		Relationship with Parents ₃			0.312	p<0.001
		Gender			-0.229	p<0.001
		Sec 2 Class Position			-0.210	p<0.005
	5	Teachers' Expectations ₃	0.0231	0.3842	0.139	-
		Relationship with Parents ₃			0.291	p<0.001
		Gender			-0.220	p<0.001
		Sec 2 Class Position			-0.234	p<0.001
		Relationship with Teachers ₃			0.213	p<0.01

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Teachers ₀	0.2390	0.2390	0.489	p<0.001
	2	Relationship with Teachers ₀	0.0615	0.3005	0.388	p<0.001
	3	Relationship with Parents ₀	0.0211	0.3216	0.268	p<0.001
		Relationship with Teachers ₀			0.261	p<0.001
		Relationship with Parents ₀			0.254	p<0.001
		Teachers' Expectations ₀			0.197	p<0.05
Time ₁	1	Relationship with Parents ₁	0.2230	0.2230	0.472	p<0.001
	2	Relationship with Parents ₁	0.0876	0.3106	0.382	p<0.001
	3	Teachers' Expectations ₁	0.0256	0.3362	0.309	p<0.001
		Relationship with Parents ₁			0.371	p<0.001
		Teachers' Expectations ₁			0.311	p<0.001
		PSLE Result			0.160	p<0.01
Time ₂	1	Teachers' Expectations ₂	0.1687	0.1687	0.411	P<0.001
	2	Teachers' Expectations ₂	0.0657	0.2344	0.329	P<0.001
		Relationship with Parents ₂			0.269	p<0.001
Time ₃	1	Relationship with Parents ₃	0.3578	0.3578	0.598	p<0.001
	2	Relationship with Parents ₃	0.0548	0.4126	0.564	p<0.001
	3	Sec 2 Class Position	0.0392	0.4518	-0.237	p<0.001
		Relationship with Parents ₃			0.478	p<0.001
		Sec 2 Class Position			-0.236	p<0.001
		Relationship with Teachers ₃			0.216	p<0.001

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.1957	0.1957	0.442	p<0.001
	2	Teachers' Expectations ₁ Relationship with Parents ₁	0.1018	0.2975	0.345 0.334	p<0.001 p<0.001
Time ₂	1	Academic Support ₂	0.1594	0.1594	0.399	p<0.001
	2	Academic Support ₂	0.0662	0.2256	0.343	p<0.001
		Peer Relationship ₁			0.263	p<0.001
	3	Academic Support ₂	0.0557	0.2813	0.351	p<0.001
		Peer Relationship ₁			0.281	p<0.001
		Gender			-0.237	p<0.001
	4	Academic Support ₂	0.0248	0.3061	0.304	p<0.001
		Peer Relationship ₁			0.236	p<0.001
		Gender			-0.277	p<0.001
Time ₃	1	Teachers' Expectations ₃	0.2324	0.2324	0.482	p<0.001
		Relationship with Parents ₃			0.307	p<0.001
	2	Teachers' Expectations ₃	0.0730	0.3054	0.336	p<0.001
		Relationship with Parents ₃			0.307	p<0.001
	3	Teachers' Expectations ₃	0.0251	0.3305	0.334	p<0.001
		Relationship with Parents ₃			0.231	p<0.005
	4	Academic Support ₀	0.0220	0.3525	0.176	p<0.01
		Teachers' Expectations ₃			0.302	p<0.001
		Relationship with Parents ₃			0.215	p<0.005
	5	Academic Support ₀	0.0341	0.3866	0.197	p<0.005
		Sec 1 Class Position			-0.154	p<0.01
		Teachers' Expectations ₃			0.291	P<0.001
		Relationship with Parents ₃			0.219	p<0.005
		Academic Support ₀			0.202	p<0.005
		Sec 1 Class Position			-0.199	p<0.005
		Gender			-0.190	p<0.005

(b) *Students' effort subscales*

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Relationship with Parents ₁	0.2230	0.2230	0.472	p<0.001
	2	Relationship with Parents ₁	0.0876	0.3106	0.382	p<0.001
	3	Teachers' Expectations ₁	0.0256	0.3362	0.309	p<0.001
		Relationship with Parents ₁			0.371	p<0.001
		Teachers' Expectations ₁			0.311	p<0.001
Time ₂	1	PSLE Result	0.1687	0.1687	0.160	p<0.01
	2	Teachers' Expectations ₂	0.1687	0.1687	0.411	P<0.001
	2	Teachers' Expectations ₂	0.0735	0.2422	0.351	P<0.001
Time ₃	1	Relationship with Parents ₁	0.0735	0.2422	0.278	p<0.001
		Relationship with Parents ₁			0.278	p<0.001
	2	Relationship with Parents ₃	0.3578	0.3578	0.598	p<0.001
	2	Relationship with Parents ₃	0.0548	0.4126	0.564	p<0.001
	3	Sec 2 Class Position	0.0392	0.4518	-0.237	p<0.001
		Relationship with Parents ₃			0.478	p<0.001
		Sec 2 Class Position			-0.236	p<0.001
Time ₃	3	Relationship with Parents ₃	0.0392	0.4518	0.216	p<0.001
		Relationship with Teachers ₃			0.216	p<0.001

Stepwise Multiple Linear Regression Results of the Lower Express Students

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Lower Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Home Environment ₀	0.3378	0.3378	0.581	p<0.001
	2	Home Environment ₀	0.0911	0.4289	0.383	p<0.001
		Classroom Climate ₀			0.361	p<0.001
Time ₁	1	Classroom Climate ₁	0.4849	0.4849	0.696	p<0.001
	2	Classroom Climate ₁	0.0737	0.5586	0.515	p<0.001
		Home Environment ₁			0.327	p<0.001
Time ₂	1	Home Environment ₂	0.2716	0.2716	0.521	p<0.001
	2	Home Environment ₂	0.0911	0.3627	0.363	p<0.001
		Classroom Climate ₂			0.340	p<0.005
Time ₃	1	Home Environment ₃	0.3694	0.3694	0.608	p<0.001
	2	Home Environment ₃	0.0586	0.4280	0.426	p<0.001
		Classroom Climate ₃			0.303	p<0.005

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Lower Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Classroom Climate ₁	0.4849	0.4849	0.696	p<0.001
	2	Classroom Climate ₁	0.0737	0.5586	0.515	p<0.001
		Home Environment ₁			0.327	p<0.001
Time ₂	1	Home Environment ₂	0.2716	0.2716	0.521	p<0.001
	2	Home Environment ₂	0.0911	0.3627	0.363	p<0.001
		Classroom Climate ₂			0.340	p<0.005
Time ₃	1	Home Environment ₂	0.3885	0.3885	0.623	p<0.001
	2	Home Environment ₂	0.0721	0.4606	0.455	p<0.001
		Classroom Climate ₃			0.317	p<0.005
	3	Home Environment ₂	0.0286	0.4892	0.338	p<0.005
		Classroom Climate ₃			0.232	p<0.05
		Home Environment ₃			0.245	p<0.05

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) Students' confidence subscales

