

Exploring reasons for different health outcomes in identically deprived post-industrial UK cities

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Topics

- Background
 - ‘excess’ mortality in Scotland and Glasgow
- Hypotheses
- Research update:
 - 3 city survey (preliminary results)
 - Other projects (and hypotheses)
- Next steps

Background

- Scotland... 'sick man of Europe'
- Lowest life expectancy in W. Europe driven by high mortality in Glasgow and W. Central Scotland
- Traditional explanation: socio-economic deprivation (underpinned by effects of post-industrial decline)

However...

- Even when socio-economic circumstances are taken into account, there is still an 'excess' of poor health in Scotland
- Controlling for differences in individual SES (and all other risk factors):
 - Scottish respondents at 50% higher risk of IHD compared to English (Mitchell et al 2005)
- Controlling for differences in area-based deprivation:
 - Scottish all-cause mortality 8% higher than England & Wales (Hanlon et al, 2005)
 - (Higher cause-specific 'excesses' (e.g. cerebrovascular disease: 24%; lung cancer: 26%; suicide: 40%))
 - 'Excess' widening, and greatest in West Central Scotland/Glasgow
- And most recently: comparisons of Glasgow with Liverpool and Manchester...

Three cities: Glasgow, Liverpool and Manchester

- Identical levels and patterns of deprivation
- But premature deaths 30% higher in Glasgow (15% higher for deaths at all ages)
- This 'excess' Glasgow mortality seen in (almost) all age bands, both genders, deprived and non-deprived neighbourhoods
- Not explained by historical changes in deprivation
- Not explained by differences in population composition of cities
- Data show quite remarkable similarities between the cities (especially Glasgow and Liverpool) in all aspects...
except health

Additional explanations required

(and everyone has a theory...)

- Artefact
- Culture
- Genetics
- Greater 'vulnerability' in Glasgow
- Migration
- Psychological outlook
- Substance misuse cultures
- Social capital
- Spatial patterning of deprivation
- Family/parenting
- Gender
- Political attack
- Social mobility
- Sectarianism
- The weather...

Additional explanations

- All the many suggested theories have been assessed in terms of plausibility
- For the most plausible, no evidence/data to support or refute them
- So...

ACCOUNTING FOR SCOTLAND'S EXCESS MORTALITY: TOWARDS A SYNTHESIS

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Original Research
Why the Scots die younger: Synthesizing the evidence

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SUMMARY
Objective: To identify explanations for the higher mortality in Scotland relative to other European countries, and to synthesise those best supported by evidence into an overall explanatory framework.
Study design: Review and dialectical synthesis.
Methods: Candidate hypotheses were identified based on a literature review and a series of research dissemination events. Each hypothesis was described and critically evaluated in relation to the Bradford-Hill criteria for causation in observational epidemiology. A synthesis of the most convincing hypotheses was then attempted using a broadly 'dialectical' approach.
Results: Seventeen hypotheses were identified including: structural explanations (inequality, migration); 'downstream' explanations (genetics, health behaviours, individual risk); 'midstream' explanations (poverty, misuse, culture of fatalism and alienation; family, gender relations and parenting differences; lower social capital, sectarianism; culture of limited local mobility, health service supply or demand; deprivation concentration); and 'upstream' explanations (climate, inequality, de-industrialisation, political attack). There is little evidence available to determine why mortality rates diverged between Scotland and other European countries between 1950 and 1980, but the most plausible explanations at present link to particular industrial, employment, housing and cultural patterns. From 1980 onwards, the higher mortality has been driven by unfavourable health behaviours, and it seems quite likely that these are linked to an interestingly climate of conflict, injustice and disempowerment. This is best explained by developing a synthesis beginning from the public attack hypothesis, which suggests that the structural policies implemented from 1979 onwards across the UK disproportionately affected the Scottish population.
Conclusions: The reasons for the high Scottish mortality between 1950 and 1980 are unclear, but may be linked to particular industrial, employment, housing and cultural patterns. From 1980 onwards, the higher mortality is most likely to be accounted for by a synthesis which begins from the changed political context of the 1980s, and the consequent hopelessness and community disempowerment experienced. This may have relevance to fostering health improvements in other countries, such as the USA.
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3-city programme of research

- Full programme of research to investigate the more plausible theories
- Relevant to all Scotland, but..
- ..based on comparisons of Glasgow with Liverpool and Manchester
- Different components:
 - Hypothesis-specific projects (e.g. spatial patterning of deprivation; early years experiences; alcohol harm)
 - Qualitative research
 - Collection of new data through 3-city survey...

NB (1)

- We are not seeking explanations *in place* of poverty and deprivation
- We are seeking explanations *alongside* poverty and deprivation

NB (2)

- No magic bullet...

NB (3)

- We do not necessarily agree with hypotheses under investigation...
- This is about disproving hypotheses as well as looking for important potential explanations.

3-city survey

- GCPH - NHS Health Scotland – Aberdeen University joint research
- Sample size: 3,600 (1,200 in each city)
- 55% response rate
- Collecting new data for specific hypotheses...:
 - Lower social capital in Glasgow?
 - Result of ‘political attack’?
 - Different ‘values’ in Glasgow (incl. psychological outlook, ‘time preferences’)
 - Lower social mobility
 - Boundlessness/alienation (‘anomie’)
 - Lower ‘sense of coherence’
 - (Different early years experiences)

3-city survey

- ...wherever possible, using previously validated questions/scales e.g.
 - ONS social capital questions
 - Schwartz's 21 item Human Values Scale
 - Life Orientation Test (Revised) (LOT-R)
 - Time preferences (University of Aberdeen)
 - Antonovski's 'Sense of coherence' scale (SOC-13)
 - Generalised self-efficacy scale
- Plus new questions where validated scales etc not available

