

Is Britain pulling apart?

Research seminar and workshop

Royal Statistical Society, London

Monday 13th May 2013

Sponsored by the ERSC Secondary Data Analysis Initiative
Phase 1 project '*Is Britain pulling apart? Analysis of
generational change in social distances*'

<http://www.camsis.stir.ac.uk/pullingapart>

<http://www.twitter.com/pullingapart>

<http://pullingapartproject.wordpress.com/>



Today's programme

1000-1030	<i>Registration: Tea and coffee provided</i>	
1030-1100	Social relations, social connections and social distance	Paul Lambert, Univ. Stirling
1100-1130	Social relations in the past	Richard Zijdeman, Utrecht Univ.
1130-1230	Social relations in Britain in 2025	Danny Dorling, Univ. Sheffield
1230-1320	<i>Lunch</i>	
1320-1340	Modelling variations in social connections	Mark Tranmer, Univ. Manchester
1340-1400	Network analysis of social distance	Dave Griffiths, Univ. Stirling
1400-1445	PechaKucha presentations on social connections and social relations	
1445-1515	<i>Tea and coffee break</i>	
1515-1600	Presentation and concluding discussion	Vernon Gayle, Univ. Edinburgh

Underlying briefing and networking event themes

...‘PetchaKucha’?

- A sequence of short, strictly timed presentations (6 mins 40 seconds), designed to convey key messages briefly and effectively

Liana Fox	Swedish Institute for Social Research, Univ. Stockholm	
Marina Shapira	Applied Social Science, Univ. Stirling	
Raj Patel	‘Understanding Society’, Univ. Essex	
Ebru Soytemel	Univ. Oxford	
Gemma Catney	Univ. Liverpool	
Pierre Walthery	Centre for Census and Survey Research, Univ. Manchester	

- *Presentations on research projects and data resources*

Presentation 1: Social Relations, Social Connections and Social Distance

Paul Lambert

- 1) What do we mean by social relations, social connections and social distance, and why are they worth studying?
- 2) Methods for studying social distance
- 3) Exploring temporal changes in social distance
- 4) Is Britain pulling apart [first answer]?

Social support matters!

- Shapes the social structure
 - Structural homophily in occupations, education, etc

[e.g. Laumann, E. O., & Guttman, L. (1966). The relative associational contiguity of occupations in an urban setting. *American Sociological Review*, 31, 169-178]



- Part of mechanisms of social inequality

- Influence on attainment
- Intergenerational transmission

[e.g. Devine, F. (2004). *Class Practices: How parents help their children get good jobs*. Cambridge: Cambridge University Press.]



(1) What do we mean by social relations, social connections and social distance, and why are they worth studying?

We use these interlinked terms to refer to the tools for sociological understanding of social support:

- **Social relations**

- Links between actors, particularly when expressed in terms of recognised, consequential social positions

- Social relations can be used to exclude and deprive others, but, more often, they are used with beneficence (e.g. advice and resources)
- Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360-1380.

