

A Comparison of Ethno-Cultural Composition Data with other Dimensions of Deprivation

Using the Canadian Index of Multiple Deprivation to Find Correlations between Variable Groups

Tiago Martins

April 29th, 2022

Abstract

Statistics Canada's Canadian Index of Multiple Deprivation was created for the purposes of collecting and analyzing data of marginalized communities. It is divided into four dimensions of deprivation, one being ethno-cultural composition, a section predominantly influenced by a community's immigrant population. In data comparisons between different deprivation dimensions made using the R software [CiteR], it can be seen that it is mostly individuals rated as having high ethno-cultural composition, who also experienced other types of deprivation. In this paper, I present literature from a variety of different sources to show possible reasons for why communities with high ethno-cultural composition suffer from other kinds of deprivation. The data and code used can be accessed at this paper's GitHub repository: https://github.com/tlagomartins/Ethno-cultural_comparisons

Introduction

Many people often have perceptions as to which communities or neighborhoods are deprived, or in need of some kind of support. However, many of us do not know with absolute certainty which communities are suffering from deprivation. Furthermore, difficulties arise when discussing what makes a community or neighborhood have negative perceptions regarding its current state. How are we to identify communities that are in need of support, when we cannot define what the parameters for deprivation are? This problem led to the development of the Canadian Index of Multiple Deprivation by Statistics Canada.

The stated goals of the Canadian Index of Multiple Deprivation are to assist with policy planning and evaluation, research and analysis of the gathered data, and resource allocation towards marginalized communities [UserGuide]. The index, being made up of multiple variables, each in a specific major category, allows researchers to gain insight into which areas a community may be lacking. In this way, even the average person has the ability to accurately understand the sources behind deprivation of a community, instead of basing their understanding on initial perceptions.

The purpose of this paper is to analyze the correlation between the ethno-cultural composition sphere of deprivation, and the other areas of deprivation identified in the Canadian Index of Multiple Deprivation, using data acquired from Statistics Canada using the R language [CiteR] and the RCurl package [RCurl]. Are these neighborhoods more likely to suffer from inadequacies of varying other kinds? I also source various writings and works in an effort to display the schools of thought surrounding this possibility - in what way does ethno-cultural composition affect the levels of deprivation of other kinds?

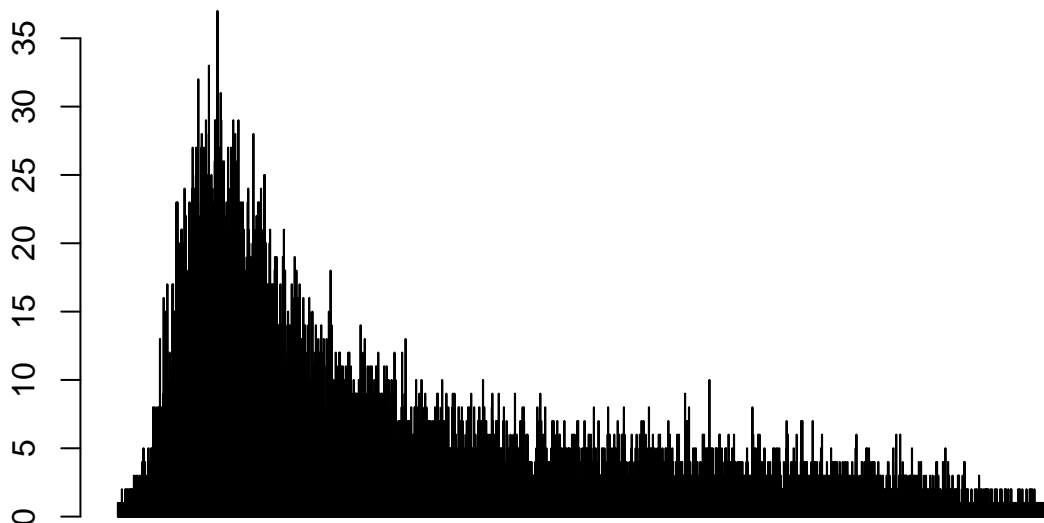
Data

The dataset examined in this paper is drawn from the Canadian Index of Multiple Deprivation. This index is cited by Statistic Canada as being based on the 2006 Canadian Marginalization Index, whose creation was

led by Dr. Flora Matheson and Dr. Jim Dunn of Saint Michael's Hospital [UserGuide]. The purpose of the Canadian Index of Multiple Deprivation is the collection of data from different regions of the country from twenty-four different variables, selected because of their relevance to the study of marginalization and deprivation. The particular dataset explored in this paper is of the province of Ontario.

