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Migrants, health, and happiness: Evidence that health assessments travel with migrants and predict well-being

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ABSTRACT

Health assessments correlate with health outcomes and subjective well-being. Immigrants offer an opportunity to study persistent social influences on health where the social conditions are not endogenous to individual outcomes. This approach provides a clear direction of causality from social conditions to health, and in a second stage to well-being. Natives and immigrants from across the world residing in 30 European countries are studied using survey data. The paper applies within country analysis using both linear regressions and two stage least squares. Natives' and immigrants' individual characteristics have similar predictive power for health, except Muslim immigrants who experience a sizeable health penalty. Average health reports in the immigrant's birth country have a significant association with the immigrant's current health. Almost a quarter of the birth country health variation is brought by the immigrants, while conditioning on socioeconomic characteristics. There is no evidence of the birth country predictive power declining neither as the immigrant spends more time in the residence country nor over the life course. The second stage estimates indicate that a one standard deviation improvement in health predicts higher happiness by 1.72 point or 0.82 of a standard deviation, more than four times the happiness difference of changing employment status from unemployed to employed. Studying life satisfaction yields similar results. Health improvements predict substantial increases in individual happiness.

1. Introduction

Self-reported health is one of the strongest correlates with subjective well-being, indicating that health may be important for individual well-being (Chida and Steptoe, 2008; Easterlin, 2003; Graham, 2010). Subjective well-being, happiness or life satisfaction, may also be an objective of individuals and policy makers. This paper presents evidence on the relationship between health and happiness using a method that has a claim to isolate the causal direction from health to happiness. The paper extends the literature by using variation in health that plausibly is not endogenous to the individual's current well-being.

Health assessments vary widely both across individuals within a country and across countries. This paper studies immigrants in 30 European countries and compares their health and socioeconomic gradient to natives using survey data and regression analysis.[1] Focusing on immigrants allows the study of persistent social influences on self-reported health by combining two approaches in the literature, as discussed below. Moreover, the persistent

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[1] The term socioeconomic gradient is used to describe the predictive power of socioeconomic characteristics for the outcome, in this case health.

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influence on health allows estimating the effect of health on well-being using an instrumental variable approach.

The ultimate contribution of the paper is to estimate the influence of health on well-being using a two stage model where birth country health is used as an instrument for individual health. The paper makes three additional contributions to improve estimating the influence of health on well-being. First, the socioeconomic gradient of health, the predictive power of socioeconomic characteristics for health, is estimated for natives and immigrants. Second, one persistent influence on self-reported health, mean health assessments in their birth countries, is estimated among immigrants from across the globe. Third, it is examined if the birth country influence on health dissipates as immigrants spend more time in the residence country or as they age.

The first point on the socioeconomic gradient contributes to the literature on immigrant health which has shown a weak gradient among Mexican immigrants in the U.S. (Akresh and Frank, 2008; Rubalcava et al., 2008; Acevedo-Garcia et al., 2007; Buttenheim et al., 2010; Goldman et al., 2006; Sanchez-Vaznaugh et al., 2009). Significant differences in the socioeconomic gradient of health has also been found in the Canadian context, see for example Wang and Hu (2013). Evidence from Germany points to small differences, see Nesterko et al. (2013). The differences between natives and immigrants have been found to dissipate with time spend in the destination country; see for example Subedi and Rosenberg (2014). The estimated gradient reported below is similar, on average, for natives and immigrants using data on 91 immigrant groups residing in 30 countries.

Moreover, persistent social influences on health of immigrants are studied. This combines two strands of the health literature: social influences on health and persistent influences of early environmental exposures. The literature has studied how social influences in the individual's current environment correlates with health (Marmot and Wilkinson, 2006; Berkman and Kawachi, 2000). Another literature has studied how exposures through the life course influence health later in life (Cohen et al., 2010; Gong et al., 2011; Takeuchi et al., 2007; Ben-Shlomo and Kuh, 2002) and effects of exposures in utero (Rasmussen, 2001; Almond and Currie, 2011). Health assessment in the individual's birth country are related to the health report in a different environment at a later stage in the life course, hence combining the perspective of social influences with past exposures, to study a novel health influence channel.

An essential part of the approach is to study social influences that are not endogenous to the outcomes of the individuals studied. Immigrants, whose current health does not determine the mean health in their birth country, provide such a setting. The data covers natives and immigrants in 30 European countries between 2002 and 2010. Immigrants originate from 91 countries across the globe.

The ultimate part of the analysis provides evidence on how health influences happiness. The literature thus far has found strong correlations between health and happiness where the causality could be interpreted in both directions (Chida and Steptoe, 2008; Easterlin, 2003; Graham, 2010). Related is also evidence on job satisfaction (Pagan et al., 2016). Building on the previous analysis of persistent social influence on health among migrants, a two stage approach is applied that can provide evidence on the causal influence of health on happiness. Birth country health is used as an instrument of individual health in estimating the influence of health on happiness. The estimates provide evidence on the causal effect of health on happiness given that the instrument is relevant (which is shown in the first part of the analysis) and the exclusion restriction holds (which can never be known with certainty). The instrumental variables approach in this paper complements other approaches to studying the causal relationships between health and well-being such as the structural equations model in Gana et al. (2013) which impose different assumptions to yield stronger causal evidence than cross sectional correlation studies.

2. Methods

2.1. Empirical models

The first part of the analysis applies a linear ordinary least squares (OLS) model. The main type of analysis is regressions of the following form:

$$Health_{icat} = \beta_0 + \beta_k' X_{icat} + \beta_1 Mean\_Health_a + \gamma_{ct} + \varepsilon_{icat} \quad (1)$$

$Health_{icat}$ captures the self-reported health in period t of individual i, residing in country c, and born in country a. X_{icat} captures individual demographic and socioeconomic controls, as well as parental characteristics, that may affect health. The associated vector of coefficients is denoted by β_k'. The country of residence-by-year fixed effect is denoted by γ_{ct}, and ε_{icat} is the error term. This regression is run on samples of natives and immigrants. The mean level of ancestral country health assessment, $Mean\_Health_a$, is common to all individuals born in country a. This term is included when studying immigrants, and in this case $a \neq c$. Ancestral country and birth country are used interchangeably in this paper. All standard errors are clustered by the individual's birth country to allow for arbitrary correlations of the error terms among individuals with the same birth country (Angrist and Pischke, 2009). The results presented below are based on a linear model but the results are robust to using the ordered Logit or the ordered Probit estimator. All regression parameter estimates are unstandardized.

The inclusion of the country-by-year fixed effect γ_{ct} means that the institutional structure and all other unobserved differences which apply to all residents in country c in period t (such as the mean self-reported health and the residence country health system) are accounted for. It also means that the variation used to identify the estimate on ancestral health assessment is to compare the outcomes of immigrants within each country of residence and year relative to the values in their birth countries. For example, the comparison is if immigrants residing in France born in Denmark, a country with high health assessment, have higher health assessments than the immigrants in France born in Portugal, a country with