- **Social connections**

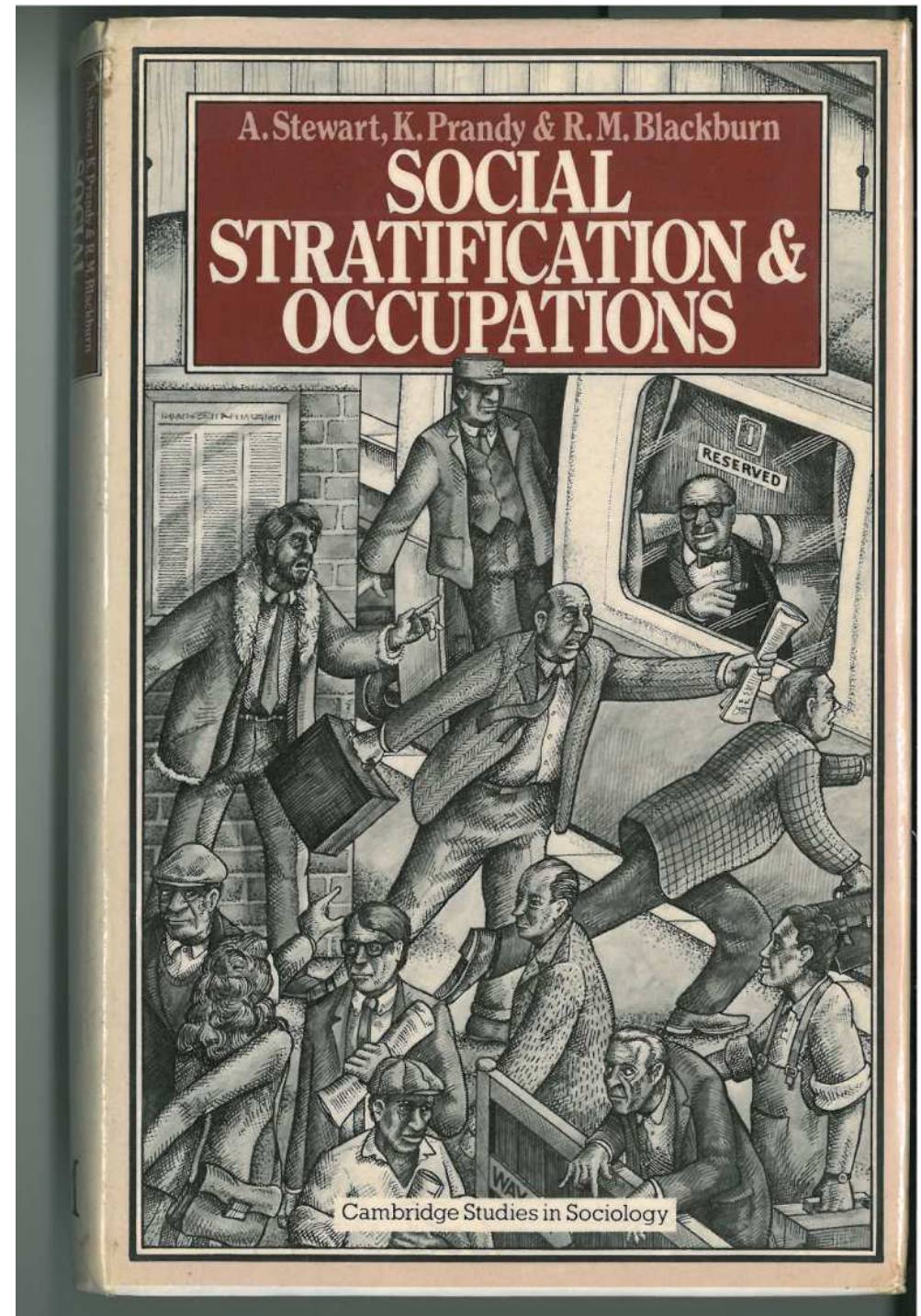
- Measureable links between actor

- e.g. two people are friends, are married, etc)
- e.g. have a friend who is a lawyer / events manager / bouncer
- e.g. indirect links (e.g. 'bridged' via mutual friends; models of 'contagion')

- Social relations = character of the tie
- Social connections = measurement of the tie



Social distance = social structure that is revealed through analysing ties



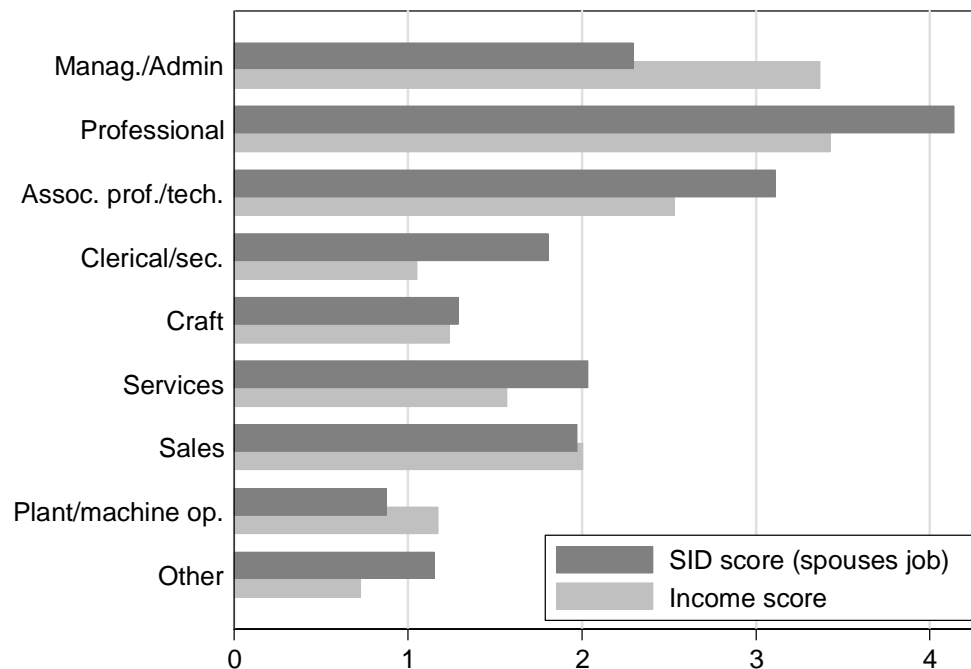
Social distances

- *Generically, social distance = how far away A is from B, on the basis of {likely} levels of social contact*
- *A and B are usually social units; we typically see several empirical dimensions that characterise the pattern of social contacts*
- Previous research on social distance between occupational categories (www.camsis.stir.ac.uk/sonocs)
- Can equally review social distance between
 - Educational categories
 - Gender, age/life-course stage, ethnicity, religion
 - Political values and orientations
 - Health-related behaviours... ...etc

Why study social relations, social connections and social distance?

(a) Consequential individual level outcomes correlate data on alters

- Strong empirical effects of spouses, parents friends, etc
- Recent increase in data on alters



Source: Analysis of married males in BHPS. Scores mean standardised plus 2.

Bivariate correlation*100 to... (UKHLS 2009)
(ul=sig. effect net of own characteristic)

	Inc.	Health	GHQ	Green
Spouse has degree	<u>21</u>	<u>16</u>	<u>5</u>	<u>14</u>
Father's job	<u>15</u>	<u>14</u>	3	<u>9</u>

(b) Social structure as defined by social distance is revealing

- Interaction structure not identical to other structures
- Interaction structure is theoretically interesting (?the trace of social reproduction)
- Other measures of structure may not be available

(2) Methods for studying social relations, social connections and social distance

- Many research methods have been ‘individualist’
 - In statistical analysis & explanatory frameworks
- Several means to analyse social connections...
 - i. Micro-level Models (data about alter(s) informs analysis of the individual)
 - ii. Social interaction distance (summarise statistical structure)
 - iii. Social network analysis (summarise relational structure)
- Data resources are promising...
 - Abundance of large scale, accessible, microdata on social connections defined through household / family
 - Some datasets have data on friends, workplace sharers, distant/former family
 - In some scenarios, e.g. social history, data on social connections are one of few things recorded on a large scale

..family connections data..

IPUMS International - Windows Internet Explorer provided by University of Stirling

