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Abstract Perceptions of current family functioning in relation to current household income level, educational status, social-class at birth and social mobility over the lifecourse were investigated in a group of 483 individuals at age 50. Subjective report of family functioning was assessed using the McMaster Family Assessment Device (FAD) with socio-economic information obtained from a self-report Health and Lifestyle Questionnaire. Results indicated significant relationships between household income, social mobility and FAD scores for men but not for women in this sample. For men, lower current income and downward social mobility over the lifecourse were associated with a more negative perception of family functioning. Further research is required to understand the gender differences observed and delineate cause versus effect mechanisms.

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Keywords (separated by '-') Family functioning - Gender - Social mobility - Socio-economic status

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Footnote Information

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## 3 **The Impact of Socio-economic Status and Mobility** 4 **on Perceived Family Functioning**

5 **Paul A. Tiffin · Mark Pearce · Carole Kaplan · Trian Fundudis ·**  
6 **Louise Parker**

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9 **Abstract** Perceptions of current family functioning in relation to current household  
10 income level, educational status, social-class at birth and social mobility over the lifecourse  
11 were investigated in a group of 483 individuals at age 50. Subjective report of family  
12 functioning was assessed using the McMaster Family Assessment Device (FAD) with  
13 socio-economic information obtained from a self-report Health and Lifestyle Question-  
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15 mobility and FAD scores for men but not for women in this sample. For men, lower current  
16 income and downward social mobility over the lifecourse were associated with a more  
17 negative perception of family functioning. Further research is required to understand the  
18 gender differences observed and delineate cause versus effect mechanisms.

19 **Keywords** Family functioning · Gender · Social mobility · Socio-economic status  
20

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21 Understanding the ways in which the economic environment may influence views on one's  
22 family life is important when attempting to support a family system facing financial  
23 adversity. According to ecological theory, a family's socio-economic environment is a key  
24 component of the *macrosystem* in which the family is embedded, coloring and setting the  
25 tone for individual perceptions of both relationships and overall family (Bronfenbrenner  
26 1979). Therefore it could be hypothesized that individuals from less economically  
27 advantaged backgrounds may perceive their family as functioning poorer than those who  
28 are more advantaged. In this postulated situation there would be opportunities for both  
29 *social drift* (Wender et al. 1973) and *social causation* (Hollinshead and Redlich 1958)  
30 mechanisms to act. Indeed, in terms of individual psychological adjustment and socio-  
31 economic status (SES) there is evidence that both processes are at work (Costello et al.  
32 2003; Miech et al. 1999). It therefore would be expected that an association between poorer  
33 family functioning and low SES would also be observed.

34 Relatively little previous empirical work exists that has reported the potential influence  
35 of SES on perceived family functioning. Moreover, findings regarding the influence of  
36 socio-economic environment on family functioning have not been consistent but have  
37 varied according to the population studied, the evaluation instruments employed and the  
38 indices of SES utilized (Baer 1999; Maziade et al. 1987; Roelofse and Middleton 1985).  
39 However, some attempts have been made to develop and explore specific measures of  
40 family functioning for the purposes of economic research, recognizing the importance of  
41 this construct (Owen et al. 1992).

42 A number of studies have reported significant associations between lower SES and  
43 perceptions of poorer family functioning: One Canadian survey of 1,869 randomly selected  
44 families participating in the Ontario Child Health Study and used the *General Functioning*  
45 subscale of the McMaster Family Assessment Device (FAD) to assess overall family  
46 functioning (Byles et al. 1988). The authors reported a very small, but statistically sig-  
47 nificant, inverse correlation between the *General Functioning* subscale score of the FAD  
48 and family income. Likewise, a survey of family functioning in 143 inner city families in  
49 Newcastle-upon-Tyne was performed using the FAD (Clark et al. 2000). The scores on all  
50 seven subscales of the FAD were analyzed to assess their respective correlation with six  
51 different measures of disadvantage. *Dependency on social welfare* (DSW) and *Educational*  
52 *Disadvantage* (ED, defined as neither parent in the family having achieved an educational  
53 or vocational qualification) were two measures that relate directly to accepted measures of  
54 SES such as educational attainment and family income. All seven subscales of the FAD  
55 were significantly correlated with the presence of DSW. Only two of the FAD sub-scales  
56 correlated significantly with ED—*Communication* and *Roles*.

