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The Micro-Meritocracy: The distribution of 'merit' throughout 'big' class, 'micro' class and gradational representations of the social structure

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Research Questions

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The overall question of interest is: are some occupations more meritocratic than others?

Q1: How much variation in the ability of offspring can be accounted for by a detailed representation of their parent's occupations?

Q2: How much variation in the detailed occupations of individuals can be accounted for by their ability?

Meritocracy

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Meritocracy: social position is achieved through "ability and effort" (Young 1958, p.94)

Saunders (1995, 1996, 2010) asserts that the levels of inter-generational mobility closely match the levels expected in a model of stratification based upon ability.

Nettle (2003) evidence for a largely open society stratified according to ability.

Goldthorpe (2001, 1999) and Breen and Goldthorpe (1999) adult social position is largely influenced through origin SES and education, ability plays a significant but minimal role.

‘Micro’ Class

(Grusky *et al.* 2008; Jonsson *et al.* 2009, 2007)

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In Social Stratification research we have generally favoured measures which simplify occupational differentiation into a small number of nominal categories, or as a gradational scale.

However, the micro-class perspective holds that the site of social reproduction of inequalities is located at the level of detailed occupations (e.g. Doctor, Teacher, Secretary, Carpenter).

The ‘micro’ class scheme is based on 82 discrete of categories which are located between large balkanised social class categories and standard occupational coding schemes.

Where do ‘Micro’ class and Meritocracy meet?

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Meritocracy, and indeed the general inter-generational transmission between the occupational positions of parents and offspring have been widely studied from the perspective of the overall hierarchical structure of society (e.g. CAMSIS) and also through balkanised groupings of occupations (e.g. Social class).

Yet, much of the theorising on the relation between “ability and effort” and attainment in the labour market has discussed membership to occupations, rather than membership of large social groups (i.e. social classes).

In the past there has been a strong focus on the association between ability and occupational attainment (particularly in the post-WWI era)

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Yoakum and Yerkes's (1920) detailed analysis of the military ability tests and occupations:

"While notable overlap in ranges occurs, there was a highly significant relationship between score on the Army Alpha (range 40-300) and the pre-induction occupation of recruits: the approximate range for each was: for labourer (48-140), farmer (53-152), carpenter (72-176), machinist (90-178), salesman (125-217), clerk (133-232), accountant (193-293), and engineer (194-240)..."

"the higher a man's Alpha score, the more likely, on the average, was he to be found in the army rank requiring increasingly higher levels of responsibility"

Gottfredson (1997) the major distinction between jobs of increasing advantage was the complexity of the job, and the degree of mental capacity which they required.

Occupation Specific Human Capital

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Jonsson et al. (2007) discuss the mechanisms that underlie the reproduction of micro-classes: Human Capital, Cultural Capital, Social Networks, Economic Resources.

Occupation-specific human capital is transmitted from parent to child. The occupational commitments of parents can affect what they discuss at home, how they spend time with their children, and hence the skills that they impart to their children.

Human capital is the stock of competencies, knowledge, social and personality attributes, including creativity. These characteristics are deemed to be important for effectively performing in the labour market.

Cognitive Partitioning

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This concept was introduced in Herrnstein and Murray's controversial book 'The Bell Curve' (1996)

Although the concepts in this book are controversial they seem to be congruent with the nature of meritocracy expressed by Young (1958), and Saunders (1995, 19996, 2010)

As individuals become increasingly stratified by their ability (rather than any ascribed characteristics) the differentiation between the ability levels of individuals within occupations will increase

Data

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- **The 1970 British Cohort Study (BCS70) consists of a sample of more than 17,000 babies born in England, Scotland and Wales in one week in 1970.**
- **There have been eight main sweeps of data collection so far; at birth, 5, 10, 16, 26, 30, 34 and 38.**
- **The BCS70 is one of the UK's renowned series of birth cohort studies, and has been widely used in this area of research.**
- **Includes detailed occupational data for parents when the cohort member is 16 years old – this is a new addition.**

  (Gregg, P. (2012). Occupational Coding for the National Child Development Study (1969, 1991-2008) and the 1970 British Cohort Study (1980, 2000-2008). SN7023)
- **The study has followed the sample throughout their lives and includes information on their education and occupations in adulthood. The data also include measures of ability and further cognitive characteristics (e.g. personality).**

Variables

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Ability (age 10) - modified version of the British Ability Scales.