Address: <https://international.ipums.org/international/samples.shtml>

MINNESOTA POPULATION CENTER, UNIVERSITY OF MINNESOTA

IPUMS International

Home | Variables | Create Extract | FAQ | Contact Us | Login

IPUMS Sample Information

Argentina	1970·1980·1991·2001	Ghana	2000	Palestine	1997
Armenia	2001	Greece	1971·1981·1991·2001	Panama	1960·1970·1980·1990·2000
Austria	1971·1981·1991·2001	Guinea	1983·1996	Philippines	1990·1995·2000
Belarus	1999	Hungary	1970·1980·1990·2001	Portugal	1981·1991·2001
Bolivia	1976·1992·2001	India	1983·1987·1993·1999	Romania	1977·1992·2002
Brazil	1960·1970·1980·1991·2000	Iraq	1997	Rwanda	1991·2002
Cambodia	1998	Israel	1972·1983·1995	Slovenia	2002
Canada	1971·1981·1991·2001	Italy	2001	South Africa	1996·2001·2007
Chile	1960·1970·1982·1992·2002	Jordan	2004	Spain	1981·1991·2001
China	1982·1990	Kenya	1989·1999	Uqanda	1991·2002
Colombia	1964·1973·1985·1993·2005	Kyrgyz Republic	1999	United Kingdom	1991·2001
Costa Rica	1963·1973·1984·2000	Malaysia	1970·1980·1991·2000	United States	1960·1970·1980·1990·2000·2005
Ecuador	1962·1974·1982·1990·2001	Mexico	1960·1970·1990·1995·2000·2005	Venezuela	1971·1981·1990·2001
Eqypt	1996	Mongolia	1989·2000	Vietnam	1989·1999
France	1962·1968·1975·1982·1990·1999	Netherlands	1960·1971·2001		

Microdata covering households and/or other social connections

- Complex contemporary surveys with longitudinal and household designs often allow interlinking of extra data
 - Current household sharers
 - Previous household sharers (& their new alters)
 - Questions on friends or other alters

	pid	year	hid	sppid	age	sex	educ4	mcamsis	hlghq1
43.	10029133	1991	1002449	10029168	29	2. female	2	52.5	8
44.	10029133	1992	2002019	0. spouse not in hh	30	2. female	2	52.1	11
45.	10029168	1991	1002449	10029133	38	1. male	.m	38.1	.m
46.	10040331	1991	1003372	0. spouse not in hh	38	2. female	1	.	.m
47.	10040331	1992	2002086	0. spouse not in hh	39	2. female	1	.	8
48.	10040366	1991	1003372	0. spouse not in hh	20	2. female	2	.	6
49.	10040366	1992	2002086	0. spouse not in hh	21	2. female	2	.	8
50.	10040404	1991	1003372	0. spouse not in hh	18	2. female	2	.	4
51.	10040404	1992	2002086	0. spouse not in hh	18	2. female	2	.	3
52.	10040439	1992	2002086	0. spouse not in hh	16	1. male	1	.	14
53.	10042571	1991	1003569	0. spouse not in hh	59	1. male	1	.	11
54.	10043691	1991	1003658	0. spouse not in hh	70	2. female	1	25.6	13
55.	10047069	1991	1003933	10047093	30	1. male	3	.	19
56.	10047069	1992	2002507	10047093	31	1. male	3	.	8
57.	10047093	1991	1003933	10047069	29	2. female	2	.	22
58.	10047093	1992	2002507	10047069	29	2. female	2	.	31
59.	10048189	1991	1004026	10048219	47	1. male	.m	38.9	.m
60.	10048189	1992	2002728	10048219	48	1. male	.m	36.3	.m
61.	10048219	1991	1004026	10048189	43	2. female	1	43.5	7
62.	10048219	1992	2002728	10048189	43	2. female	1	43.5	14
63.	10048243	1991	1004026	0. spouse not in hh	21	2. female	3	43.5	7
64.	10048243	1992	2002728	0. spouse not in hh	22	2. female	3	43.5	10
65.	10048278	1991	1004026	0. spouse not in hh	19	2. female	3	34.4	14
66.	10048278	1992	2002728	0. spouse not in hh	20	2. female	3	34.4	10

(i) Modelling approaches

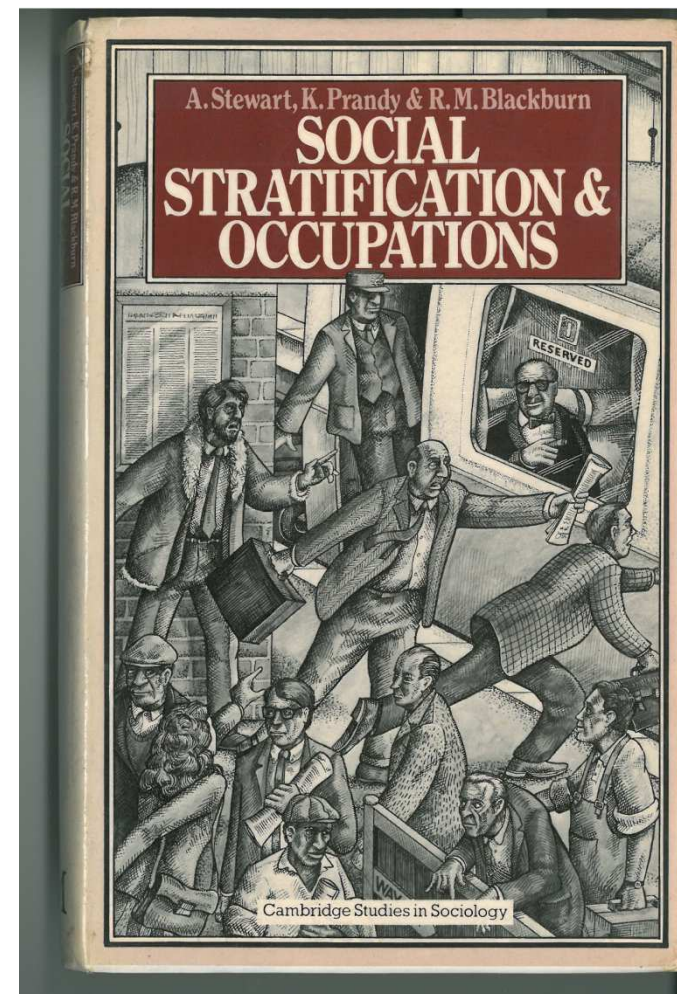
Example – Random effects models on related adults in the BHPS

