

# ANALYSING ORGANISATIONAL INDICATORS OF WELLBEING

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# RELATIONSHIP BETWEEN ORGANIZATIONAL DATA AND WELLBEING



- **Sickness Absence Data**

- **Psychological Distress** and subsequent sickness absence data (over the following year) (Hardy et al, 2003)
  - 323 Health Workers – individual absence records – measured at 2 time points 2 years apart
    - **General Distress** correlated .26
    - Job related **Anxiety** correlated .25
    - Job related **Depression** correlated .30
    - **Job satisfaction** correlated -.23

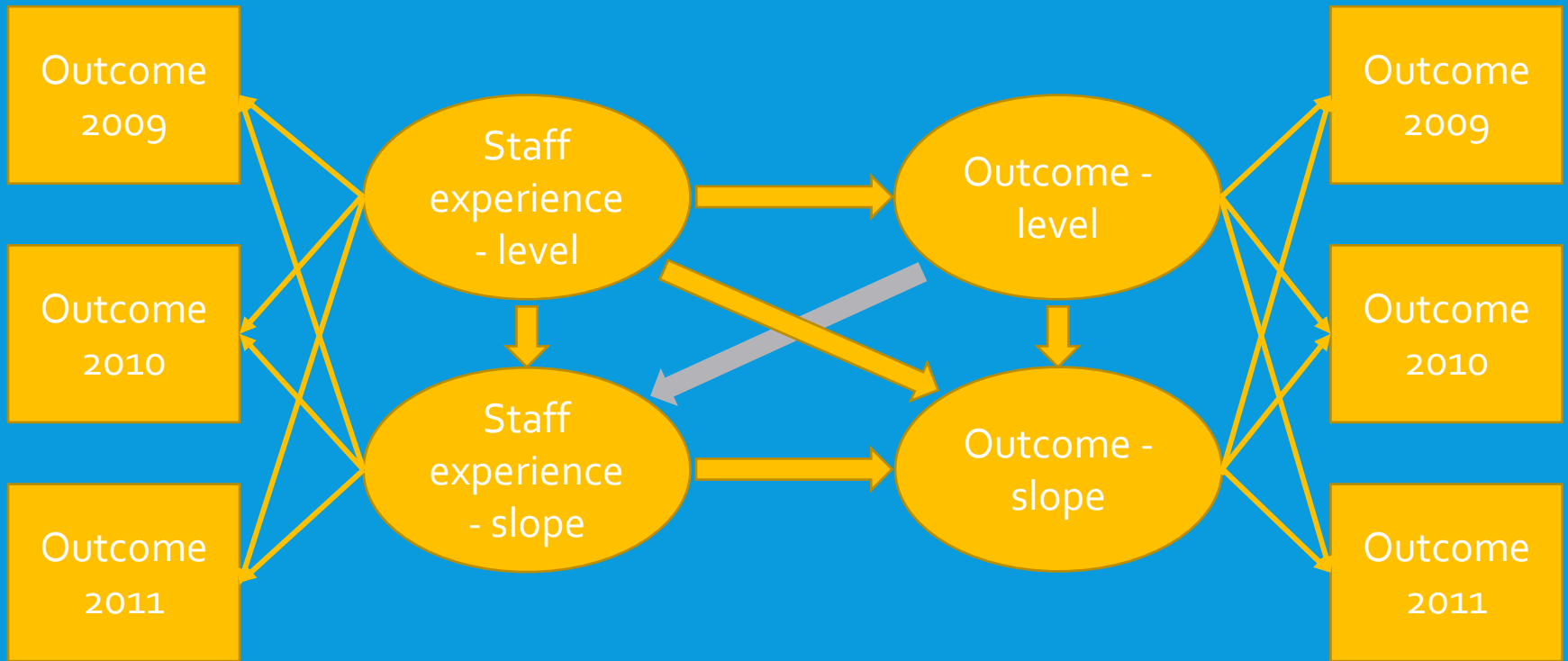
*(Relationships equivalent irrespective of age, gender, occupation)*

- Change in distress/satisfaction related to change in absence (controlling for previous distress/satisfaction)
- Number of times absent better indicator of job satisfaction, number of days may be better indicator of psychological distress (Johns, 1997)

# RELATIONSHIP BETWEEN ORGANIZATIONAL DATA AND WELLBEING

- Powell et al, 2014 – National Health Service employees
- Large scale, longitudinal data set
  - **Staff surveys** of 2009, 2010 and 2011 (across 365+ NHS “trusts”)
  - Trust-level measures of **staff absenteeism and turnover** (from electronic staff records) & **patient satisfaction** (across 162 trusts)
- Analysis using **latent growth curve modelling**

