Explaining the Ethnic Gap in Disability Pension - Evidence from Danish Administrative Register Data
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BACKGROUND: In Denmark, as well as in other Western welfare societies, existing research consistently shows that the risk of being granted disability pension is significantly higher among immigrants compared to natives. The aim of this study is to examine whether and to what extent differences in socioeconomic status and health can explain the disability pension gap between non-Western immigrants and natives in Denmark.

METHODS: OLS regression models are combined with an accelerated failure time model to conduct serial mediation analysis. The analysis is based on Danish administrative register data that includes information about all disability pensions granted from 1995 to 2015 for five cohorts born in the period from 1949 to 1953.

RESULTS: Non-Western immigrants expected time on the labor market before receiving disability pension is approximately 69 percent shorter compared to natives, but almost half of this gap is explained by indirect effects via socioeconomic status and health. The largest part of the total indirect effect can be attributed solely to socioeconomic status. This suggest that socioeconomic status exerts a large proportion of its influence on the risk of disability pension via other mechanisms than health.

CONCLUSION: Our results suggest that the gap in disability pension between immigrants and natives in Denmark would be less than half the size had non-Western immigrants been equally privileged in terms of socioeconomic resources and health.

Objectives

As illustrated in figure 1 (below) the share of non-Western immigrants who receives disability pension is almost three times larger compared to natives in Denmark and the effect gap increases over the life course. In 2014, 34 percent and 42 percent of the 55-59 and 60-64-year-old non-Western immigrants received disability pension as compared to 11 percent and 14 percent of the 55-59 and 60-64-year-old Danish-born persons.

Our objective is to decompose the effect of being a non-Western immigrant into direct and indirect effects via socioeconomic status and health

Figure 2 shows our conceptual model of the direct and indirect effects of being a non-Western immigrant on the risk of being granted disability pension.

Our conceptual model suggests that being a Non-western immigrant affects socioeconomic status, which in turn affects lifestyle-related health, mental health, and musculoskeletal health and subsequently the risk of being granted disability pension.

Methods

Our study population consist of five cohorts born between 1949 and 1953, which yield a sample size of 337,369 individuals, of which 9,904 individuals are non-Western immigrants. The retirement status of all individuals are followed from the age of 45 and until they are potentially granted disability pension. If the individuals reach the age of 65, exceed the period of investigation, experience another retirement, die, or migrate, they are treated as right-censored. The dependent variable is duration before receiving disability pension measured in years starting from age 45. The independent variable is a binary variable, which indicates whether the individual is a non-Western immigrant or a native, i.e. Danish-born. The mediator variables are socio-economic status (measured by the International Socio-Economic Index of Occupational Status) and health (including lifestyle related health, mental health, and musculoskeletal health). In addition to these key variables, we include a rich set of control variables.

To decompose the effect of being a non-Western immigrant a serial mediation analysis was conducted using the following steps (see Hayes, 2018). First, we estimated an Ordinary Least Squares (OLS) model with socio-economic status measured in the baseline year as outcome variable and being a non-Western immigrant as predictor. Next, we estimated three linear probability models with each of the three health indicators as outcome variables and socioeconomic status and being a non-Western immigrant as predictors. Finally, we estimated an accelerated failure time model based on a Weibull distribution with the log of duration before receiving disability pension as outcome variable and each of the health indicators, socioeconomic status, and being a non-Western immigrant as predictors. The accelerated failure time model is a type of survival model that directly models duration on the labor market before being granted disability pension.

Results

Our results suggest that non-Western immigrants expected time on the labor market before being granted disability pension is approximately 69 percent shorter compared to natives. However, approximately 55 percent of the total effect of being a non-Western immigrant on the risk of disability pension is explained by differences in socioeconomic status and health between the groups. The largest part of the total indirect effect can be attributed solely to socioeconomic status. This suggests that socioeconomic status exerts a large proportion of its influence on the risk of disability pension via other mechanisms than health.

Moreover, our results suggest that there are important differences in the magnitudes of both the direct and indirect effects of being a non-Western immigrant on the risk of disability pension depending on the non-Western immigrants’ countries of origin.

References