

MEM model for non-independent school pupils

Table 1: Number of observations

Description	Number
Number of Observations Used	2,850,757

Table 2: Response profile

Pupil entered HE through UCAS	Number
Yes	695,400
No	2,155,357

Table 3: Association of predicted probabilities and observed responses

Statistic	Value	Statistic	Value
Percent Concordant	71.2	Somers' D	0.424
Percent Discordant	28.8	Gamma	0.424
Percent Tied	0.0	Tau-a	0.156
Pairs	1.4988353E12	c	0.712

Table 4: R-square values

Statistic	Value
Cox-Snell R-square	0.09
Nagelkerke adjusted	0.15

Table 5: Hosmer and Lemeshow goodness of fit test

Chi-Square	DF	Pr > Chi-Square	Number of Groups
35.30	8	<.0001	10

Table 6: Type 3 analysis of effects

Parameter	DF	Wald Chi-square	Pr > Chi-Square
POLAR3 quintile	4	3892.1581	<.0001
Gender	1	2063.3924	<.0001
Free school meals status at age 15	1	2688.6004	<.0001
School type	3	5343.3142	<.0001
Ethnic group	5	4631.7336	<.0001
Index of Multiple Deprivation rank	1	4660.9160	<.0001
POLAR3 quintile * Ethnic group	20	782.8494	<.0001
POLAR3 quintile * Gender	4	36.6217	<.0001
POLAR3 quintile * Free school meals status at age 15	4	20.3819	0.0004
POLAR3 quintile * School type	12	157.8978	<.0001
POLAR3 quintile * Index of Multiple Deprivation rank	4	330.7339	<.0001
Ethnic group * Gender	5	261.7775	<.0001
Ethnic group * Free school meals status at age 15	5	1079.6371	<.0001
Ethnic group * School type	15	267.9825	<.0001
Ethnic group * Index of Multiple Deprivation rank	5	179.1166	<.0001
Gender * School type	3	327.3255	<.0001
Gender * Index of Multiple Deprivation rank	1	11.5202	0.0007
Free school meals status at age 15 * School type	3	74.3658	<.0001
Free school meals status at age 15 * Index of Multiple Deprivation rank	1	239.0300	<.0001
School type * Index of Multiple Deprivation rank	3	361.3165	<.0001

Table 7: Parameter estimates

Parameter - reference group in parentheses	Value1	Value2	Log odds ratio	Standard Error	Wald Chi-Square	Pr > Chi-Square	Odds ratio
Intercept			-2.08	0.01	55608.62	<.0001	0.13
POLAR3 quintile (Quintile 1)	Q2		0.30	0.01	577.71	<.0001	1.35
POLAR3 quintile (Quintile 1)	Q3		0.51	0.01	1499.97	<.0001	1.67
POLAR3 quintile (Quintile 1)	Q4		0.71	0.01	2389.72	<.0001	2.03
POLAR3 quintile (Quintile 1)	Q5		0.86	0.02	2644.22	<.0001	2.37
Gender (Women)	Men		-0.44	0.01	2063.39	<.0001	0.64
Free school meals status at age 15 (Not receiving free school meals)	Receiving FSM		-0.83	0.02	2688.60	<.0001	0.44
School type (Comprehensive)	Maintained		-2.23	0.15	229.89	<.0001	0.11
School type (Comprehensive)	Modern		-0.57	0.03	316.23	<.0001	0.57
School type (Comprehensive)	Selective		1.97	0.03	4708.82	<.0001	7.19
Ethnic group (White)	Asian		1.18	0.02	2647.42	<.0001	3.27
Ethnic group (White)	Black		1.10	0.03	1436.67	<.0001	3.01
Ethnic group (White)	Chinese		1.83	0.07	706.65	<.0001	6.25
Ethnic group (White)	Mixed		0.38	0.03	127.04	<.0001	1.46
Ethnic group (White)	Other ethnicity		0.75	0.06	139.17	<.0001	2.11
Index of Multiple Deprivation rank			1.45	0.02	4660.92	<.0001	4.27
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q2	Asian	-0.16	0.03	39.74	<.0001	0.85
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q2	Black	-0.20	0.03	33.48	<.0001	0.82
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q2	Chinese	-0.19	0.08	5.22	0.0223	0.83
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q2	Mixed	-0.06	0.04	2.12	0.1456	0.95
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q2	Other ethnicity	-0.03	0.08	0.13	0.7235	0.97
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q3	Asian	-0.29	0.02	136.71	<.0001	0.75
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q3	Black	-0.31	0.03	101.89	<.0001	0.73
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q3	Chinese	-0.26	0.08	11.81	0.0006	0.77
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q3	Mixed	-0.14	0.04	14.04	0.0002	0.87
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q3	Other ethnicity	-0.05	0.07	0.57	0.4500	0.95
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q4	Asian	-0.28	0.03	117.15	<.0001	0.76