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Lower Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Academic Support ₀	0.2404	0.2404	0.490	p<0.001
Time ₁	1	Academic Support ₁	0.3156	0.3156	0.562	p<0.001
	2	Academic Support ₁	0.0852	0.4008	0.412	p<0.001
		Peer Relationship ₁			0.328	p<0.005
Time ₂	1	Academic Support ₂	0.2459	0.2459	0.496	p<0.001
	2	Academic Support ₂	0.0793	0.3252	0.458	p<0.001
		Sec 1 Class Position			-0.284	p<0.005
	3	Academic Support ₂	0.0358	0.3610	0.378	p<0.001
		Sec 1 Class Position			-0.267	p<0.005
Time ₃		Relationship with Teachers ₂			0.207	p<0.05
	1	Academic Support ₃	0.2679	0.2679	0.518	p<0.001
	2	Academic Support ₃	0.1014	0.3693	0.516	p<0.001
		Sec 2 Class Position			-0.319	p<0.001
	3	Academic Support ₃	0.0330	0.4023	0.327	p<0.01
		Sec 2 Class Position			-0.311	p<0.001
		Relationship with Parents ₃			0.262	p<0.05
	4	Academic Support ₃	0.0394	0.4417	0.269	p<0.05
		Sec 2 Class Position			-0.292	p<0.005
		Relationship with Parents ₃			0.316	p<0.01
		Socio-Economic Status			0.204	p<0.05

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Lower Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Teachers ₀	0.3099	0.3099	0.557	p<0.001
	2	Relationship with Teachers ₀	0.0689	0.3788	0.418	p<0.001
		Relationship with Parents ₀			0.297	p<0.005
	3	Relationship with Teachers ₀	0.0609	0.4397	0.215	-
		Relationship with Parents ₀			0.295	p<0.005
		Teachers' Expectations ₀			0.320	p<0.005
Time ₁	1	Teachers' Expectations ₁	0.4246	0.4246	0.652	p<0.001
	2	Teachers' Expectations ₁	0.1127	0.5373	0.568	p<0.001
		Relationship with Parents ₁			0.346	p<0.001
Time ₂	1	Teachers' Expectations ₂	0.3023	0.3023	0.550	p<0.001
	2	Teachers' Expectations ₂	0.1177	0.4200	0.385	p<0.001
		Academic Support ₂			0.381	p<0.001
	3	Teachers' Expectations ₂	0.0341	0.4541	0.383	p<0.001
		Academic Support ₂			0.354	p<0.001
		Gender			0.187	p<0.05
Time ₃	1	Relationship with Teachers ₃	0.3217	0.3217	0.567	p<0.001
	2	Relationship with Teachers ₃	0.0797	0.4014	0.398	p<0.001
		Relationship with Parents ₃			0.329	p<0.005
	3	Relationship with Teachers ₃	0.0320	0.4334	0.406	p<0.001
		Relationship with Parents ₃			0.336	p<0.005
		Socio-Economic Status			0.179	p<0.05

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Lower Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Academic Support ₁	0.3156	0.3156	0.562	p<0.001
	2	Academic Support ₁ Peer Relationship ₁	0.0852	0.4008	0.412 0.328	p<0.001 p<0.005
Time ₂	1	Academic Support ₂	0.2459	0.2459	0.496	p<0.001
	2	Academic Support ₂ Sec 1 Class Position	0.0793	0.3252	0.458 -0.284	p<0.001 p<0.005
	3	Academic Support ₂ Sec 1 Class Position	0.0358	0.3610	0.378 -0.267	p<0.001 p<0.005
		Relationship with Teachers ₂			0.207	p<0.05
Time ₃	1	Academic Support ₃	0.2679	0.2679	0.518	p<0.001
	2	Academic Support ₃ Sec 2 Class Position	0.1014	0.3693	0.516 -0.319	p<0.001 p<0.001
	3	Academic Support ₃ Sec 2 Class Position	0.0579	0.4272	0.369 -0.285	p<0.001 p<0.005
		Relationship with Parents ₂			0.284	p<0.005
	4	Academic Support ₃ Sec 2 Class Position	0.0288	0.4560	0.350 -0.270	p<0.001 p<0.005
		Relationship with Parents ₂			0.291	p<0.005
		Socio-Economic Status			0.171	p<0.05

(b) *Students' effort subscales*

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Lower Express students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.4246	0.4246	0.652	p<0.001
	2	Teachers' Expectations ₁	0.1127	0.5373	0.568	p<0.001
		Relationship with Parents ₁			0.346	p<0.001
Time ₂	1	Teachers' Expectations ₂	0.3023	0.3023	0.550	p<0.001
	2	Teachers' Expectations ₂	0.1177	0.4200	0.385	p<0.001
		Academic Support ₂			0.381	p<0.001
	3	Teachers' Expectations ₂	0.0341	0.4541	0.383	p<0.001
		Academic Support ₂			0.354	p<0.001
		Gender			0.187	p<0.05
Time ₃	1	Academic Support ₂	0.3309	0.3309	0.575	p<0.001
	2	Academic Support ₂	0.1052	0.4361	0.390	p<0.001
		Relationship with Teachers ₃			0.374	p<0.001
	3	Academic Support ₂	0.0337	0.4698	0.318	p<0.005
		Relationship with Teachers ₃			0.293	p<0.005
		Relationship with Parents ₁			0.226	p<0.05

Stepwise Multiple Linear Regression Results of the Higher Normal Students

(I) Regressions of the present environmental main scales on the academic self-concept scales

Table 1: Stepwise multiple linear regressions of the present environmental scales on the academic self-concept scales of the Higher Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Home Environment ₀	0.3857	0.3857	0.621	p<0.001
Time ₁	1	Home Environment ₁	0.3186	0.3186	0.564	p<0.001
	2	Home Environment ₁ Classroom Climate ₁	0.0561	0.3747	0.432 0.272	p<0.001 p<0.05
Time ₂	1	Home Environment ₂	0.2755	0.2755	0.525	p<0.001
Time ₃	1	Home Environment ₃	0.4232	0.4232	0.651	p<0.001

(II) Regressions of the past and present environmental main scales on the academic self-concept scales

Table 2: Stepwise multiple linear regressions of the past and present environmental scales on the academic self-concept scales of the Higher Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Home Environment ₁	0.3186	0.3186	0.564	p<0.001
	2	Home Environment ₁ Classroom Climate ₁	0.0561	0.3747	0.432 0.272	p<0.001 p<0.05
Time ₂	1	Home Environment ₂	0.2755	0.2755	0.525	p<0.001
	2	Home Environment ₂ Classroom Climate ₀	0.0720	0.3475	0.458 0.277	p<0.001 p<0.05
Time ₃	1	Home Environment ₃	0.4232	0.4232	0.651	p<0.001
	2	Home Environment ₃ Home Environment ₀	0.0394	0.4626	0.545 0.225	p<0.001 p<0.05

(III) Regressions of the present environmental subscales on the academic self-concept subscales

(a) *Students' confidence subscales*

Table 3: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' confidence subscales of the Higher Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Relationship with Parents ₀	0.2003	0.2003	0.447	p<0.001
	2	Relationship with Parents ₀ Teachers' Expectations ₀	0.0781	0.2784	0.354 0.295	p<0.005 p<0.05
Time ₁	1	Teachers' Expectations ₁	0.2497	0.2497	0.500	p<0.001
	2	Teachers' Expectations ₁ Relationship with Parents ₁	0.1081	0.3578	0.407 0.342	p<0.001 p<0.005
Time ₂	1	Relationship with Parents ₂	0.2228	0.2228	0.472	p<0.001
	2	Relationship with Parents ₂ Peer Relationship ₂	0.0733	0.2961	0.422 0.275	p<0.001 p<0.05
Time ₃	1	Relationship with Teachers ₃	0.1891	0.1891	0.435	p<0.001

