The role of big data in exploring and informing lifelong learning (Part 2)

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The Urban Big Data Centre (UBDC) is a research resource promoting the use of innovative methods and complex urban data to address global city challenges.
Our Objectives:

- Develop novel solutions for using and sharing urban big data
- Provide high quality training and outreach activities
- Deliver cutting-edge research
• **What makes data big?**
  • Volume, Velocity, Variety....
  • Verification & Value
  • Existing large/ complex datasets
  • Online, real time, social media data, videos
  • The ‘internet of things’ (e.g. computer chip/sensor data).
Integrated Multimedia City Data (iMCD) Project

• Lead Investigator: Vonu Thakuriah

• Co-Investigators: Mike Osborne Gwilym Pryce Zhenhong Li Jinyun Hong Mark Livingston Iadh Ounis Joemon Jose Craig McDonald
- Integrated Multi-media City Data Project
- 1600 Household Survey
- GPS data
- Life logging and sensing data
- Glasgow Memory server (social media capture)
Lifeloggers
Survey measures

• Individual & household demographics
• Attitudes, values
• Literacy/ knowledge
• Behaviours in 5 domains:
  – Sustainability
  – Transport
  – Education/ skills
  – Cultural/ civic activities
  – ICT/ technology
• Explicit Link to UNESCO

Key Features of Learning Cities
Adult Education Emphasis

- Qualifications, Skills, Activity, Attitudes
  - Formal Learning
  - Informal Learning
  - Non-formal Learning
  - Family Learning

The case of adult learners

• Sub-samples of learning engaged and non-engaged adults, migrants and older adults.
• How are they engaging and why?
• Analysis of demographics, sustainability, political/cultural, housing and transport variables for predictors of lifelong learning
• Where are engaged learners going (where are they based)?
• What are they seeing? Doing (inside & outside learning environments)?
Sample

Mean = 50.73
Std. Dev. = 18.724
N = 1,037
Predictors

- **Age**
  - Older people participate less in all forms of learning

- **Health**
  - Those reporting better health participate more

- **Planning to move**
  - Those who planned to move were more likely to engage in learning activities

- **Feeling Safe**

- **Belonging**
Learning engaged and matched non-engaged older adults travel across Scotland
Learning engagement and other engagement

- 46 engaged 60+ adults (12.2% of sample of 377)
- Also more engaged in cultural, civic, online and physical activities within the city and beyond
- Actively aging older learners report
  - more positive health
  - more likely to be working and caring for others
  - participating in online social engagement and boycotts
Policy Implications

- Digital Competence
- Health
- Safety
- Belonging
Neighbourhoods, housing & Educational opportunity

• Unequal educational outcomes
  – Social Class
  – Poverty

• Policy Problem
  – Social mobility and social justice
  – Available skills to economy
  – Hourglass Labour Market
  – Immune to successive education reforms
Aims

• School-level educational outcomes and links with geographic place, neighbourhood space, school choice and transport in and around Glasgow

• Links between schools’ performance, and neighbourhood indicators with VET, HE and participation in lifelong learning (formal, informal and non-formal learning)
Schools and Place

• Places affect schools
• Schools affect Places
Datasets

• Administrative data drawn from pupil, school and teacher census records
• UCAS (Universities and Colleges Admissions Service) Data
• HESA (Higher Education Statistical Agency) Data
• iMCD
Anticipated Outcomes

- Create predictive models of successful lifelong learners, with successful economic outcomes (income and employment), by geographic location, neighbourhood satisfaction, deprivation and school indicators.
- Examine where significant cohort effects occur for educational and economic success by postcode/school locations across Glasgow.
- Provide a model representing the extent to which housing and school choice drives (or countervails) inequity in school and individual lifelong learning outcomes.
Emerging Research Areas

• The relationship between financial and household literacies, attitudes and behaviours
• Neighbourhood effects (deprivation and diversity) on migrants’ spatial mobility
• Social identity in social media as it is shaped by terrorist events
• Political literacies, civic engagement and online discourse.
• Community lived experience of deprivation
• The impact of government policy change and political events (referendum and elections) on education-related tweets
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