Father's Education – Highest Educational Qualification

Cohort Member's Education – Highest Educational Qualification (age 26)

Occupational Measures:

'Big' Class scheme – NS-SEC (for fathers and cohort members)

Gradational Measure – CAMSIS (for fathers and cohort members)

'Micro' Class scheme – Lambert and Gayle's (2011) UK operationalisation of the 'Micro' class scheme

Note: I focus on male cohort members only in this preliminary analysis

Q1: How much variation in the ability of offspring can be accounted for by a detailed representation of their parent's occupations?

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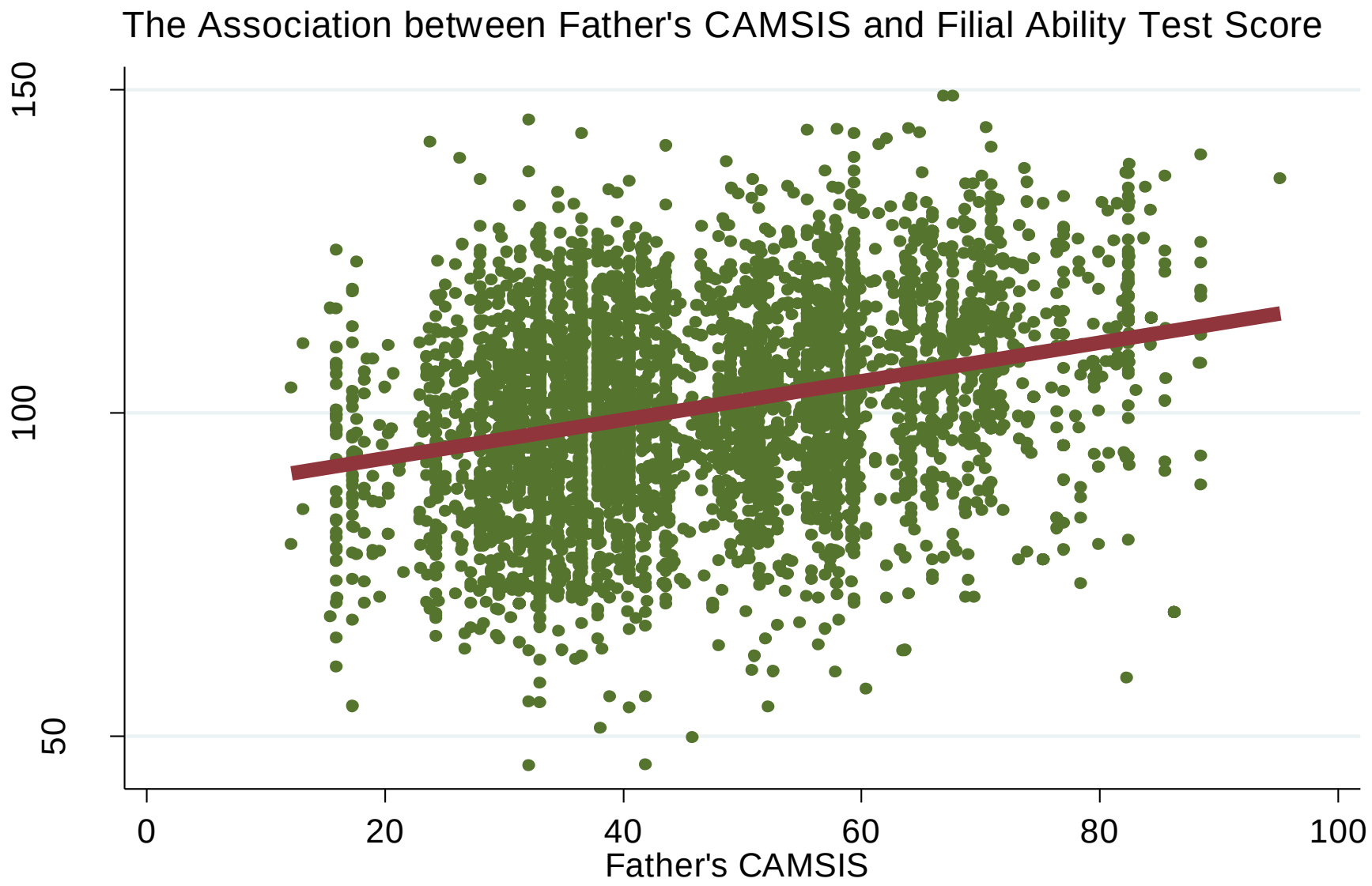
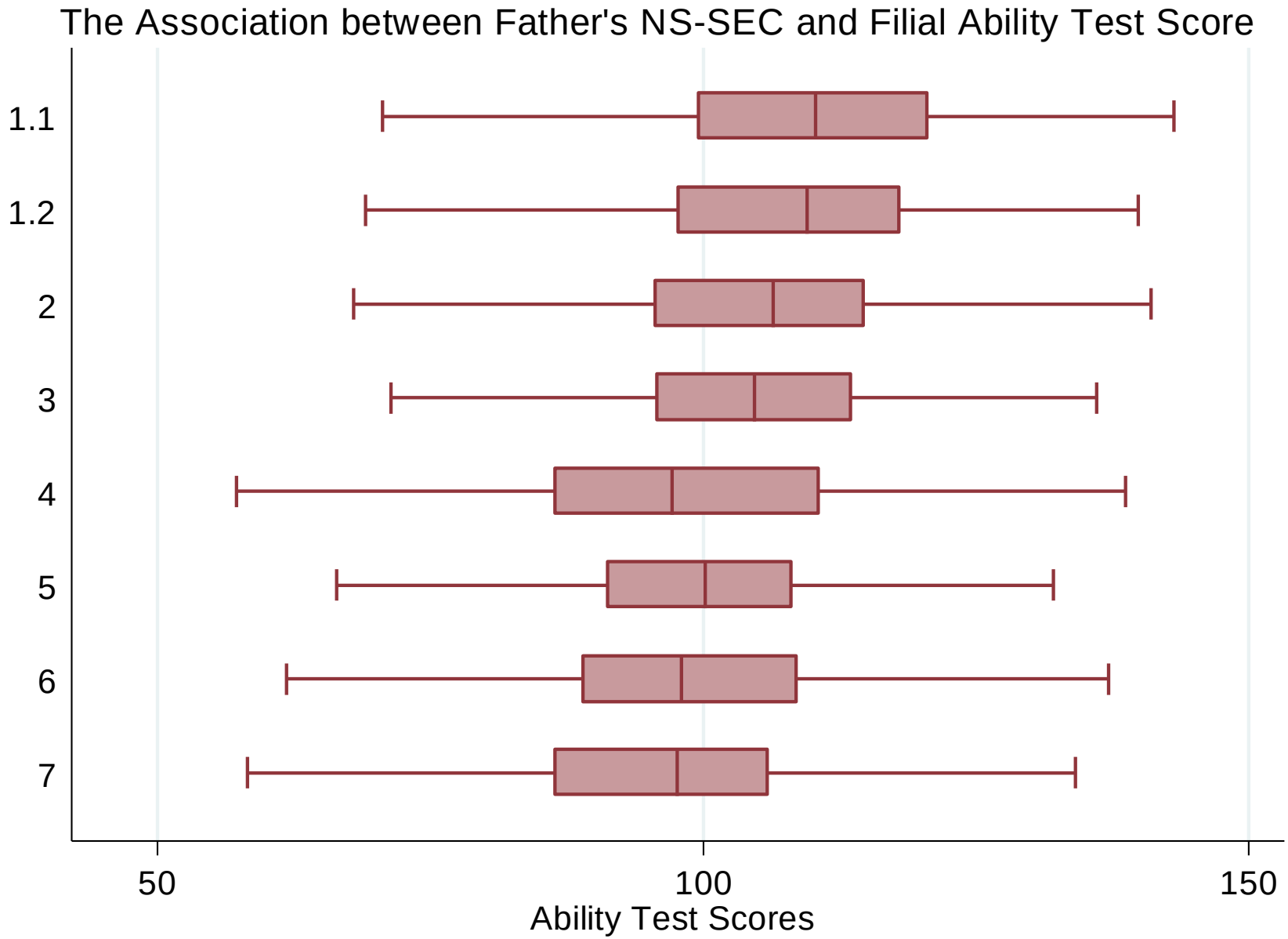
There are two stages to the analysis of the relation between ability and occupations / occupational positions.