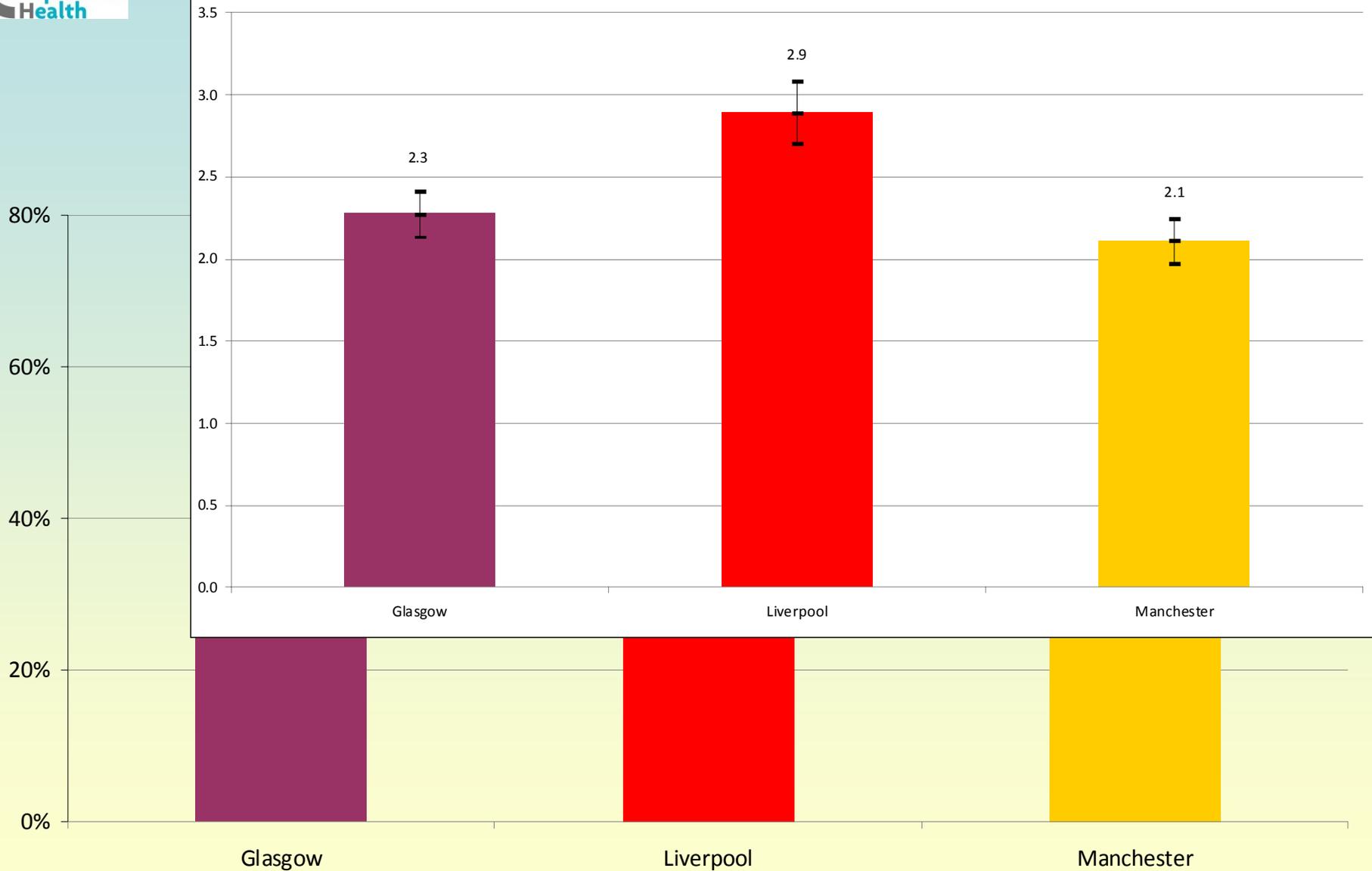
(Very) preliminary results

- NB: the briefest of the briefest overview... (only a few preliminary results)
- **Not** covering all hypotheses today
- Simple descriptive analyses only:
 - By city
 - By sub-groups:
 - Age
 - Gender
 - Deprivation quintile
- More complex analyses (including statistical modelling (MLM)) will be reported later

Lower social capital in Glasgow?

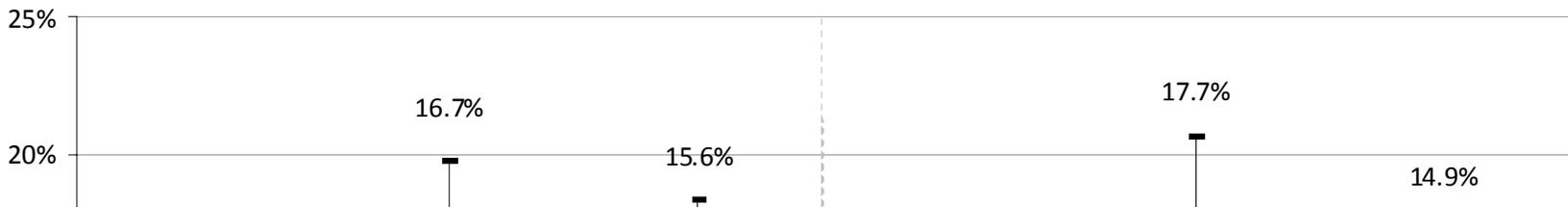
- Not in all aspects
- But significant differences in relation to: reciprocity, volunteering, trust and other 'proxies' for social capital...

How many people exchange favours with? (mean)

