

CITATION INDEXES AND THE CLASSIFICATION OF NAMES

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The Science Citation Index (SCI)

- A multi-disciplinary database of scientific papers
- CD-ROMs since 1980; also print, web versions
- Lists all authors and addresses (but not linked)
- About 800 000 papers per year, mostly in English
- Objective: to see if there is discrimination against minorities in scientific research
- Use for three types of study: “ethnic cleansing”, women in science, ethnicity in UK science



Yugoslavia - science in Serbia and Croatia (1)

- Paper co-authored with Rajko Igic, a Serb married to a Croat (now living in Chicago!)
- Papers taken from SCI from 1985-96
- Authors’ surnames from Serbia and Croatia listed for 1985-87 and 1994-96 with no co-authorship
- Of 5100 names, 837 “typically Serb” and 1314 “typically Croat” (but scored blind)

State	Period	Papers	Serb, %	Croat, %
Serbia	1985-87	4447	43	12
	1994-96	5614	40	11
Croatia	1985-87	3188	7	40
	1994-96	4881	7	40



Yugoslavia - science in Serbia and Croatia (2)

- Results appear to show a continuity which is rather surprising - why no “ethnic cleansing”?
- Perhaps this took place only outwith the capitals?
- Analysis repeated for Serbia outside Belgrade and Croatia outside Zagreb, with extra years

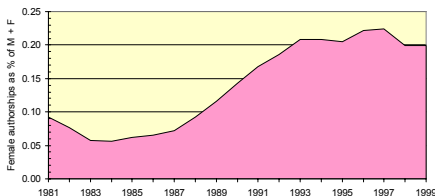
State	Period	Papers	Serb, %	Croat, %
Serbia	1985-87	556	31	19
(not B)	1994-96	921	43	11
Croatia	1985-87	175	9	37
(not Z)	1994-96	395	8	41

- In Serbia, reduction in Croats and increase in Serbs is stat. sign. ($p < 0.001\%$)



Iceland: sex from patronymics (1)

- Male names end in “-sson”, female ones in “-dottir”
- Study of 2779 papers from 1980-2000; authorship fractionated as M, F or X



- An increase from 8% to 20% female participation, but steady since 1993



Iceland: sex from patronymics (2)

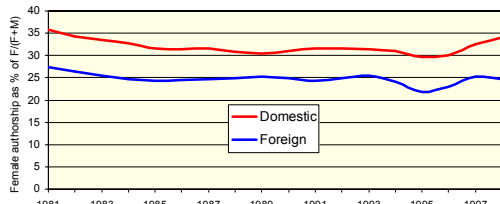
Foreign?	Names	Male	Female	F/(M+F)
No	1209	840	199	19%
Yes	1560	484	67	12%

- Females are less likely to co-author with foreign scientists - perhaps because of travel difficulties
- They participate more in life sciences but there is no difference in “quality” (measured by potential impact, or citations to clinical medicine papers)



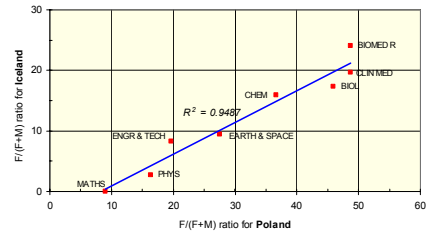
Poland: sex from gender endings (1)

- Study by Berenika Webster of a bigger country, with over 98 000 papers from 1980-99
- Male names end -ski, -cki, -owy; females end -ska, -cka, -owa; unclassified names show same ratios



Poland: sex from gender endings (2)

- Female participation almost constant despite major social changes; less with foreign co-authorship
- Lower than expected as so much Polish science is in chemistry and physics (not life sciences)



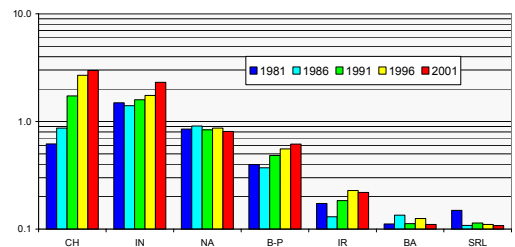
Ethnic minorities in UK science (1)

- Study by Webster of UK-only SCI papers 1981-2001
- Names assigned to seven ethnic groups: Black Africa, CN, IN, IR, North Africa, PK + BD, LK; based on SCI papers from these countries and checked by immigrants from these groups
- Method cannot cover West Indian names, and some are assigned fractionally to two or more groups
- But it uses a consistent system and can be applied over time - and also geographically within UK



Ethnic minorities in UK science (2)

- Increases from 1981 to 2001 in ethnic presence

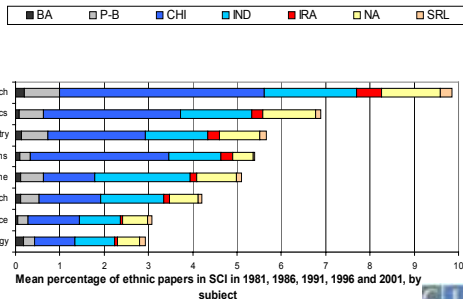


- A big increase in Chinese participation, much higher than % of population



Ethnic minorities in UK science (3)

- Biggest contributions are in engineering, physics, chemistry; Indians are in clinical medicine



Ethnic minorities in UK science (4)

- Future studies will build on database of ethnic names, but needs independent checking ? from census (problems of confidentiality)
- Can be applied to many lists of names, e.g., society membership (example of RSC)
- Technique has been used for health services research to check disease incidence and service use
- Potential use to check for discrimination in award of grants or selection for academic posts - but what standard of proof is needed? Cf. study of women in Sweden, replicated in MRC and WT