The Canadian Index of Multiple Deprivation is comprised of four main categories, referred to as the dimensions of deprivation [UserGuide]. These dimensions are: residential instability, economic dependency, situational vulnerability, and ethno-cultural composition, which is the focus of this paper. Residential instability refers to the degree at which an area or neighborhood can fluctuate over time, such as in the case of family growth. Economic dependency is roughly described as the significance by which a particular community is reliant on its workforce to sustain itself, and its dependency on sources of income that is not employment income. Situational vulnerability is, broadly speaking, the instability of an area with regards to socio-economic conditions, while ethno-cultural composition refers to how much of a community area is made up of immigrants [UserGuide].

It should be noted that, while important group classifications, the four dimensions of deprivation are themselves made up of variables. Statistics Canada also issues a warning against comparisons between the provincial or regional indexes, as the variables that are used in the evaluation of different country areas are frequently different. Of the twenty-four input variables, seventeen were found to be applicable to the four dimensions of deprivation for the province of Ontario. These will be discussed below.



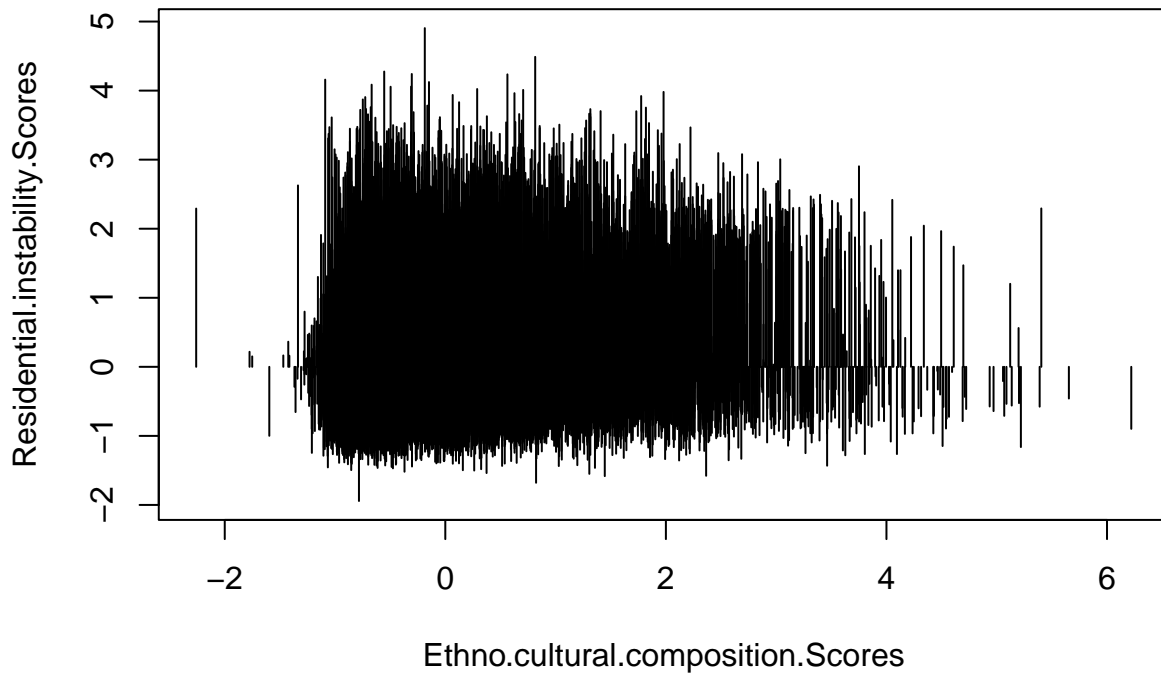
The province of Ontario does not display a significantly high value of ethno-cultural composition. However, the scores are relatively consistent from 0 onwards.