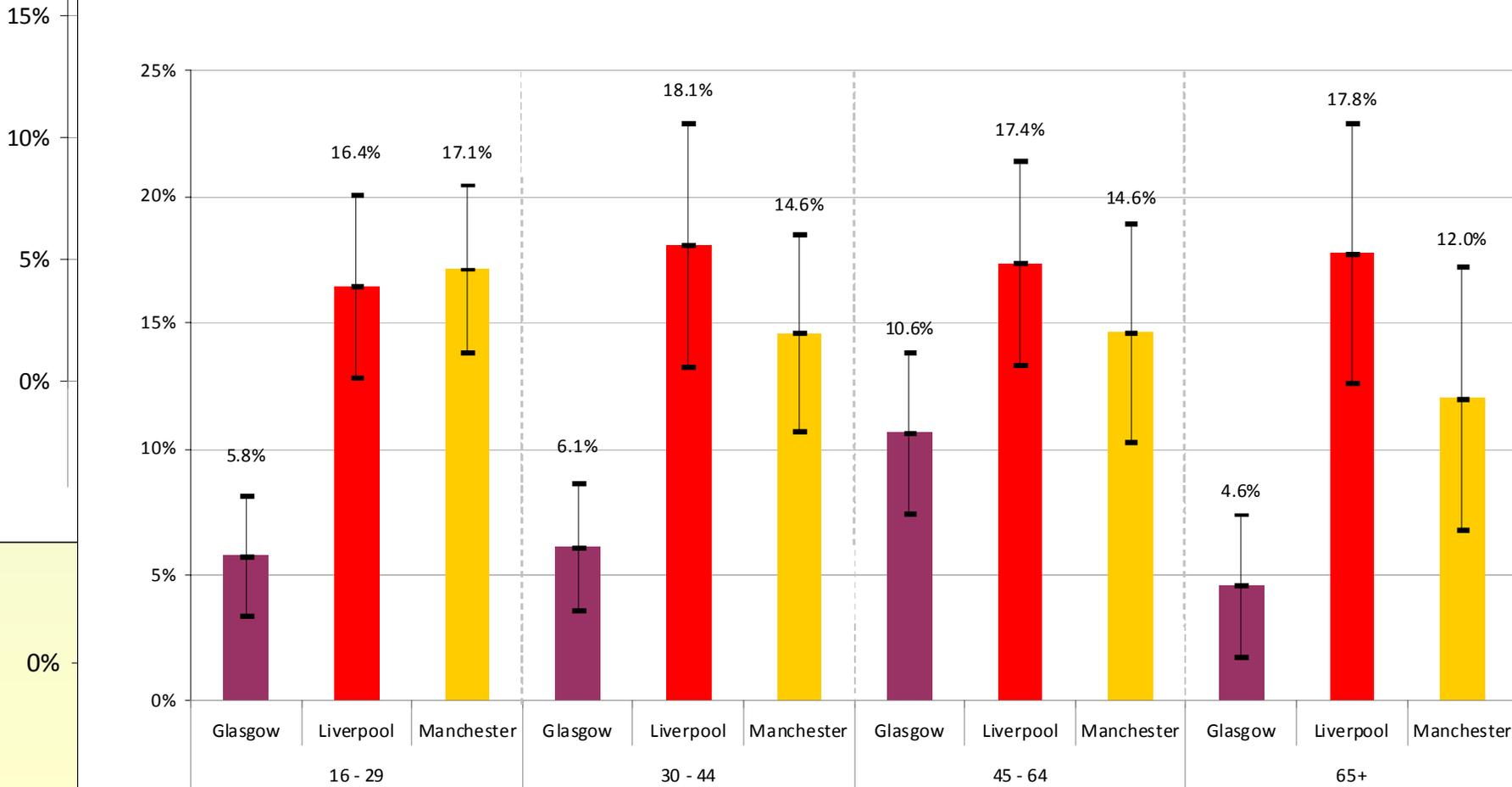


And same overall pattern by age, sex, deprivation quintile

Unpaid help: at least one example of unpaid help in previous 12 months

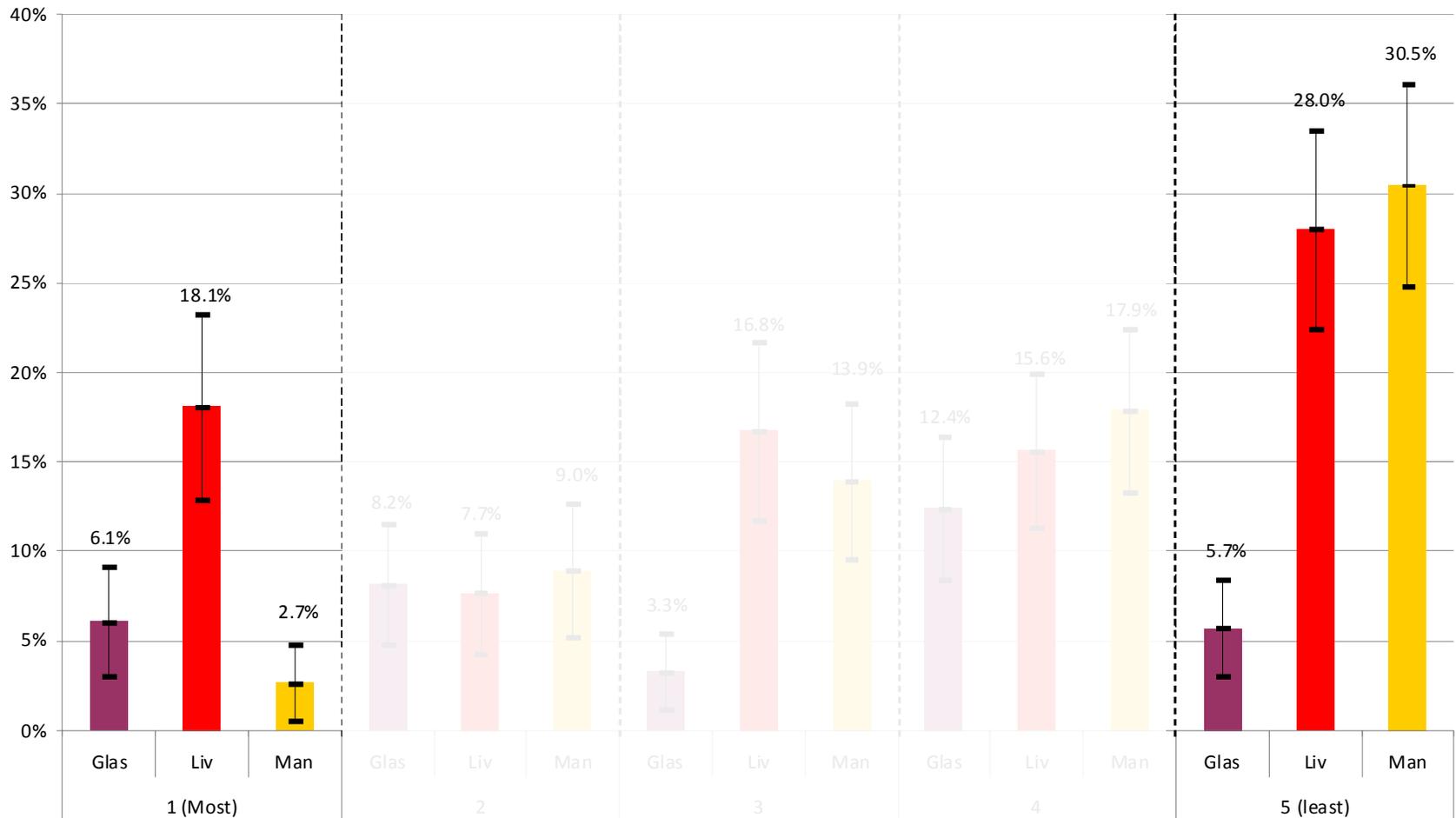


Unpaid help: at least one example of unpaid help in previous 12 months