57 The Family Functioning in Adolescence Questionnaire (FFAQ) was developed in order  
58 to evaluate the perceptions of family functioning in 12–18-year-old. In the sample of 413  
59 Australian students used to validate the questionnaire it was observed that those from  
60 *Professional* families with high incomes (this was not further defined) reported their  
61 families as more *healthy* across all the six domains assessed (Roelofse and Middleton  
62 1985). A study of 204 families reported that elements of SES (parental occupation, edu-  
63 cation and household income) were significantly correlated with two of the seven subscales  
64 of the Family Environment Scale (FES), designed to report the social and emotional  
65 functioning of the family (Moos 1974). These two scales were *Active Recreational Ori-*  
66 *entation* and *Intellectual-Cultural Orientation*, designed to report the level of family  
67 involvement in stimulating leisure activities. Subscales; such as, *Expressiveness* reporting  
68 constructs more related to emotional issues, were not significantly associated with SES.



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69 Not all studies investigating perceptions of family functioning and SES have reported  
70 significant associations: In a study of 118 randomly selected Canadian families with  
71 children, a semi-structured interview was employed to evaluate the participants with  
72 respect to two of the six dimensions of the McMaster Model of Family Functioning  
73 (Epstein et al. 1978). The authors reported that SES (based on parental occupation) was not  
74 significantly correlated with either the *Behavior Control* or the *Communication* ratings, the  
75 two dimensions evaluated (Maziade et al. 1987). Also, a survey of over 5,000 adolescents,  
76 using the conflict subscale of the FES (Moos and Moos 1986), observed that family SES, as  
77 indexed by parental occupation and education level, made little contribution to the variance  
78 in the level of family conflict reported (Baer 1999). Moreover, a survey of 197 mothers  
79 (including a subgroup who had been identified by healthcare professionals as *neglectful*)  
80 reported that educational level and family income were not predictive of self or caseworker  
81 ratings of family functioning—measured by the Beavers Self-Report Family Inventory  
82 (SFI) and Family Evaluation Measure (FEM), respectively (Meyers et al. 2002). A survey  
83 of couples in India reported that those families living in poverty were more likely to  
84 experience physical or verbal aggression in their family life than those in less economically  
85 disadvantaged conditions. However, overall there was no significant difference between  
86 *poor* and *non-poor* couples in the level of satisfaction with family life reported (Abbott  
87 et al. 2004). Taken together, the reports from the above studies suggested that some  
88 components of SES may be associated with certain patterns of perceived family func-  
89 tioning in a variety of population samples. However, a close association between these two  
90 constructs has been far from a universal finding.

91 There is also some evidence from previous research that men and women may react  
92 differently to financial or other stressors when appraising the quality of their interpersonal  
93 relationships. One study of North American farm business-owning couples reported that  
94 for wives, but not husbands, business tensions were negatively related to subjective satis-  
95 faction with the spousal relationship (Amarapurkar and Danes 2005). In addition, a study  
96 of gender differences in overall health perceptions in 238 mildly hypertensive patients in  
97 Israel reported that women rated both their physical health and family functioning as  
98 significantly poorer than male participants did, with these differences partly being  
99 explained by SES (Beiser et al. 1998). A longitudinal study of household income and  
100 marital happiness was conducted during the 1980s. This reported that overall increases in  
101 family income had no significant effect on men's marital satisfaction. However, both  
102 increases in absolute family income and the proportion provided by the wife were asso-  
103 ciated with increased marital happiness for the woman. Conversely, a decrease in male  
104 marital satisfaction and well-being was associated with an increase in the proportion of  
105 household income provided by the wife (Wells et al. 1985). The findings from a Dutch  
106 study of middle-aged couples suggested that such economic influences on marital satis-  
107 faction may be mediated by cultural factors. However, economic factors appear to be more  
108 powerful than cultural factors in predicting changes in marital satisfaction over time (Van  
109 den Troost et al. 2006). Indeed, there is evidence that, to some extent, the influence of SES  
110 on marriage and family stability is generalizable to non-western cultures (Takyi and  
111 Broughton 2006).

112 The authors of the present study utilized data from a cohort in Northeast England of the  
113 United Kingdom to obtain findings that add to the current scant body of research in this  
114 area. Both deficits in income and educational status are linked to a variety of adverse  
115 psychological and physical health outcomes (Rutter 1989; Vescio et al. 2003; Wilhelm  
116 et al. 2000). Both of these aspects of SES are interlinked. Indeed, educational status may be  
117 more predictive of financial status in middle age in *Early Boomers* (born between 1946 and



118 1957) than preceding generations (Finke et al. 2006). The present study was an opportunity  
 119 to explore their comparative effects on perceived family functioning.