(b) *Students' effort subscales*

Table 4: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the present environmental subscales on the students' effort subscales of the Higher Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₀	1	Academic Support ₀	0.2671	0.2671	0.517	p<0.001
Time ₁	1	Relationship with Parents ₁	0.2554	0.2554	0.505	p<0.001
	2	Relationship with Parents ₁ Teachers' Expectations ₁	0.0736	0.3290	0.429 0.282	p<0.001 p<0.05
	3	Relationship with Parents ₁ Teachers' Expectations ₁ Relationship with Teachers ₁	0.0520	0.3810	0.496 0.496 -0.332	p<0.001 p<0.005 p<0.05
Time ₂	1	Academic Support ₂	0.2029	0.2029	0.450	p<0.001
	2	Academic Support ₂ Peer Relationship ₂	0.0834	0.2863	0.354 0.304	p<0.005 p<0.01
Time ₃	1	Relationship with Parents ₃	0.5291	0.5291	0.727	p<0.001
	2	Relationship with Parents ₃ Sec 2 Class Position	0.0470	0.5761	0.683 -0.221	p<0.001 p<0.05
	3	Relationship with Parents ₃ Sec 2 Class Position Relationship with Teachers ₃	0.0330	0.6091	0.571 -0.251 0.212	p<0.001 p<0.005 p<0.05

(IV) Regressions of the past and present environmental subscales on the academic self-concept subscales

(a) Students' confidence subscales

Table 5: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' confidence subscales of the Higher Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Teachers' Expectations ₁	0.2497	0.2497	0.500	p<0.001
	2	Teachers' Expectations ₁	0.1081	0.3578	0.407	p<0.001
		Relationship with Parents ₁			0.342	p<0.005
Time ₂	1	Relationship with Parents ₂	0.2228	0.2228	0.472	p<0.001
	2	Relationship with Parents ₂	0.0733	0.2961	0.422	p<0.001
		Peer Relationship ₂			0.275	p<0.05
Time ₃	1	Relationship with Parents ₀	0.1926	0.1926	0.439	p<0.001
	2	Relationship with Parents ₀	0.1179	0.3105	0.358	p<0.005
		Relationship with Teachers ₃			0.353	p<0.005

(b) Students' effort subscales

Table 6: Stepwise multiple linear regressions of ability stream, PSLE result, gender, socio-economic status, non-verbal reasoning test and the past and present environmental subscales on the students' effort subscales of the Higher Normal students

	Stepwise	Predictor	ΔR^2	Overall R^2	β	Sign.
Time ₁	1	Relationship with Parents ₁	0.2554	0.2554	0.505	p<0.001
	2	Relationship with Parents ₁	0.0736	0.3290	0.429	p<0.001
		Teachers' Expectations ₁			0.282	p<0.05
	3	Relationship with Parents ₁	0.0520	0.3810	0.496	p<0.001
		Teachers' Expectations ₁			0.496	p<0.005
Time ₂		Relationship with Teachers ₁			-0.332	p<0.05
	1	Relationship with Parents ₀	0.2110	0.2110	0.459	p<0.001
	2	Relationship with Parents ₀	0.0724	0.2834	0.355	p<0.005
		Peer Relationship ₂			0.288	p<0.05
	1	Relationship with Parents ₃	0.5291	0.5291	0.727	p<0.001
Time ₃	2	Relationship with Parents ₃	0.0470	0.5761	0.683	p<0.001
		Sec 2 Class Position			-0.221	p<0.05
	3	Relationship with Parents ₃	0.0330	0.6091	0.571	p<0.001
		Sec 2 Class Position			-0.251	p<0.005
		Relationship with Teachers ₃			0.212	p<0.05

Results of the 6 Ability Bands

(a) Results at time₀

Table 1: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time₀

	Higher Express	Middle Express	Lower Express	Higher Normal	Middle Normal	Lower Normal
Self	3.146	3.155	3.154	3.049	3.087	3.112
Confid	2.868	2.849	2.824	2.761	2.780	2.820
Effort	3.424	3.461	3.484	3.336	3.393	3.405
Home	3.365	3.419	3.438	3.323	3.366	3.357
RelatP	3.244	3.335	3.354	3.208	3.274	3.244
SupporA	3.485	3.502	3.522	3.439	3.458	3.472
Class	3.188	3.303	3.309	3.109	3.197	3.217
RelatT	3.192	3.371	3.349	3.162	3.246	3.272
TExpect	3.477	3.573	3.569	3.429	3.469	3.499
Peer	2.905	2.965	3.008	2.737	2.877	2.879

(b) Results at time₁

Table 2: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time₁

	Higher Express	Middle Express	Lower Express	Higher Normal	Middle Normal	Lower Normal
Self	3.009	3.025	3.009	2.999	3.041	2.998
Confid	2.751	2.775	2.738	2.686	2.740	2.745
Effort	3.267	3.276	3.280	3.311	3.342	3.251
Home	3.246	3.375	3.371	3.371	3.292	3.312
RelatP	3.139	3.286	3.332	3.283	3.208	3.212
SupporA	3.353	3.464	3.410	3.458	3.376	3.412
Class	2.927	3.176	3.118	3.072	3.093	3.164
RelatT	2.806	3.239	3.175	3.116	3.149	3.262
TExpect	3.237	3.444	3.375	3.367	3.385	3.439
Peer	2.738	2.845	2.803	2.734	2.746	2.790

(c) Results at time₂

Table 3: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time₂

	Higher Express	Middle Express	Lower Express	Higher Normal	Middle Normal	Lower Normal
Self	2.923	2.894	2.870	2.866	2.914	2.895
Confid	2.721	2.664	2.653	2.648	2.672	2.692
Effort	3.124	3.123	3.087	3.083	3.155	3.099
Home	3.163	3.199	3.138	3.216	3.224	3.118
RelatP	3.056	3.147	3.059	3.121	3.150	3.000
SupporA	3.270	3.251	3.218	3.311	3.299	3.235
Class	2.913	2.973	2.979	2.922	2.995	3.000
RelatT	2.838	3.003	3.027	2.895	2.995	3.043
TExpect	3.178	3.175	3.215	3.143	3.204	3.243
Peer	2.723	2.742	2.694	2.729	2.788	2.716

(d) Results at time₃

Table 4: Mean scores of the academic self-concept, home environment and classroom climate measures of the ability bands at time₃

	Higher Express	Middle Express	Lower Express	Higher Normal	Middle Normal	Lower Normal
Self	2.807	2.751	2.768	2.892	2.838	2.828
Confid	2.592	2.553	2.557	2.700	2.668	2.639
Effort	3.021	2.948	2.980	3.083	3.009	3.017
Home	3.064	3.051	3.085	3.111	3.151	3.055
RelatP	3.008	3.013	3.007	3.023	3.075	2.946
SupporA	3.120	3.088	3.163	3.200	3.228	3.165
Class	2.894	2.962	2.947	2.999	2.978	2.976
RelatT	2.810	2.918	2.936	2.948	2.962	2.988
TExpect	3.100	3.162	3.142	3.195	3.206	3.203
Peer	2.772	2.805	2.764	2.855	2.766	2.735

Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Home Environment Measures at time₁

(I) Relationship with parents subscale at time₁

Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with parents subscale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
* (9) My parents always scold me.	Higher Express	2.934	0.917	}} p<0.05
	Middle Express	3.255	0.775	
	Lower Express	3.256	0.787	
* (15) My parents do not understand me.	Higher Express	2.879	1.009	} p<0.05
	Middle Express	3.085	0.888	
	Lower Express	3.222	0.832	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Significant Differences between the 6 Ability Bands in the Scores of the Items in the Classroom Climate Measures at time₀

(I) Classroom climate scale at time₀

Table 1: Significant differences between the 6 ability bands in the scores of the items in the classroom climate scale at time₀

Item	Ability Bands	Mean	SD	Level of Sign.
* (3) Our teachers do not trust us.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.156 3.468 3.522 3.333 3.368 3.385	0.702 0.581 0.545 0.536 0.562 0.744	} } p<0.05
* (9) Some classmates often quarrel among themselves.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	2.769 2.851 2.889 2.561 2.474 2.385	0.776 0.747 0.813 0.825 0.702 0.785	} } } p<0.05
(10) Our teachers try to get to know us.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.462 3.692 3.622 3.364 3.526 3.615	0.620 0.487 0.488 0.594 0.503 0.578	} p<0.05
* (15) There are groups of students who cannot get along in my class.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.066 2.989 3.144 2.682 2.842 2.846	0.772 0.810 0.787 0.862 0.749 0.834	} p<0.05
(25) Our teachers often praise us when we have done a good piece of work.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.178 3.457 3.422 3.288 3.250 3.308	0.439 0.522 0.497 0.519 0.545 0.528	} p<0.05

* negative item has been recoded such that a high mean is indicative of a positive feedback

(II) Relationship with teachers subscale at time₀

Table 2: Significant differences between the 6 ability bands in the scores of the items in the relationship with teachers subscale at time₀

Item	Ability Bands	Mean	SD	Level of Sign.
* (3) Our teachers do not trust us.	Higher Express	3.156	0.702	}} p<0.05
	Middle Express	3.468	0.581	
	Lower Express	3.522	0.545	
	Higher Normal	3.333	0.536	
	Middle Normal	3.368	0.562	
	Lower Normal	3.385	0.744	
(10) Our teachers try to get to know us.	Higher Express	3.462	0.620	} p<0.05
	Middle Express	3.692	0.487	
	Lower Express	3.622	0.488	
	Higher Normal	3.364	0.594	
	Middle Normal	3.526	0.503	
	Lower Normal	3.615	0.578	
(25) Our teachers often praise us when we have done a good piece of work.	Higher Express	3.178	0.439	} p<0.05
	Middle Express	3.457	0.522	
	Lower Express	3.422	0.497	
	Higher Normal	3.288	0.519	
	Middle Normal	3.250	0.545	
	Lower Normal	3.308	0.528	

(III) Peer relationship subscale at time₀

Table 3: Significant differences between the 6 ability bands in the scores of the items in the peer relationship subscale at time₀

Item	Ability Bands	Mean	SD	Level of Sign.
* (9) Some classmates often quarrel among themselves.	Higher Express	2.769	0.776	}}} p<0.05
	Middle Express	2.851	0.747	
	Lower Express	2.889	0.813	
	Higher Normal	2.561	0.825	
	Middle Normal	2.474	0.702	
	Lower Normal	2.385	0.785	
* (15) There are groups of students who cannot get along in my class.	Higher Express	3.066	0.772	} p<0.05
	Middle Express	2.989	0.810	
	Lower Express	3.144	0.787	
	Higher Normal	2.682	0.862	
	Middle Normal	2.842	0.749	
	Lower Normal	2.846	0.834	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Classroom Climate Measures at time₀

(I) Classroom climate scale at time₀

Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the classroom climate scale at time₀

Item	Ability Bands	Mean	SD	Level of Sign.
* (3) Our teachers do not trust us.	Higher Express Middle Express Lower Express	3.156 3.468 3.522	0.702 0.581 0.545	} } p<0.05
(10) Our teachers try to get to know us.	Higher Express Middle Express Lower Express	3.462 3.692 3.622	0.620 0.487 0.488	} p<0.05
(16) We find it easy to talk to our teachers about our problems.	Higher Express Middle Express Lower Express	2.557 2.904 2.900	0.756 0.777 0.750	} } p<0.05
(25) Our teachers often praise us when we have done a good piece of work.	Higher Express Middle Express Lower Express	3.178 3.457 3.422	0.439 0.522 0.497	} } p<0.05
(27) We respect our monitors and co-operate with them.	Higher Express Middle Express Lower Express	3.110 3.394 3.382	0.706 0.591 0.554	} } p<0.05

(II) Relationship with teachers subscale at time₀

Table 2: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with teachers subscale at time₀

Item	Ability Bands	Mean	SD	Level of Sign.
* (3) Our teachers do not trust us.	Higher Express Middle Express Lower Express	3.156 3.468 3.522	0.702 0.581 0.545	} } p<0.05
(10) Our teachers try to get to know us.	Higher Express Middle Express Lower Express	3.462 3.692 3.622	0.620 0.487 0.488	} p<0.05
(16) We find it easy to talk to our teachers about our problems.	Higher Express Middle Express Lower Express	2.557 2.904 2.900	0.756 0.777 0.750	} } p<0.05
(25) Our teachers often praise us when we have done a good piece of work.	Higher Express Middle Express Lower Express	3.178 3.457 3.422	0.439 0.522 0.497	} } p<0.05

* negative item has been recoded such that a high mean is indicative of a positive feedback

Significant Differences between the 6 Ability Bands in the Scores of the Items in the Classroom Climate Measures at time₁

(I) Classroom climate scale at time₁

Table 1a: Significant differences between the 6 ability bands in the scores of the items in the classroom climate scale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(1) Our teachers give extra lessons to the weaker students.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	1.978 3.298 3.311 3.152 3.184 3.231	0.830 0.774 0.681 0.770 0.761 0.724	} } } } } p<0.05
(2) Our teachers are confident that we can get good results.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	2.934 3.192 3.122 3.227 3.316 3.354	0.554 0.676 0.651 0.819 0.594 0.672	} } p<0.05
* (5) Our teachers believe that our class is weaker than other classes.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	2.791 3.170 3.133 2.682 2.987 3.031	0.850 0.650 0.722 0.963 0.856 0.866	} } p<0.05
(8) Our teachers make sure that we work hard for our exams.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.352 3.649 3.511 3.667 3.540 3.692	0.621 0.523 0.566 0.475 0.642 0.465	} } } p<0.05
(10) Our teachers try to get to know us.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.044 3.298 3.267 3.212 3.250 3.431	0.665 0.584 0.633 0.755 0.635 0.612	} p<0.05
* (12) It took a long time for me to get to know everybody by their names.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	3.264 2.989 2.878 2.773 2.776 2.785	0.712 0.874 0.805 1.005 0.810 0.857	} } } p<0.05
(16) We find it easy to talk to our teachers about our problems.	Higher Express Middle Express Lower Express Higher Normal Middle Normal Lower Normal	2.209 2.649 2.500 2.470 2.526 2.739	0.837 0.786 0.797 0.845 0.824 0.923	} } p<0.05

