ELECTRONIC APPENDIX

Part 1: comparing Indians and whites for DAWBA bands

Table 5: Distribution of the parent, teacher and child DAWBA bands in Indian and White children

| | | Parent | | | | Teacher | | | | Child | | | |
| | | White (N=13 824) | | Indian (N=359) | | White (N=10 494) | | Indian (N=258) | | White (N=5713) | | Indian (N=155) | |
	DAWBA band	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Any emotional disorder	**Levels 0 & 1**	10,361	74.9	286	79.4	9,223	87.9	228	88.2	4,029	70.5	122	78.6
	Level 2	2,229	16.1	51	14.4	452	4.3	15	5.8	954	16.8	13	8.5
	Level 3	817	5.9	17	4.9	684	6.5	14	5.6	543	9.5	14	9.1
	Levels 4 & 5	417	3.0	5	1.4	135	1.3	1	0.4	187	3.3	6	3.9
Any behavioural disorder	**Levels 0 & 1**	5,350	38.7	194	54.2	6,490	61.8	182	71.0	2 907	50.8	113	62.9
	Level 2	6,845	49.5	152	42.1	3,197	30.5	66	25.1	2 409	41.7	61	33.2
	Level 3	975	7.1	10	2.8	294	2.8	5	1.8	311	5.4	4	2.2
	Levels 4 & 5	654	4.7	3	0.9	513	4.9	5	2.0	123	2.1	3	1.8
Any hyperactivity disorder	**Levels 0 & 1**	12,002	86.8	342	95.3	8,356	79.7	219	85.2	–	–	–	–
	Level 2	844	6.1	12	3.2	1,137	10.8	23	8.7	–	–	–	–
	Level 3	702	5.1	4	1.2	800	7.6	14	5.4	–	–	–	–
	Levels 4 & 5	276	2.0	1	0.3	201	1.9	2	0.8	–	–	–	–

Note that there is no child DAWBA band for hyperactivity. Note percentages are calculated with adjustment for survey design, and so differ slightly in some cases from the values calculated based on the raw numbers of children.

Table 6: Proportional odds ratios for the Indian advantage by DAWBA bands

| DAWBA band | Proportional OR for high DAWBA band in White vs. Indian children (95%CI) | | |
	Parent (N=14 183)	Teacher (N=10 752)	Child (N= 5868)
Any emotional disorder	1.30 (1.00, 1.70) [p=0.05]	1.07 (0.68, 1.69)	1.40 (0.88, 2.22)
Any behavioural disorder	1.98 (1.61, 2.43)	1.61 (1.21, 2.14)**	1.66 (1.20, 2.30)**
Any hyperactivity disorder	3.22 (2.07, 5.01)	1.54 (1.07, 2.21)*	–

*p<0.05, **p<0.01, ***p<0.001. OR generated through ordered logistic regression, adjusting for age, gender and survey year. Note that there is no child hyperactivity DAWBA band. As in Table 5, for each probability bands, we banded the lowest two levels (Level 0 and Level 1) and the highest two levels (Level 4 and Level 5) in order to avoid very small numbers in the Indian sample. In no case was there evidence at the 1% level that the proportional odds assumption was violated.

Part 2: factor analyses of the parent, teacher and child SDQs

Table 7: Two-factor exploratory factor analyses for Whites and Indians on the total difficulty items of the parent SDQ

	White (N= 13 868)		Indian (N=361)	
Item	"Internalising" factor	"Externalising" factor	"Internalising" factor	"Externalising" factor
Somatic [i]	**-0.44**		**-0.49**	
Worries [i]	**-0.78**		**-0.65**	
Unhappy [i]	**-0.75**		**-0.69**	
Clingy [i]	**-0.57**		**-0.66**	
Fears [i]	**-0.68**		**-0.75**	
Solitary [i]	**-0.52**		**-0.48**	
Good friend [i] *	**0.40**		**0.53**	
Popular [i] *	**0.45**		**0.50**	
Bullied [i]	**-0.55**		**-0.65**	
Best with adults [i]	**-0.45**		**-0.43**	
Tempers [e]		**-0.46**	-0.33	0.37
Obedient [e] *		**0.56**		**-0.41**
Fights [e]		**-0.53**		**0.43**
Lies [e]		**-0.56**		**0.44**
Steals [e]		**-0.56**		
Restless [e]		**-0.75**		**0.74**
Fidgety [e]		**-0.75**		**0.64**
Distractible [e]		**-0.81**		**0.68**
Reflective [e] *		**0.69**		**-0.55**
Persistent [e] *		**0.77**		**-0.58**

[i] indicates item hypothesised to lie on the internalising subscale, [e] on the externalising subscale. Items marked * are positively worded, and therefore expected to load in the reverse direction. Loadings over 0.3 presented, loadings over 0.4 presented in bold.

Table 8: Two-factor exploratory factor analyses for Whites and Indians on the teacher SDQ

	White (N= 10 775)		Indian (N=257)	
Item	"Internalising" factor	"Externalising" factor	"Internalising" factor	"Externalising" factor
Somatic [i]	**0.57**		**0.50**	
Worries [i]	**0.83**		**0.85**	
Unhappy [i]	**0.75**		**0.88**	
Clingy [i]	**0.76**		**0.70**	
Fears [i]	**0.90**		**0.77**	
Solitary [i]	**0.62**		**0.81**	
Good friend [i] *	**-0.48**	**0.41**	**-0.68**	
Popular [i] *	**-0.40**	**0.55**	**-0.52**	-0.36
Bullied [i]	**0.56**		**0.65**	
Best with adults [i]	**0.48**		**0.60**	
Tempers [e]		**0.68**		**0.40**
Obedient [e] *		**-0.75**		**-0.72**
Fights [e]		**0.79**		**0.78**
Lies [e]		**0.77**		**0.72**
Steals [e]		**0.64**		**0.52**
Restless [e]		**0.96**		**0.87**
Fidgety [e]		**0.95**		**0.87**
Distractible [e]		**0.90**		**0.91**
Reflective [e] *		**-0.82**		**-0.77**
Persistent [e] *		**-0.86**		**-0.89**

See notes to Table 7

Table 9: Two-factor exploratory factor analyses for Whites and Indians on the child SDQ

Item	White (N=5776)		Indian (N=156)	
	"Internalising" factor	"Externalising" factor	"Internalising" factor	"Externalising" factor
Somatic [i]	**0.44**		**0.30**	
Worries [i]	**0.69**		**0.70**	
Unhappy [i]	**0.70**		**0.70**	
Clingy [i]	**0.51**		**0.52**	
Fears [i]	**0.67**		**0.67**	
Solitary [i]	**0.50**		0.35	
Good friend [i] *			-0.32	
Popular [i] *				
Bullied [i]	**0.60**		0.82	
Best with adults [i]	0.39		**0.36**	
Tempers [e]		**0.48**		**0.42**
Obedient [e] *		**-0.65**		**-0.73**
Fights [e]		**0.55**	0.34	
Lies [e]		**0.53**	**0.40**	0.35
Steals [e]		**0.49**	**-0.69**	
Restless [e]		**0.55**		**0.56**
Fidgety [e]		**0.58**		**0.56**
Distractible [e]		**0.65**	-0.32	**0.48**
Reflective [e] *		**-0.63**		**-0.61**
Persistent [e] *		**-0.68**		**-0.55**

See notes to Table 7

A note on sample sizes

Inadequate sample size may lead to instability of estimates in both exploratory and confirmatory factor analyses. As reviewed by MacCallum *et al.* (1999; 2001), the quality of factor solutions is increased by a number of factors, including:

- A larger absolute sample size.
- A smaller number of hypothesised factors.
- High communality (>0.5) of the manifest variables; that is, a high portion of variance in that item is explained by the common factor. This is represented by the R-squared value for each item.
- Greater overdetermination of the factors; that is, the extent to which each factor is well-defined by a set of manifest variables. In general, a small number of factors defined by a large number of indicators will show greater overdetermination.

For the two-factor general specific models evaluated in this paper, communality was high for the teacher SDQ (over 0.5 for 16/20 items), but lower for the parent SDQ (over 0.5 for 9/20 items) and very low for the child SDQ (over 0.5 for 4/20 items). When communality is low, MacCallum *et al.* advise that if "there is high overdetermination of factors (e.g. six or seven indicators per factor and a rather small number of factors), one can still achieve good recovery of population factors, but larger samples are required – probably well over 100" (MacCallum, Widaman et al. 1999, p.96). The model evaluated in this paper meets the overdetermination condition, indicating that the sample sizes for Indians for parents (N=361) and teachers (N=257) are likely to be adequate. By contrast, given the much lower communality of the items on the child SDQ, the sample size of 183 Indian children is smaller than would be ideal. This may explain the greater discrepancy between the exploratory factor analysis for Indian children and the hypothesised SDQ factor structure.

Part 3: additional information on covariates

Note that full copies of the B-CAMHS survey documents are published in Meltzer *et al.* (2000) and Green *et al.* (2005).

