Methodology of analysis: What is discrimination associated with?

To understand patterns of discrimination, it is important to consider various factors that may be associated with discrimination and racism. The question at hand is: what factors help us understand the different risk of discrimination between invididuals and neighbourhoods?

We use a so-called iceberg model, where we examine both discrimination reports and data on discrimination experiences, as well as 'underlying' factors. This model is based on the assumption that not all manifestations of discrimination are reflected in reporting data and data on perceived discrimination. Therefore, we must actively search for what lies beneath the surface of the iceberg model. It is also based on a sociological assumption that discrimination and racism, as societal phenomena, are related to broader societal structures, such as inequalities and social cohesion.

Using this iceberg model, we can also gain a clearer understanding of discrimination and racism. Scientific literature tells us that many forms of discrimination are both implicit and explicit but most often go unreported. By combining data, a discrimination prediction has been developed that provides a better understanding of the likelihood of experiencing discrimination in a particular neighborhood.

Neighbourhood analysis

In this study, the focus is on the relevance of the combination of factors: which combination of factors is most relevant for understanding differences in perceived discrimination between neighborhoods?

In creating a model to predict discrimination, we look at the following variables:

- **Income inequality.** This includes both the diversity of incomes (are there significant differences?) and the average income level in a neighborhood (high or low compared to other neighborhoods). Attention is also given to the degree of households dependence on social welfate support as a factor closely related to income inequality.
- **Education inequality.** This considers both the diversity of education levels (are there significant differences?) and the average highest education level attained in a neighborhood (high or low compared to other neighborhoods).
- **The level of ethnic diversity.** This particularly concerns the 'diversity of diversity,' or how many different countries of origin are represented in a neighborhood (the 'Simpson diversity index'). This index weighs both the proportion of residents in a neighborhood who were not born in the Netherlands and the number of different backgrounds represented in a neighborhood. An obvious expectation is that the level of diversity may be associated with the level of discrimination; the more differences, the more opportunities for discrimination. However, this relationship is not straightforward. High diversity, or 'superdiversity,' could also lead to a normalization of diversity and thus a decrease in discrimination. It may also matter whether there are individuals from many different countries of origin or many individuals from a few specific countries of origin. This relationship will also be further examined.

The result is a statistical model that predicts (as precisely as possible) the risk of discrimination every neighbourhood based on other factors that are most strongly (statistically and theoretically) associated with experienced discrimination. The prediction is calculated based on a linear regression with the following variables:

Dependent variable (what we want to explain):

- Percentage of discrimination experiences per neighborhood in Rotterdam: Data from the Wijkprofiel Survey for the years 2019 and 2021 were used for this purpose. Wijkprofiel Survey is conducted only once every two years. For this reason, the discrimination percentage for 2020 was calculated based on the data patterns from 2019 and 2021.

Independent variables (with what we want to explain):

- **Income inequality index:** the higher the number, the greater the income inequality.
- Simpson's **index of diversity** of birth countries: the higher the number, the greater the chance that a resident will encounter another resident who has a different country of birth.
- Simpson's **index of diversity of migration motives**: the higher the number, the greater the chance that a resident who has migrated to the Netherlands will encounter another resident who has migrated to the Netherlands for a different motive. These motives can be family, work, study, or asylum-related.
- Simpson's **index of diversity of highest educational levels attained**: the higher the number, the greater the chance that a resident will encounter another resident who has a different educational level.
- **Average percentage of welfare support** as part of household income.

These variables are based on CBS microdata from 2019-2021, which were then calculated at the neighborhood level. Furthermore, the regression model is weighted with the total population of the neighborhoods to reflect the situation as closely as possible to reality.

Based on the model, a prediction value of discrimination perception was calculated for each neighborhood. This calculation is then used to create a ranking of Rotterdam neighborhoods where the likelihood of experiencing discrimination is higher or lower. The higher the percentage, the higher the likelihood of experiencing discrimination in the neighborhood.

Discrimination reports from RADAR

Antidiscrimination agency RADAR collects the reports (complains) of Rotterdammers who experienced discrimination incidents. These reports register the grounds of discrimination and in a majority of cases also the district (city area) where the person lives, and where the incident took place. The number of reports cannot be included in the statistical model of predicting discrimination because the neighbourhoods for these reports is unknown.

Individual characteristics

For the city-level analysis, we use data from Wijkprofile survey that is most recently available. For instance, we analyse how personal characteristics such as gender, age, trust in institutions and satisfactions with living conditions are related to the risk of discrimination. You can find this analysis mainly on the webpage ‘Discrimination in the city’.