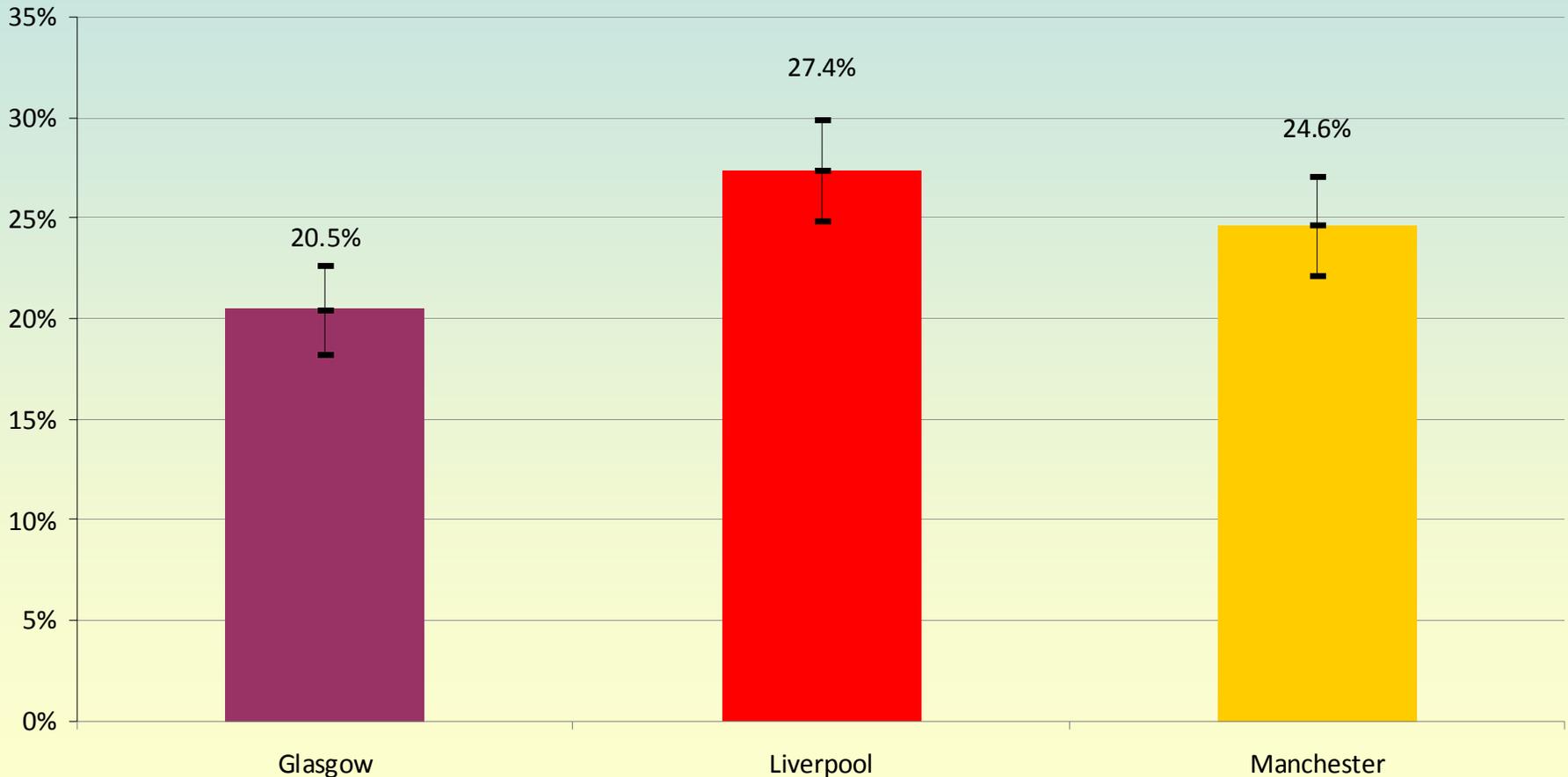
Volunteering by dep quintile

Unpaid help: at least one example in previous 12 months



Trust (general)

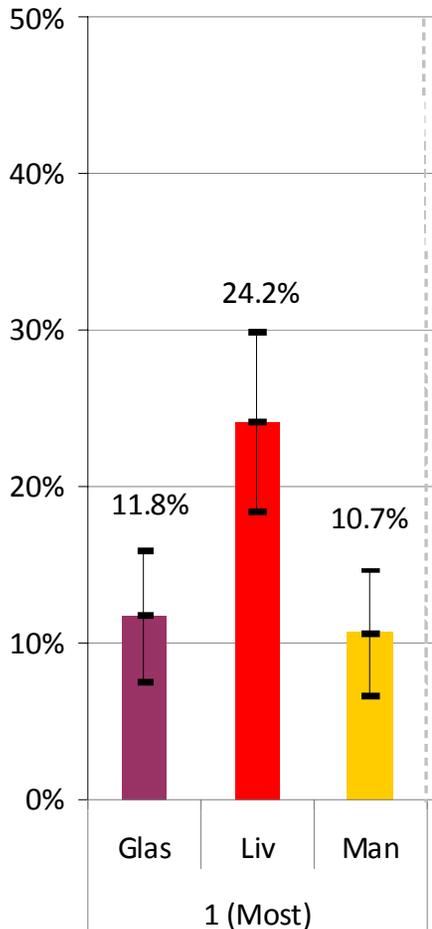
Trust: % saying most people can be trusted (generally)