Occupational class of household reference person

Parents were asked to state their current/most recent job and (where applicable) that of their partner. This was used generate the occupational social class of the household reference person ('head of household'). B-CAMSH99 used the Registrar General's Standard Occupational Classification (SOC) system of six social classes (I; II; III Non-manual; III Manual; IV; V) plus two additional categories of 'never worked' and 'full-time student' (OPCS 1991). B-CAMHS04 used the 39 operational categories of the newly-created National Statistics Socio-economic Classification (NS-SEC) system (Rose and Pevalin 2002). We converted these approximate SOC equivalents using the translation algorithm provided by the creators of NS-SEC (Rose, Pevalin et al. 2005, Appendix 2)

Parent's mental health

The 12-item version of the General Health Questionnaire (GHQ-12) was administered by laptop to parents (Goldberg and Williams 1998). The GHQ-12 is probably the most widely used screening instrument for common mental disorders in community settings, and has been validated both in India (Bandyopadhyay, Sinha et al. 1988; Sriram, Chandrashekar et al. 1989) and in Indian-origin groups in Britain (Jacob, Bhugra et al. 1997; Bhui, Bhugra et al. 2000).

Previous investigations have been somewhat inconsistent regarding the GHQ-12's factor structure. We therefore applied an exploratory factor analysis (for ordinal data) to the B-CAMHS data. In both Indians and Whites there were two factors with an Eigenvalue of greater than one and these were very similar between the two groups (Table 10). We used the factor structure indicated by the pooled sample as the basis for a multigroup CFA analysis, using the same methods as described in the main text. This showed adequate fit (CFI=0.983, TLI=0.987, RMSEA=0.070), indicating measurement invariance across Indians and Whites.

Table 10: GHQ factor structure indicated by exploratory factor analysis in Indians and Whites

	White (N= 13 801)		Indian (N=350)	
GHQ-12 Items	**Factor 1**	**Factor 2**	**Factor 1**	**Factor 2**
1. Able to concentrate	0.36	0.34		0.38
2. Lost much sleep		**0.77**		**0.81**
3. Playing useful part	**0.65**		**0.68**	
4. Capable of making decisions	**0.87**		**0.85**	
5. Under stress		**0.86**		**0.92**
6. Could not overcome difficulties		**0.76**		**0.80**
7. Enjoy normal activities	**0.45**	0.36	0.33	**0.52**
8. Face up to problems	**0.64**		**0.67**	
9. Feeling unhappy and depressed		**0.84**		**0.91**
10. Losing confidence		**0.76**		**0.77**
11. Think of self as worthless		**0.73**		**0.68**
12. Feeling reasonably happy	**0.50**	0.33	**0.42**	0.34

Coefficients created after geomin rotation. Coefficients of ≥0.4 shown in bold, coefficients of <0.3 not shown.

Family Functioning

The General Functioning (GF) subscale of the McMaster Family Activity Device was administered by laptop to parents. The GF scale is a 12-item measure of family functioning which generates an approximately continuous score between 1 (good family functioning) and 4 (poor family functioning) (Miller, Epstein et al. 1985).

There has been little rigorous cross-cultural evaluation of the GF scale, and we know of no relevant research in minority ethnic groups in Britain. Most previous research has focussed on investigating the factor structure of the full Family Activity Device and not just the GF scale. An exploratory principle factor analysis indicated a two-factor structure in both Indians and Whites in B-CAMHS. These seemed to be tapping into valences rather than substantive constructs, with positively worded items forming one factor and the negatively worded items the other (Table 11). In a multigroup CFA, a general-specific model of this factor structure showed evidence of measurement invariance between Indians and Whites (CFI=0.991, TLI=0.993, RMSEA=0.048).

Table 11: GF factor structure indicated by exploratory factor analysis in Indians and Whites

	White (N=13 763)		Indian (N=338)	
Items	Factor 1	Factor 2	Factor 1	Factor 2
1. Planning family activities is difficult because we misunderstand each other	**0.69**		**0.70**	
2. In times of crisis we can turn to each other for support		**0.59**		**0.46**
3. We cannot talk to each other about the sadness we feel	**0.77**		**0.76**	
4. Individuals are accepted for what they are		**0.71**		**0.48**
5. We avoid discussing our fears and concerns	**0.70**		**0.72**	
6. We can express feelings to each other		**0.67**		**0.82**
7. There is lots of bad feeling in the family	**0.67**		**0.77**	
8. We feel accepted for what we are		**0.77**		**0.71**
9. Making decisions is a problem for our family	**0.59**		**0.56**	
10. We are able to make decisions on how to solve problems		**0.57**		**0.69**
11. We don't get along well together	**0.67**		**0.43**	
12. We confide in each other		**0.62**		**0.67**

Coefficients of ≥0.4 shown in bold, coefficients of <0.3 not shown.

Physical disorders

The parent was asked to identify whether their child had any of a list of specific health complaints. We used these to create the following four binary variables:
- **Any specific neuro-developmental disorder**: epilepsy; cerebral palsy
- **Any non-specific marker of developmental immaturity or developmental disorder** ('developmental problems'): bed-wetting; speech and language problems; problems with coordination; muscle disease or weaknesses.
- **Any common physical disorder or complaint** (prevalence 2-15%): asthma; eczema; food allergy; problems with eyesight; migraine; problems with hearing; glue ear, otitis media or grommits.

- **Any rare physical disorder or complaint** (prevalence<2%): stiffness or deformity of the foot, leg, fingers, arms or back; a heart problem; kidney, urinary tract problems; obesity; a condition present since birth such as club foot or cleft palate; diabetes; any blood disorder; cancer; missing fingers, hands, arms, toes, feet or legs; cystic fibrosis; chronic fatigue syndrome; spina bifida.

Substance use

Children aged 11-16 were asked by laptop about smoking, drinking and drug use. We assumed all these behaviours were absent in children aged 5-10 years. We felt justified in this because at age 11 all these behaviours were rare to very rare, applying to just 0.09% for regular smoking, 3.5% for alcohol consumption at least twice a fortnight, and 1.7% for drug use.

Perceived emotional social support (B-CAMHS04 11-16 year olds only)

In B-CAMHS04, children were presented with seven statements about emotional social support, taken from the 1985 Health and Lifestyle Survey (HALS) of 9003 adults in Britain (Cox, Blaxter et al. 1987). Responses were: not true [coded 0]; partly true [1] or certainly true [2].

We know of no previous research applying the questions to children, and they have been relatively little evaluated even in adults. Exploratory factor analyses in B-CAMHS indicated only one factor with an Eigenvalue of >1, on which all seven items loaded strongly in Whites (loadings 0.65-0.83; Table 12). In Indians the factor loadings were somewhat lower for two items. This seemed likely simply to reflect the instability of estimates at small sample (N=69), however, as a CFA of the single factor showed evidence of measurement invariance between Indians and Whites (CFI=0.961, TLI=0.959, RMSEA=0.056). We therefore summed the responses from seven items to give a single score from 0-14.

Table 12: Exploratory factor analyses of the seven social support items in Indians and Whites

There are people I know who…	White (N= 2567)	Indian (N=69)
1. Make me feel loved	0.80	0.49
2. Make me feel happy	0.64	0.67
3. Accept me just as I am	0.74	0.68
4. Make me feel an important part of their lives	0.83	0.81
5. Give me support and encouragement	0.84	0.82
6. Would see that I am taken care of if I need to be	0.79	0.80
7. Can be relied on no matter what happens	0.78	0.49

Response options: not true [coded 0]; partly true [1]; or certainly true [2]

Part 4: full descriptive analyses of Indians and Whites

Table 13: Descriptive analysis of the child, family, school and area characteristics of the Whites and Indians in the sample, and mean parent externalising SDQ score for each level

