Examining measures of family socioeconomic position (SEP) in the NZ context

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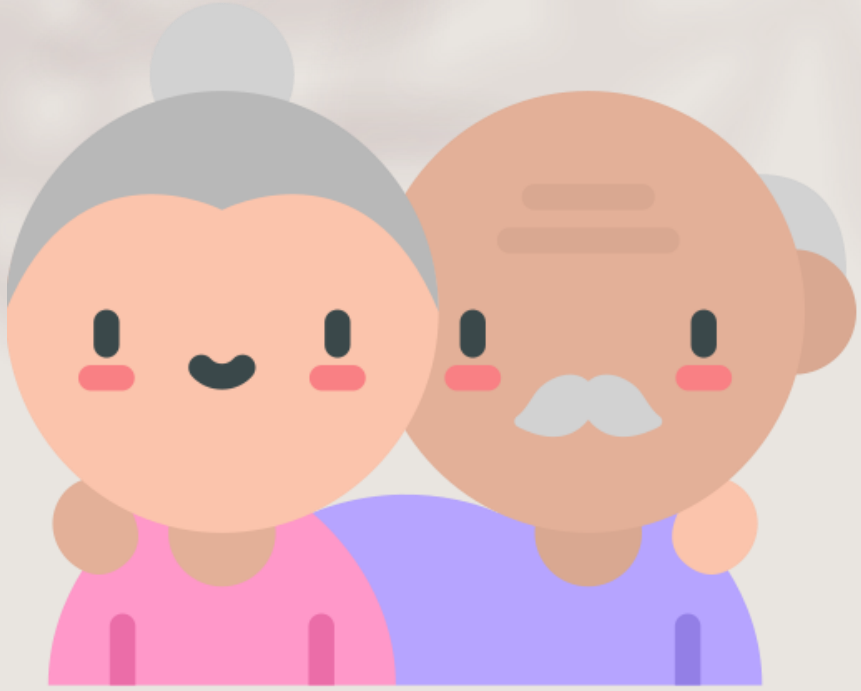
Research aims

Overarching goal of project: To identify the best way(s) to construct family level SEP in the NZ context:

- *For cohabitating couples*
- For children



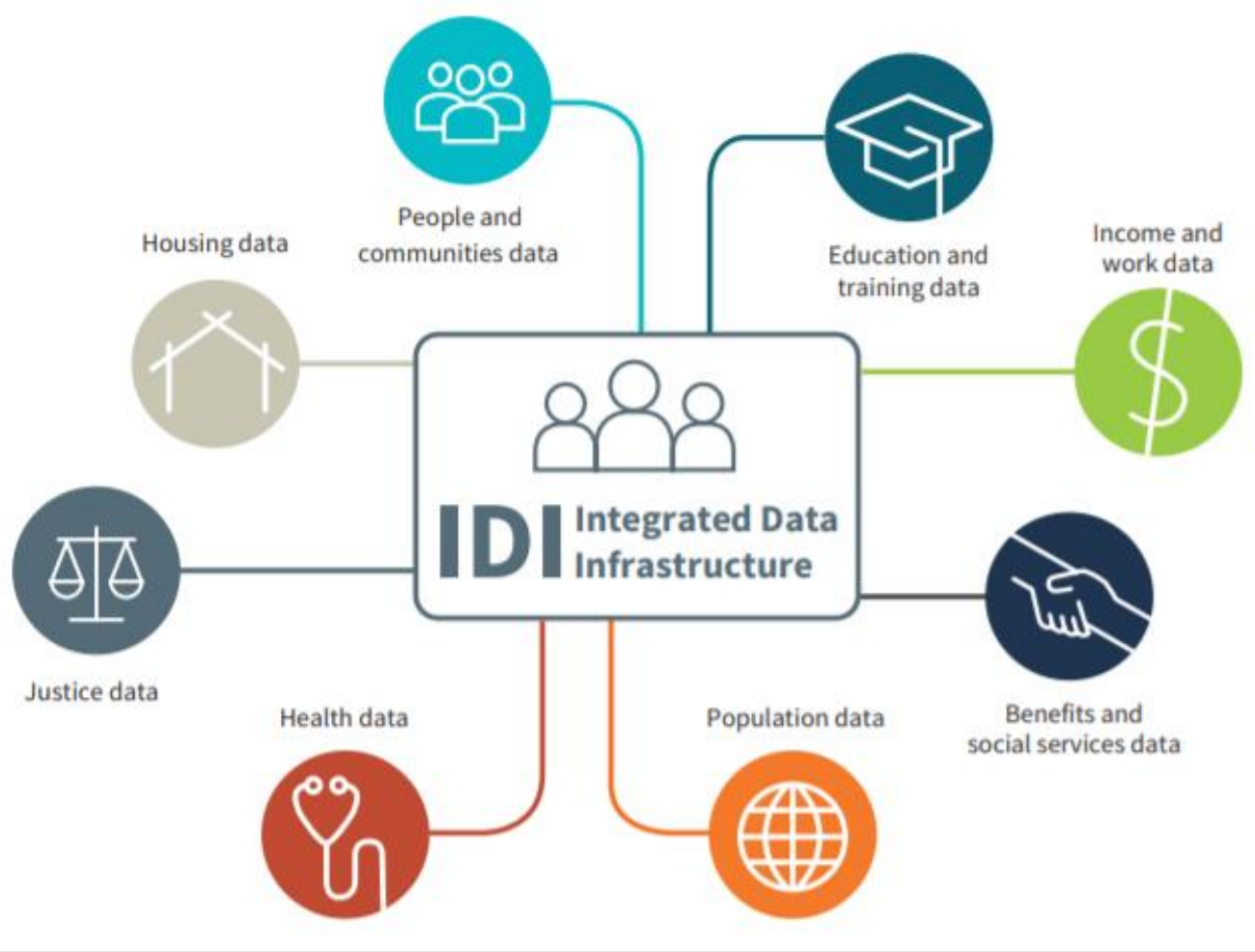
For couples analyses also want to see:

