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The health of nations in a global context: Trade, global stratification, and infant mortality rates

Spencer Moore[a,*], Ana C. Teixeira[b], Alan Shiell[c]

[a]*Université de Montréal Montreal, Que., Canada*
[b]*University of North Carolina, NC, USA*
[c]*University of Calgary, Canada*

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Abstract

Despite the call for a better understanding of macro-level factors that affect population health, social epidemiological research has tended to focus almost exclusively on national-level factors, such as Gross Domestic Product per capita (GDP/c) or levels of social cohesion. Using a world-systems framework to examine cross-national variations in infant mortality, this paper seeks to emphasize the effects of global trade on national-level population health. Rather than viewing national-level health indicators as autonomous from broader global contexts, the study uses network analysis methods to examine the effects of international trade on infant mortality rates. Network data for countries were derived from international data on the trade of capital-intensive commodities in 2000. Using automorphic equivalence to measure the degree to which actors in a network perform similar roles, countries were assigned into one of six world-system blocks, each with its own pattern of trade. These blocks were dummy-coded and tested using ordinary least squares (OLS) regression. A key finding from this analysis is that after controlling for national-level factors, the two blocks with the lowest density in capital-intensive exchange, i.e., the periphery, are significantly and positively associated with national-level infant mortality rates. Results show the effects of peripherality and stratification on population health, and highlight the influence of broader macro-level factors such as trade and globalization on national health.

Keywords: Global health; Health inequalities; Trade; World-systems theory; Infant mortality; Automorphic equivalence

Introduction

Despite the relative proliferation of studies examining cross-national variations in population health, recently greater attention has been given to the development of contextual understandings of global health inequalities (Coburn, 2004, 2000; Labonte & Torgerson, 2002; Shandra, Nobles, London, & Williamson, 2004). The development of such understandings has led scholars to examine inter- rather than intra-national factors that influence population health. While more recent studies have led us to think critically about the effects of international factors and pro-market ideologies such as "neo-liberalism" on population health, they have yet to provide a framework that we might use to measure how countries are differentially positioned within the global system and examine how this global stratification among countries influences

*Corresponding author. Tel.: +514 890 8000.
E-mail addresses: spencer.moore@umontreal.ca (S. Moore), teixeira@email.unc.edu (A.C. Teixeira), ashiell@ucalgary.ca (A. Shiell).

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population health. There has thus been a tendency within the literature on cross-national variations in population health to neglect the importance of systemic-level factors on national-level health, thereby treating nations as individual actors autonomous from broader global contexts.

Contradicting this model and the assumption that nations are independent and relatively equal actors in the global system, this study demonstrates the effects of world-system role and global stratification on infant mortality rates. We argue that population health is not simply a reflection of national-level factors but must be understood contextually as a product of the differential positions that countries have in the global system. Our approach builds on a world-systems framework to understand, measure, and assess the effects of global stratification and hierarchical trading structures on population health. This conception of global contexts is based on a structural instead of a geographical understanding of contexts. In this case, world-system role refers to the structural position that nations have within a global pattern of trade relations; the concept of global stratification refers to the inequalities and dependencies that ensue from countries being differentially located within this global pattern. By assessing cross-national variations in infant mortality through such a lens, we demonstrate the utility in thinking about systemic influences on population health and studying how global trade affects population health.

Despite the potential strength of political economy approaches for studying global stratification and health, such approaches have yet to be fully appreciated within the health sciences literature. When such approaches have been applied, they have raised critical attention to the effects of macro-level social factors on national-, community-, and individual-level health (Baer, Singer, & Susser, 2003). We see the application of a political economy approach as providing a conceptual framework in which the linkages between global-level factors and population health can be identified and measured. While national-level economic, social, and political factors have significant effects on population health, our analysis focuses primarily on the global level and the effects of trade on health.

Background

At the expense of macro-level factors, current cross-national research on population health has tended to focus on the effects of national-level factors such as income distribution, strength of labor, or social capital on population health (cf. Kawachi & Kennedy, 2002; Kennelly, O'Shea, & Garvey, 2003; Macinko, Shi, & Starfield, 2004; Wilkinson, 2002, 1996). Such analyses commonly treat nation-states as if they are equal with regard to power and influence in the global system. If a distinction is made among countries, it is frequently expressed in terms of a "high/low income" division based on national Gross Domestic Product per capita (GDP/c). For example, Wilkinson divides high- and low-income countries at $5000 annual GDP/c (Wilkinson, 1996).

For present purposes, we identify two limitations in current cross-national studies on population health. First, based as they are on a single attribute of a country, GDP/c, the "high/low income" typology does not capture the overall structure of international relationships through which global inequalities emerge. We argue that an income-based typology is unidimensional and limited in its capacity to measure power and global stratification. Second, cross-national studies tend to focus on either high- or low-income countries, thereby removing from analysis the broader global context in which high- and low-income status develops. Instead, we suggest that a critical conceptualization of the global system rooted in the study of international trade and global stratification leads to a fuller understanding of cross-national variations in population health and the potential interaction between global contexts and national institutions and policies.

World-systems perspectives

Central to world-systems perspectives is a conception of the global system as consisting of "intersocietal networks in which the interactions (e.g., trade, warfare) are important for the reproduction of the internal structures of the composite units (e.g., nation-states)" (Chase-Dunn & Hall, 1993, p. 855). Within these inter-societal networks, three structural positions can be identified: core, periphery, and semi-periphery (Wallerstein, 1974). The core is seen as being rich and economically diversified, having powerful and strong state institutions, and independent of external controls; the periphery is economically overspecialized, more dependent on foreign capital, and subject to exploitation and control by core states (Hall, 1996;