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# Immigrant Selectivity Effects on Health, Labor Market, and Educational Outcomes

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## Keywords

immigration, immigrant selectivity, children of immigrants, second generation, health, labor markets, education

## Abstract

Over the past two decades, a growing body of research has focused on immigrant selectivity and its effects on immigrant health, immigrant labor market outcomes, and children of immigrants' educational outcomes. This review provides a theoretical overview of immigrant selectivity and its effects, and critically examines research on the effects of immigrant selectivity. Existing research suggests that positive immigrant selectivity helps explain paradoxical patterns of success among immigrants and their children in health, the labor market, and education. However, future research is needed that uses more rigorous research designs and measures, links immigrant selectivity and outcomes across domains, identifies the mechanisms through which immigrant selectivity matters, and considers different types of immigrant selectivity. I conclude by highlighting promising new studies along these lines and argue that immigrant selectivity is a central part of the process through which immigration contributes to inequality.

## INTRODUCTION

Misconceptions about the selectivity of immigrants and fears about the impacts of negatively selected immigration streams have been prevalent throughout American history. In a 1753 letter, Benjamin Franklin famously expressed his concerns about German immigrants, writing, “those who come hither are generally of the most ignorant Stupid Sort of their own Nation” (<https://teachingamericanhistory.org/library/document/letter-to-peter-collinson/>). Speaking over 250 years later, in his announcement of his presidential candidacy, Donald Trump similarly lamented, “When Mexico sends its people, they’re not sending their best. They’re not sending you. . . They’re sending people that have lots of problems, and they’re bringing those problems. . .” (DelReal 2015). Such fears and misconceptions belie recent studies of immigrant selectivity and its impacts on receiving societies.

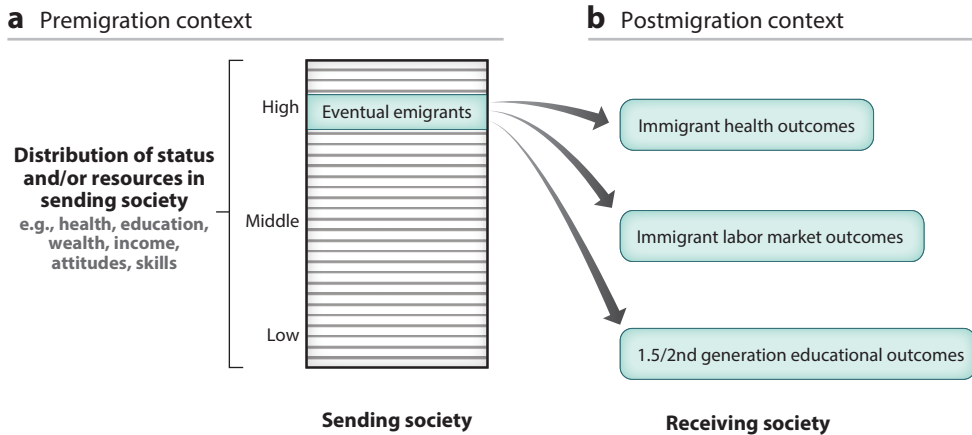
Twenty years ago, Gans (2000) described the selectivity question—who migrates and who does not—as one of several “holes” needing filling in immigration research. Fortunately, in the past two decades, a growing body of research has focused on this issue, especially with regards to health and socioeconomic characteristics. While prior studies were based on untested theoretical assumptions (e.g., Borjas 1987), recent studies are more rigorous and directly assess immigrant selectivity by comparing immigrants to those from their sending countries who do not migrate (e.g., Bostean 2013, Feliciano 2006b, Ro et al. 2016). Moreover, recent research moves beyond the descriptive question of how immigrants compare to those who do not migrate to examine how immigrant selectivity may contribute to observed outcomes among immigrants and their children in receiving countries. This question is the focus of this review.

Understanding immigrant selectivity and its effects is important in part because basic facts about migration processes are often misunderstood or unacknowledged in public debates, leading to problematic policy positions and negative public sentiment toward immigrants. Moreover, disregarding selection effects in immigration can lead to erroneous theoretical conclusions, such as the notion that intrinsic cultural differences explain unequal outcomes among immigrants and their children in health, labor markets, or education. Considering immigrant selectivity in immigration informs understandings of the processes contributing to inequalities in outcomes in receiving societies such as the United States.

This article proceeds as follows: First, I provide a theoretical overview of the concepts of immigrant selectivity and selectivity/selection effects, particularly as pertaining to outcomes among immigrants and their children in Western receiving societies. Second, I synthesize existing research on the effects of immigrant selectivity in the domains encompassing most sociological research: immigrant health, immigrant labor market outcomes, and children of immigrants’ educational outcomes. I also synthesize theories and empirical research on the mechanisms through which immigrant selectivity shapes outcomes among children of immigrants. Third, I highlight promising new directions in research on immigrant selectivity effects, including research that links different forms of selectivity to outcomes in other domains, research moving beyond health and socioeconomic selectivity to consider selectivity on gender ideology, and studies with improved research designs and measures.