This first stage focuses on the influence which parents occupational positions have on the ability test scores of their children.

It has been widely shown that the children of more advantaged parents have higher cognitive test scores (Schoon *et al.* 2012; Sullivan *et al.* 2013)


The Association between Father's CAMSIS and Filial Ability Test Score
150
100
50
0
20
40
60
80
100
Father's CAMSIS
Data: British Cohort Study 1970

R = 0.35, p<=0.001


The Association between Father's NS-SEC and Filial Ability Test Score
1.1
1.2
2
3
4
5
6
7
50
100
150
Ability Test Scores

Average Ability within each NS-SEC Category			
Father's NS-SEC	**Mean**	**Std. Dev.**	**n**
1.1	109	15	198
1.2	108	15	261
2	105	14	693
3	104	13	387
4	98	15	200
5	100	13	750
6	98	14	588
7	96	14	1102

Average Ability within selected ‘Micro’ Class Categories			
‘Micro’ Class	**Mean Ability Score**	**Std. Dev.**	**n**
Engineers	107	15	189
Managers	106	14	617
Elementary and Secondary School Teachers	108	14	114
Office and Clerical Workers	102	15	206
Electronics service and repair workers	103	11	111
Vehicle Mechanics	99	14	263
Welders and Related Metal Workers	98	12	138
Painters	95	15	113
Metal Processors	96	14	155
Mass Transportation Operatives	96	13	300
Housekeeping Workers	95	13	76

Linear Regression, Outcome: Ability Test Score, n=5669

Model		Parameters	R^2	R^2 Increment
1	No occupation based measure		0.10	
2	Father's NS-SEC	8	0.12	0.02
3	Father's CAMSIS	1	0.19	0.09
4	Father's 'Micro' Class	81	0.14	0.04

Mixed Effects Model, Outcome: Ability Test Score, n=5669

Model	Level 2	Level 3	ICC1	ICC2
1	'Micro' Class		0.06	
2	Father's NS-SEC		0.04	
3	'Micro' Class	Father's NS-SEC	0.03	0.05

Q2: How much variation in the detailed occupations of individuals can be accounted for by their ability?