* negative item has been recoded such that a high mean is indicative of a positive feedback

Table 1b: Significant differences between the 6 ability bands in the scores of the items in the classroom climate scale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	Higher Express	2.692	0.865	}}}}}} p<0.05
	Middle Express	3.298	0.584	
	Lower Express	3.200	0.706	
	Higher Normal	3.106	0.787	
	Middle Normal	3.105	0.810	
	Lower Normal	3.231	0.786	
(27) We respect our monitors and co-operate with them.	Higher Express	2.802	0.718	} p<0.05
	Middle Express	3.160	0.708	
	Lower Express	3.078	0.674	
	Higher Normal	2.970	0.581	
	Middle Normal	2.987	0.808	
	Lower Normal	3.169	0.782	

(II) Relationship with teachers subscale at time₁

Table 2: Significant differences between the 6 ability bands in the scores of the items in the relationship with teachers subscale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(1) Our teachers give extra lessons to the weaker students.	Higher Express	1.978	0.830	}}}}}} p<0.05
	Middle Express	3.298	0.774	
	Lower Express	3.311	0.681	
	Higher Normal	3.152	0.770	
	Middle Normal	3.184	0.761	
	Lower Normal	3.231	0.724	
(10) Our teachers try to get to know us.	Higher Express	3.044	0.665	} p<0.05
	Middle Express	3.298	0.584	
	Lower Express	3.267	0.633	
	Higher Normal	3.212	0.755	
	Middle Normal	3.250	0.635	
	Lower Normal	3.431	0.612	
(16) We find it easy to talk to our teachers about our problems.	Higher Express	2.209	0.837	} p<0.05
	Middle Express	2.649	0.786	
	Lower Express	2.500	0.797	
	Higher Normal	2.470	0.845	
	Middle Normal	2.526	0.824	
	Lower Normal	2.739	0.923	
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	Higher Express	2.692	0.865	}}}}}} p<0.05
	Middle Express	3.298	0.584	
	Lower Express	3.200	0.706	
	Higher Normal	3.106	0.787	
	Middle Normal	3.105	0.810	
	Lower Normal	3.231	0.786	

* negative item has been recoded such that a high mean is indicative of a positive feedback

(III) Teachers’ expectations subscale at time₁

Table 3: Significant differences between the 6 ability bands in the scores of the items in the teachers’ expectations subscale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(2) Our teachers are confident that we can get good results.	Higher Express	2.934	0.554	} p<0.05
	Middle Express	3.192	0.676	
	Lower Express	3.122	0.651	
	Higher Normal	3.227	0.819	
	Middle Normal	3.316	0.594	
	Lower Normal	3.354	0.672	
* (5) Our teachers believe that our class is weaker than other classes.	Higher Express	2.791	0.850	} p<0.05
	Middle Express	3.170	0.650	
	Lower Express	3.133	0.722	
	Higher Normal	2.682	0.963	
	Middle Normal	2.987	0.856	
	Lower Normal	3.031	0.866	
(8) Our teachers make sure that we work hard for our exams.	Higher Express	3.352	0.621	} p<0.05
	Middle Express	3.649	0.523	
	Lower Express	3.511	0.566	
	Higher Normal	3.667	0.475	
	Middle Normal	3.540	0.642	
	Lower Normal	3.692	0.465	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Classroom Climate Measures at time₁

(I) Classroom climate scale at time₁

Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the classroom climate scale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(1) Our teachers give extra lessons to the weaker students.	Higher Express Middle Express Lower Express	1.978 3.298 3.311	0.830 0.774 0.681	} } p<0.05
(2) Our teachers are confident that we can get good results.	Higher Express Middle Express Lower Express	2.934 3.192 3.122	0.554 0.676 0.651	} p<0.05
* (5) Our teachers believe that our class is weaker than other classes.	Higher Express Middle Express Lower Express	2.791 3.170 3.133	0.850 0.650 0.722	} } p<0.05
* (7) Our teachers are only interested in the clever students in my class.	Higher Express Middle Express Lower Express	3.154 3.426 3.300	0.729 0.647 0.854	} p<0.05
(8) Our teachers make sure that we work hard for our exams.	Higher Express Middle Express Lower Express	3.352 3.649 3.511	0.621 0.523 0.566	} p<0.05
(10) Our teachers try to get to know us.	Higher Express Middle Express Lower Express	3.044 3.298 3.267	0.665 0.584 0.633	} p<0.05
* (12) It took a long time for me to get to know everybody by their names.	Higher Express Middle Express Lower Express	3.264 2.989 2.878	0.712 0.874 0.805	} p<0.05
* (13) Our teachers embarrass us for not knowing the right answers.	Higher Express Middle Express Lower Express	3.088 3.372 3.311	0.608 0.703 0.802	} p<0.05
(16) We find it easy to talk to our teachers about our problems.	Higher Express Middle Express Lower Express	2.209 2.649 2.500	0.837 0.786 0.797	} p<0.05
* (19) Our teachers spend very little time talking to us.	Higher Express Middle Express Lower Express	2.813 3.138 3.167	0.802 0.649 0.585	} } p<0.05
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	Higher Express Middle Express Lower Express	2.692 3.298 3.200	0.865 0.584 0.706	} } p<0.05
(24) We show care and concern for our classmates who have problems.	Higher Express Middle Express Lower Express	3.165 3.372 3.189	0.563 0.528 0.598	} p<0.05
(26) Our teachers encourage those who failed to work harder.	Higher Express Middle Express Lower Express	3.308 3.564 3.467	0.609 0.632 0.603	} p<0.05
(27) We respect our monitors and co-operate with them.	Higher Express Middle Express Lower Express	2.802 3.160 3.078	0.718 0.708 0.674	} } p<0.05

* negative item has been recoded such that a high mean is indicative of a positive feedback

(II) Relationship with teachers subscale at time₁

Table 2: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with teachers subscale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(1) Our teachers give extra lessons to the weaker students.	Higher Express Middle Express Lower Express	1.978 3.298 3.311	0.830 0.774 0.681	} p<0.05
* (7) Our teachers are only interested in the clever students in my class.	Higher Express Middle Express Lower Express	3.154 3.426 3.300	0.729 0.647 0.854	} p<0.05
(10) Our teachers try to get to know us.	Higher Express Middle Express Lower Express	3.044 3.298 3.267	0.665 0.584 0.633	} p<0.05
* (13) Our teachers embarrass us for not knowing the right answers.	Higher Express Middle Express Lower Express	3.088 3.372 3.311	0.608 0.703 0.802	} p<0.05
(16) We find it easy to talk to our teachers about our problems.	Higher Express Middle Express Lower Express	2.209 2.649 2.500	0.837 0.786 0.797	} p<0.05
* (19) Our teachers spend very little time talking to us.	Higher Express Middle Express Lower Express	2.813 3.138 3.167	0.802 0.649 0.585	} p<0.05
(22) Our teachers enjoy mixing with us at school functions (e.g., Sports Day, Orientation).	Higher Express Middle Express Lower Express	2.692 3.298 3.200	0.865 0.584 0.706	} p<0.05