- Whether the performance of different methods of constructing family level SEP depends on the SEP variable used,
- And whether there are differences in how well different methods work:
  - By gender
  - By Level 1 ethnic group
  - By age group (over 65s)
  - For same sex couples

Some background

- Socioeconomic position (SEP) is a multi-dimensional construct which aims to measure access to social and material resources.
- While SEP is often of interest in its own right, it is also an important potential confounding variable for many analyses so needs to be well-specified.
- SEP of other people you live with, including partners, is likely to affect socioeconomic resources available to you – and hence outcomes.
- Little examination of these issues for population subgroups or in the NZ context to date.

Data sources – the Integrated Data Infrastructure



<u>IDI Disclaimer:</u>

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) which is carefully managed by Stats NZ. For more information about the IDI please visit https://www.stats.govt.nz/integrated-data/.

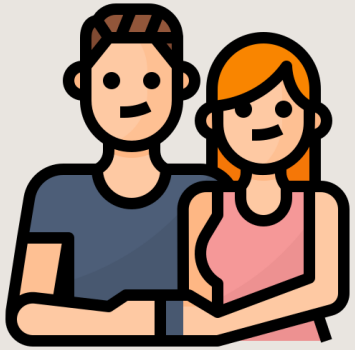
Access to the data used in this study was provided by Stats NZ under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented in this study are the work of the author, not Stats NZ or individual data suppliers.

Data sources

Age, sex, SEP variables (occupation, work status, education, income)	→	2013 Census individual data set
Identify cohabitating couples	→	2013 Census family data set
Outcomes: diabetes, acute myocardial infarction, stroke, TBI	→	MoH chronic conditions/significant health event data set
Ethnicity data, restrict cohort to those in the IDI spine	→	Personal details table

Methods

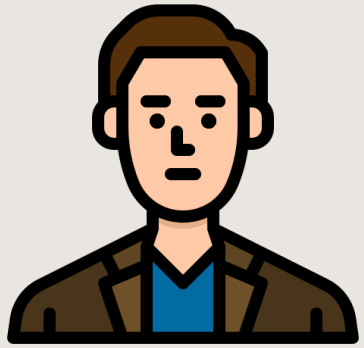
- Used a series of logistic regression models with different approaches to specifying SEP modelling diabetes, acute myocardial infarction, stroke and traumatic brain injury.
  - Adjusted for age group, sex and Level 1 ethnic group (where appropriate)
- Looked at a range of SEP variables – including occupation-based measures, education and income.
- Assessed model fit using AIC, Vuong's tests and model coefficients.



What works best?

- Examined 10 different ways of specifying SEP for opposite sex couples.
- For opposite sex couples overall, using either own SEP + partner SEP or own SEP + partner SEP + own SEP*partner SEP generally worked best across outcomes and SEP measures.
  - Where these weren't the best measure, another measure using both partners' SEP was preferred.
- This was also true (using a categorical occupation variable) for men, women and those identifying with a European, Māori, Pacific or Asian ethnic group.
  - More of a mix for those aged over 65 using an education variable. May be because education was a bit more mixed.

What didn't work so well?



- Methods which only used one partner's SEP information tended to perform worse across different SEP measures, outcomes and groups.
  - This included using the SEP information of the partner with the higher SEP, the partner with the lower SEP, the male partner and the female partner.
  - Own SEP often outperformed other single partner measures but underperformed compared to measures using both partner's SEP information.
  - Except for same sex couples – no clear pattern of results.

