

# Is the Developmental Health of Young Canadians Changing Over Time: Jurisdictional Differences in Recent Trends

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## Background

The developmental health of young children depends on proximal factors such as child and family characteristics, and on distal factors such as cultural, political, and socioeconomic variables (Bronfenbrenner, 1979). Through these characteristics, environments influence a child's brain development. As they change, children's average developmental status at any given age is likely to change as well. In order to understand the extent of such associations for all children, it is crucial to track the fluctuations in children's developmental status at a population level.

We investigated emerging trends in the status of developmental health at school entry in Canada. We asked: 1) is the developmental health of young Canadians changing over time, and 2) how equitable among jurisdictions and sub-populations (gender and socioeconomic status) are these changes.

## Methods

The dataset used consists of individual-level data on the Early Development Instrument (EDI; Janus & Offord, 2007). Customized neighbourhoods were created by determining geographic areas where early childhood experiences were expected to be similar. This resulted in 2058 neighbourhoods across Canada. Data were available for multiple time points in British Columbia, Manitoba and Ontario. These three provinces included 1173 neighbourhoods.

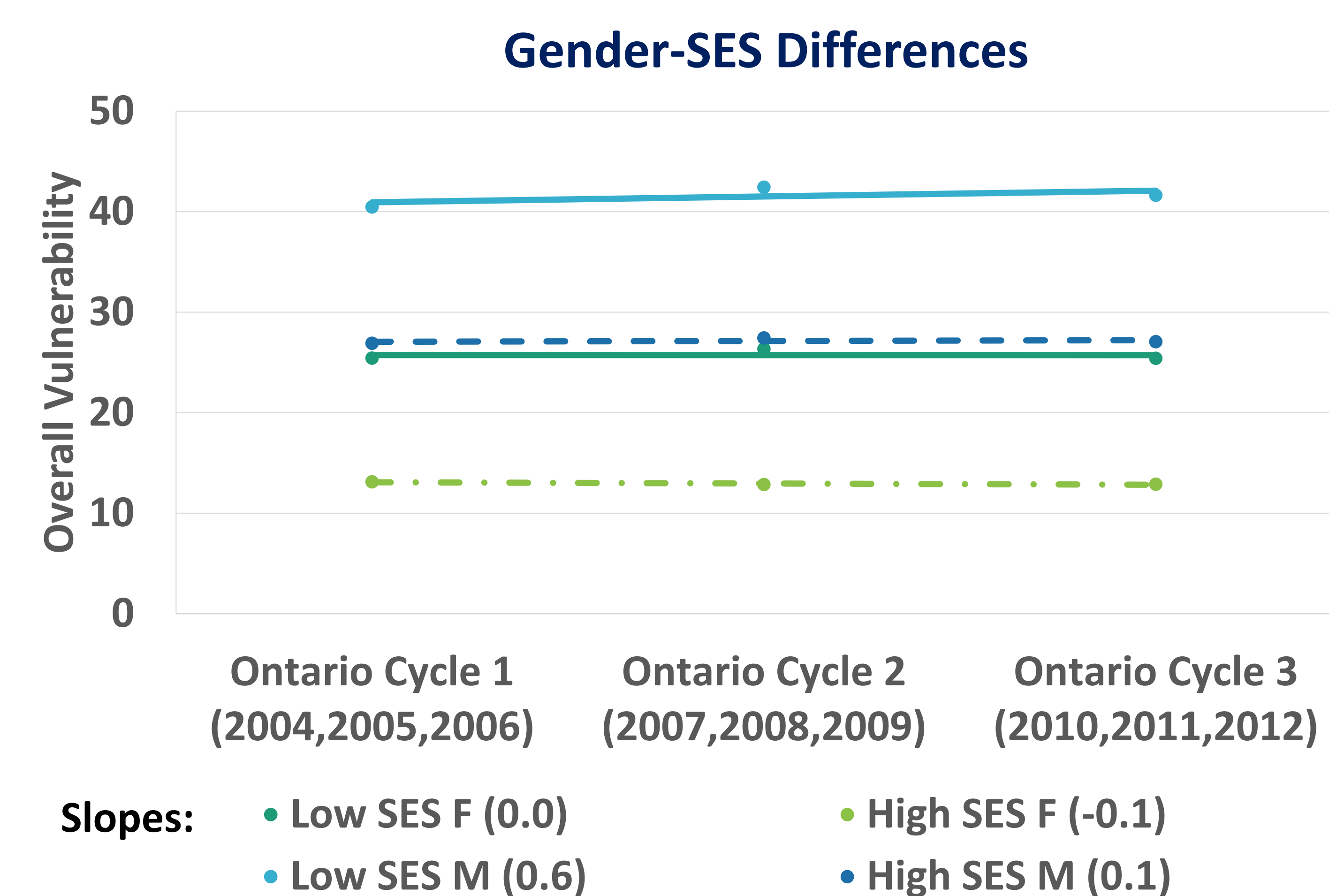
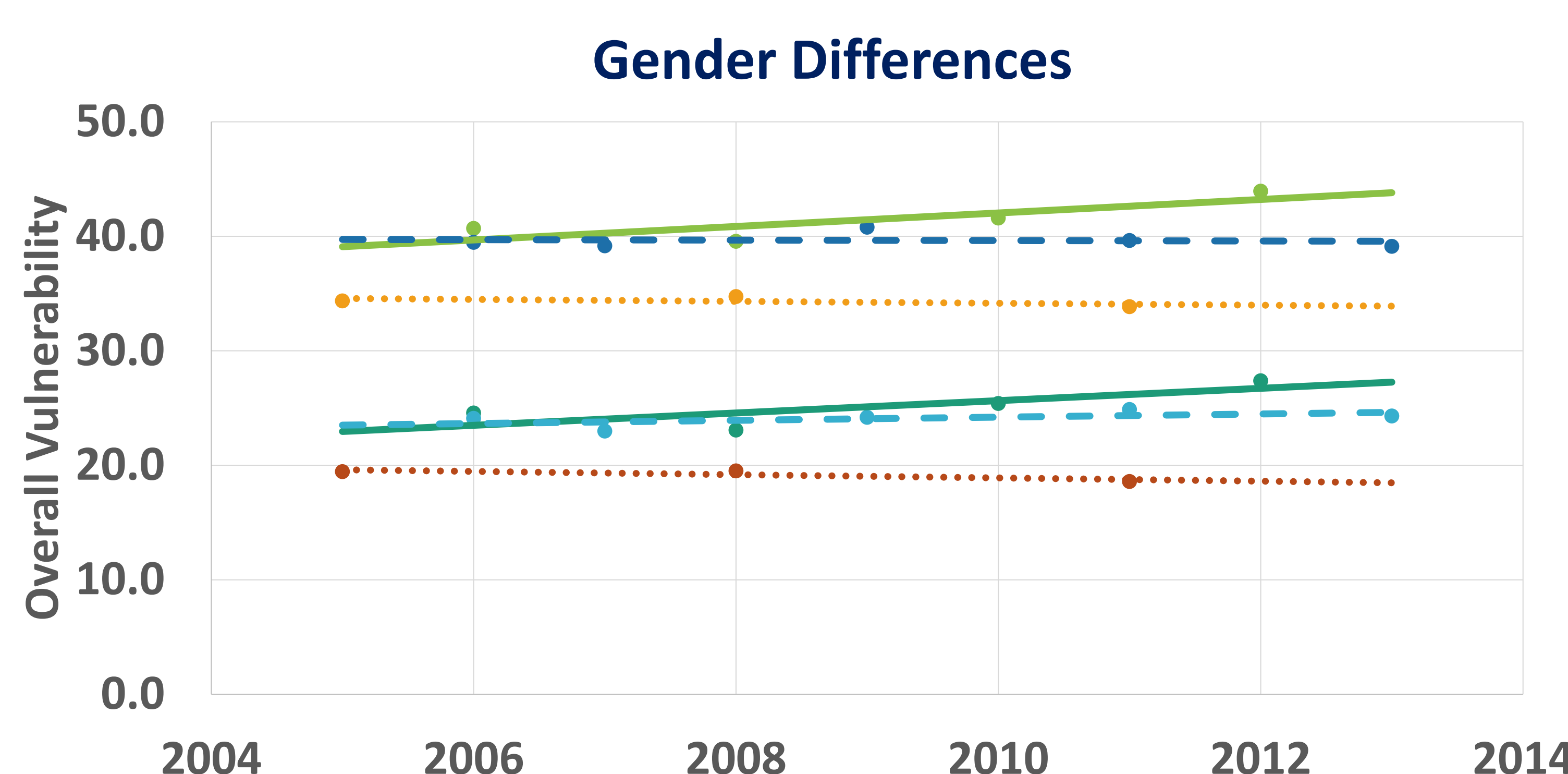
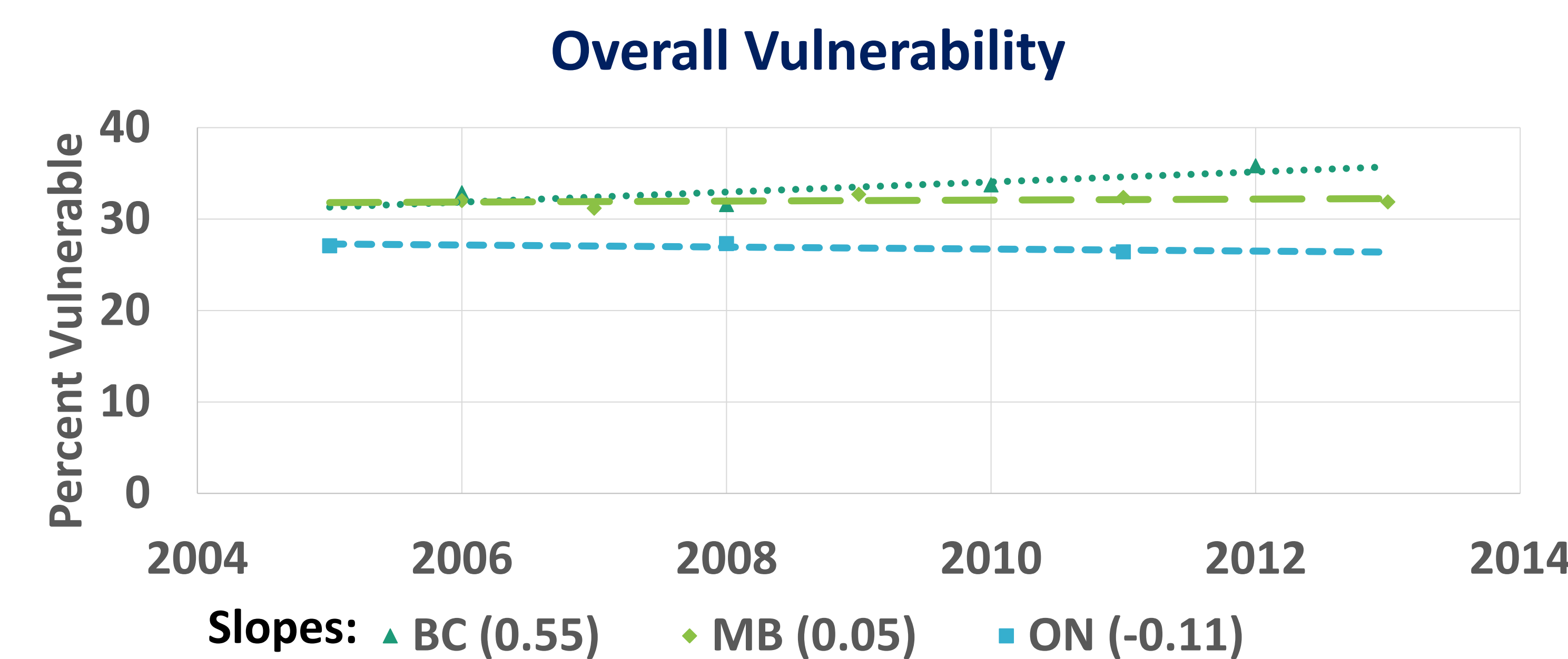
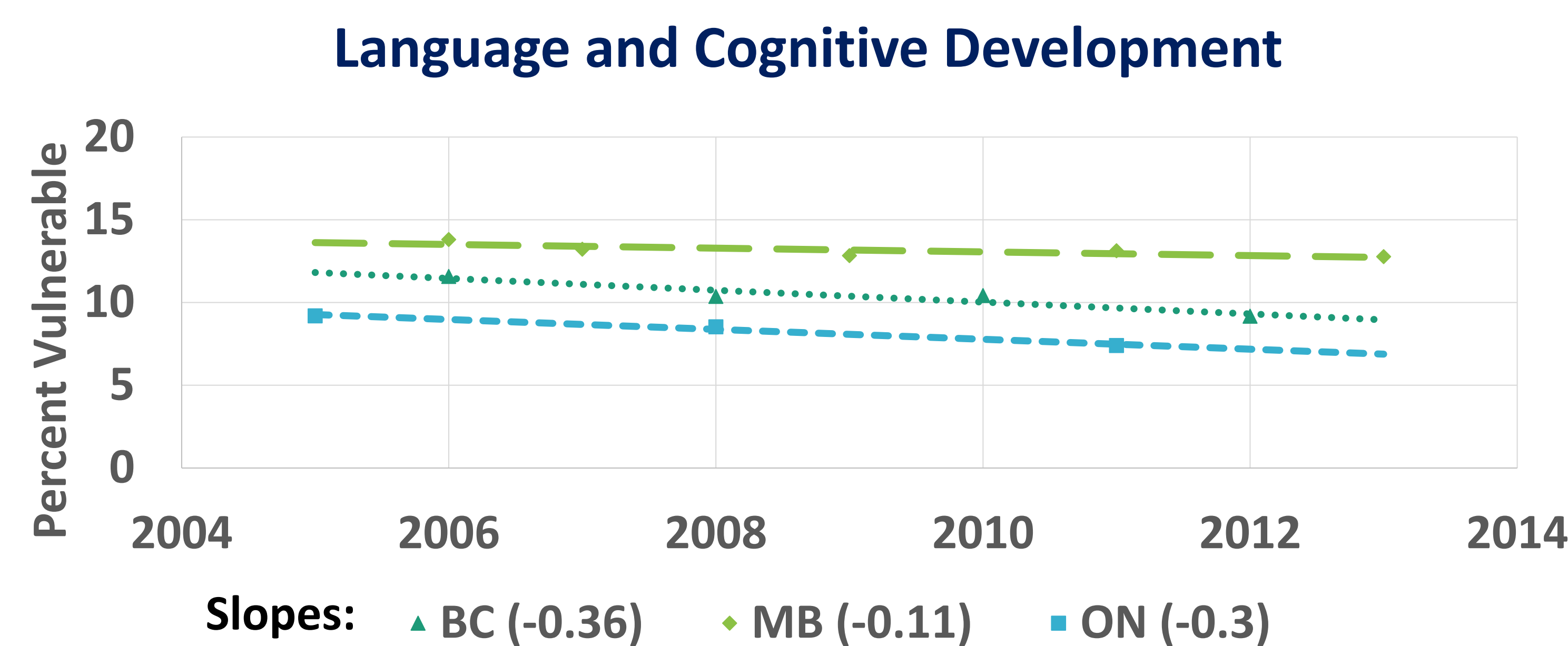
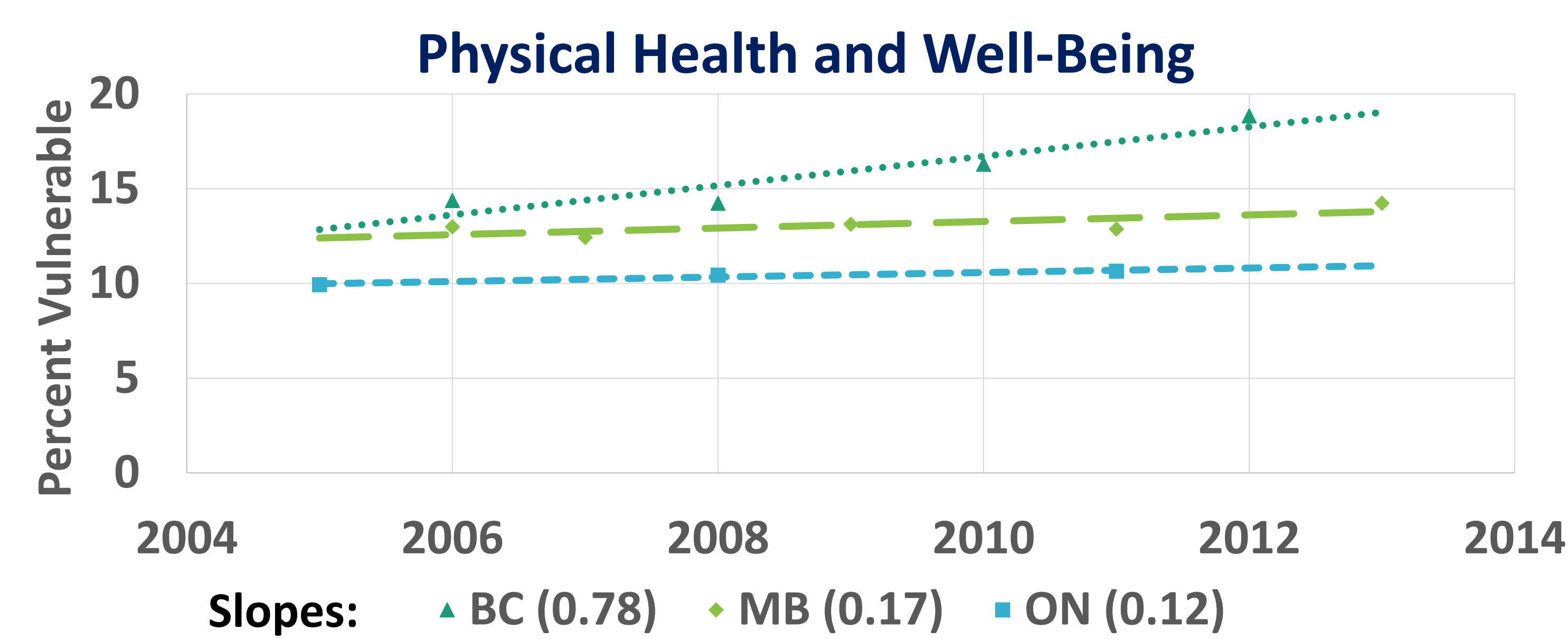
Data from the Canadian Census, National Household Survey and Tax-Filer databases from Statistics Canada were used to create a socioeconomic status (SES) index for use in neighbourhood comparisons.