(III) Teachers' expectations subscale at time₁

Table 3: Significant differences between the 3 Express ability bands in the scores of the items in the teachers' expectations subscale at time₁

Item	Ability Bands	Mean	SD	Level of Sign.
(2) Our teachers are confident that we can get good results.	Higher Express Middle Express Lower Express	2.934 3.192 3.122	0.554 0.676 0.651	} p<0.05
* (5) Our teachers believe that our class is weaker than other classes.	Higher Express Middle Express Lower Express	2.791 3.170 3.133	0.850 0.650 0.722	} p<0.05
(8) Our teachers make sure that we work hard for our exams.	Higher Express Middle Express Lower Express	3.352 3.649 3.511	0.621 0.523 0.566	} p<0.05
(26) Our teachers encourage those who failed to work harder.	Higher Express Middle Express Lower Express	3.308 3.564 3.467	0.609 0.632 0.603	} p<0.05

* negative item has been recoded such that a high mean is indicative of a positive feedback

Significant Differences between the 3 Express Ability Bands in the Scores of the Items in the Classroom Climate Measures at time₂

(I) Relationship with teachers subscale at time₂

Table 1: Significant differences between the 3 Express ability bands in the scores of the items in the relationship with teachers subscale at time₂

Item	Ability bands	Mean	SD	Level of Sign.
(1) Our teachers give extra lessons to the weaker students.	Higher Express	2.582	0.776	}} p<0.05
	Middle Express	3.202	0.756	
	Lower Express	3.222	0.595	
* (7) Our teachers are only interested in the clever students in my class.	Higher Express	2.912	0.770	} p<0.05
	Middle Express	3.170	0.616	
	Lower Express	3.100	0.735	

* negative item has been recoded such that a high mean is indicative of a positive feedback

Developmental Patterns of the Clusters over time

Table 1a: Paired t-tests on the scores of repeated measures of Cluster 1 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Academic Self-Concept	Time ₀	3.325	0.201	0.313	p<0.001
	Time ₁	3.124			
	Time ₁	3.124	0.246	0.297	p<0.001
	Time ₂	2.878			
	Time ₂	2.878	0.110	0.352	p<0.001
	Time ₃	2.768			
	Time ₀	3.325	0.557	0.394	p<0.001
	Time ₃	2.768			
(a) Students' Confidence	Time ₀	3.007	0.170	0.380	p<0.001
	Time ₁	2.837			
	Time ₁	2.837	0.180	0.339	p<0.001
	Time ₂	2.657			
	Time ₂	2.657	0.084	0.393	-
	Time ₃	2.573			
	Time ₀	3.007	0.434	0.469	p<0.001
	Time ₃	2.573			
(b) Students' Effort	Time ₀	3.643	0.232	0.360	p<0.001
	Time ₁	3.411			
	Time ₁	3.411	0.312	0.369	p<0.001
	Time ₂	3.099			
	Time ₂	3.099	0.135	0.428	p<0.001
	Time ₃	2.964			
	Time ₀	3.643	0.679	0.448	p<0.001
	Time ₃	2.964			
Home Environment	Time ₀	3.533	0.095	0.319	p<0.005
	Time ₁	3.438			
	Time ₁	3.438	0.245	0.330	p<0.001
	Time ₂	3.193			
	Time ₂	3.193	0.133	0.405	p<0.001
	Time ₃	3.060			
	Time ₀	3.533	0.473	0.396	p<0.001
	Time ₃	3.060			
(a) Relationship with Parents	Time ₀	3.449	0.085	0.401	-
	Time ₁	3.364			
	Time ₁	3.364	0.258	0.423	p<0.001
	Time ₂	3.106			
	Time ₂	3.106	0.107	0.463	p<0.01
	Time ₃	2.999			
	Time ₀	3.449	0.450	0.474	p<0.001
	Time ₃	2.999			
(b) Academic Support	Time ₀	3.617	0.104	0.313	p<0.001
	Time ₁	3.513			
	Time ₁	3.513	0.233	0.323	p<0.001
	Time ₂	3.280			
	Time ₂	3.280	0.158	0.427	p<0.001
	Time ₃	3.122			
	Time ₀	3.617	0.495	0.426	p<0.001
	Time ₃	3.122			

Table 1b: Paired t-tests on the scores of repeated measures of Cluster 1 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Classroom Climate	Time ₀	3.438	0.222	0.301	p<0.001
	Time ₁	3.216			
	Time ₁	3.216	0.245	0.298	p<0.001
	Time ₂	2.971			
	Time ₂	2.971	0.051	0.339	-
	Time ₃	2.920			
	Time ₀	3.438	0.518	0.296	p<0.001
	Time ₃	2.920			
(a) Relationship with Teachers	Time ₀	3.511	0.260	0.408	p<0.001
	Time ₁	3.251			
	Time ₁	3.251	0.250	0.395	p<0.001
	Time ₂	3.001			
	Time ₂	3.001	0.106	0.482	-
	Time ₃	2.895			
	Time ₀	3.511	0.616	0.430	p<0.001
	Time ₃	2.895			
(b) Teachers' Expectations	Time ₀	3.729	0.209	0.323	p<0.001
	Time ₁	3.520			
	Time ₁	3.520	0.312	0.380	p<0.001
	Time ₂	3.208			
	Time ₂	3.208	0.085	0.469	-
	Time ₃	3.123			
	Time ₀	3.729	0.606	0.434	p<0.001
	Time ₃	3.123			
(c) Peer Relationship	Time ₀	3.079	0.202	0.454	p<0.001
	Time ₁	2.877			
	Time ₁	2.877	0.172	0.424	p<0.001
	Time ₂	2.705			
	Time ₂	2.705	-0.038	0.426	-
	Time ₃	2.743			
	Time ₀	3.079	0.336	0.444	p<0.001
	Time ₃	2.743			

Table 2a: Paired t-tests on the scores of repeated measures of Cluster 2 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Academic Self-Concept	Time ₀	2.832	0.155	0.357	p<0.001
	Time ₁	2.677			
	Time ₁	2.677	0.074	0.312	-
	Time ₂	2.603			
	Time ₂	2.603	0.157	0.296	p<0.001
	Time ₃	2.446			
	Time ₀	2.832	0.386	0.358	p<0.001
	Time ₃	2.446			
(a) Students' Confidence	Time ₀	2.550	0.133	0.450	p<0.01
	Time ₁	2.417			
	Time ₁	2.417	-0.022	0.387	-
	Time ₂	2.439			
	Time ₂	2.439	0.157	0.367	p<0.001
	Time ₃	2.282			
	Time ₀	2.550	0.268	0.405	p<0.001
	Time ₃	2.282			
(b) Students' Effort	Time ₀	3.114	0.177	0.407	p<0.001
	Time ₁	2.937			
	Time ₁	2.937	0.170	0.416	p<0.001
	Time ₂	2.767			
	Time ₂	2.767	0.156	0.395	p<0.001
	Time ₃	2.611			
	Time ₀	3.114	0.503	0.462	p<0.001
	Time ₃	2.611			
Home Environment	Time ₀	2.947	0.166	0.412	p<0.001
	Time ₁	2.781			
	Time ₁	2.781	0.148	0.467	p<0.005
	Time ₂	2.633			
	Time ₂	2.633	0.068	0.412	-
	Time ₃	2.565			
	Time ₀	2.947	0.382	0.486	p<0.001
	Time ₃	2.565			
(a) Relationship with Parents	Time ₀	2.755	0.131	0.505	-
	Time ₁	2.624			
	Time ₁	2.624	0.158	0.569	p<0.01
	Time ₂	2.466			
	Time ₂	2.466	0.043	0.519	-
	Time ₃	2.423			
	Time ₀	2.755	0.332	0.642	p<0.001
	Time ₃	2.423			
(b) Academic Support	Time ₀	3.139	0.201	0.418	p<0.001
	Time ₁	2.938			
	Time ₁	2.938	0.137	0.437	p<0.005
	Time ₂	2.801			
	Time ₂	2.801	0.094	0.388	-
	Time ₃	2.707			
	Time ₀	3.139	0.432	0.450	p<0.001
	Time ₃	2.707			