Similar results in most age, sex, deprivation groupings

Trust (neighbourhood)

Trust: % saying most people in neighbourhood can be trusted



And same overall pattern by age and sex as well

% with no religious affiliation

60%
52.3%

% with no religious affiliation

50%

70%
61.7%

% with no religious affiliation

40%

30%

20%

10%

0%

0%

10%

20%

30%

40%

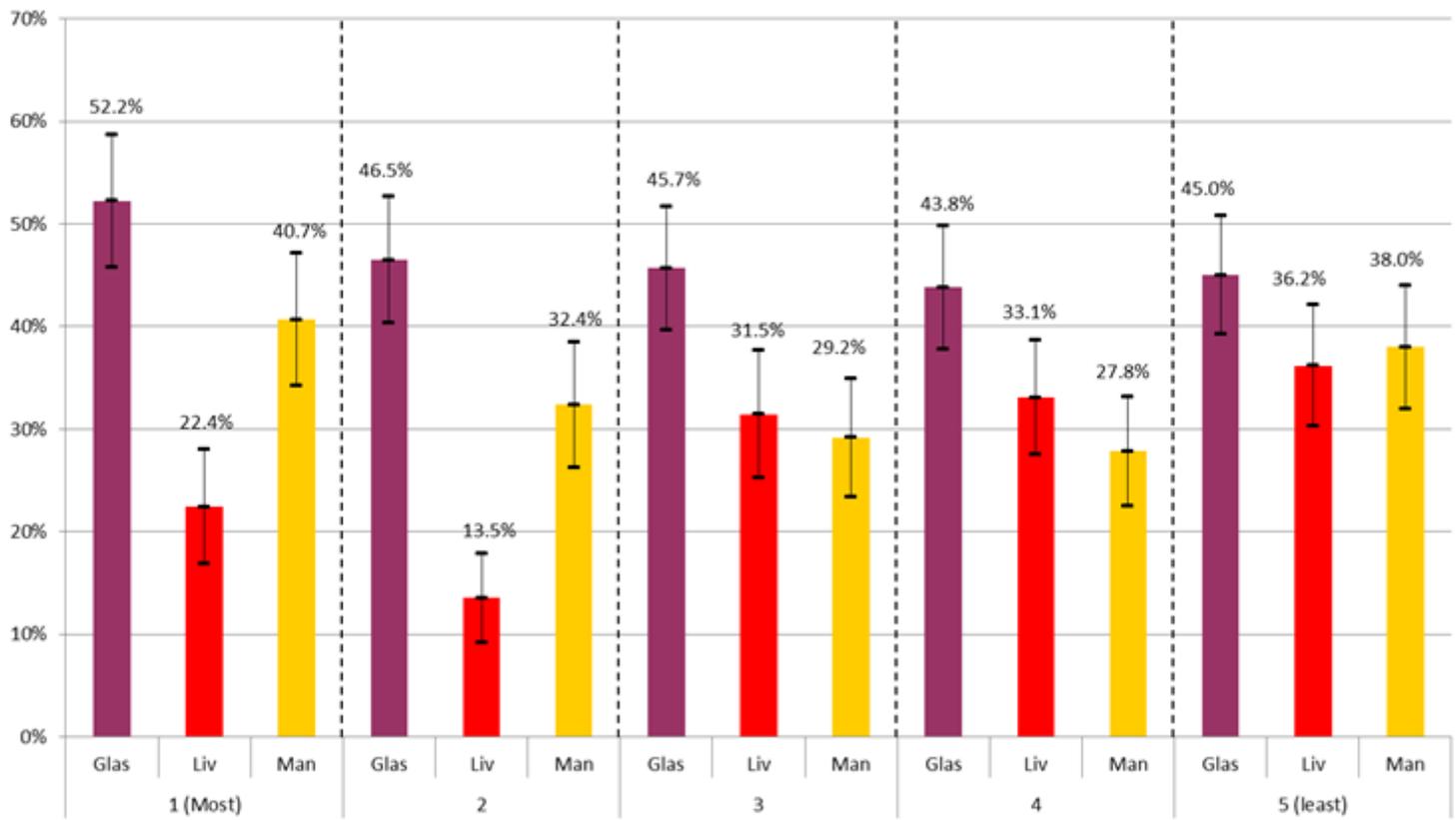
50%

60%

70%

10%

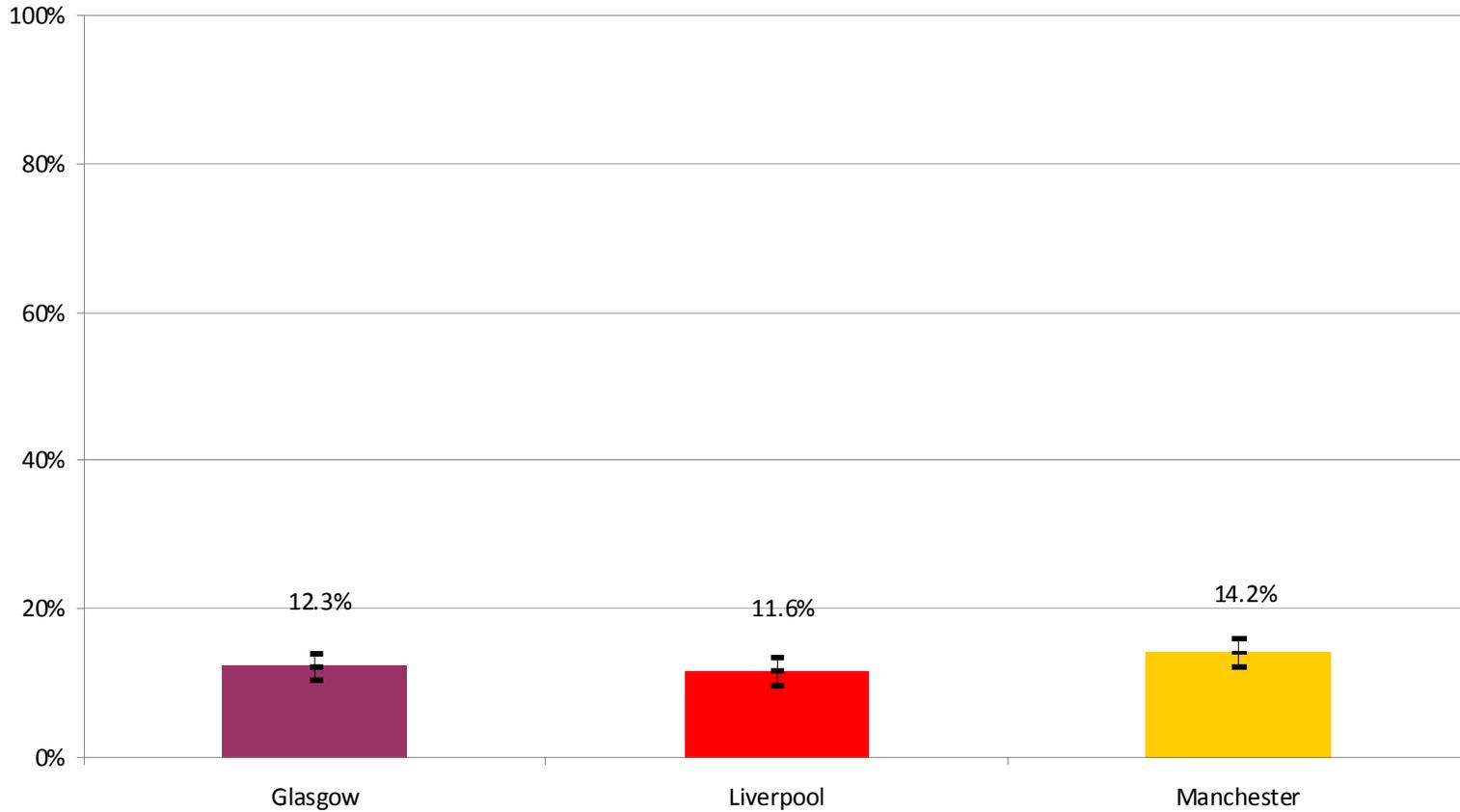
0%



(Perception of) 'political attack'

- Hypothesis: that effects of 1980s Tory policies have had particular lasting and toxic effect on Glasgow's population
- How ask about that in 2011?
- Questions also look at general perceptions of, and trust in, political establishment, and ability to influence etc (so – some links to social capital)

UK Government helping me through policies/actions - agree/strongly agree



(may be clearer with more sophisticated analyses)

Human values

- Schwartz's 21-item 'human values' scale
- Derives 10 core values (from 21 questions):
 - Conformity
 - Tradition