	Used health services in last year (Y=43%)				GHQ score			
	<i>indv</i>	<i>cp</i>	<i>hh</i>	<i>xhid</i>	<i>indv</i>	<i>cp</i>	<i>hh</i>	<i>xhid</i>
Female	0.63	0.77	0.69	0.65	1.36	1.36	1.36	1.53
Age	0.02	0.03	0.02	0.02	0.13	0.13	0.14	0.14
Age-squared(*100)					-0.12	-0.13	-0.13	-0.13
Cohabiting					-0.58	-0.58	-0.54	-0.59
Ln(household inc.)	-0.09	-0.14	-0.12	-0.11	-0.63	-0.62	-0.63	-0.62
Constant	-0.65	-0.67	-0.59	-0.55	12.9	12.8	12.6	12.6
ICC L2% (VC)	0	6.3	8.8	7.9	0	22.9	15.8	7.8
Mean cluster size	1	1.4	1.8	4.6	1	1.4	1.8	4.5
L2:sd(cons)		0.61	0.51	0.53		2.54	1.91	1.15
L2:sd(fem)		2.00	0.82	0.00		2.81	2.32	1.64
L1:sd(cons)	1.81	1.81	1.81	1.81	5.40	4.30	4.76	5.28
-Log-like (-40k)	9648	9625	9624	9632	3529	3383	3410	3512

(ii) Social interaction distance analysis

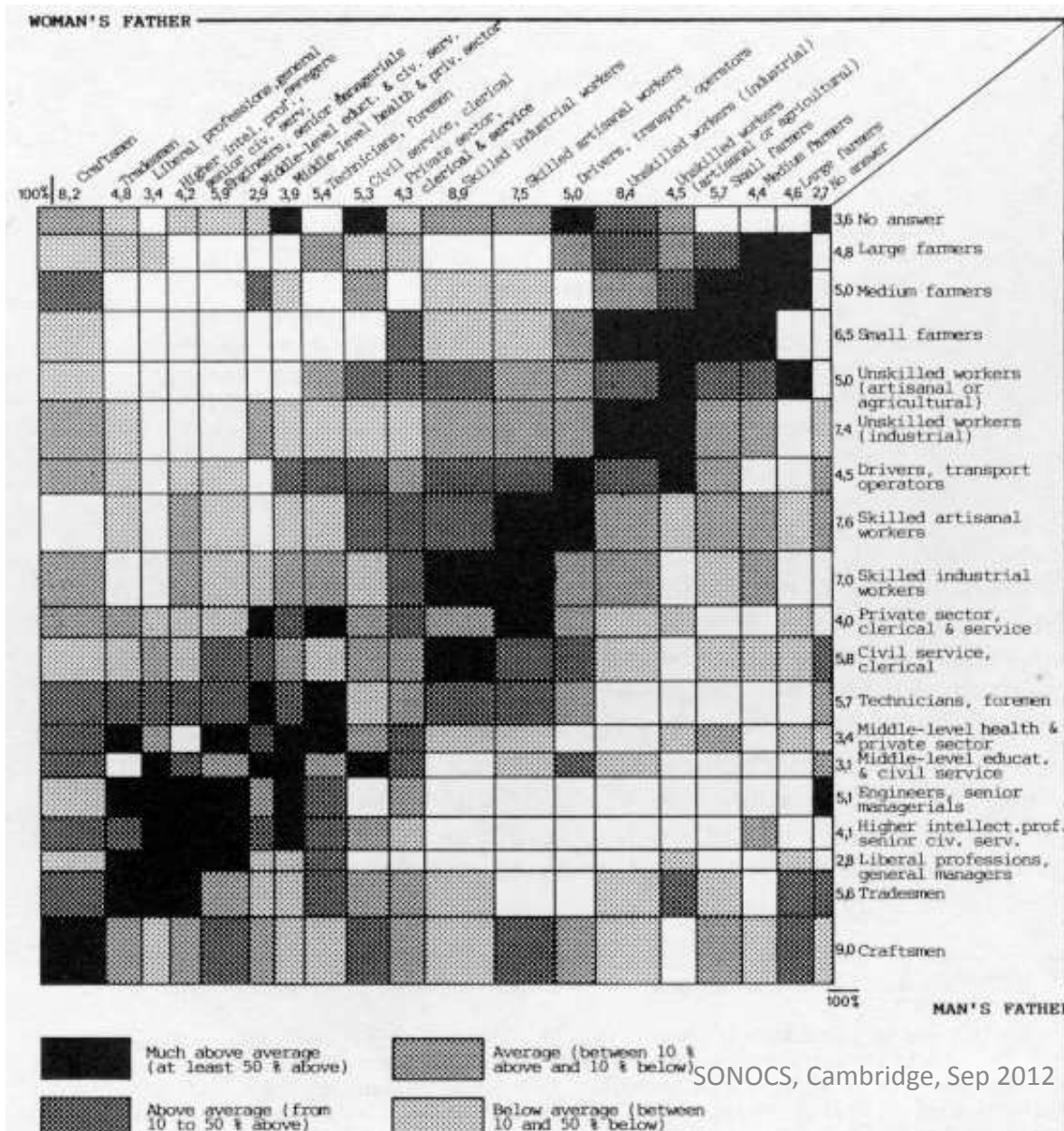
- Stewart, A., Prandy, K., & Blackburn, R. M. (1980). *Social Stratification and Occupations*. London: MacMillan.
- The 'Cambridge scale' from analysis of friendship patterns
- 'White collar' sample within 60 miles of Cambridge, plus a 'general' sample from 4 UK regions (UKDA: 1369).
- Finds an order of social stratification from social interaction distance analysis
- Stewart et al. (1980: 59-68):

Employee University teachers	+131	Employee Guards	-175
Employee Civil Engineers	+102	Manager Guards	-122
Employer Accountants	+55	Own account Publicans	-62



Social Interaction Distance Analysis on occupations

(www.camsis.stir.ac.uk : correspondence analysis; RC-II association models)



From: Bozon and Heran (1989), 'Finding a spouse: A survey of how French couples meet', *Population*, 44(1):91-121.