# LATENT GROWTH CURVE MODEL



# RELATIONSHIP BETWEEN ORGANIZATIONAL DATA AND WELLBEING

- **Patient satisfaction** higher when staff reported:
  - lower **work pressure** (-4.969;  $p=.036$ ), lower harassment/bullying (-.21.785;  $p=.009$ ) higher **job satisfaction** (8.807;  $p=.009$ ) and higher **engagement** (10.198;  $p=.000$ )
- **Absenteeism** higher when staff reported:
  - fewer **extra hours** worked (-.05;  $p=.00$ ); poorer **job quality** (-.01;  $p=.05$ ); more **harassment/bullying** (.08;  $p=.00$ ); lower **engagement** (-.01;  $p=.01$ )
- **Staff Turnover** higher when staff reported:
  - more extra **hours worked** (23.65;  $p=.00$ ); more **work pressure** (4.77;  $p=.01$ ); more **harassment/bullying** (16.79;  $p=.01$ )

# LEVELS OF DATA

- **Hardy et al. (2003)** used individual level data only
- **Powell et al. (2014)** aggregated employee data to organisational level, to allow comparison with organisational outcomes
- **King et al. (2011)** brought together four sources of data
- **King et al. (in press)** uses two of these sources – but with a cross-level effect

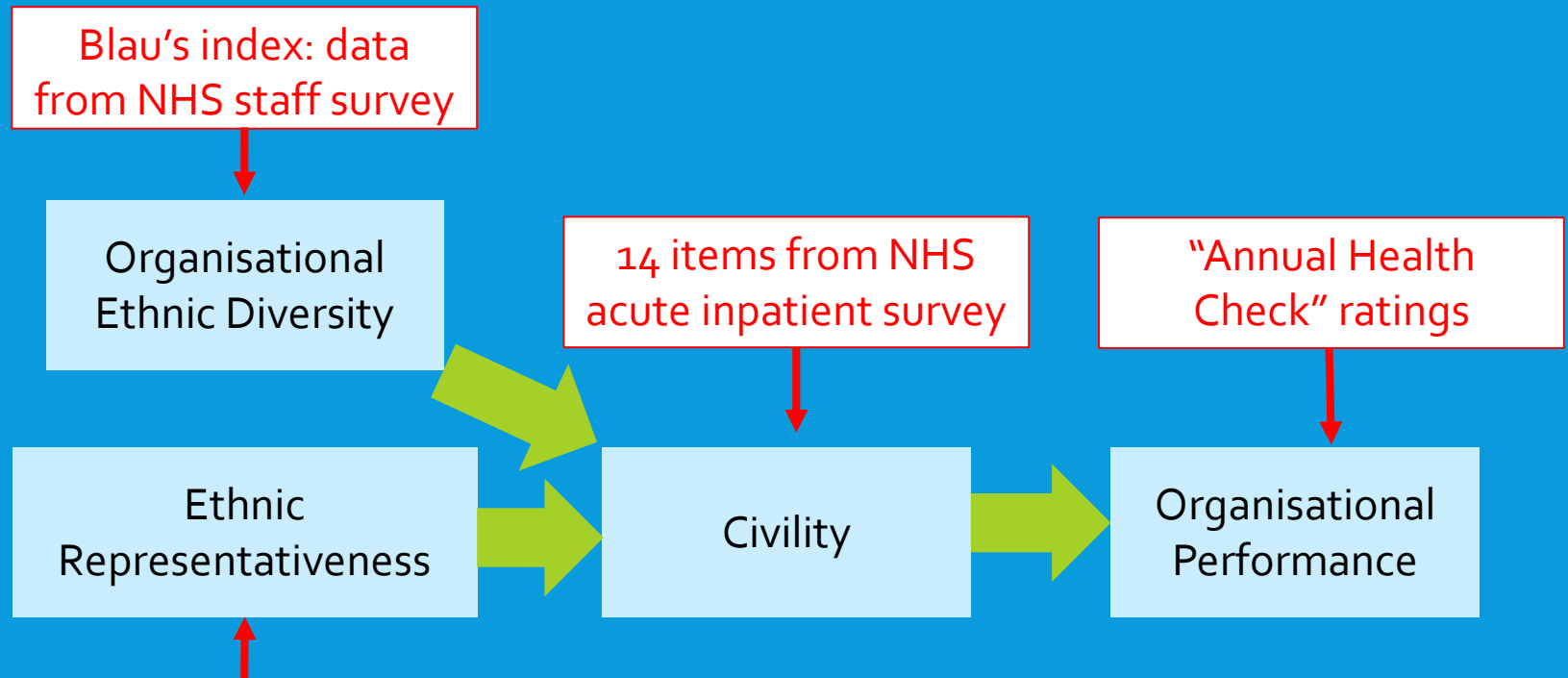
# REPRESENTATIVENESS



King et al. (2011)