Domain	Variable	Range/categories (N)	Descriptive statistics: percent or mean by ethnic group			Mean parent externalising score	
			White	Indian	*P* for ethnic difference	White	Indian
Ethnicity	Indian ethnicity	White (n=13868)	100.0	0.0		4.98	-
		Indian (n=361)	0.0	100.0		-	3.90
A priori confounders	Child's sex	Male (7056 White, 189 Indian)	50.8	52.5	0.54 (x)	5.66	4.25
		Female (6984 White, 172 Indian)	49.2	47.6		4.27	3.51
	Child's age	Range 5-16 years	m=10.2	m=10.3	0.29 (z)		
		5-6 (2402 White, 55 Indian)	17.3	15.2	0.69 (x)	5.47	4.67
		7-8 (2476 White, 57 Indian)	17.8	16.3		5.26	4.00
		9-10 (2562 White, 71 Indian)	18.2	19.3		5.03	4.13
		11-12 (2465 White, 75 Indian)	17.7	20.4		4.78	3.85
		13-14 (2325 White, 59 Indian)	17.2	16.7		4.74	3.64
		15-16 (1638 White, 44 Indian)	11.9	12.2		4.43	2.87
	Survey year	1999 (7872 White, 194 Indian)	58.0	54.5	0.50 (x)	5.1	4.4
		2004 (5996 White, 167 Indian)	42.0	45.5		4.8	3.3
Area	Geographical region	South East (2409 White, 26 Indian)	17.4	7.0	<0.001 (x)	4.86	3.67
		London (1104 White, 109 Indian)	8.9	33.0		4.84	3.61
		South West (1643 White, 5 Indian)	11.6	1.3		4.85	[3.92]
		Eastern (1611 White, 14 Indian)	11.6	3.8		4.77	2.37
		East Midlands (1217 White, 72 Indian)	8.5	18.6		4.99	4.56
		West Midlands (1458 White, 61 Indian)	10.5	16.3		5.17	4.17
		North East (788 White, 3 Indian)	5.9	0.9		5.31	[3.98]
		North West & Merseyside (2155 White, 58 Indian)	15.5	16.1		5.10	4.20
		Yorkshire & Humberside (1483 White, 13 Indian)	10.7	3.6		5.08	2.62
	Metropolitan region	Non-Metropolitan (7820 White, 117 Indian)	55.6	30.7	<0.001 (x)	4.94	4.28
		Metropolitan (6048 White, 244 Indian)	44.4	69.3		5.02	3.73
	Area deprivation	Range 0.59 – 82.3 points	m=21.0	m=26.9	<0.001 (y)		
		0-10 (3901 White, 56 Indian)	28.1	15.5	<0.001 (x)	4.25	3.77
		10-20 (4407 White, 90 Indian)	31.7	25.4		4.62	3.61
		20-30 (2310 White, 68 Indian)	16.7	18.9		5.30	3.82
		30-40 (1379 White, 72 Indian)	10.0	19.9		5.87	4.02
		40-50 (820 White, 38 Indian)	6.0	10.6		6.23	5.06
		50-60 (665 White, 23 Indian)	4.8	6.2		6.40	3.61
		60-70 (287 White, 12 Indian)	2.1	3.3		6.25	3.49
		70+ points (92 White, 1Indian)	0.7	0.3		6.05	[5.00]
School	Ford score	Range 0-17 points	m=4.98	m=5.32	0.17 (y)		
		0-2 (2931 White, 69 Indian)	23.3	23.0	0.08 (x)	4.01	3.66
		3-5 (4606 White, 85 Indian)	36.8	27.9		4.73	3.76
		6-8 (3293 White, 103 Indian)	26.5	33.9		5.30	4.43
		9-11 (1326 White, 36 Indian)	10.7	12.1		6.16	3.64
		12-14 (294 White, 9 Indian)	2.4	2.9		6.42	[3.98]
		15-17 (51 White, 1 Indian)	0.4	0.4		6.95	[3.00]
Family SEP	Parent's highest	No qualifications (2717 White, 102 Indian)	19.8	28.3	<0.001 (x)	6.30	4.27

Domain	Variable	Range/categories (N)	Descriptive statistics: percent or mean by ethnic group			Mean parent externalising score	
			White	Indian	*P* for ethnic difference	White	Indian
	educational qualification	Poor GCSEs (2063 White, 64 Indian)	14.9	17.7		5.62	4.02
		Good GCSEs (4337 White, 68 Indian)	31.3	18.9		4.86	4.08
		A-level (1487 White, 24 Indian)	10.7	6.8		4.45	3.90
		Diploma (1496 White, 35 Indian)	10.8	9.7		4.15	3.86
		Degree (1715 White, 65 Indian)	12.5	18.6		3.49	3.06
	Weekly household income	£0-99 (506 White, 9 Indian)	3.9	2.9	<0.001 (x)	6.23	[3.97]
		£100-199 (1905 White, 34 Indian)	14.6	10.8		6.30	5.19
		£200-299 (1727 White, 77 Indian)	13.1	24.7		5.81	3.71
		£300-399 (1578 White, 44 Indian)	12.0	13.9		5.31	4.78
		£400-499 (1464 White, 32 Indian)	11.1	10.6		4.96	4.60
		£500-599 (1319 White, 23 Indian)	10.1	7.4		4.49	3.68
		£600-769 (1802 White, 23 Indian)	13.7	7.6		4.22	3.51
		£770 and over (2806 White, 67 Indian)	21.5	22.3		3.80	3.64
	Housing tenure	Owner occupied (9854 White, 320 Indian)	71.0	88.7	<0.001 (x)	4.40	3.84
		Social sector rented (3109 White, 27 Indian)	22.5	7.7		6.64	4.37
		Privately rented (901 White, 13 Indian)	6.5	3.6		5.60	4.21
	Occupational social class	I (747 White, 31 Indian)	5.6	9.4	0.03 (x)	3.77	3.91
		II (4125 White, 102 Indian)	30.6	30.3		4.19	3.78
		III Non-manual (2743 White, 55 Indian)	19.9	15.7		4.96	3.62
		III Manual (2435 White, 61 Indian)	18.1	17.9		5.21	4.33
		IV (2530 White, 79 Indian)	18.5	22.9		5.71	4.00
		V (680 White, 10 Indian)	5.0	3.0		6.22	4.94
		Never worked (189 White, 3 Indian)	1.4	0.9		7.16	[6.19]
		Full-time student (125 White, 0 Indian)	0.9	0.0		5.55	[empty cell]
	Mother's economic activity [nested]	Full-time employed (3255 White, 117 Indian)	24.2	33.3	<0.001 (x)	4.63	3.56
		Part-time employed (6204 White, 101 Indian)	46.0	28.3		4.58	4.15
		Home and family (3134 White, 112 Indian)	23.4	31.2		5.85	4.27
		Unemployed (352 White, 7 Indian)	2.7	2.0		5.68	[2.75]
		Other (503 White, 18 Indian)	3.8	5.1		5.75	2.99
	Father's economic activity [nested]	Full-time employed (9511 White, 266 Indian)	87.3	79.6	0.003 (x)	4.54	3.91
		Part-time employed (353 White, 21 Indian)	3.2	6.2		4.92	4.18
		Home and family (213 White, 9 Indian)	1.9	2.7		6.06	[3.28]
		Unemployed (315 White, 15 Indian)	2.9	4.7		6.59	5.31
		Other (509 White, 24 Indian)	4.7	6.9		5.73	2.54
Family composition	Family type	Two-parent family (9052 White, 332 Indian)	65.4	92.2	<0.001 (x)	4.45	3.84
		Step family (1689 White, 4 Indian)	12.1	1.1		6.05	[3.86]
		Lone parent family (3104 White, 25 Indian)	22.4	6.7		5.93	4.70
	Marital status [nested]	Married (9446 White, 334 Indian)	88.0	99.5	<0.001 (x)	4.55	3.84
		Cohabiting (1295 White, 2 Indian)	12.0	0.5		5.85	[5.04]

Domain	Variable	Range/categories (N)	Descriptive statistics: percent or mean by ethnic group			Mean parent externalising score	
			White	Indian	*P* for ethnic difference	White	Indian
	Three generation household	No grandparent in household (13608 White, 309 Indian)	98.1	85.5	<0.001 (x)	4.97	3.82
		Grandparent in household (260 White, 52 Indian)	1.9	14.5		5.41	4.36
	Number of co-resident siblings	0 (2652 White, 51 Indian)	19.3	14.3	0.08 (x)	4.78	2.93
		1 (6541 White, 166 Indian)	47.1	46.4		4.82	3.98
		2 (3261 White, 95 Indian)	23.5	25.8		5.01	4.19
		3 (1035 White, 34 Indian)	7.4	9.4		5.93	4.30
		4 or more (379 White, 15 Indian)	2.7	4.1		6.32	3.61
	Mother's age at child's birth	Range '17 or less' to '40 or more'	m=27.9	m=27.8	0.41 (y)		
		≤19 (712 White, 13 Indian)	5.3	3.5	0.29 (x)	6.49	4.04
		20-24 (2902 White, 85 Indian)	21.7	23.7		5.87	3.93
		25-29 (4622 White, 137 Indian)	34.5	38.5		4.81	4.16
		30-34 (3561 White, 85 Indian)	26.6	24.0		4.44	3.52
		35-39 (1349 White, 33 Indian)	10.1	9.2		4.07	3.46
		40 or more (238 White, 4 Indian)	1.8	1.1		4.41	[4.48]
Family stress	**Parent mental health**	Range 0-12 points	m=1.71	m=1.75	0.52 (z)		
		0-1 (9338 White, 238 Indian)	67.6	68.0	0.55 (x)	4.53	3.78
		2-3 (1976 White, 43 Indian)	14.3	12.3		5.50	4.10
		4-5 (989 White, 26 Indian)	7.2	7.3		5.66	3.31
		6-7 (642 White, 22 Indian)	4.7	6.3		6.26	4.56
		8-9 (439 White, 8 Indian)	3.2	2.5		6.43	[4.29]
		10-12 (417 White, 13 Indian)	3.0	3.7		6.91	4.83
	Family functioning	Range 1-3.75 points	m=1.69	m=1.80	<0.001 (z)		
		1.0-1.49 (4206 White, 75 Indian)	30.5	22.2	<0.001 (x)	3.93	3.08
		1.5-1.99 (5835 White, 130 Indian)	42.5	38.1		4.88	3.84
		2.0-2.49 (3274 White, 119 Indian)	23.8	35.5		5.95	4.47
		2.5-2.99 (388 White, 14 Indian)	2.8	4.2		8.33	4.70
		3.0-4.0 (60 White, 0 Indian)	0.4	0.0		8.68	[empty cell]
	Parental separation	No (9470 White, 328 Indian)	68.5	91.6	<0.001 (x)	4.51	3.87
		Yes (4369 White, 31 Indian)	31.5	8.4		5.98	4.14
	Family financial crisis	No (11753 White, 319 Indian)	84.9	89.4	0.02 (x)	4.89	3.87
		Yes (2080 White, 39 Indian)	15.1	10.6		5.44	4.12
	Family police contact	No (12981 White, 346 Indian)	93.8	96.9	0.02 (x)	4.85	3.92
		Yes (855 White, 11 Indian)	6.2	3.1		6.72	3.29
	Death of parent or sibling	No (13366 White, 351 Indian)	96.6	97.7	0.27 (x)	4.94	3.89
		Yes (473 White, 8 Indian)	3.4	2.3		5.69	[4.08]
Child	**Neuro-developmental disorder**	No (13 741 White, 360 Indian)	99.1	99.7	0.26 (x)	8.03	[6.00]
		Yes (125 White, 1 Indian)	0.9	0.3		4.70	3.83
	Developmental problems	No (12,523 White, 344 Indian)	90.3	95.3	0.001 (x)	7.59	5.27
		Yes (1344 White, 17 Indian)	9.7	4.7		4.66	3.61
	Common physical disorder	No (8377 White, 239 Indian)	60.4	66.4	0.03 (x)	5.46	4.47
		Yes (5490 White, 122 Indian)	39.6	33.6		4.91	3.88
	Rare	No (12 978 White, 349 Indian)	93.6	96.7	0.03 (x)	5.97	4.57

