



Might climate change the “healthy migrant” effect?☆



Lori M. Hunter*, Daniel H. Simon

University of Colorado Boulder, Institute of Behavioral Science, CU Population Center, Department of Sociology, UCB 483, Boulder, CO 80309, United States

ARTICLE INFO

Keywords:

Migration
Climate
Environment
Mexico
U.S.
Health
Healthy migrant
Health selectivity
Salmon bias
Rainfall
Drought
Livelihoods

ABSTRACT

Migrants from Mexico to the U.S. tend to be healthier than non-migrants in their origin – part of a pattern termed the “healthy migrant effect”. With climate change altering livelihoods across the globe, we ask how the migration-health connection may be altered by environmental strain. On the one hand, positive health selectivity may be intensified if migration becomes more challenging – and therefore increasingly likely to be undertaken by only the healthiest. On the other hand, positive health selectivity may decline if the “push” associated with environmental strain acts upon individuals regardless of health. We use Mexican Migration Project data to model Mexico-US migration by male household heads with consideration of migrant health as well as recent rainfall conditions in communities of origin. Results reveal intriguing interactions such that when moderately dry regions experience rainfall shortage, health selectivity is lower – meaning that less healthy household heads also engage in international migration. We posit that social networks may underlie this association. We further argue that since environmental context may alter the relationship between migration and health, future research on the “healthy migrant effect” should consider environmental conditions. As to implications, if climate change yields pressure on less healthy individuals to migrate, the need for migrant-sensitive health systems and services may be intensified in destination regions.

1. Introduction

International migration tends to be positively selective on health, meaning that migrants are typically healthier than non-migrants in sending regions. This association exists because, in general, international migration is difficult – it entails uprooting from a known cultural, economic and political context. Migration also results in shifting social relationships and the establishment of new ones – all taxing processes.

Yet climate change is altering international migration by changing the context of livelihoods across the globe. In some places, environmental scarcity is acting as a “push” factor – intensifying migration as a means of diversifying livelihoods or pursuing new ones (e.g., [Nawrotzki et al., 2015a](#)). In other places, increased availability of environmental resources provides the capital through which households are able to send migrants elsewhere to earn income (e.g., [Gray 2010](#); [Hunter et al., 2013](#)). In both cases – “scarcity” or “surplus” – environmental factors influence migration and many scholars anticipate climate will increasingly play a role in population movement ([McLeman, 2013](#)). Of course, other forms of environmental pressures yield migration including natural disasters, sea level rise, and resource conflict. In

addition, economic, political and other contextual factors shape the ways in which migration-environment linkages manifest ([Black et al., 2011](#); [Hugo, 2011](#)).

What remains unknown is the potential for climate change to alter demographic processes such as the phenomenon of the “healthy migrant.” Climate stress may reduce health selectivity if individuals in both good and poor health experience heightened pressure to relocate. On the other hand, migration’s health selectivity may be intensified if migration becomes an even more challenging endeavor, one fit only for those in particularly good health. Of course, alterations to the healthy migrant phenomenon may also vary by context since different locales will face different climate strain.

We investigate this question by bringing together the literatures linking migration-health and migration-environment and by presenting an empirical examination of health selectivity in the context of Mexico-US migration. This migration stream represents one of the longest and most sustained international flows of people in the world, and recent research has found that climate strain is associated with heightened likelihood of households sending a migrant to the US, particularly in the short-term ([Nawrotzki and DeWaard, 2016](#)). Mexico-US migration also

☆ This research has benefited from research, administrative, and computing support provided by the University of Colorado Population Center (Project 2P2CHD066613-06), funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development. This manuscript has also benefited from dialogue at the CUPC Conference on Climate Change, Migration and Health (NICHD project 5R13HD078101). Simon’s time has been partially supported by the National Science Foundation Graduate Research Fellowship Program. The content is solely the responsibility of the authors and does not necessarily represent the official views of the CUPC, NIH, or NSF.

* Corresponding author.

E-mail address: Lori.Hunter@colorado.edu (L.M. Hunter).

exhibits the “healthy migrant” phenomenon (e.g. Crimmins et al., 2007), making it a logical choice for a study that examines the intersection of climate-migration-health.

2. Material and methods

2.1. Migration and health data

We tap into the strength of Mexican Migration Project (MMP) data to explore the climate-migration-health intersection in the context of Mexico-US migration. The MMP is a collaborative effort between Princeton University (USA) and the University of Guadalajara (Mexico) that provides detailed migration information from a sample of Mexican communities. Since 1982, three to five different communities have been surveyed annually, totaling 161 communities across the years 1982–2016. The communities are chosen based on fieldwork by the principal investigators, with decisions informed by several factors including community sex ratio and level of urbanization. Within each community, approximately 200 households are randomly sampled to participate in data collection which includes both qualitative and quantitative demographic, social and economic data. MMP-provided weights are applied such that the samples are representative of the communities surveyed.