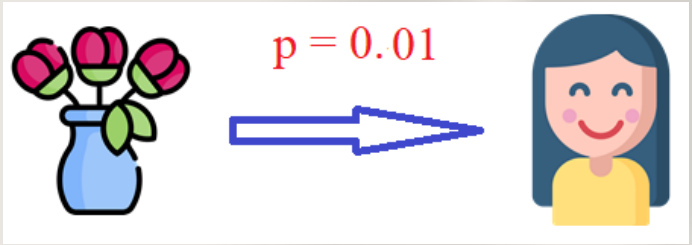
Other findings

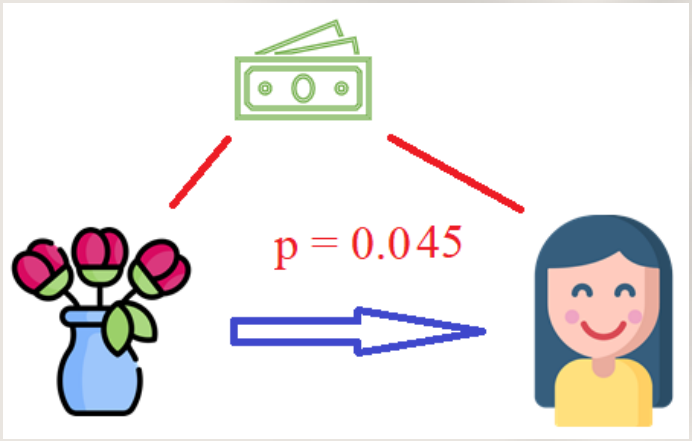
- Overall, there was not compelling evidence that the socioeconomic resources of the partner with the highest SEP are more influential on outcomes/a better index of couple-level SEP than the SEP of the partner with the lower SEP.
  - BUT this varied by SEP measure.
  - Evidence that the income value of the partner with the higher income is a better measure of risk for having these conditions than the income of the partner with lower income.
  - Potential evidence that the education level of the partner with the lower education value a better measure of risk for members of the couple, and same for NZSEI-13*.
- There was evidence of that the male partner's SEP is a better measure of risk than the female partner's SEP. However, using the male partner's SEP for members of the couple did not work well overall.

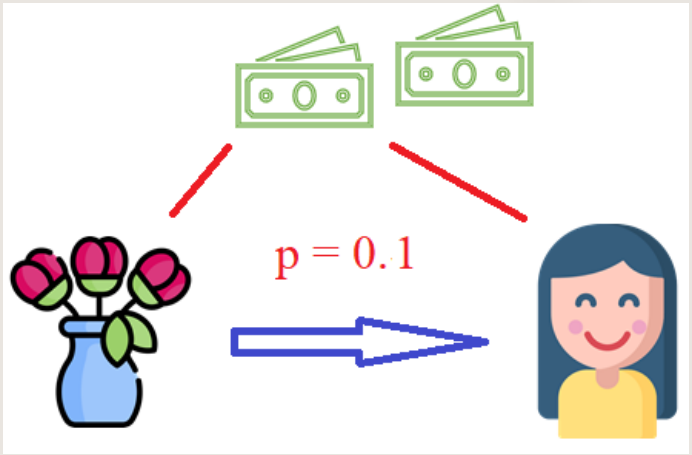
* Comprised of couples where both members were aged 21-69 and working.

Policy implications

- Research which only accounts for the SEP of one partner may under-estimate the association between SEP and outcomes – which may bias estimates/over-state the magnitude of relationships confounded by SEP.
- There may be differences in how different types of socioeconomic resources are shared within partnerships to influence lifestyles and life chances (e.g. different dominance patterns for income and education).







Limitations

- As not all SEP variables and outcomes examined for all population groups, difficult to disentangle effects of sample size, SEP variable and outcome from cultural differences, gender norms and cohort effects. Only assessed diabetes for ethnic group analyses.
- Sample size for same sex couples appears to have been insufficient to identify consistent patterns.
- Only included couples when both members had valid data on the specific SEP variable.
- Results may have been affected by reverse-causality (esp. preference for own SEP for occupation variable), bias in diagnosis and linkage bias. However, see somewhat similar results for an incident cohort.
- Prevalence of conditions differs considerably across groups.
- Appropriateness of SEP variables differs across groups.

Conclusions and final comments

- SEP affects many aspects of health and wellbeing.
- It is important to fully account for the effect of SEP (to the extent possible) when we are trying to understand the relationship between potential risk factors and outcomes, and we should critically assess whether studies have done so.
- This may include accounting for:
  - The influence of partner's socioeconomic resources
  - The influence of the socioeconomic resources of other members of the household
  - The influence of the socioeconomic resources of other family members
  - The influence of the socioeconomic resources of the community
  - Different types of socioeconomic resources

Acknowledgements

- I would like to thank:
  - my wonderful supervisors Nichola Shackleton, Barry Milne and Thomas Lumley, and everyone at COMPASS, for their support and guidance
  - Stats NZ for providing access to the data and for their help and support throughout the project
  - the Public Policy Institute for the use of their data lab

- All images made by Freepik or photo3idea-studio from www.flaticon.com.

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