Domain	Variable	Range/categories (N)	Descriptive statistics: percent or mean by ethnic group			Mean parent externalising score	
			White	Indian	*P* for ethnic difference	White	Indian
	physical disorder	Yes (890 White, 12 Indian)	6.4	3.3		4.82	3.90
	Serious illness leading to hospitalisation	No (11386 White, 319 Indian)	82.2	88.7	0.002 (x)	5.66	3.81
		Yes (2452 White, 40 Indian)	17.8	11.3		4.92	3.87
	Death of friend	No (12997 White, 349 Indian)	93.9	97.2	0.01 (x)	5.76	4.66
		Yes (840 White, 10 Indian)	6.1	2.8		4.86	3.95
	Regular smoker	No (12 7999 White, 334 Indian)	97.2	98.9	0.11 (x)	7.51	[5.75]
		Yes (363 White, 4 Indian)	2.7	1.2		4.93	3.94
	Alcohol consumption	Less than once a fortnight (12 126 White, 333 Indian)	92.1	98.5	<0.001 (x)	4.87	[4.80]
		Once a fortnight to once a week (803 White, 4 Indian)	6.2	1.2		5.42	[8.00]
		Twice a week or more (229 White, 1 Indian)	1.8	0.4		4.89	3.93
	Ever used drugs	No (12 646 White, 329 Indian)	96.1	97.2	0.34 (x)	6.08	[5.38]
		Yes (509 White, 9 Indian)	3.4	2.8			
	Teacher-reported academic difficulties	Range 0-9 points	m=3.03	m=2.71	0.05 (z)		
		0-1 (3352 White, 91 Indian)	31.9	37.1	0.28 (x)	7.96	[4.88]
		2-3 (3689 White, 85 Indian)	34.9	33.4		7.15	4.43
		4-5 (1461 White, 36 Indian)	13.8	14.5		5.85	4.52
		6-7 (1361 White, 26 Indian)	12.9	10.0		4.49	3.38
		8-9 (694 White, 13 Indian)	6.6	5.0		4.95	3.89
	Learning difficulty	No (12 680 White, 351 Indian)	91.4	97.1	<0.001 (x)	8.03	[6.00]
		Yes (5490 White, 10 Indian)	8.6	2.9		4.70	3.83
	Dyslexia	No (13 378 White, 359 Indian)	96.4	99.5	<0.001 (x)	7.59	5.27
		Yes (489 White, 2 Indian)	3.6	0.5		4.66	3.61
Child, 1999 only	Formal reading assessment	Range -3.1 s.d. to +2.7 s.d. from average	m=0.00	m=0.13	0.24 (y)		
		>2 s.d. below average (180 White, 1 Indian)	2.6	0.5	0.42 (x)	8.75	[7.00]
		1-2 s.d. below average (1005 White, 16 Indian)	14.2	9.6		7.06	6.08
		0-1 s.d. below average (2221 White, 59 Indian)	31.4	35.5		5.63	4.38
		0-1 s.d. above average (2434 White, 59 Indian)	34.5	34.8		4.35	4.26
		1-2 s.d. above average (1104 White, 30 Indian)	15.7	17.8		3.44	3.61
		>2 s.d. above average (123 White, 3 Indian)	1.7	1.8		3.30	[3.94]
	Formal spelling assessment	Range -3.5 s.d. to +3.1 s.d. from average	m=0.00	m=0.32	0.001 (y)		
		>2 s.d. below average (185 White, 4 Indian)	2.7	2.3	0.02 (x)	8.67	[5.50]
		1-2 s.d. below average (995 White, 10 Indian)	14.2	6.1		7.11	7.56

Domain	Variable	Range/categories (N)	Descriptive statistics: percent or mean by ethnic group			Mean parent externalising score	
			White	Indian	*P* for ethnic difference	White	Indian
		0-1 s.d. below average (2160 White, 41 Indian)	30.9	24.4		5.63	4.71
		0-1 s.d. above average (2568 White, 74 Indian)	36.8	44.1		4.32	4.10
		1-2 s.d. above average (944 White, 33 Indian)	13.5	19.6		3.39	3.45
		>2 s.d. above average (129 White, 6 Indian)	1.9	3.5		2.64	[4.15]
	Reward: praise	Never (23 White, 1 Indian)	0.3	0.6	<0.001 (x)	7.26	[5.00]
		Seldom (60 White, 3 Indian)	0.8	1.4		6.87	[6.65]
		Sometimes (1211 White, 69 Indian)	15.5	35.8		6.02	5.45
		Frequently (6573 White, 119 Indian)	83.4	62.2		4.91	3.67
	Punish: non-physical	Never (195 White, 11 Indian)	2.5	5.8	<0.001 (x)	2.81	1.53
		Seldom (1119 White, 16 Indian)	14.3	8.2		3.33	3.69
		Sometimes (3932 White, 123 Indian)	49.9	63.3		4.61	4.58
		Frequently (2622 White, 44 Indian)	33.3	22.7		6.80	4.78
	Punish: smacking	Never (4304 White, 119 Indian)	55.0	61.6	0.001 (x)	4.42	3.98
		Seldom (2839 White, 46 Indian)	35.8	23.6		5.65	4.39
		Sometimes (690 White, 26 Indian)	8.7	13.3		6.97	6.15
		Frequently (36 White, 3 Indian)	0.5	1.5		10.57	[4.63]
	Punish: ever hit or shake	Never (7669 White, 179 Indian)	97.5	92.1	<0.001 (x)	5.05	4.25
		Ever (199 White, 15 Indian)	2.6	7.9		7.39	5.83
Child, 2004 only, 11 to 16 year olds only only]	**Social support score**	Range 0 to 14 points	m=12.6	m=12.5	0.32 (z)		
		0-7 (68 White, 0 Indian)	2.7	0.0	0.45 (x)	6.30	[empty cell]
		8-9 (115 White, 3 Indian)	4.5	4.4		5.96	[6.36]
		10-11 (255 White, 10 Indian)	10.0	14.0		5.94	3.80
		12-13 (689 White, 22 Indian)	27.2	32.9		4.69	4.23
		14 (1398 White, 32 Indian)	55.6	48.7		3.43	2.29
	No. close relatives in the home	None (71 White, 2 Indian)	2.8	2.7	0.77 (x)	6.36	[3.00]
		One (422 White, 9 Indian)	16.6	13.3		5.27	[3.90]
		Two or more (2037 White, 56 Indian)	80.7	84.0		3.94	3.24
	No. close relatives outside home	None (296 White, 14 Indian)	11.6	19.5	0.09 (x)	4.35	2.94
		One (434 White, 8 Indian)	17.1	10.9		4.97	[2.14]
		Two or more (1801 White, 46 Indian)	71.3	69.6		4.03	3.65
	How often child helps relatives	Every day (378 White, 20 Indian)	14.8	28.0	0.06 (x)	4.30	2.89
		Once a week (1408 White, 30 Indian)	55.7	45.9		4.08	3.95
		Once a month (428 White, 12 Indian)	17.1	18.3		4.21	2.70
		Less than once a month (137 White, 4 Indian)	5.5	6.1		4.40	[4.21]
		Never (172 White, 1 Indian)	6.9	1.6		5.13	[0.00]

s.d. = standard deviation. Nested analyses: Mother's economic activity was only collected in households in which the mother (or mother substitute) was present; father's economic activity where the father was present; and parent marital status in families where both were present. (x)=p-value from chi-squared test for association; (y) p-value calculated using a T-test (normally distributed continuous variables); (z) p-value calculated using a Wilcoxon non-parametric test (non-normal continuous variables). When presenting parent externalising scores, brackets are used to indicate means based on fewer than 10 children.