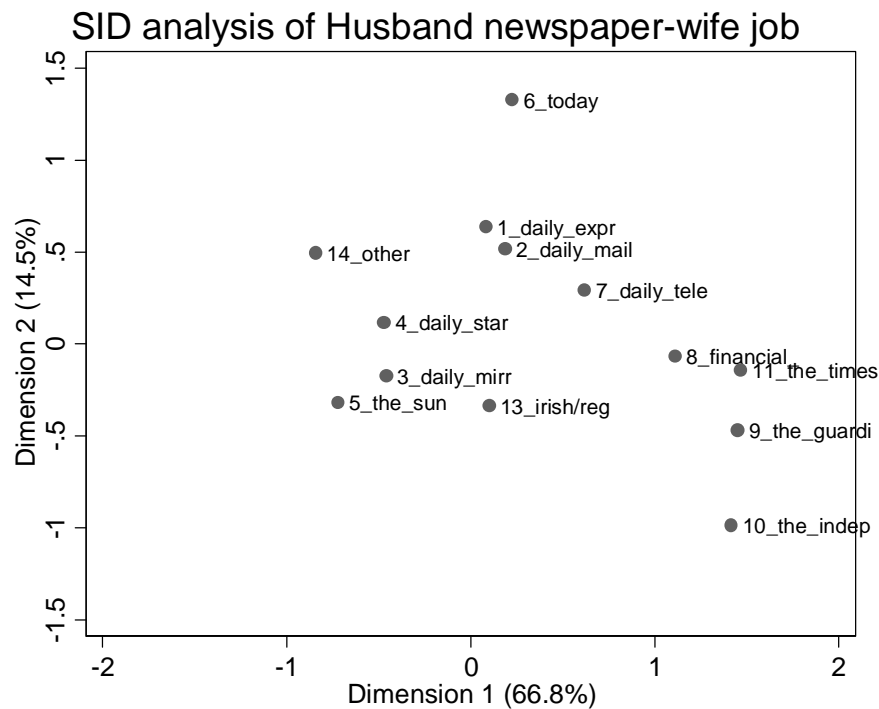
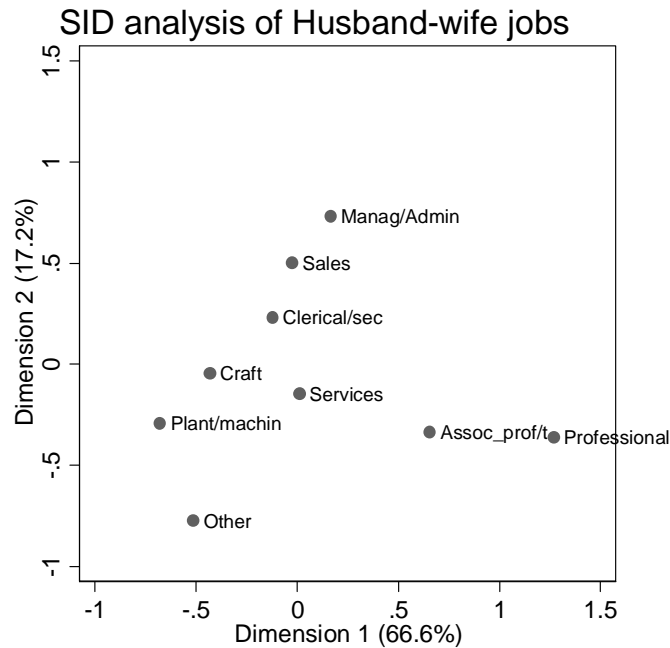
Husband's Job Units

		Husband's Job Units				
Occ Units ↓ →		1	2	..	407	
Derived scores ↓ →		75.0	70.0	..	10.0	
Wife's Job Units	1	72.0	30	15	..	0
	2	72.5	13	170	..	1

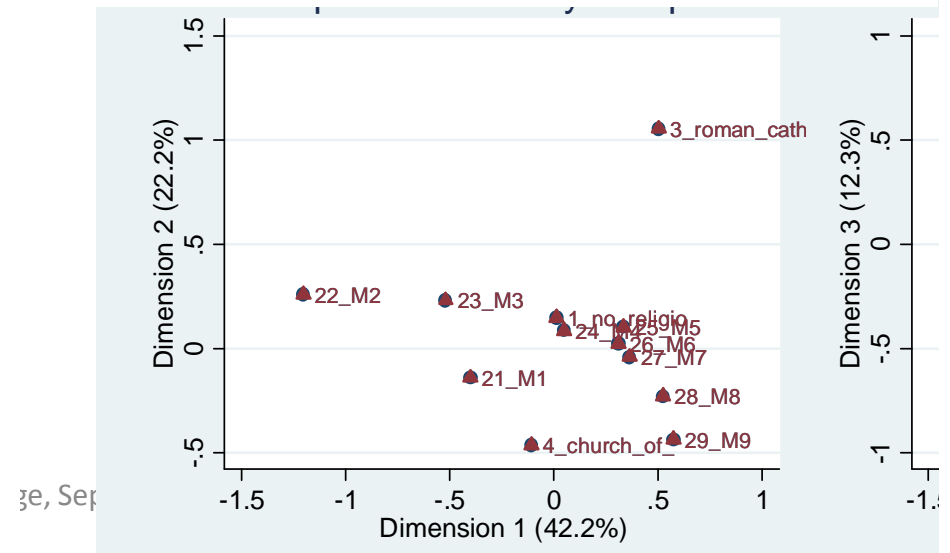
	407	11.0	0	2	..	80

- *Derived scores predict frequency of interactions (#cases per cell)*
- *Correspondence analysis; log-linear association models; multidimensional scaling*
- The scales describe one or more dimensions of a **structure of social interaction...**
 - ...this turns out to also represent a **structure of social stratification...**
 - ...resulting in scale scores which measure an occupation's relative position within the structure of stratification.