120 **Methods**

121 In order to explore the relationship between SES and perceived family functioning the  
 122 three explanatory variables we utilized were (a) household income (b) educational status  
 123 and (c) occupational social class (UK Registrar General's Classification). Traditionally, in  
 124 the United Kingdom, the Registrar General's Occupational Social Class system has been  
 125 used as a measure of SES. This attributes a social class according to the occupation of an  
 126 individual with more skilled jobs being allocated to higher social classes (i.e., I and II) and  
 127 the less skilled workers being placed in lower categories (e.g., IV and V). Thus, occupa-  
 128 tional social class represents something of a composite between educational level (i.e.,  
 129 more skilled jobs require a more intensive education) and income (i.e., in general those in  
 130 more skilled jobs tend to receive higher wages).

131 In terms of our outcome variable (perceived family functioning) we utilized the FAD. In  
 132 terms of self-reporting family functioning this is one of the most widely researched tools  
 133 available (Ridenour et al. 1999) comprised of a 60-item self-report questionnaire intended  
 134 to assess subject's views of own family functioning (Epstein et al. 1978, 1983). Subjects  
 135 respond to each probe item by selecting a response from a four-point Likert scale (*strongly*  
 136 *agree/agree/disagree/strongly disagree*). The questionnaire is divided into seven sub-  
 137 scales: (a) *problem solving*, (b) *communication*, (c) *roles*, (d) *affective Responsiveness*, (e)  
 138 *affective involvement*, (f) *behavior control* and (g) *general functioning* (see Table 1 for  
 139 meanings). The FAD takes about 15–20 min to complete, requiring a reading age of  
 140 around 10 years. Scores for each scale are averaged rather than totaled, ranging from 1.0  
 141 (*healthy*) to 4.0 (*unhealthy*). The FAD has been validated in a number of ways (Epstein  
 142 et al. 1983; Miller et al. 1985; Olson et al. 1982, 1985; Sawyer and Sarris 1988).

143 The study was predominantly cross-sectional in nature, utilizing data collected from a  
 144 UK population (recruited at birth as part of a wider study) at age 50 years. However,  
 145 prospectively collected information on social class at birth was also available which

**Table 1** The meaning of the seven subscales of the Family Assessment Device (FAD)

Subscale	Meaning
Problem solving	The ability of a family to solve problems that threaten the integrity and function of the family unit
Communication	The ability of members to exchange information in a direct and clear way
Roles	This measures whether members have well defined roles which contribute to different areas of family functioning
Affective responsiveness	The ability of family members to experience appropriate feelings in response to situations
Affective involvement	The degree to which members are emotionally concerned and interested in each other
Behavior control	The ability of a family to maintain standards of behavior
General functioning	Reflects overall health or pathology of a family

Note: From Epstein et al. (1978)

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146 allowed a longitudinal component to the analysis. Thus, we were able to explore the  
147 relationship between SES and perceived family functioning, testing three hypotheses:

- 148 1. Perceptions of family functioning in all areas assessed by the FAD would be positively  
149 related to the level of household income reported, in both men and women.  
150 2. Perceptions of family functioning in all areas assessed by the FAD would be positively  
151 related to the educational status of an individual in both men and women.  
152 3. Perceptions of family functioning would be related to change in Social Class over the  
153 lifecourse (0–50 years) in both men and women.  
154

## 155 Study Sample and Data Collection

156 The “Newcastle Thousand Families Study” began as a prospective study of all 1,142  
157 children born in May and June 1947 to mothers resident in the city of Newcastle-upon-  
158 Tyne (Miller et al. 1960). Two thirds of these children were followed up until the age of  
159 15 years, with detailed information collected prospectively on their health, growth and  
160 socio-economic and familial circumstances (Lamont et al. 1998). Participants in this  
161 investigation were members of the cohort who were either traced through the National  
162 Health Service Central Register, or who contacted the study team in response to media  
163 publicity. Between October 1996 and December 1998, self-completion questionnaires on  
164 health and lifestyle were sent out. Of the original cohort, 832 (86% of the surviving 967  
165 children whose families remained in Newcastle for at least the first year of the study) were  
166 traced at age 50 and sent questionnaires by mail.

167 Outcome, in terms of family functioning was assessed by the 60-item FAD (Epstein  
168 et al. 1983). Respondents were instructed to complete the FAD for their current families.  
169 Socio-economic status at birth was measured by paternal occupational social class, as  
170 recorded prospectively by the Health Visitors attending to the families in 1947. Occupa-  
171 tional social class of the main wage earner in the household was derived from the self-  
172 completion questionnaire on health and lifestyle at age 50, which also included household  
173 income at age 50 and academic and vocational qualifications up to that age. Regarding  
174 income, the respondent indicated the range into which the household income fell, after  
175 taxation and including any allowances, benefits or pensions received. Subjects were placed  
176 accordingly into one of four educational categories (Table 2) and four household income  
177 bands (Table 3). Social mobility was classified into three groups (upward, stable, down-  
178 wards) according to whether social class of origin was higher, the same or lower than that  
179 reported by the participant at age 50. For purposes of this study social classes III<sub>m</sub> (skilled-  
180 manual) and III<sub>n</sub> (skilled non-manual) were grouped together.