Interrelation between measures of family SEP and area deprivation for Indians and Whites

As shown in Table 13, Indians were systematically disadvantaged for area deprivation, advantaged in housing tenure, concentrated at the extremes of the distribution for parent education, and not much different for occupational social class and income. Further analyses revealed that household income, parent education and social class showed a very similar relationship to each other in Indians and Whites (Figure 5). By contrast, area deprivation scores were systematically higher in Indians than Whites after stratifying by family SEP, but the gradient (i.e. the degree of social differentiation *within* ethnic group) was similar (Figure 6). Home-ownership showed a different pattern again: the proportion of Indian and White home-owners was very similar in the most advantaged groups, but whereas in Whites there was a steep gradient with SEP and area deprivation,[*] this was not observed in Indians (Figure 7)

Figure 5: Mean weekly household income by parent's education and occupational social class
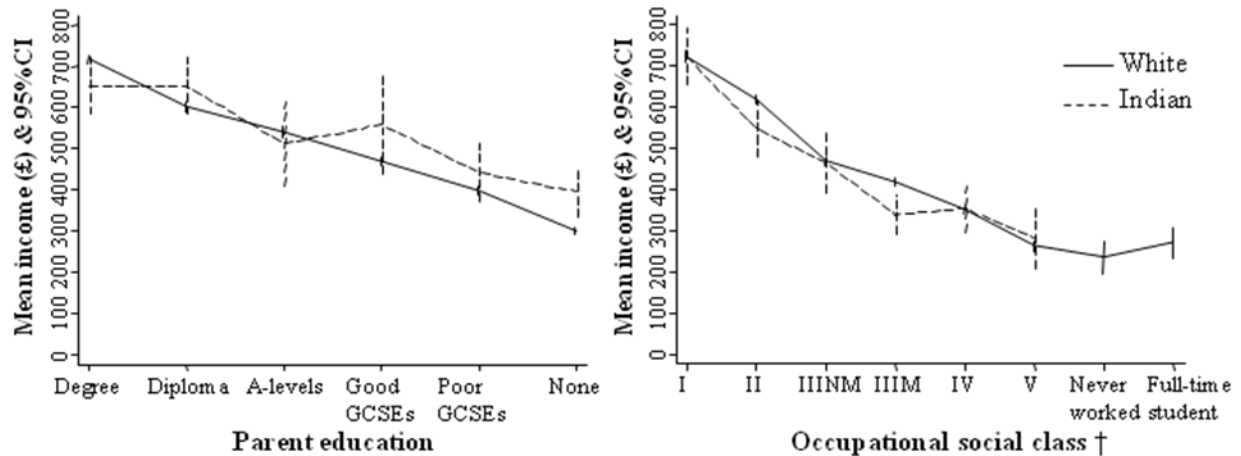
Figure 6: Mean area deprivation by parent's education and occupational social class

(Note: results were similar for household income)

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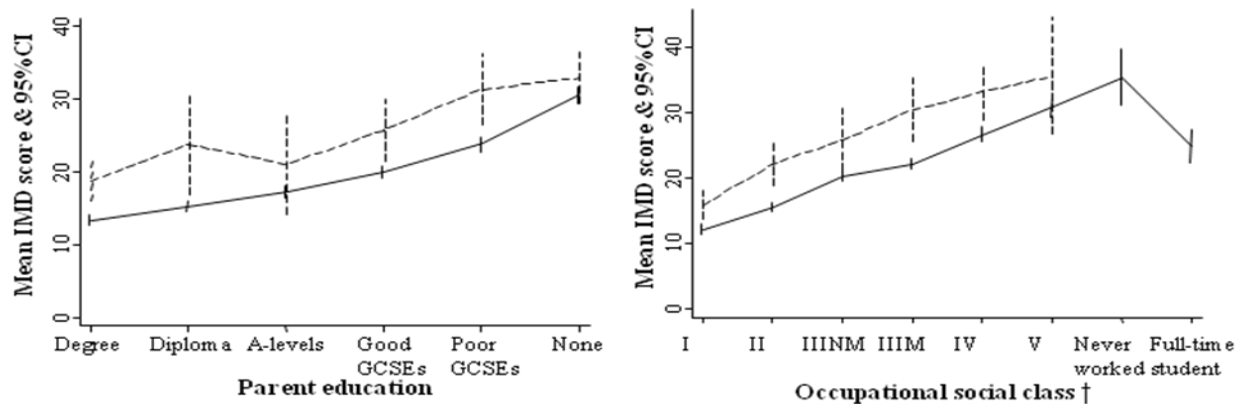
[*] Note that 'difficulty of access to owner-occupation' (the modelled proportion of households unable in 2002 to afford to enter owner-occupation) forms part of the IMD. It is only one of 37 such indicators, however, and the circularity in comparing home-ownership with area deprivation is therefore low.

Figure 7: Proportion of home-owners by parent's education and area deprivation

(Note: results were similar for household income and occupational social class)
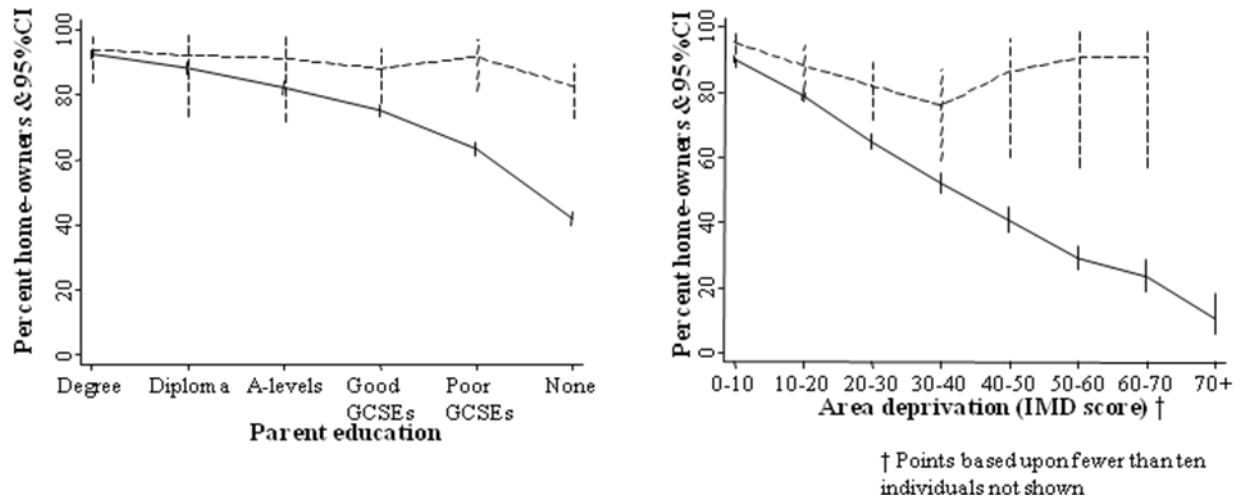
Social differential of two-parent families for Indians and Whites

Two-parent families were substantially more common in Indians than Whites (92.2% vs. 65.4% in Whites). They were also less socially differentiated, as illustrated in Figure 8.

Figure 8: Prevalence of two-parent families in Indians and Whites, by parent education and area deprivation
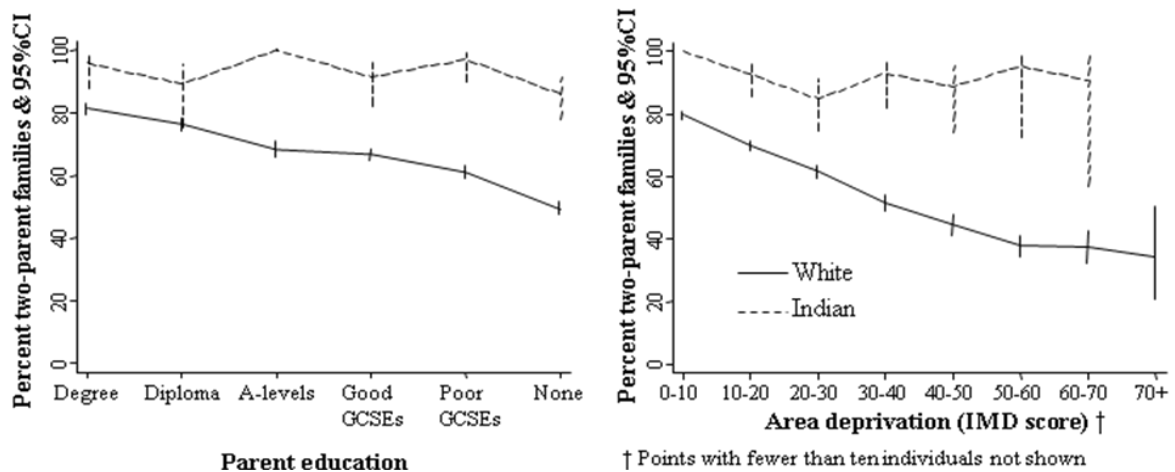
Comparison between the family functioning score and parent mental health for Indians and Whites

As presented above in Part 1 of the supplementary material, the 'General Functioning' (GF) family functioning scale of the McMaster Family Activity Device had the same factor structure in Indians and Whites. Because the worse parent-reported family functioning in Indian families was unexpected, we investigated further its relationship with parent mental health, the other continuous measure of family stress. As expected these two variables were positively associated in both ethnic groups. Moreover, the strength of the correlation was very similar in the two ethnic groups (Pearson's coefficient 0.25 in Indians and 0.26 in Whites), and the mean GHQ score of Indian and White parents was similar after stratifying by family functioning (Figure 9). This provides some evidence that the GF scale provides a measure of family functioning which is comparable between Indians and Whites.