Analysing other forms of social interaction distances



SID analysis (exploratory) for social distance involving mainstream religions and occupational groups in marriage patterns in Britain



(iii) Social network analysis

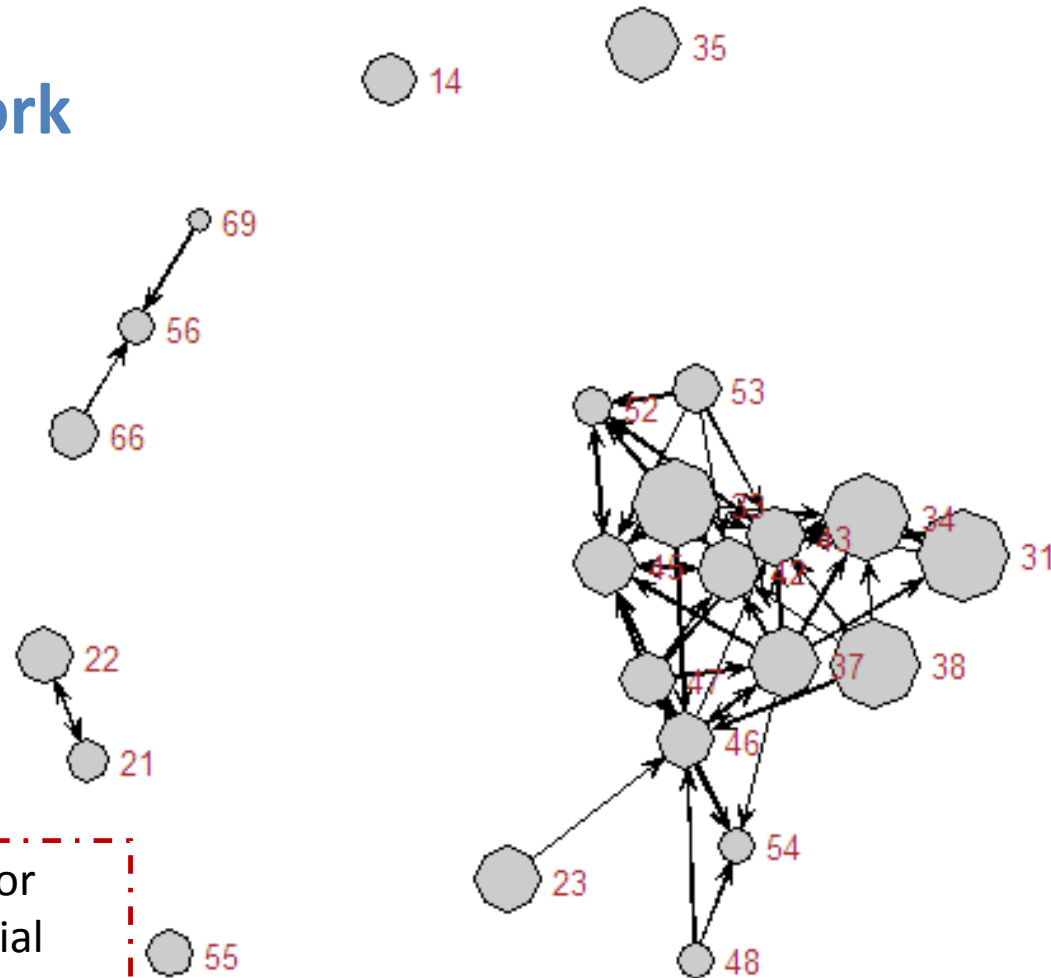
“..detecting and interpreting the social ties among actors..”

[de Nooy et al. 2011: 5]

- Actors (‘vertices’, ‘Nodes’) (subjects of analysis)
- Ties (‘relations’; ‘connections’)
 - Directed (‘arc’)/undirected (‘edge’) ties
- Network (representation of actors and their ties)
 - Sometimes just study the patterns of connections actors have to others
 - When the Node is a social unit (e.g. occupation) it is possible to characterise connections from unit to unit (e.g. dichotomise by whether disproportionately frequent connections to other units occur)

France, 1962, PCS codes with $> 2 \times$ expected links

Social Network Analysis of occupations



Network analysis to look for influential channels of social connections between occs.
(camsis.stir.ac.uk/sonocs)

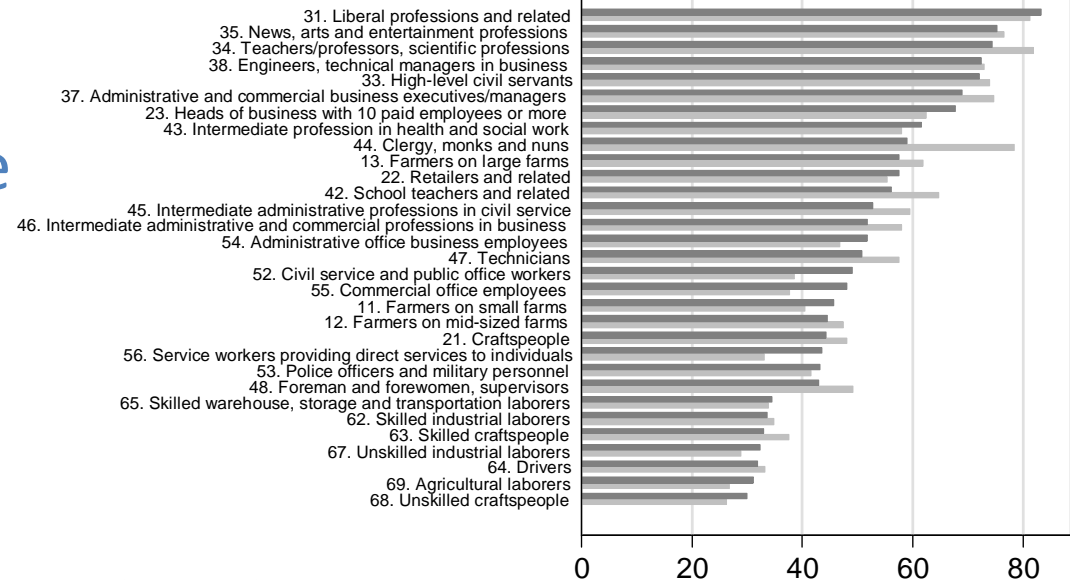
(3) Studying temporal changes in social distance

Numerous reasons why we might expect temporal change in social relations, social connections and social distance