- **Representativeness**: the extent to which a workforce is representative of its customers (in this case, in terms of ethnicity)
- Diversity often linked to outcomes, but this ignores local **context**
- Cultural (in)sensitivity, social categorisation, may lead to **negative interpersonal behaviours**

# REPRESENTATIVENESS – MODEL

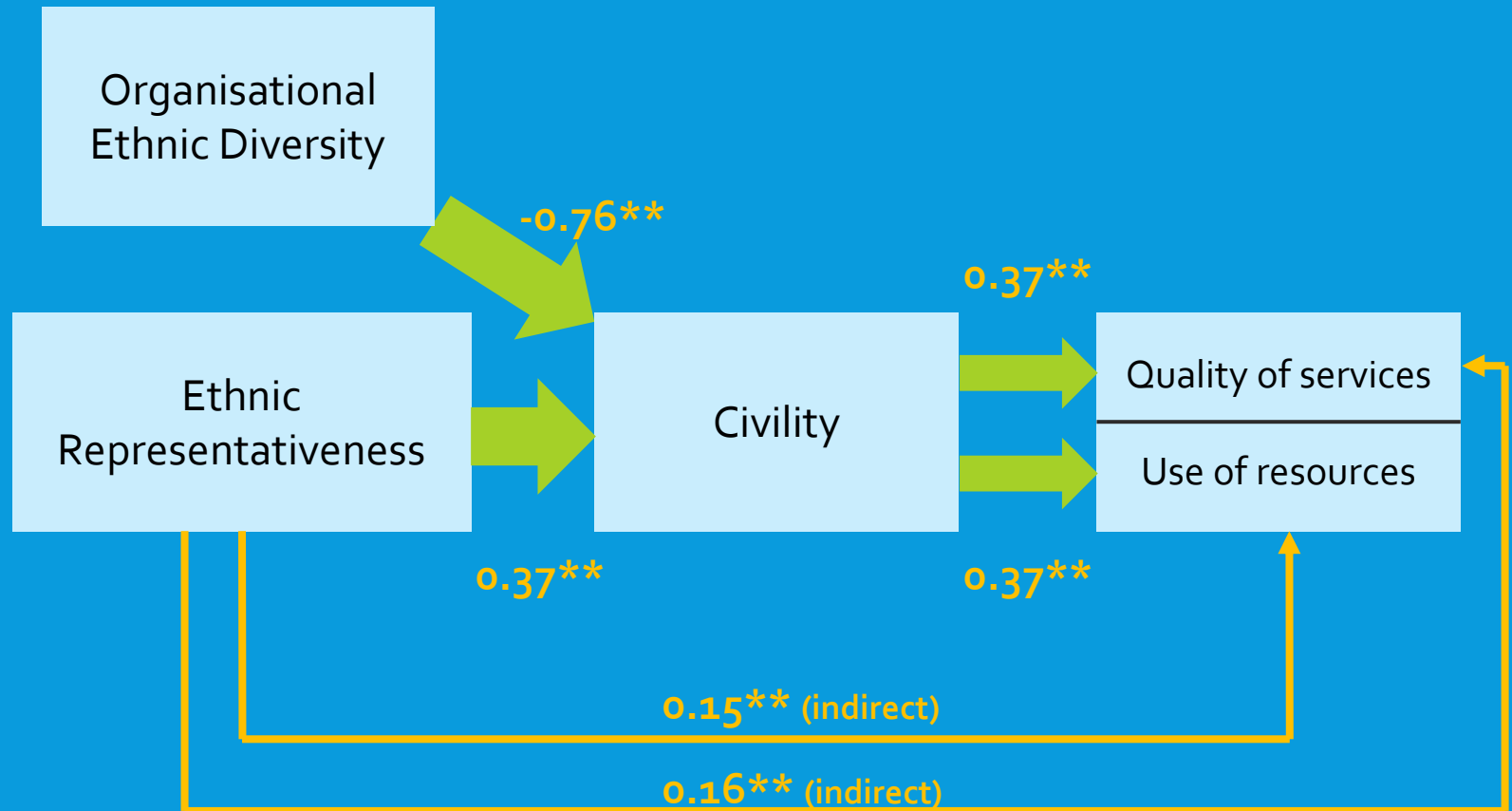


- Community ethnicity data taken from UK Census
- Each output area (c. 1500 people) matched with local hospital
- Representativeness measured by Kolmogorov-Smirnov effect size

$$D_n = \sup_x |F_n(x) - F(x)| \quad F_n(x) = \frac{1}{n} \sum_{i=1}^n I_{X_i \leq x}$$