 - Benevolence
 - Universalism
 - Self-direction
 - Stimulation
 - Hedonism
 - Achievement
 - Power
 - Security
- Additionally we looked at issues of *materialism* and *individualism* (extra questions)

Human values

- Schwartz's 21-item 'human values' scale
- Derives 10 core values (from 21 questions):
 - **Conformity** (cf 'boundlessness' & alienation)
 - Tradition
 - **Benevolence** (links to social capital)
 - **Universalism** (cf individualism)
 - **Self-direction** (social mobility, aspirations)
 - Stimulation
 - **Hedonism**
 - **Achievement** (social mobility, aspirations)
 - **Power** (links to materialism)
 - Security
- Additionally we looked at issues of *materialism* and *individualism* (extra questions)

Human values - summary

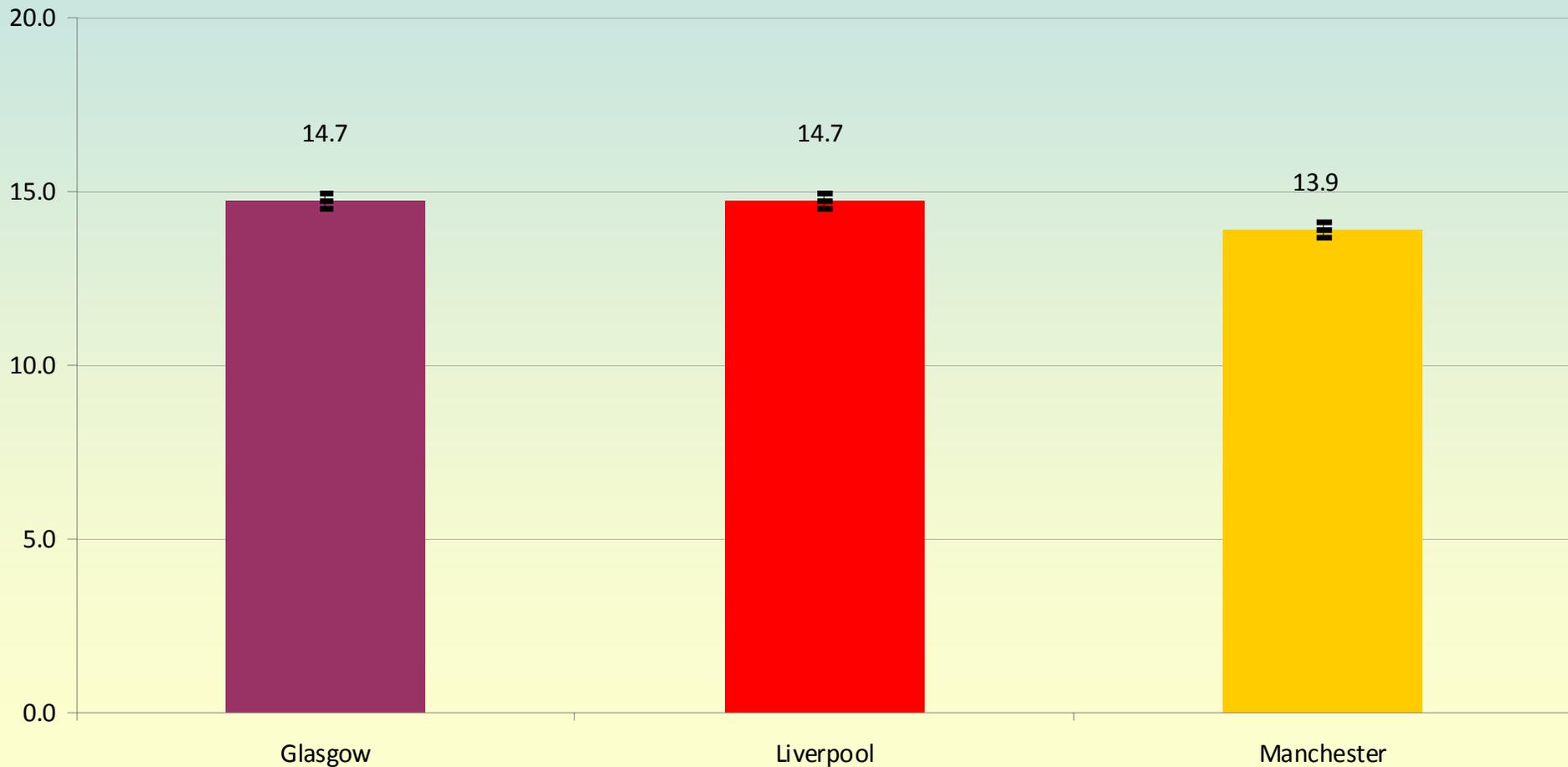
- Suggests some 'values' related hypotheses are unlikely:
 - Greater hedonism
 - Lower achievement/aspirations
- Backs up some of the social capital findings
- Doesn't rule out differences in:
 - Materialism
 - Individualism
- More sophisticated analyses required to unpick detail