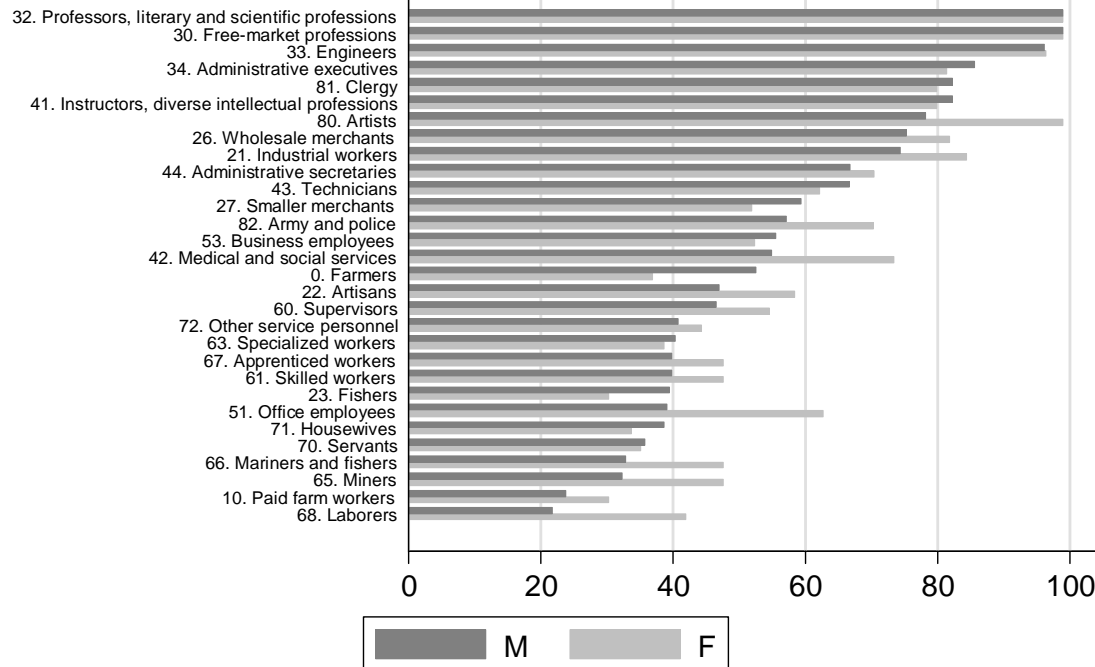
- Technological and communication transformations
- Political transformations
 - Globalisation, immigration, freedom
- Structural change
 - Growth of education; changing employment patterns; changing cohabitation patterns
- Rise of elective & cognitive social differentiations
 - E.g. Savage, M., Devine, F., Cunningham, N., Taylor, M., Li, Y., Hjellbrekke, J., Le Roux, B., Friedman, S., & Miles, A. (2013). A new model of social class: Findings from the BBC's Great British Class Survey Experiment. *Sociology*

(i) Are the structures defined by social distance changing through time?

France, 2006, PCS, 2-digit



France, 1962, PCS



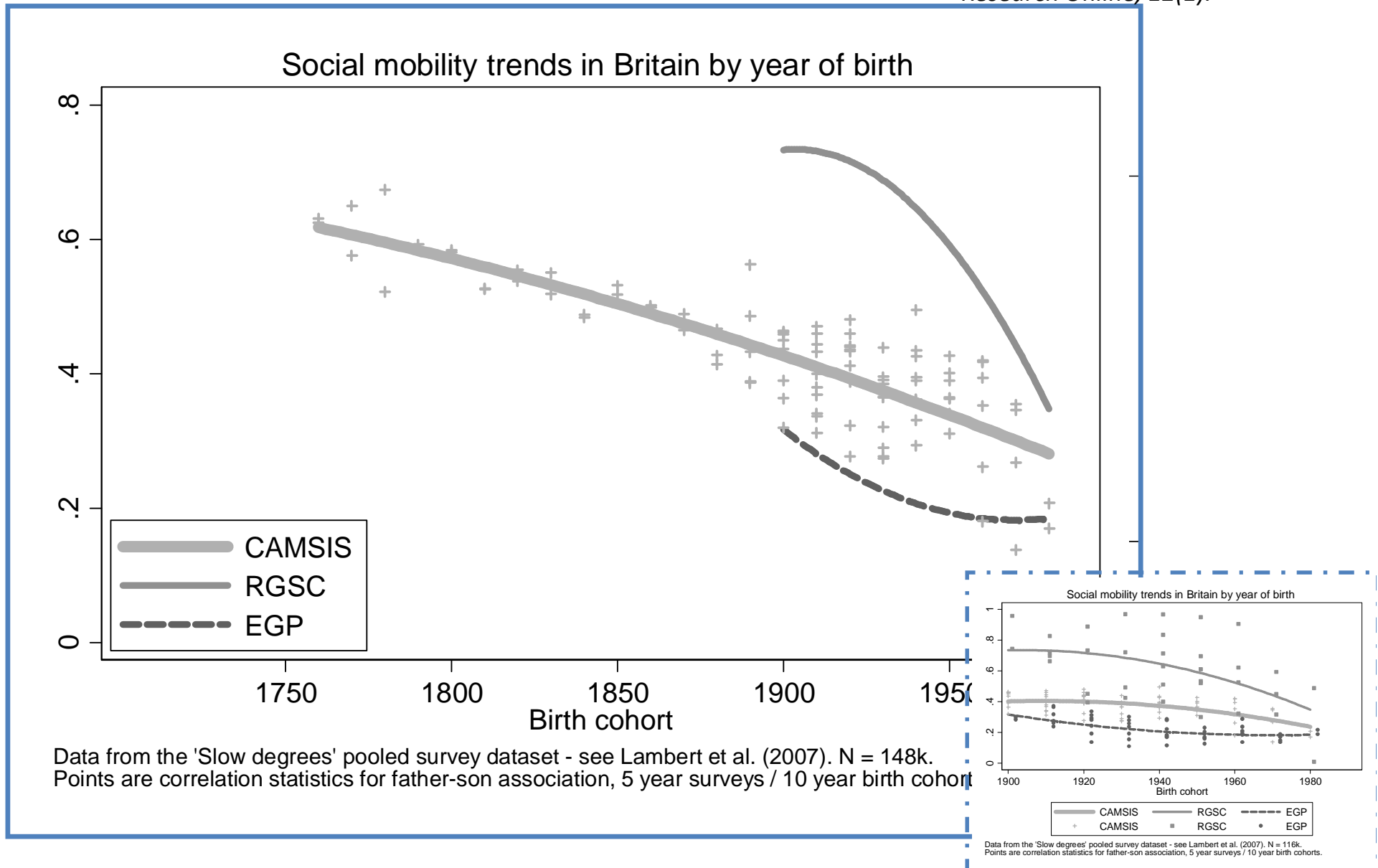
i. N=1634325 H-W combinations aged 20+ (excluding 'diagonals').