# REPRESENTATIVENESS – RESULTS

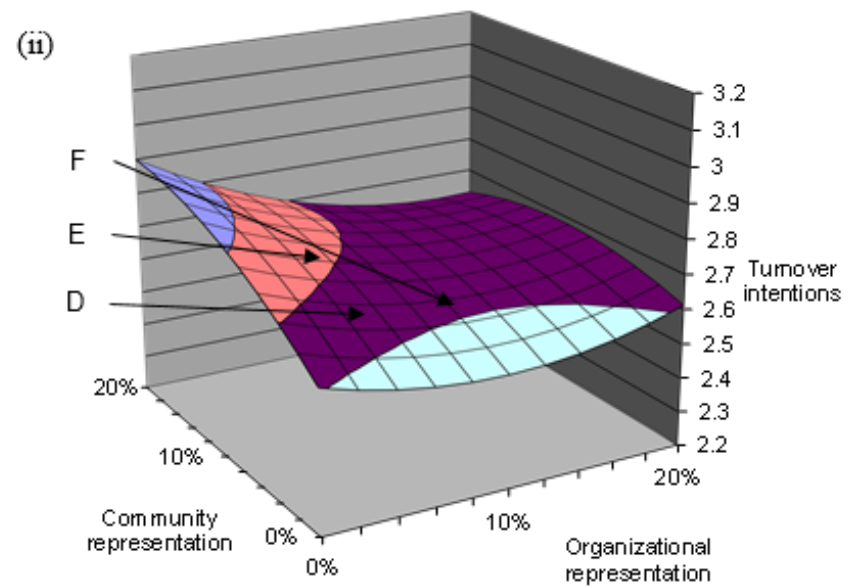
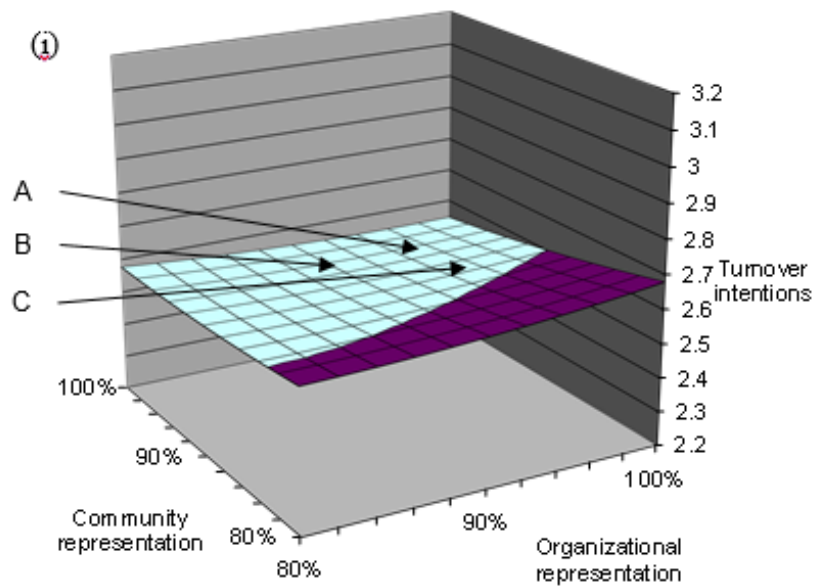


# EFFECTS ON WELL-BEING?

- King et al. (in press, JBP)
- What's the effect of representativeness on **individual attitudes** (job satisfaction, turnover intentions?)
- Is this **moderated** by (a) ethnicity, and (b) respectful treatment by colleagues?
- After matching census data, requires a multilevel three-way interaction with polynomial regression!