## 181 Statistical Methods

182 As the distribution of FAD scores were not normally distributed non-parametric tests for  
183 significance were used. How representative participants in this study were in relation to the  
184 original cohort was tested using  $\chi^2$ -tests. Intercorrelations between the FAD subscale  
185 scores were assessed using Spearman’s rank correlation. The association between FAD  
186 scores and SES was evaluated using the Kruskal–Wallis test. Multivariable analysis was  
187 performed using linear regression when evaluating the association between FAD scores  
188 and educational level, controlling for household income. Standardized regression



**Table 2** The number of subjects by sex and educational level category at age 50 years

Educational level	Male ( <i>n</i> = 211)	Female ( <i>n</i> = 270)	Totals ( <i>n</i> = 481)
1 <sup>a</sup>	37	92	129
2 <sup>b</sup>	107	122	229
3 <sup>c</sup>	29	29	58
4 <sup>d</sup>	38	27	65
Total	211	270	481

Note:  $\chi^2$  for gender differences in educational level = 19.35,  $P < 0.0001$

<sup>a</sup> No formal qualifications

<sup>b</sup> This category included CSE (Certificate of Secondary Education) and O-level (*Ordinary Level*) passes and also basic vocational qualifications such as *City and Guilds* Certificates, National Vocational Certificates (up to level 3) and the completion of formal Trade Apprenticeships

<sup>c</sup> This included any passes at A-level (Advanced Level), Higher National Diploma (HND) or any vocational qualifications that were approximately equivalent to Advanced Levels exams. For example, Nursing Diplomas (but not degrees) were included in this category

<sup>d</sup> Degree level qualification or higher

**Table 3** Number of subjects placed in each income band according to self-reported annual household income after taxation with approximate values in US dollars (\$) given in parentheses

Income band	Income after tax in 1997 in UK pounds (\$)	Male ( <i>n</i> = 213)	Female ( <i>n</i> = 270)	Total ( <i>N</i> = 483)
1	£0–£9,999 (\$0–\$16,500)	29	53	82
2	£10,000–£19,999 (\$16,000–\$33,300)	70	87	157
3	£20,000–£29,999 (\$33,300–\$50,000)	60	64	124
4	>£30,000 (>\$50,000)	50	57	107
Total		209	261	470

189 coefficients, denoting the increase in an outcome variable for a standard deviation increase  
 190 in the explanatory variable, are presented with corresponding 95% confidence intervals. A  
 191 non-parametric test for trend (Cuzick 1985) was performed to assess the significance of  
 192 trends across SES categories in relation to the FAD Scores. The statistical software  
 193 package Stata<sup>®</sup>, version 7.0 (2002) was used for all analyses.

## 194 Results

### 195 Sample Characteristics

196 The FAD was returned completed in 491 cases (60% completion rate for eligible subjects).  
 197 Four twin pairs were excluded from the analysis. Of the remaining 483 subjects who  
 198 returned completed FADs, information on income was available on 470 subjects (97%) and  
 199 educational data was available in 481 cases (99.7%). The 483 subjects represented 43% of  
 200 the initial 1947 population surveyed. There was no statistically significant difference in the  
 201 social class of origin between the original birth cohort and those who completed the FAD,  
 202 for either men ( $\chi^2 = 3.33$ ,  $P = 0.5$ ) or women ( $\chi^2 = 8.46$ ,  $P = 0.08$ ), although there was a  
 203 trend for the latter to be from a higher social class of origin. Eighty-five percent of the men



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204 (180 of 213) and 80% of the women (217 of 270) in the sample were married at the time of  
 205 the survey, with no significant gender difference in marital status found ( $\chi^2 = 1.39$ ,  
 206  $P = 0.24$ ).