Figure 9: Mean parent GHQ score in Indians and Whites, stratified by family functioning

† Points with fewer than ten individuals not shown
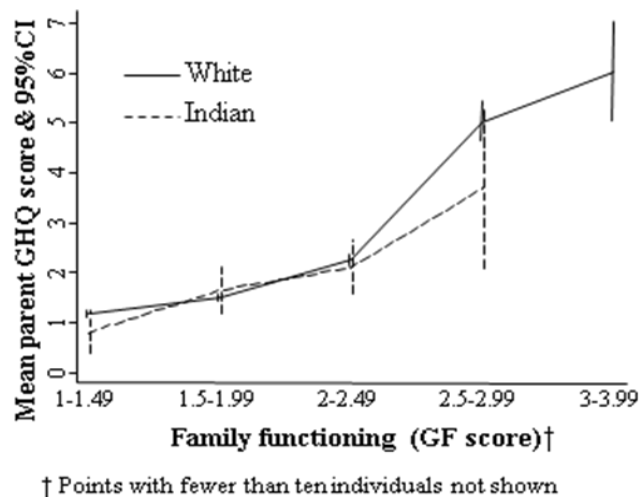
Part 5: full details on models explaining the Indian advantage

Table 14: Effect of adjusting for each child, family, school and area characteristics upon the parent and teacher externalising score

	Variable	Parent externalising score			Teacher externalising score		
		Unadjusted regression coefficient†	Adjusted regression coefficient	Change	Unadjusted regression coefficient†	Adjusted regression coefficient	Change
A priori confounders	Child's sex [a]	1.06	1.08	+0.02	1.01	1.05	+0.04
	Child's age [b]	1.09	1.08	-0.01	1.05	1.05	0.00
	Survey year [a]	1.09	1.08	-0.01	1.05	1.05	0.00
Area	Geographical region [a]	1.08	1.08	0.00	1.05	1.03	-0.02
	Metropolitan region [a]	1.08	1.09	+0.01	1.05	1.09	+0.04
	Area deprivation [c]	1.08	1.38	+0.30	1.05	1.30	+0.25
School	Ford score [b]	1.08	1.15	+0.07	1.05	1.10	+0.05
Family SEP	Parent's highest educational qualification [a]	1.08	1.17	+0.09	1.05	1.10	+0.05
	Weekly household income [a]	1.08	1.17	+0.09	1.05	1.15	+0.10
	Housing tenure [a]	1.08	0.73	-0.35	1.05	0.72	-0.33
	Occupational social class [a]	1.08	1.01	-0.07	1.05	0.96	-0.09
	Mother's economic activity [nested] [a]	1.08	1.20	+0.12	1.03	1.16	+0.13
	Father's economic activity [nested] [a]	0.87	0.95	+0.08	0.81	0.93	+0.12
ALL LEVEL 1 VARIABLES		1.08	0.99	-0.09	1.05	0.93	-0.12
Family composition	Family type [a]	1.08	0.65	-0.43	1.05	0.63	-0.42
	Marital status [nested] [a]	0.87	0.72	-0.15	0.79	0.65	-0.14
	Three generation household [a]	1.08	1.13	+0.05	1.05	1.14	+0.09
	No. co-resident siblings [a]	1.08	1.12	+0.04	1.05	1.09	+0.04
	Mother's age at child's birth [c]	1.08	1.08	0.00	1.05	1.04	-0.01
Family stress	Parent mental health [d]	1.08	1.09	+0.01	1.05	1.07	+0.02
	Family functioning [b]	1.08	1.34	+0.26	1.05	1.19	+0.14
	Parental separation [a]	1.08	0.72	-0.36	1.05	0.70	-0.35
	Family financial crisis [a]	1.08	1.05	-0.03	1.05	1.03	-0.02
	Family police contact [a]	1.08	1.02	-0.06	1.05	1.00	-0.05
	Death of parent or sibling [a]	1.08	1.07	-0.01	1.05	1.04	-0.01
ALL LEVEL 2 VARIABLES		1.08	1.08	0.00	1.05	0.91	-0.14
Child	Neuro-developmental disorder [a]	1.08	1.06	-0.02	1.05	1.04	-0.01
	Developmental problems [a]	1.08	0.95	-0.13	1.05	0.98	-0.07
	Common physical disorder [a]	1.08	1.03	-0.05	1.05	1.03	-0.02
	Rare physical disorder [a]	1.08	1.04	-0.04	1.05	1.04	-0.01

	Variable	Parent externalising score			Teacher externalising score		
		Unadjusted regression coefficient†	Adjusted regression coefficient	Change	Unadjusted regression coefficient†	Adjusted regression coefficient	Change
	Serious illness leading to hospitalisation [a]	1.08	1.03	-0.05	1.05	1.02	-0.03
	Death of friend [a]	1.08	1.04	-0.04	1.05	1.03	-0.02
	Regular smoker [a]	1.08	1.00	-0.08	1.05	0.96	-0.09
	Alcohol consumption [a]	1.08	1.03	-0.05	1.05	0.99	-0.06
	Ever used drugs [a]	1.08	1.05	-0.03	1.05	1.00	-0.05
	Learning difficulty [a]	1.08	0.84	-0.24	1.05	0.86	-0.19
	Dyslexia [a]	1.08	1.01	-0.07	1.05	1.01	-0.04
	Teacher-reported academic difficulties [b]	1.08	0.89	-0.19	1.05	0.78	-0.27
ALL LEVEL 3 VARIABLES FROM BOTH DATASETS		1.08	0.64	-0.44	1.05	0.66	-0.39
Child, 1999 only	Formal test: reading [c]	0.80	0.65	-0.15	1.07	0.90	-0.17
	Formal test: spelling [c]	0.80	0.41	-0.39	1.07	0.68	-0.39
	Reward: praise [a]	0.80	1.06	+0.26	1.07	1.16	+0.09
	Punish: non-physical [a]	0.80	0.59	-0.21	1.07	1.03	-0.04
	Punish: smacking [a]	0.80	0.84	+0.04	1.07	1.07	0.00
	Punish: ever hit or shake [a]	0.80	0.92	+0.12	1.07	1.13	+0.06
Child, 2004 only, age 11 to 16	Social support score [c]	1.42	1.42	0.00	1.03	1.09	+0.06
	No. close relatives in the home [a]	1.42	1.41	-0.01	1.03	0.99	-0.04
	No. close relatives outside the home [a]	1.42	1.46	+0.04	1.03	1.04	+0.01
	How often child helps relatives [a]	1.42	1.43	+0.01	1.03	1.02	-0.01

Nested analyses: Mother's economic activity was only collected in households in which the mother (or mother substitute) was present; father's economic activity where the father was present; and marital status in families where both were present. For these variables and for the variables collected only in one of the two B-CAMHS surveys, we restrict both the unadjusted and the adjusted to the relevant subpopulation of children.

a]=variable entered as categorical; [b] variable entered as a linear term; [c] variable entered as a linear plus quadratic term; [d] variable entered as a linear, quadratic plus cubic term, according to how they were modelled when calculating the univariable association between that variable and child mental health.

All models adjust for child's sex, age and survey year.

Table 15: Ethnic differences in mean externalising SDQ scores and odds ratio for disorder in the full population

	Adjusted for:	Regression coefficient from linear regression			Odds ratio from logistic regression
		Parent SDQ (13 868 White, 361 Indian)	Teacher SDQ (10 775 White, 257 Indian)	Child SDQ (5737 White, 154 Indian)	DAWBA (13 868 White, 361 Indian)
Externalising problems	Sex, age and survey year	1.08 (0.73, 1.43)***	1.05 (0.67, 1.43)***	1.24 (0.70, 1.77)***	3.98 (1.59, 9.97)**
	Plus academic abilities	0.80 (0.46, 1.15)***	0.78 (0.43, 1.12)***	1.15 (0.63, 1.68)***	3.34 (1.30, 8.63)*
	Plus family type and parental divorce	0.51 (0.17, 0.84)**	0.52 (0.18, 0.87)**	0.94 (0.43, 1.45)**	2.46 (0.95, 6.39)
	Plus area, school and family SEP	0.60 (0.25, 0.94)**	0.58 (0.21, 0.95)**	0.89 (0.36, 1.42)***	2.60 (0.99, 6.84)
	Plus other family composition and stress	0.69 (0.34, 1.04)***	0.66 (0.28, 1.04)**	0.99 (0.49, 1.49)***	2.80 (1.06, 7.37)*
	Plus other child variables	0.55 (0.19, 0.91)**	0.57 (0.19, 0.95)**	0.82 (0.34, 1.31)**	2.58 (0.96, 6.90)
	Plus; family functioning	0.71 (0.35, 1.08)***	0.62 (0.24, 1.00)**	0.92 (0.44, 1.39)***	2.69 (1.01, 7.15)*
Internalising problems	Sex, age and survey year	-0.21 (-0.67, 0.25)	0.30 (-0.20, 0.80)	0.15 (-0.33, 0.62)	1.86 (0.89, 3.89)
	Plus academic difficulties and learning difficulties	-0.42 (-0.85, 0.02)	0.11 (-0.36, 0.58)	0.06 (-0.39, 0.52)	1.64 (0.79, 3.43)
	Plus family type and parental divorce	-0.59 (-1.03, -0.15)**	0.00 (-0.47, 0.47)	-0.06 (-0.51, 0.39)	1.33 (0.63, 2.79)
	Plus area, school and family SEP	-0.50 (-0.94, -0.05)*	0.11 (-0.37, 0.59)	-0.05 (-0.51, 0.41)	1.39 (0.66, 2.92)
	Plus other family composition and stress	-0.41 (-0.85, 0.03)	0.15 (-0.32, 0.62)	0.04 (-0.41, 0.48)	1.57 (0.75, 3.28)
	Plus other child variables	-0.52 (-0.96, -0.08)*	0.10 (-0.37, 0.58)	-0.03 (-0.46, 0.41)	1.31 (0.65, 2.64)
	Plus; family functioning	-0.43 (-0.87, 0.01)	0.12 (-0.36, 0.59)	-0.01 (-0.44, 0.42)	1.33 (0.66, 2.66)

*p<0.05, **p<0.01, ***p<0.001. Table presents regression coefficients for White (vs. Indian) ethnicity from linear regression for the SDQ outcomes and logistic regression for DAWBA diagnosis.