Table 2b: Paired t-tests on the scores of repeated measures of Cluster 2 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Classroom Climate	Time ₀	3.009	0.243	0.370	p<0.001
	Time ₁	2.766			
	Time ₁	2.766	0.099	0.373	-
	Time ₂	2.667			
	Time ₂	2.667	-0.010	0.343	-
	Time ₃	2.677			
	Time ₀	3.009	0.332	0.368	p<0.001
	Time ₃	2.677			
(a) Relationship with Teachers	Time ₀	3.020	0.248	0.488	p<0.001
	Time ₁	2.772			
	Time ₁	2.772	0.130	0.522	-
	Time ₂	2.642			
	Time ₂	2.642	0.010	0.446	-
	Time ₃	2.632			
	Time ₀	3.020	0.388	0.404	p<0.001
	Time ₃	2.632			
(b) Teachers' Expectations	Time ₀	3.296	0.229	0.482	p<0.001
	Time ₁	3.067			
	Time ₁	3.067	0.202	0.477	p<0.001
	Time ₂	2.865			
	Time ₂	2.865	0.021	0.455	-
	Time ₃	2.844			
	Time ₀	3.296	0.452	0.505	p<0.001
	Time ₃	2.844			
(c) Peer Relationship	Time ₀	2.710	0.251	0.456	p<0.001
	Time ₁	2.459			
	Time ₁	2.459	-0.037	0.478	-
	Time ₂	2.496			
	Time ₂	2.496	-0.059	0.451	-
	Time ₃	2.555			
	Time ₀	2.710	0.155	0.517	p<0.005
	Time ₃	2.555			

Table 3a: Paired t-tests on the scores of repeated measures of Cluster 3 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Academic Self-Concept	Time ₀	2.968	0.083	0.287	p<0.001
	Time ₁	2.885			
	Time ₁	2.885	0.035	0.287	-
	Time ₂	2.850			
	Time ₂	2.850	0.037	0.342	-
	Time ₃	2.813			
(a) Students' Confidence	Time ₀	2.968	0.155	0.322	p<0.001
	Time ₃	2.813			
	Time ₀	2.697	0.068	0.316	p<0.01
	Time ₁	2.629			
	Time ₁	2.629	0.005	0.331	-
	Time ₂	2.624			
(b) Students' Effort	Time ₂	2.624	-0.011	0.380	-
	Time ₃	2.635			
	Time ₀	2.697	0.062	0.406	-
	Time ₃	2.635			
	Time ₀	3.240	0.099	0.368	p<0.005
	Time ₁	3.141			
(a) Relationship with Parents	Time ₁	3.141	0.066	0.348	-
	Time ₂	3.075			
	Time ₂	3.075	0.083	0.393	-
	Time ₃	2.992			
	Time ₀	3.240	0.248	0.375	p<0.001
	Time ₃	2.992			
Home Environment	Time ₀	3.348	0.008	0.307	-
	Time ₁	3.340			
	Time ₁	3.340	0.096	0.320	p<0.001
	Time ₂	3.244			
	Time ₂	3.244	0.114	0.314	p<0.001
	Time ₃	3.130			
(a) Relationship with Parents	Time ₀	3.348	0.218	3.343	p<0.001
	Time ₃	3.130			
	Time ₀	3.260	0.001	0.364	-
	Time ₁	3.259			
	Time ₁	3.259	0.088	0.410	p<0.01
	Time ₂	3.171			
(b) Academic Support	Time ₂	3.171	0.103	0.397	p<0.005
	Time ₃	3.068			
	Time ₀	3.260	0.192	0.429	p<0.001
	Time ₃	3.068			
	Time ₀	3.437	0.016	0.352	-
	Time ₁	3.421			
(b) Academic Support	Time ₁	3.421	0.103	0.324	p<0.001
	Time ₂	3.318			
	Time ₂	3.318	0.125	0.335	p<0.001
	Time ₃	3.193			
	Time ₀	3.437	0.244	0.368	p<0.001
	Time ₃	3.193			

Table 3b: Paired t-tests on the scores of repeated measures of Cluster 3 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Classroom Climate	Time ₀	3.030	0.084	0.284	p<0.001
	Time ₁	2.946			
	Time ₁	2.946	0.042	0.271	-
	Time ₂	2.904			
	Time ₂	2.904	0.002	0.302	-
	Time ₃	2.902			
	Time ₀	3.030	0.128	0.298	p<0.001
	Time ₃	2.902			
(a) Relationship with Teachers	Time ₀	3.058	0.109	0.409	p<0.005
	Time ₁	2.949			
	Time ₁	2.949	0.062	0.353	-
	Time ₂	2.887			
	Time ₂	2.887	0.043	0.383	-
	Time ₃	2.844			
	Time ₀	3.058	0.214	0.383	p<0.001
	Time ₃	2.844			
(b) Teachers' Expectations	Time ₀	3.294	0.085	0.365	p<0.01
	Time ₁	3.209			
	Time ₁	3.209	0.077	0.383	-
	Time ₂	3.132			
	Time ₂	3.132	0.045	0.430	-
	Time ₃	3.087			
	Time ₀	3.294	0.207	0.417	p<0.001
	Time ₃	3.087			
(c) Peer Relationship	Time ₀	2.739	0.060	0.357	-
	Time ₁	2.679			
	Time ₁	2.679	-0.015	0.353	-
	Time ₂	2.694			
	Time ₂	2.694	-0.080	0.359	p<0.01
	Time ₃	2.774			
	Time ₀	2.739	-0.035	0.388	-
	Time ₃	2.774			