207 In terms of household composition, the majority (67%) of households consisted of two  
 208 or three members, usually a married couple, often with one other related adult over  
 209 16 years. In a married couple only the partner who was in the original study cohort in 1947  
 210 completed the survey. Significantly fewer subjects who completed the FAD lived alone,  
 211 compared to those who completed the health and lifestyle questionnaire but not the FAD  
 212 ( $\chi^2 = 54.38$ ,  $P < 0.001$ ). There was a significant association between gender and educa-  
 213 tional level ( $\chi^2 = 19.35$ ,  $P < 0.0001$ ), with men reporting higher average education levels  
 214 than women (Table 2). The median household income band was £10,000–£19,999. There  
 215 was no significant difference in household income between men and women ( $P = 0.12$ )  
 216 (Table 3). Household income and educational level were significantly correlated in both  
 217 men ( $\rho = 0.32$ ,  $P < 0.0001$ ) and women ( $\rho = 0.38$ ,  $P < 0.0001$ ). The mean FAD scores  
 218 for each subscale are reported in Table 4. There were no significant differences in the FAD  
 219 scores between male and female respondents for any of the seven subscales. The scores on  
 220 the FAD subscales were all significantly ( $P < 0.0001$ ) correlated with each other  
 221 (Spearman's Rho values ranged from 0.72 [*Affective Responsiveness/General Functioning*]  
 222 to 0.46 [*Roles/Problem Solving*]).

### 223 Perceptions of Family Functioning and Household Income (Hypothesis 1)

224 In men there were significant associations between household income and all subscale  
 225 scores of the FAD, with the exception of *Problem Solving* (Table 5). In women, although  
 226 there was a significant difference between household income groups for the *Roles* subscale  
 227 score, the trend across groups did not reach statistical significance (Table 6). Two items  
 228 that are included in the *Roles* subscale were likely to be directly related to a family's  
 229 economic circumstances, namely items number eight and 23. Item number eight is *we*  
 230 *sometimes run out of things we need*. Item number 23 is *we have trouble meeting our bills*.  
 231 When the analysis was repeated, after omitting these two items, the association between  
 232 family income and mean *Roles* scores remained significant (household income/*Roles*  
 233  $\chi^2 = 44.28$ ,  $P = 0.0001$ ). The association between FAD scores and household income  
 234 observed in men was reduced in magnitude once educational level was controlled for,

**Table 4** Median values for the FAD scores by sex with corresponding inter-quartile ranges (IQR)

Subscale	Males (n = 213)		Females (n = 270)		Combined (N = 483)	
	Median	IQR	Median	IQR	Median	IQR
Problem solving	2.00	1.83–2.16	2.00	1.67–2.17	2.00	1.67–2.17
Communication	2.11	1.89–2.33	2.11	1.78–2.25	2.11	1.89–2.33
Roles	2.18	2.00–2.45	2.18	2.00–2.45	2.18	2.00–2.45
Affective responsiveness	2.00	1.67–2.33	2.00	1.67–2.33	2.00	1.67–2.33
Affective involvement	2.00	1.71–2.14	2.00	1.57–2.14	2.00	1.71–2.14
Behavior control	1.89	1.56–2.11	1.78	1.56–2.00	1.89	1.56–2.00
General functioning	1.83	1.58–2.00	1.75	1.50–2.00	1.83	1.5–2.00

Note: The range of possible scores obtainable on each subscale is 1–4



235 although the association remained significant in all but two subscales (*Behavioral Control*  
 236 and *General Functioning*).

237 Perceptions of Family Functioning and Educational Status (Hypothesis 2)

238 There was a significant trend observed in men for decreasing educational level to be  
 239 associated with increased FAD scores on only one subscale (*Behavior Control*) ( $P = 0.04$ ).  
 240 In women three trends of statistical significance were observed regarding FAD scores and  
 241 educational level; decreasing educational level was associated with increasing FAD scores  
 242 in three subscales; *Roles* ( $P = 0.01$ ), *Affective Responsiveness* ( $P = 0.04$ ) and *Behavior*  
 243 *Control* ( $P = 0.04$ ). However in both sexes, the associations between educational level and

**Table 5** Median Family Assessment Device (FAD) subscale score with inter-quartile ranges (IQR) for male participants ( $n = 209$ ) in each income band (1–4) with corresponding  $p$  values for inter-group difference and trend

Subscale	Income band	Median	IQR	$P$ value	$P$ for trend
Problem solving	1 (Lowest)	2.00	1.83–2.17	0.27	0.8
	2	2.00	1.67–2.33		
	3	2.00	1.83–2.17		
	4 (Highest)	2.00	1.67–2.17		
Communication	1 (Lowest)	2.33	2.11–2.67	0.0001	<0.01
	2	2.11	2.11–2.33		
	3	2.17	2.00–2.44		
	4 (Highest)	2.00	1.78–2.11		
Roles	1 (Lowest)	2.55	2.27–2.73	0.0001	<0.01
	2	2.18	1.91–2.45		
	3	2.22	2.00–2.36		
	4 (Highest)	2.09	1.91–2.27		
Affective responsiveness	1 (Lowest)	2.33	2.00–2.5	0.01	0.04
	2	2.00	1.67–2.17		
	3	2.17	1.67–2.50		
	4 (Highest)	1.92	1.5–2.17		
Affective involvement	1 (Lowest)	2.29	2.00–2.71	0.002	0.02
	2	1.86	1.57–2.14		
	3	2.00	1.86–2.14		
	4 (Highest)	2.00	1.71–2.14		
Behavior control	1 (Lowest)	2.22	1.89–2.33	0.006	<0.01
	2	1.89	1.56–2.11		
	3	1.89	1.67–2.00		
	4 (Highest)	1.89	1.56–2.00		
General functioning	1 (Lowest)	2.00	1.75–2.17	0.02	0.03
	2	1.83	1.58–2.00		
	3	1.83	1.67–2.04		
	4 (Highest)	1.75	1.50–2.00		