Variables

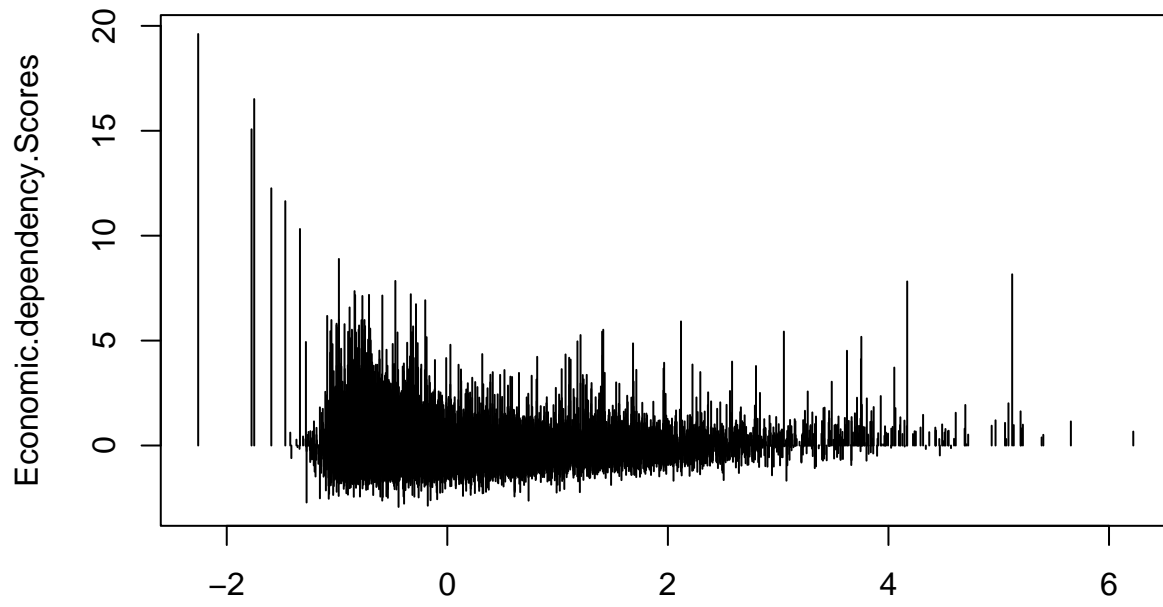
As mentioned, the User Guide for the Canadian Index of Multiple Deprivation outlines several variables, each different for specific provinces or regions. Also, it should be noted that different dimensions of deprivation are ranked according to how variable the data is. In the province of Ontario, residential instability is the dimension ranked with the highest percentage of data variation, with economic dependency, ethno-cultural composition, and situational vulnerability following, in the listed order [UserGuide]. Within the dimension of residential instability are the variables of: the proportion of dwellings that are apartment buildings, the proportion of dwellings that are owned, the proportion of persons living alone, the proportion of the population who moved within the past five years, and the proportion of population that is married or common-law. The dimension of economic dependency has the variables of: the proportion of population aged 65 and older, the proportion of population participating in labor force, the ratio of employment to population, the dependency

ratio (found by having the population aged 14 and under and 65 and older divided by population aged from 15 to 64), and the proportion of population receiving government transfer payments. Ethno-cultural composition is composed of: the proportion of the population that is foreign-born, the proportion of the population who self-identify as visible minority, the proportion of the population with no knowledge of either official language, and the proportion of the population who are recent immigrants. Lastly, the dimension of situational vulnerability, which has the least variation in its data, has the least amount of variables associated with it. These are: the proportion of the population that identifies as Aboriginal, the proportion of the population aged 25 to 64 without having achieved a high school diploma, and the amount of dwellings needing significant repairs [UserGuide].