The full MMP sample consists of 169,945 individuals, but migration and health information are only collected for the head of each household (MMP). Thus, our sample is restricted to household heads. Additionally, females are excluded from our analysis since there were so few listed as head of the household. Prior research in Mexico reveals that men and women, especially as household heads, tend to make different decisions regarding livelihood strategies (e.g., Buechler 2016; Radel et al., 2016). In this way, there are likely gender differences in the climate-migration-health connections due to the differential likelihood of engaging migration as a household strategy. Yet, the MMP does not offer a sufficiently large sample of female household heads to examine these differentials, and as such, due to concern with confounding head-of-gender influences with our focus on climate and health, our analyses are restricted to male household heads.¹

2.1.1. Migration data

Within the MMP, migration is defined as a move for work, job search, or to establish a new residence – thereby excluding short-term visits to family or friends. In this study, migration is represented as a binary variable indicating no migration (0) or a household head’s first international migration (1). After the first move, important migration correlates such as social networks, will likely be altered. As such, to best isolate climate and health factors, we constrain our estimation to only first moves. Further, only migration after age 14 is modeled to exclude movement by juvenile household members.

2.1.2. Health data

Health data collection began in 2007 within the MMP, so our study focuses on households in communities surveyed since that time. All health measures are self-reported and include responses for hypertension, diabetes, heart attack and heart problems, lung conditions, cancer, stroke, and psychological disorders. In addition, respondents were asked to self-assess health at age 14, while also being asked about their adult height. These latter two measures are used in this study since they best represent early life health, therefore useful in the examination of the overall health selectivity of migration in this population. The other health measures ask if any of the conditions have ever been experienced, thereby not allowing for characterization of health prior to migration event.²

The MMP asks respondents their perceived health at age 14 on a scale of poor, regular, good, or excellent. The second category “regular” is a translation from Spanish; however, in Spanish the word “regular” has a slight negative connotation. In line with the coding and interpretation in other studies (e.g., Ullmann et al., 2011), we attribute a response of “regular” to reflect “fair” health. In addition, since only 0.20% of individuals in the sample reported being in poor health at age 14, we cluster “poor” and “fair” health responses into one category that, combined, represent 2.91% of respondents. Table 1 offers weighted descriptive statistics including health differences between migrants and non-migrants.

Adult height represents our second health measure, and although the measure has limitations, two bodies of research boost our confidence in its utility as an overall health measure. First, substantial research reveals that early life conditions exert a hard-to-reverse effect on adult height (Alacevich and Tarozzi, 2017:65). Indeed, based on a review of research over the past 25 years, Perkins et al. (2016:149) conclude, “evidence across studies indicates that short adult height (reflecting growth retardation) in low- and middle-income countries is driven by environmental conditions, especially net nutrition during early years.” In addition to nutrition, broader socio-economic mechanisms also link childhood health context to adult height. These include parental social class, including maternal education, in that these factors shape access to resources, risk exposure (including disease), and parental health behaviors (Perkins et al., 2106).

Still, a logical concern is that while adult height may be useful as a collective representation of population health, a different lens is necessary for individual-level analyses. At this scale, the influence of genetics may complicate the use of height as an indicator of overall health. Research has suggested that nutrition and other environmental factors may be particularly impactful on adult height during the first two years of development, with genetics exerting a stronger influence from age 2 through puberty (Silventoinen et al., 2008).

Although height is not fully determined by early life conditions, several studies do identify a correlation. Case and Paxson (2008:4), for example, make use of a sample of over 70,000 individuals over age 50 in the Health and Retirement Study and report, “results are consistent with height providing a marker of a healthier and financially more comfortable early life environment.” HRS respondents who report childhood health as excellent or very good were, on average, 0.25 inches taller than other cohort members. Earlier studies in Finland and the UK find similar connections between adult height and childhood living conditions (Kuh and Wadsworth 1989; Silventoinen et al., 1999). And as a final example, evidence for this correlation at the individual-scale has been provided through comparison of height among adults and children of Indian ethnicity in England relative to those in India, finding that Indian children in England are 6–8% taller relative to those in India, even controlling for age, gender, and parental height (Alacevich and Tarozzi, 2017).

With this foundational knowledge of early life conditions linking to adult height, we reach to a second body of literature that identifies a connection between early life conditions and adult health – a paradigm termed the “developmental origins of health and disease” (e.g. Gluckman et al., 2008; Heindel and Vandenberg 2015). The specific etiologies of these connections remain under examination, but adult cancer, lung disease, cardiovascular illness and arthritis/rheumatism have all been linked to aspects of the environment in early life. Negative conditions could include poor nutrition in early life, exposure to disease or toxins, as well as more general socioeconomic deprivation.

(footnote continued)

conditions including diabetes, stroke or heart attack. Given that there is no timing data with regard to these health issues, this information cannot be of use within these analyses. Specifically, the reported health challenges may have occurred long after a migration took place, therefore these measures cannot be used to understand health selectivity at the point of migration decision-making.

¹ Details on the MMP methodology can be found at <http://mmp.opr.princeton.edu/>.

² To illustrate, respondents were asked if they have, or ever had, a variety of health

Download English Version:

<https://daneshyari.com/en/article/7469153>

Download Persian Version:

<https://daneshyari.com/article/7469153>

[Daneshyari.com](https://daneshyari.com)