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**Table 6** Median Family Assessment Device (FAD) subscale score with inter-quartile ranges (IQR) for female participants ( $n = 261$ ) in each income band (1–4) with corresponding  $P$  values for inter-group difference and trend

Subscale	Income band	Median	IQR	$P$	$P$ for trend
Problem solving	1 (Lowest)	2.00	1.5–2.00	0.75	0.4
	2	2.00	1.67–2.00		
	3	2.00	1.67–2.17		
	4 (Highest)	2.00	1.83–2.00		
Communication	1 (Lowest)	2.11	1.78–2.44	0.96	0.9
	2	2.11	1.78–2.22		
	3	2.11	1.89–2.28		
	4 (Highest)	2.00	1.89–2.22		
Roles	1 (Lowest)	2.33	2.09–2.64	0.03	0.1
	2	2.18	2.00–2.45		
	3	2.23	1.95–2.45		
	4 (Highest)	2.18	1.91–2.27		
Affective responsiveness	1 (Lowest)	2.16	1.83–2.5	0.34	0.2
	2	2.00	1.67–2.17		
	3	2.00	1.58–2.33		
	4 (Highest)	2.00	1.5–2.33		
Affective involvement	1 (Lowest)	2.00	1.71–2.29	0.75	0.7
	2	2.00	1.57–2.14		
	3	2.00	1.57–2.14		
	4 (Highest)	2.00	1.57–2.14		
Behavior control	1 (Lowest)	2.00	1.56–2.11	0.45	0.13
	2	1.78	1.56–2.00		
	3	1.78	1.56–2.00		
	4 (Highest)	1.78	1.56–2.00		
General functioning	1 (Lowest)	1.83	1.58–2.08	0.56	0.65
	2	1.67	1.42–1.92		
	3	1.83	1.42–2.00		
	4 (Highest)	1.75	1.58–2.00		

244 FAD scores did not remain significant once household income was controlled for in a  
 245 regression analysis.

246 Perceptions of Family Functioning and Change in Social Class over the Lifecourse  
 247 (Hypothesis 3)

248 Significant trends were observed for social mobility and certain subscale scores of the FAD  
 249 in men (Table 7) but not women (Table 8). There were statistically significant trends for  
 250 upwardly mobile men to report their families as healthier in the FAD domains of *Com-*  
 251 *munication, Roles, Affective Responsiveness, Affective Involvement* and *Behavior Control*  
 252 (see Table 7).

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**Table 7** Social mobility (social class of origin versus social class reported at age 50) and median Family Assessment Device (FAD) scores with inter-quartile ranges (IQR) for each of the seven FAD subscales in men ( $n = 208$ )

Subscale and social mobility		Median	IQR	<i>P</i>	<i>P</i> for trend
Problem solving	Upward	2.00	1.83–2.17	0.09	0.5
	Stable	2.00	1.50–2.00		
	Downward	2.00	1.83–2.17		
Communication	Upward	2.11	1.78–2.33	0.02	0.03
	Stable	2.11	1.78–2.33		
	Downward	2.22	2.11–2.44		
Roles	Upward	2.18	1.91–2.27	0.01	<0.01
	Stable	2.18	2.00–2.36		
	Downward	2.36	2.09–2.55		
Affective responsiveness	Upward	2.00	1.67–2.33	0.02	0.02
	Stable	2.00	1.50–2.33		
	Downward	2.17	1.83–2.50		
Affective involvement	Upward	2.00	1.71–2.14	0.04	0.02
	Stable	2.00	1.71–2.29		
	Downward	2.14	1.86–2.29		
Behavior control	Upward	1.83	1.56–2.00	0.02	0.01
	Stable	1.89	1.67–2.11		
	Downward	2.00	1.78–2.22		
General functioning	Upward	1.83	1.50–2.00	0.1	0.2
	Stable	1.83	1.50–2.00		
	Downward	1.92	1.67–2.17		