## Early Development Instrument

The EDI measures developmental status of kindergarten-aged children in five domains. Children are classified as "vulnerable" if their scores fall below a specific threshold on a domain; "overall vulnerability" indicates that a child scored below the threshold on at least one of the five domains.

## Trend Lines

These figures demonstrate the vulnerability for two domains, as well as overall vulnerability in each provincial EDI collection over time. Linear prediction lines are fit in each province, giving an idea of the general trends.



## Results

- Trends in overall vulnerability varied between provinces.
- Overall vulnerability increased in BC between 2007 and 2013, remained constant in Manitoba from 2006 to 2013 and decreased slightly in Ontario between 2004 and 2012.
- Consistently among provinces, vulnerability increased over time in Physical Health and Well-Being, and decreased in the Language and Cognitive Development.
- Vulnerability rates were consistently lower for females than males, and also for children living in higher SES neighbourhoods vs low SES ones.
- The gaps in vulnerability rates between genders narrowed over time in Language and Cognitive Development and widened in Emotional Maturity.
- When the data were analyzed by both gender and SES, males in high SES (neighbourhoods in the highest quintile of SES) have similar vulnerability as females in low SES neighbourhoods across all provinces and time points.

## Discussion/Conclusion

Our analyses show that the average developmental health status of young children in Canada indeed does change: some of these changes are consistent across provinces, while others are not. Differences due to gender and neighbourhood SES provide clear evidence that neither developmental outcomes nor their changes are equitable for children in Canada. These analyses uncover broad population processes that need to be further investigated in future research.

## References

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- Janus, M., & Offord, D. R. (2007). Development and psychometric properties of the Early Development Instrument (EDI): A measure of children's school readiness. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, 39(1), 1-22. doi:10.1037/cjbs2007001