Results

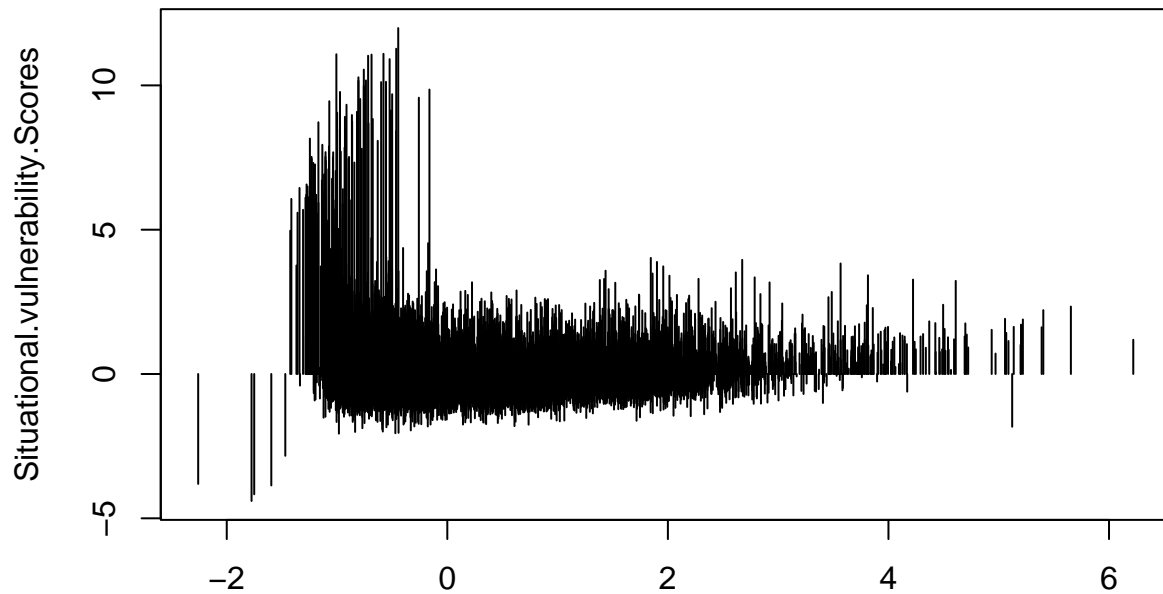


What is noticeable about the comparison between the dimensions of ethno-cultural composition and residential instability, is residential instability's significant positive value compared to its negative. A greater number of surveyed individuals exhibiting positive values of ethno-cultural composition, showed residential instability, compared to those who were less ethno-culturally composed.



Ethno.cultural.composition.Scores

Bar-
ring a few extreme exceptions at the lower end of the ethno-cultural composition spectrum, the majority of ethno-cultural composition responses, with moderately-high economic dependency scores being shown from -1 ethno-cultural composition onwards.



Ethno.cultural.composition.Scores

When
comparing ethno-cultural composition and situational vulnerability, there is a significant spike in high situational vulnerability scores near the ethno-cultural composition score of -1. Afterwards, however, there is a relatively consistent positive score in situational vulnerability for individuals with positive ethno-cultural composition values.

Discussion

When researching the concept of ethno-cultural composition, Lobo and Mellander’s 2020 article regarding labor market effects from neighborhoods with high immigrant populations, stuck out to me as being extremely relevant. In it, the concept of social networks affecting job opportunities is explored [Market]. The theory is outlined as such: if an individual’s employment opportunities are impacted by one’s social connections, then individuals with less-developed social networks would experience a disadvantage in securing employment. It may be that, due to recent immigrant’s lack of social networking compared to native Ontarian’s, this may be a contributing factor to a neighborhood’s economic dependency. The period of integration varies, but new arrivals to a country are at particular risk for isolation due to the need to adjust to a new environment [Movers]. As shown above, areas with higher ethno-cultural composition scores displayed consistent economic dependency. This may warrant further exploration, particularly into different demographics such as in immigrant women [Welfare], who are theorized to have more reliance on economic assistance than men [Gender], and in levels of education which may have an impact on economic dependency as well [Education].

The idea of ‘immigrant neighborhoods’ is not entirely a stereotype. Newcomers to a country can often find themselves in disadvantaged areas [Mental], which may contribute to a neighborhood’s residential instability. If a neighborhood is viewed, regardless of its inhabitants, as a bad area to live in, such a perception would only fuel desires to move to a different location. In this way, the neighborhood in question becomes a ‘transitory’ living place, where only immigrants live because they simply don’t have the opportunity to live elsewhere. The effect on the habitants physical and mental health should also not be understated. If the neighborhood is unstable, how can there be any efforts to improve its status when the only objective is to either leave, or cope [England]?

Situational vulnerability is mostly concerned with the percentage of individuals identifying as Aboriginal, how many people do not have a high school diploma, and the amount of homes needing repairs. As seen above, there is consistent exhibition of situational vulnerability in responses with high levels of ethno-cultural composition. Some argue that the definition of situational vulnerability should be expanded [Safeguard], so as to include adults who are incapable of daily tasks and require assistance. This argument posits that, because of a person’s inability to support themselves, and the subsequent dangerous situations they may put themselves in by attempting to perform tasks they are otherwise not capable of completing, this surely is classified as situational vulnerability. In addition, pervasive cases of situational vulnerability may contribute to a deterioration of faith in the established group charged with dealing with this issue [Erosion]. Authorities should consider the impact that situational vulnerability has on a community before assuming that their efforts will even be well-received.