Life orientation

- Life orientation test (revised) (LOT-R) – measures levels of optimism
- So are Glaswegians less optimistic..?

Life orientation: mean optimism score

Life Orientation Test (revised) (LOT-R): mean overall optimism score (0-24)



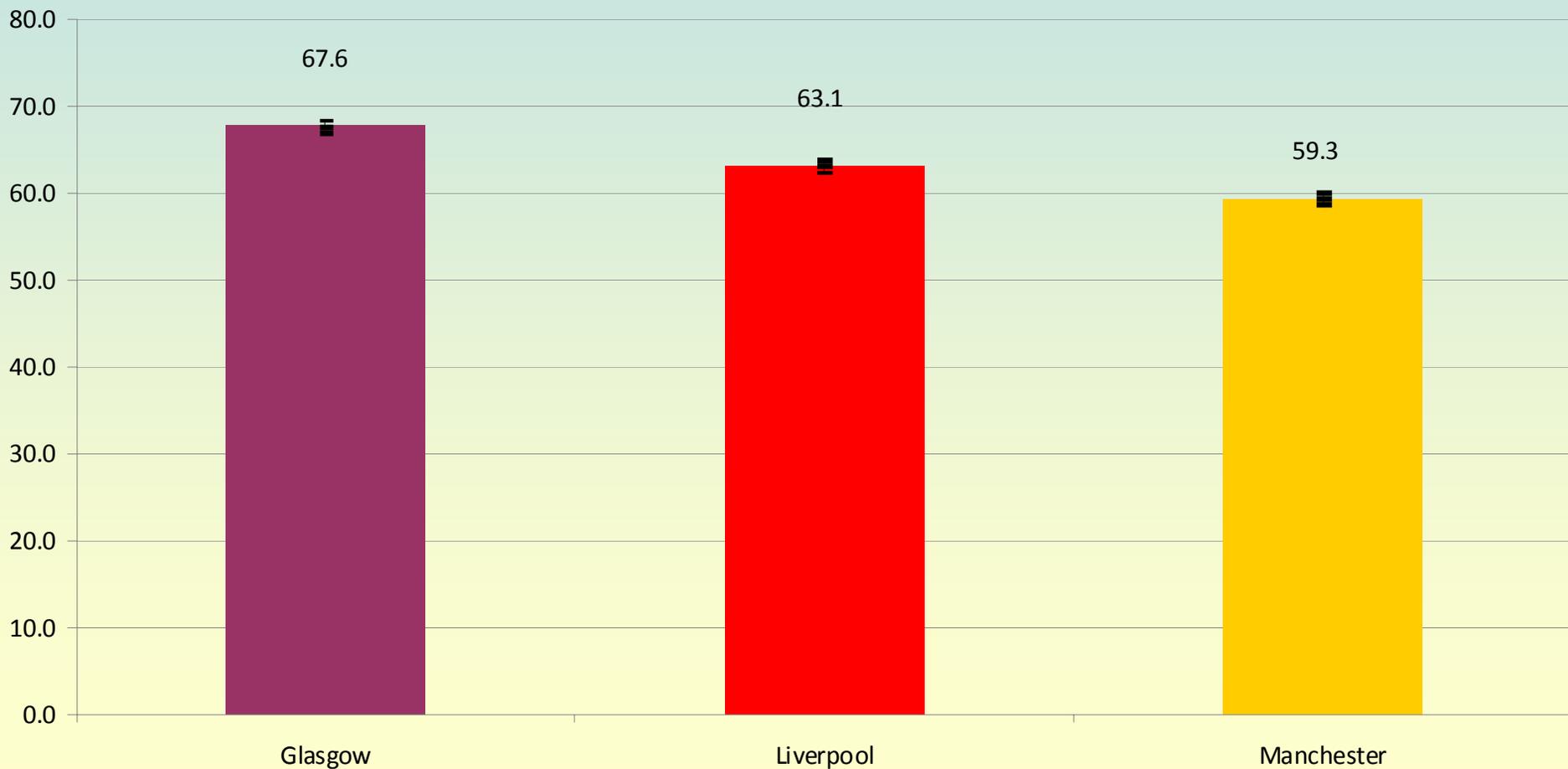
And same overall pattern by age, sex, deprivation quintile