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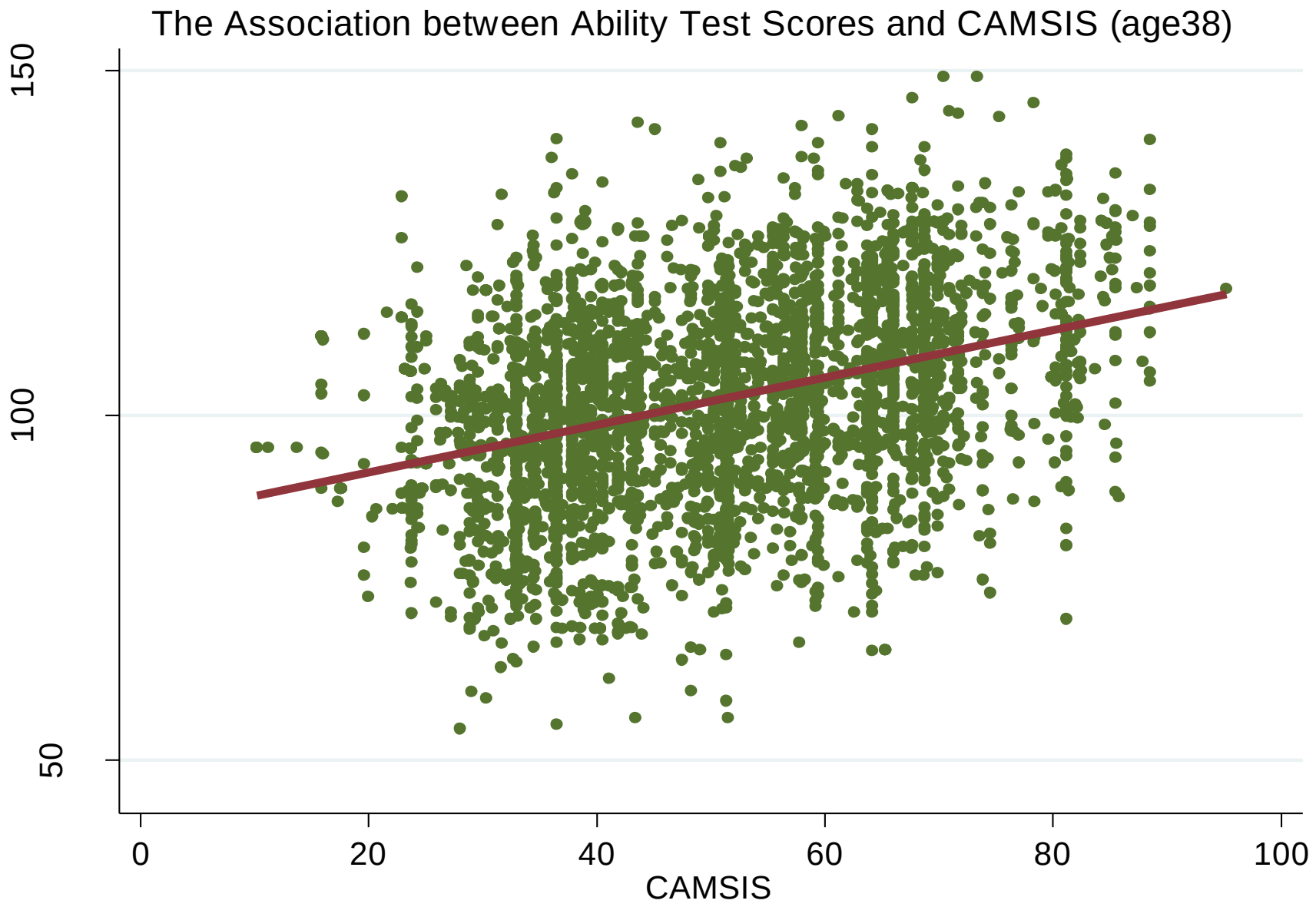
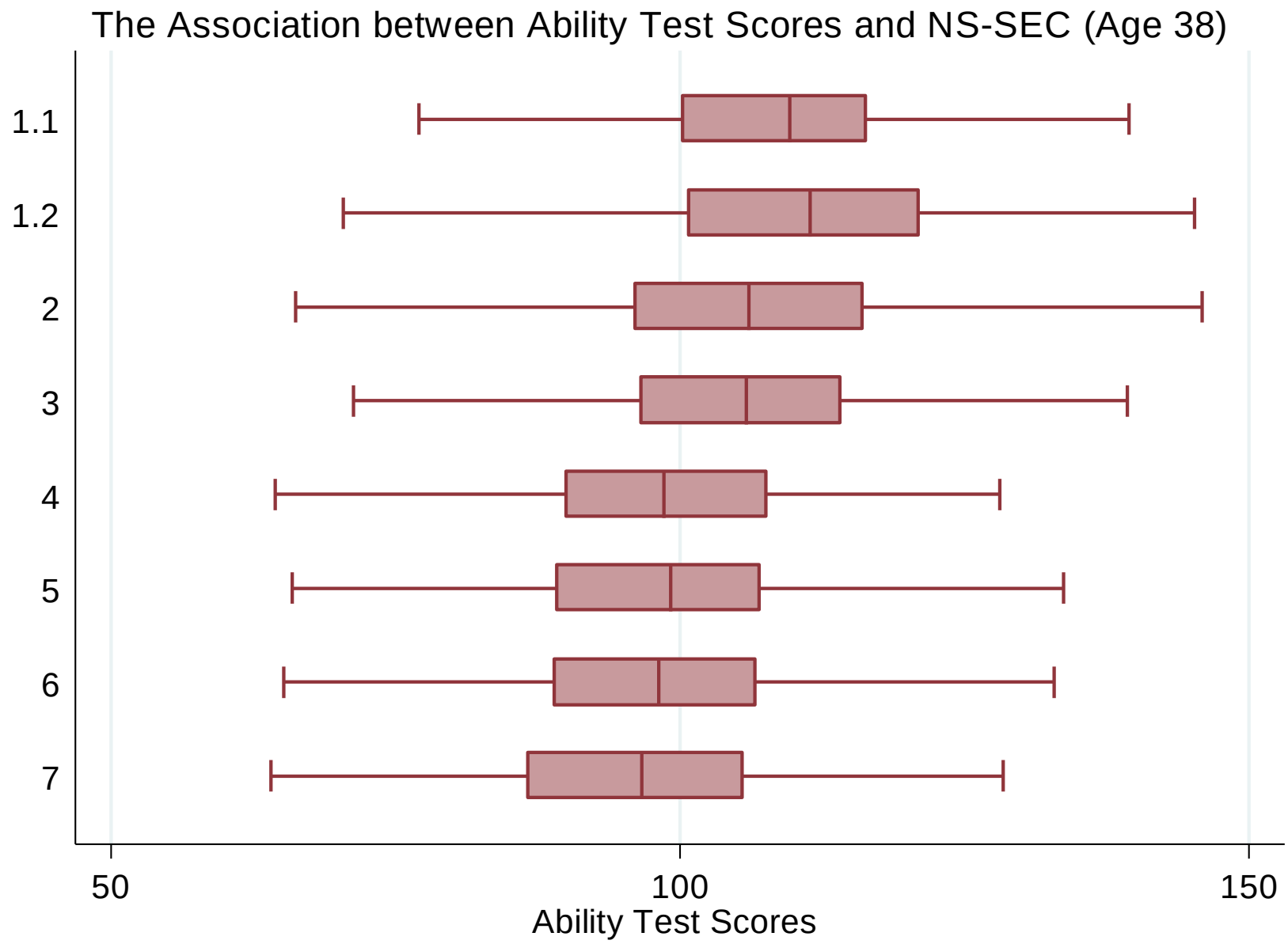
The second stage looks at the association between an individual's ability test score and their occupational position.