Parameter - reference group in parentheses	Value1	Value2	Log odds ratio	Standard Error	Wald Chi-Square	Pr > Chi-Square	Odds ratio
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q4	Black	-0.46	0.03	205.45	<.0001	0.63
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q4	Chinese	-0.52	0.08	40.77	<.0001	0.59
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q4	Mixed	-0.19	0.04	24.38	<.0001	0.83
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q4	Other ethnicity	-0.13	0.07	3.70	0.0545	0.88
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q5	Asian	-0.38	0.03	210.04	<.0001	0.68
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q5	Black	-0.71	0.04	389.13	<.0001	0.49
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q5	Chinese	-0.72	0.09	71.70	<.0001	0.49
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q5	Mixed	-0.23	0.04	32.37	<.0001	0.80
POLAR3 quintile (Quintile 1) * Ethnic group (White)	Q5	Other ethnicity	-0.26	0.07	13.79	0.0002	0.77
POLAR3 quintile (Quintile 1) * Gender (Women)	Q2	Men	0.00	0.01	0.13	0.7181	1.00
POLAR3 quintile (Quintile 1) * Gender (Women)	Q3	Men	0.01	0.01	1.12	0.2892	1.01
POLAR3 quintile (Quintile 1) * Gender (Women)	Q4	Men	0.03	0.01	7.91	0.0049	1.03
POLAR3 quintile (Quintile 1) * Gender (Women)	Q5	Men	0.06	0.01	22.11	<.0001	1.06
POLAR3 quintile (Quintile 1) * Free school meals status at age 15 (Not receiving free school meals)	Q2	Receiving FSM	-0.04	0.02	4.65	0.0310	0.96
POLAR3 quintile (Quintile 1) * Free school meals status at age 15 (Not receiving free school meals)	Q3	Receiving FSM	0.03	0.02	1.60	0.2059	1.03
POLAR3 quintile (Quintile 1) * Free school meals status at age 15 (Not receiving free school meals)	Q4	Receiving FSM	-0.01	0.02	0.12	0.7237	0.99
POLAR3 quintile (Quintile 1) * Free school meals status at age 15 (Not receiving free school meals)	Q5	Receiving FSM	-0.05	0.03	4.31	0.0379	0.95
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q2	Maintained	0.05	0.15	0.12	0.7328	1.05
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q2	Modern	0.05	0.04	1.88	0.1699	1.05
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q2	Selective	-0.06	0.03	3.84	0.0501	0.94