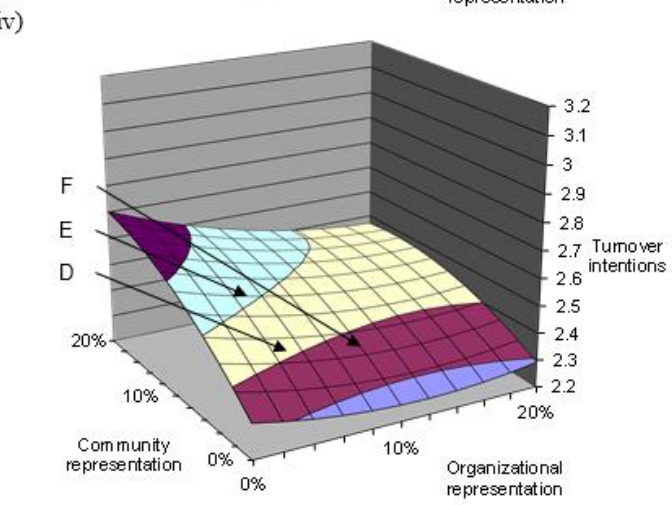
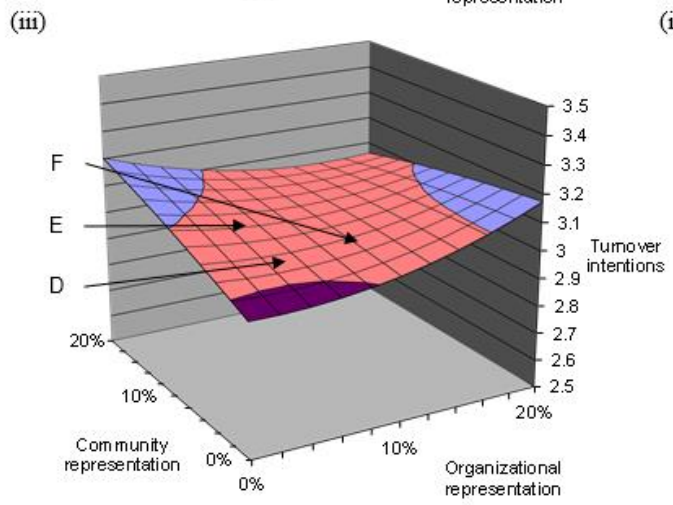
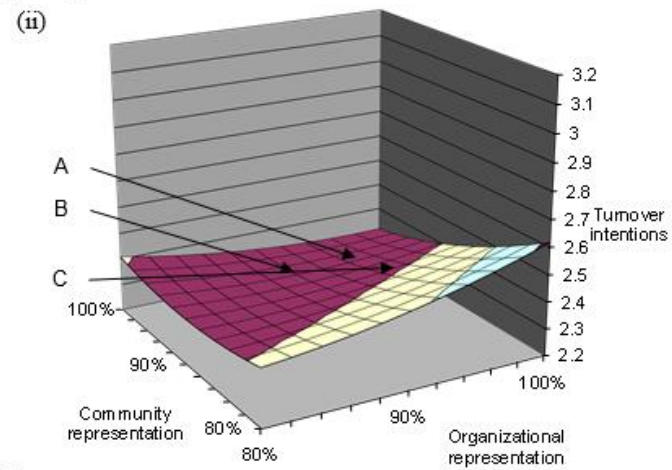
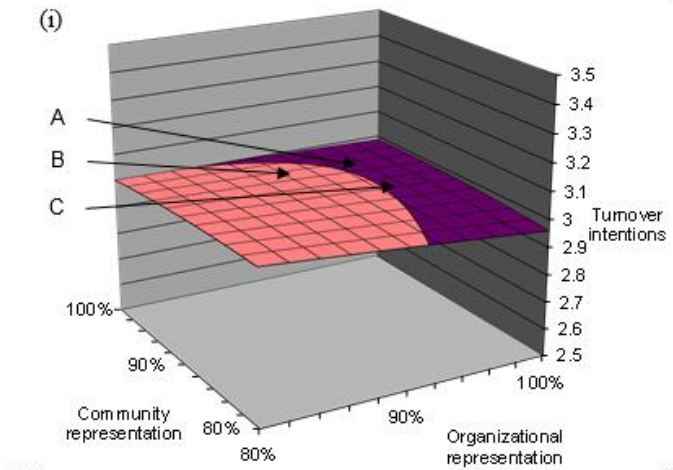
# MODERATION BY ETHNICITY...

Joint Effect of Organizational and Community Representation on Turnover Intentions for (i) White Employees and (ii) Ethnic Minority Employees



# MODERATION BY RESPECT ALSO...

Joint Effect of Organizational and Community Representation on Turnover Intentions for (i) White Employees with Low Respect from Coworkers, (ii) White Employees with High Respect, (iii) Ethnic Minority Employees with Low Respect, and (iv) Ethnic Minority Employees with High Respect



# STATISTICAL CONSIDERATIONS

- **Level of analysis and theory need to match**
  - Is aggregation justified?
  - Agreement & reliability
- **Level of analysis determines effective sample size**
  - Power analysis often more difficult
- **How should we deal with longitudinal data?**
  - Summary statistics
  - Change statistics/repeated measures
  - Latent growth curve model
  - Time series analysis