253 **Discussion**

254 There was some support for the hypothesis that a positive view of family functioning was  
 255 related to household income. However, this relationship was only observed in the men in  
 256 our sample, the only exception being the *Problem Solving* subscale. This association was  
 257 far less marked in women with only the *Roles* subscale scores modestly associated with  
 258 household income. This survey did not find any evidence that Social Class of origin per se  
 259 influenced perceptions of family functioning later in mid-life. However, those men who  
 260 had experienced an increase in social class between birth and age 50 were more likely to  
 261 report healthier family functioning across a number of domains. In this middle-aged  
 262 sample from Northeast England, the finding of associations between current FAD scores  
 263 and social mobility in men but not in women could be explained in a variety of ways:

- 264 1. Men from this sample may construct a view of themselves and their families that is  
 265 closely associated with their role as the family economic provider. When the family  
 266 struggles financially the men take a negative view of both their own ability to support  
 267 the family and family life in general. Conversely, women from this sample may see  
 268 their role as primarily offering emotional support and care to the family with their  
 269 ability to provide financially viewed as of secondary importance. Thus, their overall  
 270 view of family life is less influenced by household income or social mobility, when  
 271 compared to men.

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**Table 8** Social mobility (social class of origin versus social class reported at age 50) and median FAD scores with inter-quartile ranges (IQR) for each of the seven FAD subscales in women ( $n = 261$ )

Subscale and social mobility		Median	IQR	<i>P</i>	<i>P</i> for trend
Problem solving	Upward	2.00	1.70–2.17	0.4	0.3
	Stable	2.00	1.83–2.00		
	Downward	2.00	1.50–2.17		
Communication	Upward	2.00	1.78–2.24	0.5	0.8
	Stable	2.11	1.89–2.33		
	Downward	2.00	1.78–2.22		
Roles	Upward	2.18	1.91–2.36	0.4	0.5
	Stable	2.18	2.00–2.45		
	Downward	2.18	2.00–2.45		
Affective responsiveness	Upward	2.00	1.50–2.17	0.3	0.6
	Stable	2.00	1.83–2.33		
	Downward	2.00	1.50–2.33		
Affective involvement	Upward	2.00	1.64–2.14	0.7	0.4
	Stable	2.00	1.57–2.14		
	Downward	1.86	1.57–2.14		
Behavior control	Upward	1.78	1.56–2.00	0.5	0.7
	Stable	1.89	1.56–2.00		
	Downward	1.83	1.56–2.00		
General functioning	Upward	1.79	1.42–2.00	0.9	0.9
	Stable	1.75	1.50–2.00		
	Downward	1.75	1.42–2.00		

272 2. Men who have experienced reduced SES over the lifecourse may have less ability to  
 273 function well in an individual and family capacity, having formed less well  
 274 functioning families than those who experienced upward social mobility.  
 275

276 Option 1 is a strong possibility and is supported by separate findings from this cohort  
 277 that downward social mobility but not low SES of origin per se is associated with reduced  
 278 self-reported mental well-being in men but not women (Tiffin et al. 2005). Option 2, while  
 279 feasible, does not provide a clear explanation of the gender differences observed. However,  
 280 our data only allow us to comment on perceptions of family functioning as (arguably) more  
 281 objective measures were not included as outcome variables. The absence of an observed  
 282 association between the *Problem Solving* subscale and household income in our population  
 283 is not easy to explain. One possibility is that those families who have faced chronic  
 284 economic adversity become more expert at problem solving through necessity.

285 There was little evidence to support an independent association between educational  
 286 status and FAD subscale scores. However, the effect of family income also appeared to be  
 287 reduced when controlled for educational level. It is therefore likely that educational status  
 288 makes some contribution to family perceptions, but that it is a relatively minor one of  
 289 dubious clinical significance.

290 Findings relating to SES and FAD scores were largely in line with those reported by  
 291 Clark et al. (2000) in that poorer economic circumstances are associated with a greater  
 292 degree of perceived dysfunction as measured by the FAD, with *Roles* demonstrating the

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293 highest degree of correlation with SES of the seven subscales. Also in line with our  
294 findings is the report by a Canadian study, which included a larger number of subjects,  
295 reporting a significant but very weak correlation between family income and *General*  
296 *Functioning* scores on the McMaster Family Interview (Byles et al. 1988). Conversely  
297 these findings contrast with those reported by another, smaller Canadian study which found  
298 no association between the two domains of the FAD evaluated (*Communication* and  
299 *Behavior Control*) and SES as estimated by social class (Maziade et al. 1987). This may  
300 have been due to the use of the FAD versus a semi-structured interview, the use of social  
301 class rather than income to evaluate SES, the smaller numbers of subjects involved  
302 (leading to reduced statistical power) or actual differences that existed between the two  
303 populations in terms of family functioning. Methodological variations may also influence  
304 findings, particularly in relation to women: Traditionally Social Class is based on the  
305 occupation of the *head of household*, and this may bias findings relating, for instance, to  
306 homes where a woman is caring full-time for children but separated from an earning  
307 partner. Our study adds to the findings of the above studies, in that an analysis by gender  
308 was performed, highlighting the sex differences reported.