Parameter - reference group in parentheses	Value1	Value2	Log odds ratio	Standard Error	Wald Chi-Square	Pr > Chi-Square	Odds ratio
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q3	Maintained	-1.06	0.21	25.05	<.0001	0.35
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q3	Modern	0.01	0.04	0.15	0.6953	1.01
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q3	Selective	-0.16	0.03	25.47	<.0001	0.85
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q4	Maintained	-0.95	0.22	19.26	<.0001	0.39
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q4	Modern	0.04	0.04	1.01	0.3139	1.04
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q4	Selective	-0.16	0.03	24.46	<.0001	0.85
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q5	Maintained	-1.14	0.24	22.87	<.0001	0.32
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q5	Modern	0.04	0.04	1.35	0.2459	1.05
POLAR3 quintile (Quintile 1) * School type (Comprehensive)	Q5	Selective	-0.26	0.03	65.42	<.0001	0.77
POLAR3 quintile (Quintile 1) * Index of Multiple Deprivation rank	Q2		-0.30	0.03	137.67	<.0001	0.74
POLAR3 quintile (Quintile 1) * Index of Multiple Deprivation rank	Q3		-0.37	0.02	225.98	<.0001	0.69
POLAR3 quintile (Quintile 1) * Index of Multiple Deprivation rank	Q4		-0.43	0.03	291.95	<.0001	0.65
POLAR3 quintile (Quintile 1) * Index of Multiple Deprivation rank	Q5		-0.25	0.03	91.71	<.0001	0.78
Ethnic group (White) * Gender (Women)	Men	Asian	-0.09	0.01	51.80	<.0001	0.92
Ethnic group (White) * Gender (Women)	Men	Black	-0.26	0.02	226.99	<.0001	0.77
Ethnic group (White) * Gender (Women)	Men	Chinese	0.10	0.04	5.26	0.0218	1.11
Ethnic group (White) * Gender (Women)	Men	Mixed	-0.03	0.02	2.69	0.1013	0.97
Ethnic group (White) * Gender (Women)	Men	Other ethnicity	-0.05	0.03	2.50	0.1136	0.95
Ethnic group (White) * Free school meals status at age 15 (Not receiving free school meals)	Receiving FSM	Asian	0.47	0.02	726.81	<.0001	1.59
Ethnic group (White) * Free school meals status at age 15 (Not receiving free school meals)	Receiving FSM	Black	0.41	0.02	356.52	<.0001	1.51
Ethnic group (White) * Free school meals status at age 15 (Not receiving free school meals)	Receiving FSM	Chinese	0.85	0.07	135.35	<.0001	2.34
Ethnic group (White) * Free school meals status at age 15 (Not receiving free school meals)	Receiving FSM	Mixed	0.27	0.03	70.22	<.0001	1.31

Parameter - reference group in parentheses	Value1	Value2	Log odds ratio	Standard Error	Wald Chi-Square	Pr > Chi-Square	Odds ratio
Ethnic group (White) * Free school meals status at age 15 (Not receiving free school meals)	Receiving FSM	Other ethnicity	0.68	0.04	316.87	<.0001	1.98
Ethnic group (White) * School type (Comprehensive)	Maintained	Asian	-0.19	0.21	0.85	0.3568	0.83
Ethnic group (White) * School type (Comprehensive)	Maintained	Black	-0.64	0.42	2.38	0.1232	0.53
Ethnic group (White) * School type (Comprehensive)	Maintained	Chinese	-6.12	11.54	0.28	0.5960	0.00
Ethnic group (White) * School type (Comprehensive)	Maintained	Mixed	0.30	0.31	0.96	0.3266	1.35
Ethnic group (White) * School type (Comprehensive)	Maintained	Other ethnicity	-0.24	0.77	0.10	0.7511	0.78
Ethnic group (White) * School type (Comprehensive)	Modern	Asian	0.18	0.04	25.55	<.0001	1.19
Ethnic group (White) * School type (Comprehensive)	Modern	Black	0.28	0.06	20.83	<.0001	1.32
Ethnic group (White) * School type (Comprehensive)	Modern	Chinese	0.34	0.12	7.39	0.0066	1.40
Ethnic group (White) * School type (Comprehensive)	Modern	Mixed	0.17	0.06	8.59	0.0034	1.19
Ethnic group (White) * School type (Comprehensive)	Modern	Other ethnicity	-0.01	0.11	0.01	0.9113	0.99
Ethnic group (White) * School type (Comprehensive)	Selective	Asian	-0.37	0.03	174.01	<.0001	0.69
Ethnic group (White) * School type (Comprehensive)	Selective	Black	0.06	0.07	0.77	0.3813	1.06
Ethnic group (White) * School type (Comprehensive)	Selective	Chinese	-0.35	0.08	21.76	<.0001	0.70
Ethnic group (White) * School type (Comprehensive)	Selective	Mixed	-0.12	0.04	7.06	0.0079	0.89
Ethnic group (White) * School type (Comprehensive)	Selective	Other ethnicity	-0.02	0.08	0.08	0.7787	0.98
Ethnic group (White) * Index of Multiple Deprivation rank	Asian		-0.10	0.03	13.30	0.0003	0.90
Ethnic group (White) * Index of Multiple Deprivation rank	Black		-0.45	0.04	110.48	<.0001	0.64
Ethnic group (White) * Index of Multiple Deprivation rank	Chinese		-0.46	0.09	26.14	<.0001	0.63
Ethnic group (White) * Index of Multiple Deprivation rank	Mixed		-0.02	0.04	0.22	0.6426	0.98
Ethnic group (White) * Index of Multiple Deprivation rank	Other ethnicity		-0.47	0.07	41.83	<.0001	0.63