Table 4a: Paired t-tests on the scores of repeated measures of Cluster 4 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Academic Self-Concept	Time ₀	3.335	-0.010	0.295	-
	Time ₁	3.345			
	Time ₁	3.345	0.109	0.312	p<0.001
	Time ₂	3.236			
	Time ₂	3.236	0.066	0.313	-
	Time ₃	3.170			
	Time ₀	3.335	0.165	0.347	p<0.001
	Time ₃	3.170			
(a) Students' Confidence	Time ₀	3.008	-0.055	0.382	-
	Time ₁	3.063			
	Time ₁	3.063	0.075	0.359	-
	Time ₂	2.988			
	Time ₂	2.988	0.051	0.399	-
	Time ₃	2.937			
	Time ₀	3.008	0.071	0.448	-
	Time ₃	2.937			
(b) Students' Effort	Time ₀	3.661	0.035	0.325	-
	Time ₁	3.626			
	Time ₁	3.626	0.142	0.364	p<0.001
	Time ₂	3.484			
	Time ₂	3.484	0.081	0.345	-
	Time ₃	3.403			
	Time ₀	3.661	0.258	0.375	p<0.001
	Time ₃	3.403			
Home Environment	Time ₀	3.623	-0.022	0.275	-
	Time ₁	3.645			
	Time ₁	3.645	0.107	0.293	p<0.001
	Time ₂	3.538			
	Time ₂	3.538	0.018	0.299	-
	Time ₃	3.520			
	Time ₀	3.623	0.103	0.311	p<0.005
	Time ₃	3.520			
(a) Relationship with Parents	Time ₀	3.571	-0.036	0.353	-
	Time ₁	3.607			
	Time ₁	3.607	0.101	0.401	p<0.01
	Time ₂	3.506			
	Time ₂	3.506	0.023	0.356	-
	Time ₃	3.483			
	Time ₀	3.571	0.088	0.386	-
	Time ₃	3.483			
(b) Academic Support	Time ₀	3.675	-0.008	0.272	-
	Time ₁	3.683			
	Time ₁	3.683	0.114	0.259	p<0.001
	Time ₂	3.569			
	Time ₂	3.569	0.011	0.320	-
	Time ₃	3.558			
	Time ₀	3.675	0.117	0.302	p<0.001
	Time ₃	3.558			

Table 4b: Paired t-tests on the scores of repeated measures of Cluster 4 over time

Variable	Time	Mean	Paired Diff		Level of Sign.
			Mean	SD	
Classroom Climate	Time ₀	3.423	0.021	0.343	-
	Time ₁	3.402			
	Time ₁	3.402	0.109	0.356	p<0.005
	Time ₂	3.293			
	Time ₂	3.293	-0.017	0.321	-
	Time ₃	3.310			
	Time ₀	3.423	0.113	0.340	p<0.005
	Time ₃	3.310			
(a) Relationship with Teachers	Time ₀	3.472	0.012	0.403	-
	Time ₁	3.460			
	Time ₁	3.460	0.145	0.426	p<0.005
	Time ₂	3.315			
	Time ₂	3.315	0.020	0.424	-
	Time ₃	3.295			
	Time ₀	3.472	0.177	0.416	p<0.001
	Time ₃	3.295			
(b) Teachers' Expectations	Time ₀	3.700	0.027	0.377	-
	Time ₁	3.673			
	Time ₁	3.673	0.128	0.447	p<0.005
	Time ₂	3.545			
	Time ₂	3.545	-0.047	0.399	-
	Time ₃	3.592			
	Time ₀	3.700	0.108	0.393	p<0.01
	Time ₃	3.592			
(c) Peer Relationship	Time ₀	3.096	0.023	0.480	-
	Time ₁	3.073			
	Time ₁	3.073	0.054	0.436	-
	Time ₂	3.019			
	Time ₂	3.019	-0.025	0.461	-
	Time ₃	3.044			
	Time ₀	3.096	0.052	0.488	-
	Time ₃	3.044			

Changes in the Academic Self-Concept Scores of the Clusters over time

Table 1: Scheffe tests on the changes in the academic self-concept scores of the clusters over time

Variable	Time ₀ – Time ₁				Time ₁ – Time ₂				Time ₂ – Time ₃				Time ₀ – Time ₃							
Academic Self-Concept		4	3	2	1		3	2	4	1						3	4	2	1	
	4					3									3					
	3					2									4					
	2	*				4									2	*	*			
	1	*	*			1	*	*	*						1	*	*	*		
(a) Students' Confidence		4	3	2	1		2	3	4	1		3	4	1	2		3	4	2	1
	4					2					3					3				
	3					3					4					4				
	2	*				4					1					2	*	*		
	1	*				1	*	*			2	*				1	*	*	*	
(b) Students' Effort		4	3	2	1		3	4	2	1						3	4	2	1	
	4					3									3					
	3					4									4					
	2					2									2	*	*			
	1	*	*			1	*	*	*						1	*	*	*		

Note:

Time₀ – Time₁: Changes in the scores from time₀ to time₁

Time₁ – Time₂: Changes in the scores from time₁ to time₂

Time₂ – Time₃: Changes in the scores from time₂ to time₃

Time₀ – Time₃: Changes in the scores from time₀ to time₃

* Scheffe test established significant difference at 0.05 level between the respective clusters for the changes in the scores over time

Changes in the Home Environment Scores of the Clusters over time

Table 1: Scheffe tests on the changes in the home environment scores of the clusters over time

Variable	Time ₀ – Time ₁				Time ₁ – Time ₂				Time ₂ – Time ₃				Time ₀ – Time ₃							
Home Environment		4	3	1	2		3	4	2	1						4	3	2	1	
	4					3									4					
	3					4														
	1					2									*					*
	2					*									*					1
(a) Relationship with Parents		4	3	1	2		3	4	2	1						4	3	2	1	
	4					3									4					
	3					4														
	1					2									*					
	2					*									1					*
(b) Academic Support		4	3	1	2		3	4	2	1		4	2	3	1		4	3	2	1
	4					3					4					4				
	3					4														
	1					2					*					*				
	2					*					*					1				

Note:

Time₀ – Time₁: Changes in the scores from time₀ to time₁

Time₁ – Time₂: Changes in the scores from time₁ to time₂

Time₂ – Time₃: Changes in the scores from time₂ to time₃

Time₀ – Time₃: Changes in the scores from time₀ to time₃

* Scheffe test established significant difference at 0.05 level between the respective clusters for the changes in the scores over time

Changes in the Classroom Climate Scores of the Clusters over time

Table 1: Scheffe tests on the changes in the classroom climate scores of the clusters over time

Variable	Time ₀ – Time ₁				Time ₁ – Time ₂				Time ₂ – Time ₃	Time ₀ – Time ₃					
Classroom Climate		4	3	1	2		3	2	4	1		4	3	2	1
	4				3					4					
	3				2					3					
	1	*	*		4					2	*	*			
	2	*	*		1	*	*	*		1	*	*	*		
(a) Relationship with Teachers		4	3	2	1		3	2	4	1		4	3	2	1
	4				3					4					
	3				2					3					
	2	*			4					2	*	*			
	1	*	*		1	*				1	*	*	*		
(b) Teachers' Expectations		4	3	1	2		3	4	2	1		4	3	2	1
	4				3					4					
	3				4					3					
	1	*			2					2	*	*			
	2	*	*		1	*	*				1	*	*		
(c) Peer Relationship		4	3	1	2		2	3	4	1		3	4	2	1
	4				2					3					
	3				3					4					
	1	*			4					2	*				
	2	*	*		1	*	*				1	*	*	*	

Note:
Time₀ – Time₁: Changes in the scores from time₀ to time₁
Time₁ – Time₂: Changes in the scores from time₁ to time₂
Time₂ – Time₃: Changes in the scores from time₂ to time₃
Time₀ – Time₃: Changes in the scores from time₀ to time₃

* Scheffe test established significant difference at 0.05 level between the respective clusters for the changes in the scores over time