309 The present findings imply that where reports of family functioning are concerned, it is  
310 primarily income rather than educational status that is of importance. The distinct findings  
311 regarding these two components of SES strongly suggest that studies evaluating the effects  
312 of the socio-economic environment must be clear about which aspects of SES are serving  
313 as explanatory variables for outcomes. Our findings would also strongly suggest that where  
314 subjective reports of family functioning are utilized, analysis by gender should always be  
315 considered.

316 The high degree of intercorrelation between the subscale scores of the FAD would  
317 highlight that the constructs that each taps into are far from independent. The subscales that  
318 showed a relatively high degree of correlation with household income in men were the  
319 *Roles*, *Communication*, and *Behavior Control* subscales. The *Roles* subscale score reflects  
320 the degree to which the respondent perceives that tasks in the family are divided in an  
321 equitable and well demarcated way. *Roles* also includes aspects of organizational function.  
322 For example, one *Roles* item is *we make sure that family members fulfil their responsibilities*.  
323 The poorer scores on this subscale in men in low income groups could therefore  
324 reflect a negative view about change in family roles, perhaps due to job loss. The survey  
325 was conducted in the late 1990's, at a time when employment patterns were changing, with  
326 an increase in unemployment in men and increasing numbers of women gaining jobs in  
327 service industries. A further possibility is that those men in poorer paid employment may  
328 see themselves as having less control over the organization and discipline in their families.  
329 Regarding this, there is evidence that those in low paid jobs have an increased tendency to  
330 have an external locus of control. This may also be reflected in the increased scores on the  
331 *Behavior Control* subscale in men in the low-income groups. The *Communication* subscale  
332 reflects the extent to which respondents view their families as communicating in a direct,  
333 clear and unambiguous manner with each other. It is difficult to say why scores on this  
334 subscale in particular should be raised, but men from lower income groups did perceive  
335 their families as being more dysfunctional in this respect.

336 There were several limitations to this study: The study sample is unusual in that all the  
337 subjects are approximately the same age at the time of evaluation (50 years) and of similar  
338 ethnic backgrounds (i.e. Caucasian British). It is therefore not clear to what degree the  
339 results could be generalized to other populations. The study sample were all initially part of  
340 a larger study which was started in 1947 and the 50-year follow-up sample reported on here  
341 represents 42% of the original cohort. This is a relatively high follow-up rate given the



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342 period of follow-up, and the sample has been shown to be representative of the original  
343 cohort in terms of early life factors (Parker et al. 2003). Nevertheless, it is a possibility that  
344 selection bias due to attrition has influenced the results. Those who failed to complete the  
345 FAD, but did complete the other *health and lifestyle* questionnaires were significantly more  
346 likely to live alone. This may be because those respondents who did not live with family  
347 members assumed the FAD questionnaire was not relevant to them. Family functioning  
348 was evaluated via self-report, and it is possible that the use of semi-structured interviews,  
349 such as those employed by Maziade et al. (1987) could have increased the reliability and  
350 validity of this measure.

351 Perhaps the most significant limitation to this study is that there are no data available on  
352 the functioning of the family of origin. Such a measure would have assisted with unrav-  
353 eling *cause* and *effect* mechanisms. As it is, it could be tentatively suggested that the  
354 relatively stronger associations observed between cross-sectional SES in men and FAD  
355 scores, compared to the lack of an association with social class of origin, could point to a  
356 relatively stronger contribution from a *causal* rather than a *selection* mechanism. More-  
357 over, the association between FAD scores and social mobility was not as strong or as  
358 pervasive as that between FAD scores and household income at age 50. Again, this hints at  
359 a more significant influence of *social causation* rather than *selection*. However, further  
360 research would be required to comment further on this complex issue.

## 361 Conclusions

362 This study explored the relationship between cross-sectional and longitudinal SES and  
363 perceived family functioning in a sample of men and women aged 50. Our results suggest  
364 that middle-aged men's views of their family functioning are more sensitive to the eco-  
365 nomic status of the family and their individual social mobility when compared to women.  
366 Moreover, household income was a better predictor of reported family functioning than  
367 educational status. Further investigation aimed at exploring the meaning behind such  
368 gender differences and unraveling *cause* and *effect* mechanisms relating to the impact of  
369 socio-economic disadvantage is required.

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