Parameter - reference group in parentheses	Value1	Value2	Log odds ratio	Standard Error	Wald Chi-Square	Pr > Chi-Square	Odds ratio
Gender (Women) * School type (Comprehensive)	Men	Maintained	-0.18	0.12	2.32	0.1274	0.84
Gender (Women) * School type (Comprehensive)	Men	Modern	-0.07	0.02	17.80	<.0001	0.93
Gender (Women) * School type (Comprehensive)	Men	Selective	0.25	0.01	299.56	<.0001	1.28
Gender (Women) * Index of Multiple Deprivation rank	Men		0.05	0.01	11.52	0.0007	1.05
Free school meals status at age 15 (Not receiving free school meals) * School type (Comprehensive)	Receiving FSM	Maintained	-0.92	0.21	18.60	<.0001	0.40
Free school meals status at age 15 (Not receiving free school meals) * School type (Comprehensive)	Receiving FSM	Modern	0.10	0.04	6.96	0.0083	1.11
Free school meals status at age 15 (Not receiving free school meals) * School type (Comprehensive)	Receiving FSM	Selective	0.34	0.05	49.51	<.0001	1.41
Free school meals status at age 15 (Not receiving free school meals) * Index of Multiple Deprivation rank	Receiving FSM		-0.49	0.03	239.03	<.0001	0.61
School type (Comprehensive) * Index of Multiple Deprivation rank	Maintained		-0.98	0.26	13.81	0.0002	0.37
School type (Comprehensive) * Index of Multiple Deprivation rank	Modern		-0.16	0.04	13.79	0.0002	0.85
School type (Comprehensive) * Index of Multiple Deprivation rank	Selective		-0.63	0.03	339.21	<.0001	0.53

MEM model for independent school pupils

Table 1: Number of observations

Description	Number
Number of Observations Used	228,085

Table 2: Response profile

Pupil entered HE through UCAS	Number
Yes	118,814
No	109,271

Table 3: Association of predicted probabilities and observed responses

Statistic	Value	Statistic	Value
Percent Concordant	27.1	Somers' D	0.041
Percent Discordant	23.0	Gamma	0.082
Percent Tied	49.9	Tau-a	0.020
Pairs	12982924594	c	0.520

Table 4: R-square values

Statistic	Value
Cox-Snell R-square	0.00
Nagelkerke adjusted	0.00

Table 5: Type 3 analysis of effects

Parameter	DF	Wald Chi-square	Pr > Chi-Square
Gender	1	381.3588	<.0001

Table 6: Parameter estimates

Parameter - reference group in parentheses	Value1	Log odds ratio	Standard Error	Wald Chi-Square	Pr > Chi-Square	Odds ratio
Intercept		0.17	0.01	776.73	<.0001	1.18
Gender (Women)	Men	-0.16	0.01	381.36	<.0001	0.85