- Hitherto, for occupations, the answer has been 'no'!
- This may not hold for other forms of social distance

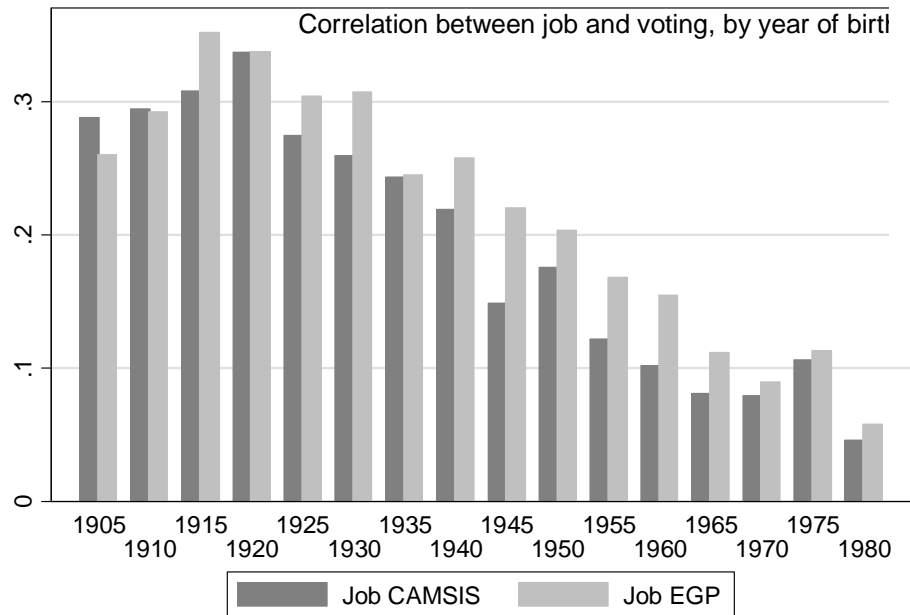
Source: Analysis of IPUMS 1962. N=78920 H-W combinations aged 20+ (excluding 'diagonals').

(ii) Some trends in social relations may be best understood with very long-term data

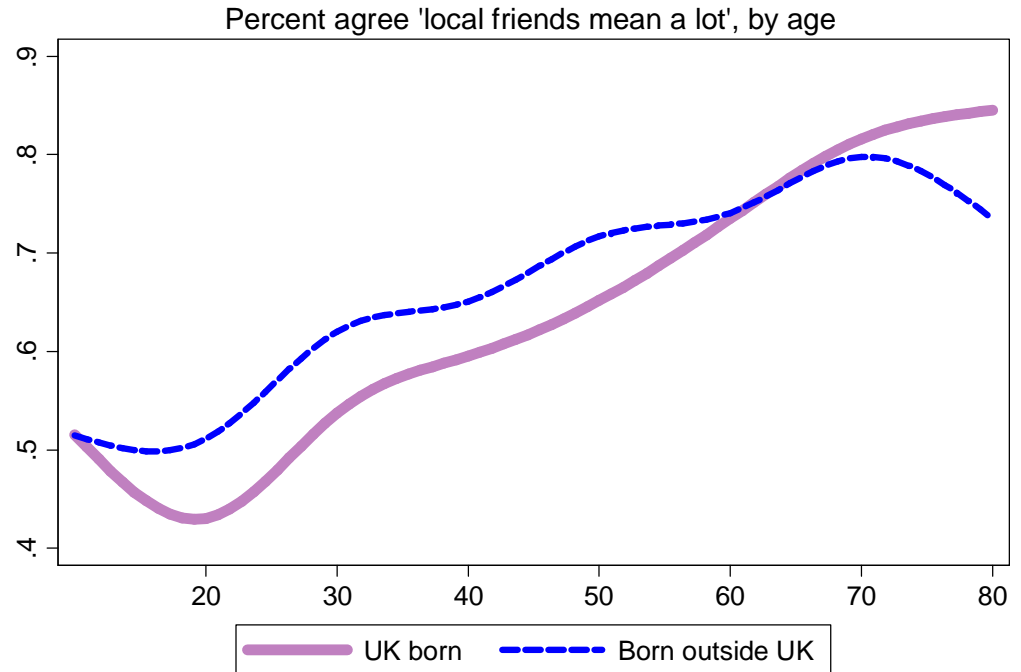
Lambert, P. S., Prandy, K., & Bottero, W. (2007). By Slow Degrees: Two Centuries of Social Reproduction and Mobility in Britain. *Sociological Research Online*, 12(1).



(iii) Some trends in social relations have recently changed, or are in the process of changing, rapidly



Source: Slow Degrees dataset (pooled surveys 1963-2005, UK)



Source: UKHLS, 2009. N=39335

(4) Is Britain pulling apart [first answer]?

- ***Probably not***
 - Enduring patterns related to social distance have been pretty stable hitherto
- ***Maybe a bit***
 - Some behaviours related to social relations and social distance have changed a great deal
 - Some political, lifestyle and socio-demographic trends would be expected to influence social distance
 - *More analysis exploring empirical data on patterns of social relations is desirable!*