References

@Manual{CiteR, title = {R: A Language and Environment for Statistical Computing}, author = {{R Core Team}}, organization = {R Foundation for Statistical Computing}, address = {Vienna, Austria}, year = {2021}, url = {https://www.R-project.org/}, }

@Manual{RCurl, title = {RCurl: General Network Client Interface for R}, author = {Duncan Temple Lang}, year = {2022}, url = {https://CRAN.R-project.org/package=RCurl}, }

@Article{Erosion, title = {The impact of situational vulnerability on the development and erosion of followers’ trust in their leader}, author = {Yael Lapidot and Ronit Kark and Boas Shamir}, journal = {The Leadership Quarterly}, number = {18}, year = {2007}, doi = {https://doi.org/10.1016/j.leaqua.2006.11.004.}, }

@Article{Datasheets, title = {Datasheets for Datasets}, author = {Timnit Gebru and Jamie Morgenstern and Briana Vecchione and Jennifer Wortman Vaughan and Hanna Wallach and Hal Daume III and Kate Crawford}, year = {2021}, doi = {10.1145/3458723}, }

@Article{Market, title = {Let’s stick together: Labor market effects from immigrant neighborhood clustering}, author = {Jose Lobo and Charlotta Mellander}, journal = {Economy and Space}, year = {2020}, doi = {10.1177/0308518X19896521}, }

@Article{Movers, title = {Do Tied Movers Get Tied Down? The Occupational Displacement of Dependent Applicant Immigrants in Canada}, author = {Rupa Banerjee and Mai Phan}, journal = {International Migration & Integration}, year = {2014}, doi = {10.1007/s12134-014-0341-9}, }

@Article{Welfare, title = {Unemployment and conditional welfare: Exclusion and belonging in immigrant women's discourse on being long-term dependent on social assistance}, author = {Disa Bergnehr}, journal = {International Journal of Social Welfare}, year = {2016}, doi = {10.1111/ijsw.12158}, }

@Article{Mental, title = {Examining the relationship between neighbourhood deprivation and mental health service use of immigrants in Ontario, Canada: a cross-sectional study}, author = {Anna Durbin and Rahim Moineddin and Elizabeth Lin and Leah Steele and Richard Glazier}, journal = {BMJ Open}, year = {2015}, doi = {10.1136/bmjopen-2014-006690}, }

@Article{England, title = {Geographical epidemiology of health and overall deprivation in England, its changes and persistence from 2004 to 2015: a longitudinal spatial population study}, author = {Evangelos Kontopantelis and Mamas Mamas and Harm van Marwijk and Andrew M Ryan and Iain E Buchan and Darren M Ashcroft and Tim Doran}, journal = {Journal of Epidemiology and Community Health}, year = {2018}, doi = {10.1136/jech-2017-209999}, }

@Article{Education, title = {Does education matter? – economic dependency ratios by education}, author = {Alexia Prskawetz and Bernhard Hammer}, journal = {Vienna Yearbook of Population Research}, year = {2018}, doi = {10.1553/populationyearbook2018s111}, }

@Article{Gender, title = {The gender gap in economic dependency over the life cycle: some theoretical and practical considerations}, author = {Tanja Istenic and Irena Ograjensek and Joze Sambt}, journal = {Economic Research}, year = {2018}, doi = {10.1080/1331677X.2018.1426479}, }

@Article{Safeguard, title = {Safeguarding Vulnerable Autonomy? Situational Vulnerability, the Inherent Jurisdiction, and Insights from Feminist Philosophy}, author = {Jonathan Lewis}, journal = {Medical Law Review}, year = {2021}, doi = {10.1093/medlaw/fwab010}, }

@Website{UserGuide, title = {The Canadian Index of Multiple Deprivation User Guide}, author = {Canadian Centre for Justice Statistics}, year = {2019}, url = {https://www150.statcan.gc.ca/n1/pub/45-20-0001/452000012019002-eng.htm}, }

@Website{Rohan, title = {Worlds Become Data}, author = {Rohan Alexander}, year = {2022}, url = {https://rohanalexander.com/inf312.html}, }