Sense of coherence

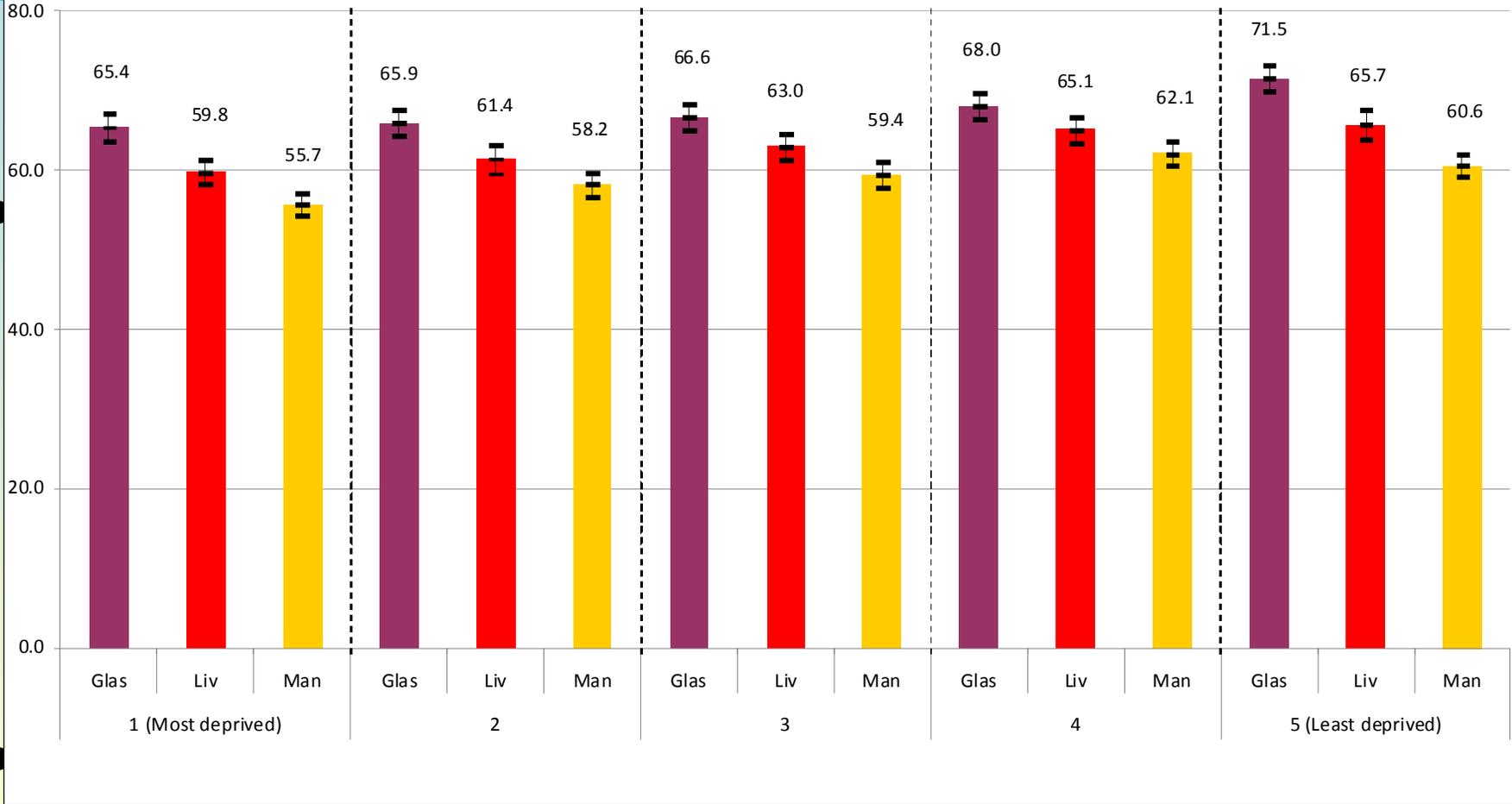
- Measured by Antonovski's 'sense of coherence' 13 item scale (SoC-13)
- Relates to extent to which people can overcome/survive impact of stress on health and well-being
- 3 components: comprehensibility, manageability, meaningfulness
- So, is SoC lower in Glasgow?

Sense of coherence

Mean Sense of Coherence (soc-13) score (13-91)



Mean Sense of Coherence (soc-13) score (13-91)



scores

And....

- ...so much more in the survey that I don't have time to show/explain today

Other projects & hypotheses - update

- Qualitative research
 - Number of hypotheses (e.g. psychological outlook, family environment, social mobility, social capital), being explored qualitatively in 3 cities
 - 2nd phase of research underway
 - Will report on both phases next year

Other projects & hypotheses/themes - update

- **Early years experiences** – report to be published in next few weeks
- **Spatial patterning of deprivation** - report to be published soon
- **Development of city structures** – PhD student (Joanna Stewart)
- **Alcohol harm** – new project underway
- **Drugs misuse** – new project under discussion (still...)
- **Vitamin D**
 - Systematic review of evidence of link between vitamin D and (premature) mortality completed (Lynne Rush)
- **And many more....**
 - Artefact
 - Sectarianism
 - Different projects, different hypotheses (some you wouldn't believe)

Next steps

- Survey analyses:
 - More detailed statistical analyses (modelling)
 - Publication of results by end of year (at latest)
- Other projects
 - A number of reports to be published over coming year
- Synthesis of results of all projects
 - Including seminar next year

And finally

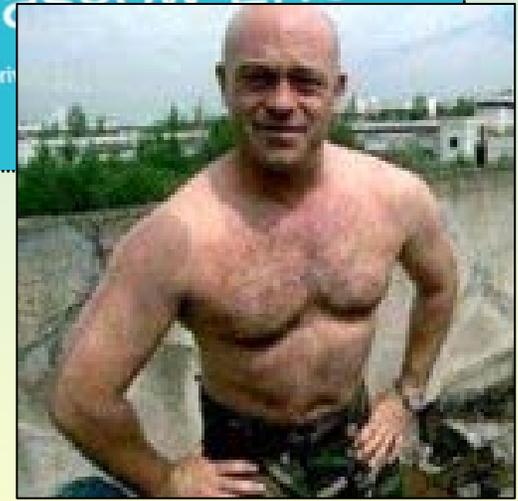
- Spot the missing words...



‘thoughtful’



‘insightful’



‘thoughtful’ and
‘insightful’?

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