Part 6: full information on tests for interactions

Socio-economic disadvantage: univariable analyses

All measures of socio-economic disadvantage showed evidence of an interaction with Indian ethnicity such that the deprivation gradient of externalising problems was less marked in Indians than in Whites (Table 16, Figure 10). Moreover, not only was the gradient flatter (in some cases almost flat) in Indians, but the absolute values at the most advantaged end were almost the same. In other words, there was little or no Indian mental health advantage among the most socio-economically advantaged families – instead the advantage was largely confined to less privileged groups.

That *all* SEP/area deprivation indicators showed this pattern is very important. If the interaction were seen on just one or two indicators then this might imply that it resulted from the different pattern of inter-relationship between the SEP indicators in Indians and Whites. For example, home ownership is less socially differentiated in Indians than in Whites (Figure 5) and it would therefore be unsurprising if housing tenure were less strongly associated with mental health in Indians. In fact, however, the interaction is also seen for parent education, income and social class which show similar degrees of social differentiation in Indians and Whites. This consistency across all indicators therefore implies that the observed SEP interactions cannot readily be explained as an artefact, and is more likely to reflect a genuine flattening of the socio-economic gradient in Indians.

Table 16: Univariable p-values for interactions between ethnicity and socio-economic disadvantage

P-value for interaction between ethnicity and:	Parents externalising scores	Teachers externalising scores
Area deprivation	0.03	0.008
Parent's education	<0.001 [0.006 if categorical]	0.02 [0.06 if categorical]
Household income	<0.001 [0.002 if categorical]	0.06 [0.02 if categorical]
Housing tenure	0.02	<0.001
Social class	0.01	0.49

Area deprivation, parent education and household income were entered as linear terms, housing tenure and social class categorical. All models were linear regression models with interaction terms between ethnicity and each covariate in question, adjusting for age, gender and survey year.

Figure 10: Parent and teacher externalising scores for Indians and Whites for selected measures of socio-economic disadvantage

Parent SDQ

Tenure

Teacher SDQ

Social class
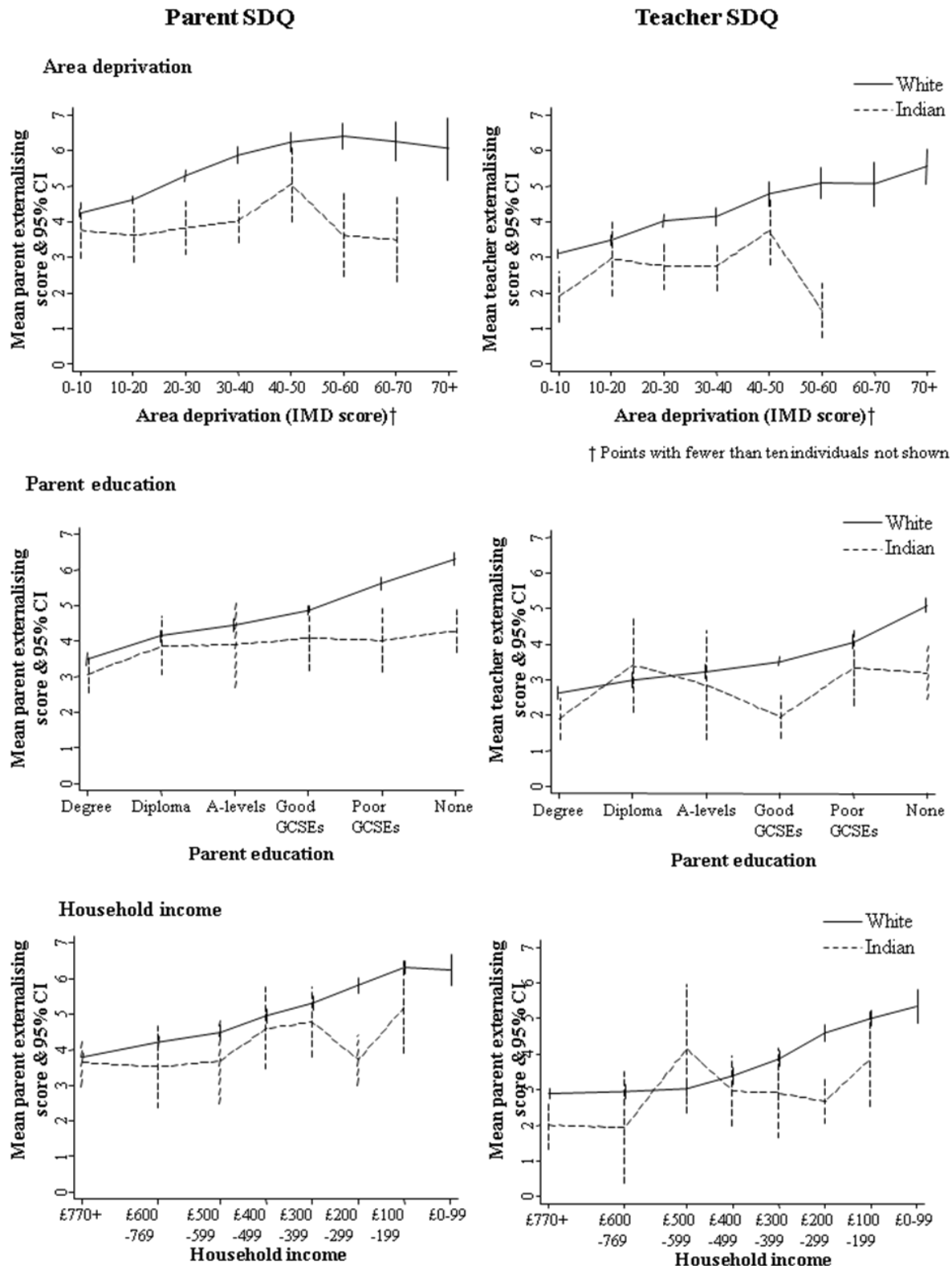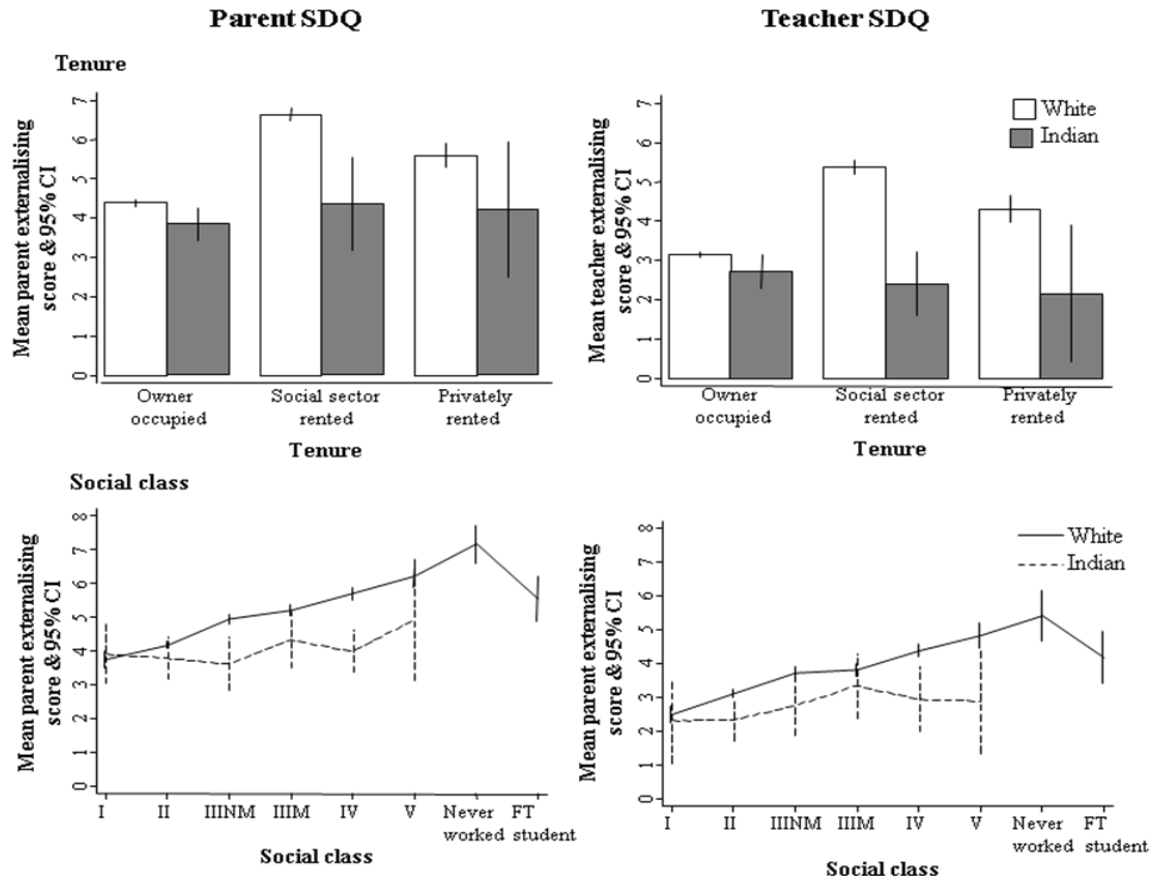
Socio-economic disadvantage: multivariable analyses