Ability test scores have been shown to be associated with class positions (Saunders 1995, 1996, 2010; Nettle 2003; Goldthorpe 1999, 2001; Breen and Goldthorpe 1999).


The Association between Ability Test Scores and CAMSIS (age38)
150
100
50
0
20
40
60
80
100
CAMSIS

R = 0.37, p<=0.001


The Association between Ability Test Scores and NS-SEC (Age 38)
1.1
1.2
2
3
4
5
6
7
50
100
150
Ability Test Scores

Average Ability within each NS-SEC Category			
NS-SEC (Age38)	**Mean**	**Std. Dev.**	**n**
1.1	108	13	232
1.2	111	14	322
2	106	14	653
3	104	13	322
4	98	13	226
5	98	13	401
6	98	14	369
7	96	14	419

Average Ability within selected 'Micro' Class Categories

'Micro' Class	Mean Ability Score	Std. Dev.	n
Engineers	107	14	141
Managers	106	14	615
Elementary and Secondary School Teachers	109	14	96
Office and Clerical Workers	99	14	224
Electronics service and repair workers	102	14	66
Vehicle Mechanics	98	13	141
Welders and Related Metal Workers	100	13	68
Metal Processors	99	13	113
Mass Transportation Operatives	95	13	129
Housekeeping Workers	97	14	98

Multinomial Logit, Outcome: Occupation Age 38, n=5669		
Outcome	**Model**	**R^2**
NS-SEC		
	Ability Only	0.03
	Education Only	0.08
	Parent's Education and CAMSIS Only	0.03
	Full Model	0.10
'Micro' Class		
	Ability Only	0.03
	Education Only	0.07
	Parent's Education and CAMSIS Only	0.03
	Full Model	0.11

Conclusions

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The bulk of variation in ability test scores does not seem to be accounted for by parents occupation, from either a 'big' class, 'micro' class or 'gradational' perspective.

The amount of variation which ability explains in destination occupational positions, from either a 'big' class or 'micro' class perspective is also small.

From these preliminary results there does not seem to be overwhelming evidence that taking a 'micro' class approach to the study meritocratic social stratification provides any additional explanation of the development and influence of cognitive abilities.

Conclusions

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In highly meritocratic societies we might expect to see cognitive partitioning in the ability levels of individuals.

These analyses suggest that there is little cognitive partitioning based on this cognitive ability variable.

However human capital is not solely on cognitive abilities and meritocracy is not based purely on cognitive abilities.

What may be more important in this situation is competencies and skills, knowledge, motor ability or creative abilities. Other cognitive characteristics are also of interest: personality characteristics, conscientiousness.

Major Limitation: this dataset is too small to fully investigate micro-class.

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