We investigated whether the interaction between ethnicity and socio-economic disadvantage persisted in multivariable models, in order to assess how far the interaction between Indian ethnicity and SEP was explained by Indians' child, family, school and area characteristics. In fact, some evidence of an interaction between ethnicity and SEP remained even after adjusting for all these variables. For example, in the final fully-adjusted model the significance of the interaction term between parent education and ethnicity was $p=0.006$ (or $p=0.03$ if education was entered as a categorical variable). Once again, the nature of this interaction was such that the marked SEP gradient in Whites was absent in Indians, and consequently the Indian advantage was greatest in the more deprived groups. This is also indicated by the stratified analyses in Table 17. As these show, the fully-adjusted regression coefficient of White (vs. Indian) ethnicity was 1.28 (95%CI 0.67, 1.90) in parents of no education, compared to 0.58 (-0.07, 1.24) in parents of GCSE-level education and 0.38 (-0.11, 0.87) in parents with A-levels or above. Moreover, this approximate three-fold difference between the bottom and the top education strata was not confined to the fully-adjusted model. Rather it was fairly constant across all the models in Table 17 – for example in the unadjusted model the point estimate was 2.04 for no education vs. 0. 63 for A-level education or above. This indicates that just as the measured characteristics of Indian children could not fully explain the overall Indian advantage, these characteristics also do not explain the flattening of the SEP gradient.

Table 17: Ethnic differences in mean externalising SDQ score, stratified analyses by parent education

Adjusted for:	Parent externalising score				
	Full population (13 815 White, 358 Indian)	p-value for interaction with parent education	A-level qualifications or above (4698 White, 124 Indian)	GCSE-level qualifications (6400 White, 132 Indian)	No education (2717 White, 102 Indian)
Sex, age and survey year	1.06 (0.71, 1.42)***	<0.001 (1 d.f.) / <0.001 (5.d.f.)	0.63 (0.19, 1.06)***	0.97 (0.26, 1.69)**	2.04 (1.43, 2.64)***
Plus academic abilities	0.79 (0.44, 1.13)***	<0.001 (1 d.f.) / 0.002 (5.d.f.)	0.34 (-0.12, 0.81)	0.63 (-0.04, 1.29)	1.71 (1.10, 2.31)***
Plus family type and parental divorce	0.50 (0.16, 0.83)**	0.002 (1 d.f.) / 0.01 (5.d.f.)	0.18 (-0.28, 0.64)	0.32 (-0.34, 0.98)	1.36 (0.77, 1.96)***
Plus area, school and family SEP, <u>except</u> parent education	0.56 (0.21, 0.92)**	0.008 (1 d.f.) / 0.04 (5.d.f.)	0.30 (-0.19, 0.79)	0.38 (-0.27, 1.03)	1.18 (0.53, 1.82)***
Plus other family composition and stress	0.66 (0.30, 1.01)***	0.01 (1 d.f.) / 0.06 (5.d.f.)	0.41 (-0.11, 0.93)	0.49 (-0.16, 1.13)	1.23 (0.58, 1.87)***
Plus other child variables	0.52 (0.16, 0.88)**	0.01 (1 d.f.) / 0.04 (5.d.f.)	0.25 (-0.25, 0.76)	0.37 (-0.28, 1.02)	1.10 (0.48, 1.73)
Plus family functioning	0.69 (0.33, 1.06)***	0.006 (1 d.f.) / 0.03 (5.d.f.)	0.38 (-0.11, 0.87)	0.58 (-0.07, 1.24) [p=0.08]	1.28 (0.67, 1.90)

*p<0.05, **p<0.01, ***p<0.001. d.f. = degrees of freedom. Table presents the regression coefficients for White (vs. Indian) ethnicity from linear regression. P-values for interaction are presented treating parent education both as a linear term (1 d.f.) and a categorical variable (5 d.f.). Note that data on parent education was missing on 56 individuals, and these individuals are excluded from these analyses.

We repeated these analyses using the teacher externalising score as the outcome and using household income and tenure as SEP indicators.[*] In all cases, there was again a trend for the Indian advantage to be largest in the least advantaged group (Figure 11). Likewise, the relative gap between the top and bottom groups was again similar in the fully adjusted model compared to the unadjusted model. In several cases, however, the interaction became only weakly significant or non-significant in the fully adjusted models. This was particularly true when using the teacher outcome, for which fewer individuals were available. This highlights the fact that these stratified analyses and tests for interaction are operating at the limits of the power offered by the B-CAMHS sample size, and therefore the need for replication in larger datasets.

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[*] These were the other two SEP indicators which showed evidence of independent predictive effects upon child mental health; see **Error! Reference source not found.**.

Figure 11: Regression coefficients from fully-adjusted model for White (vs. Indian) ethnicity, stratified by parent education, household income and housing tenure
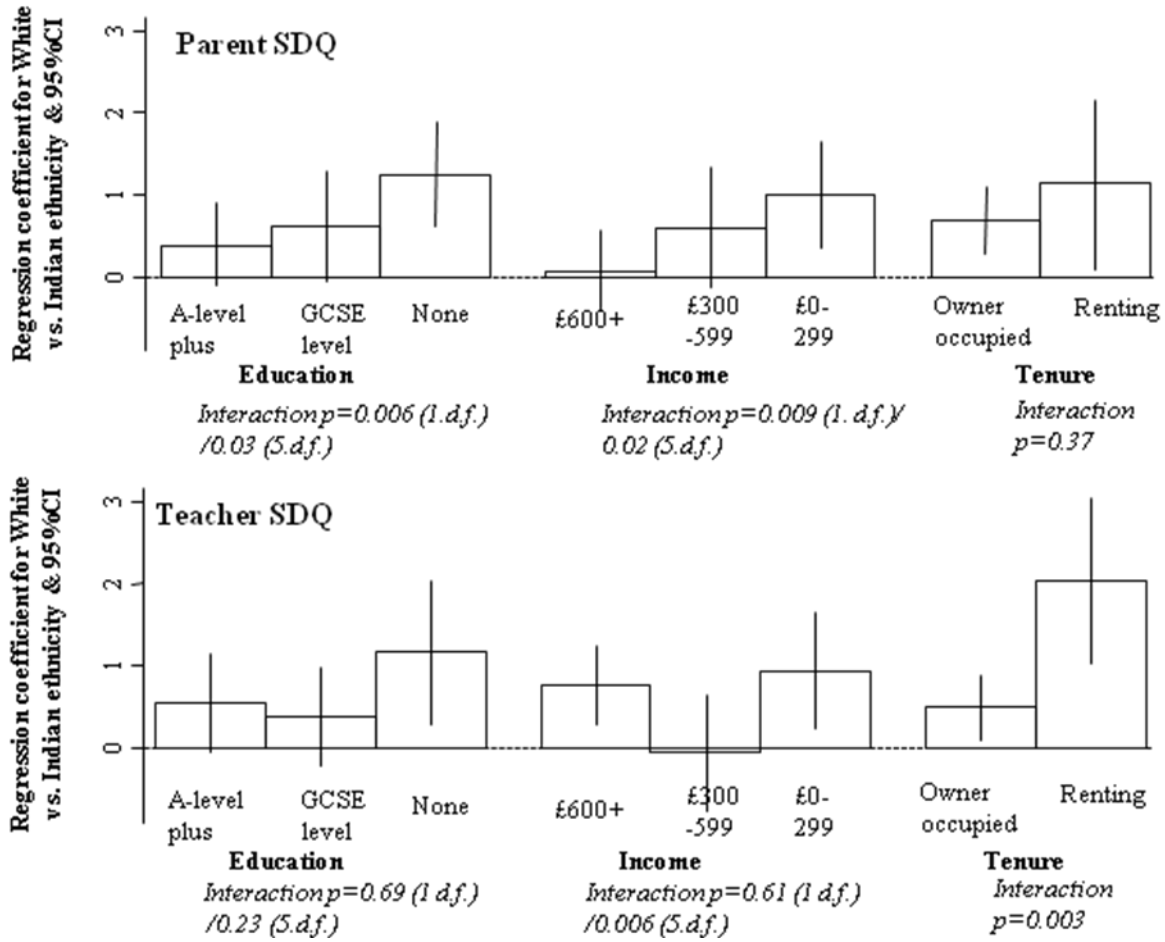
d.f. = degrees of freedom. Table presents the regression coefficients for White (vs. Indian) ethnicity from linear regression. P-values for interaction are presented treating parent education both as a linear term (1 d.f.) and a categorical variable (5 d.f.).

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