## CONCEPTUALIZING IMMIGRANT SELECTIVITY

Immigrant selection or immigrant selectivity refers to how immigrants differ from people who do not migrate from any particular place. The simple fact that migrants are not random samples of the populations from which they came has long been uncontested in immigration theories (Lee 1966, Ravenstein 1885). However, the nature of immigrant selectivity, and on what characteristics,



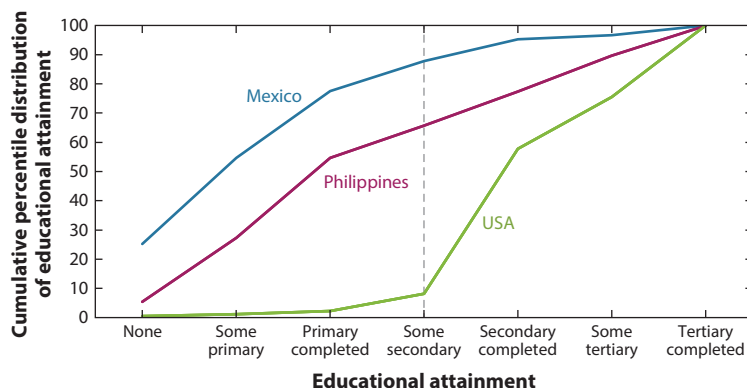
**Figure 1**

Conceptual diagram of selectivity effects in immigration (example of a positively selected immigrant group).

has long been debated (e.g., Borjas 1987, 1990; Chiswick 2000; Jasso & Rosenzweig 1990). Immigrants can differ from nonmigrant compatriots on easily observable characteristics, such as age, occupation and education levels, and gender, but also on unobservable (or difficult-to-measure) characteristics such as ambition, motivation, work ethic, inclinations to take risks, or resiliency. Regardless of the form immigrant selectivity takes, the concept involves considering immigrants within the context from which they came: Are immigrants more or less healthy, educated, motivated, ambitious, optimistic, hard-working, etc. than nonmigrants from the same place at the same time? Since leaving one's homeland often comes at great personal and economic cost, and most people never emigrate from their birth country, scholars theorize that those who do migrate are especially ambitious, motivated, or well-resourced (Portes & Rumbaut 1996).

**Figure 1a** illustrates the concept of immigrant selectivity based on any number of indicators of status or resources. The figure best conceptualizes selectivity characteristics involving a hierarchically arranged distribution from low to high, even though not all selection characteristics are arranged this way. For example, low/middle/high would not apply to gender or gender ideology. The lined area represents the distribution of indicators or characteristics in the premigration context. The origin population indicated by the lined area includes the entire population of people across the distribution of health, education, wealth, motivation, skills, and/or other resources or status characteristics. To assess immigrant selectivity, we need to know from what segment of those distributions immigrants came. In **Figure 1**, immigrants were positively selected since they came from the high end of the distributions of these indicators.

As Rumbaut (1994) noted over a quarter-century ago, most immigrants to the United States come from developing countries in which significant portions of the population are poor and uneducated, but what is remarkable is that many immigrants are not themselves poor or uneducated. Immigrants' socioeconomic accomplishments are often particularly striking when considered in light of their home countries. An understanding of the sending society's context is thus central to immigrant selectivity because the meaning of indicators can vary profoundly once placed in their appropriate geographic and historical premigration contexts. For example, having completed some high school can indicate high positive selectivity in a context in which most of the population completes only primary school, but negative educational selectivity in a context in which the majority goes to college (Feliciano 2006b).



**Figure 2**

Cumulative distributions of educational attainment in Mexico, the Philippines, and the United States, 25–29-year-old women, 1980. Adapted with permission from Feliciano & Lanuza (2017). The dashed vertical line represents women who completed some secondary schooling but did not graduate.

**Figure 2** illustrates these contextual differences by showing cumulative educational distributions for women ages 25–29 in 1980 for two of the largest immigrant-sending countries to the United States—Mexico and the Philippines—and for the United States. To take one example, the dashed vertical line represents women who completed some secondary schooling but did not graduate. We see that, in the United States, only about 8% of women completed less education than this, as more than half completed some secondary schooling and many more went on to college. In contrast, women who completed some secondary schooling were more educated than 66% of peers in the Philippines and 88% of peers in Mexico. It follows that even if immigrants share the same socioeconomic levels in absolute terms, the nature and degree of immigrant selectivity often vary by origin country.

Research on immigrant selectivity often focuses on educational attainment, given that it is straightforward to measure and—if the focus is on adult immigrants who completed schooling prior to migration—not influenced by the postmigration context. Nevertheless, scholars debate the degree and nature of educational selectivity among adult immigrants. For example, while studies using US and Mexican Census data show that Mexican immigrants tend to be more educated than Mexican nonmigrants (Chiquiar & Hanson 2005; Feliciano 2005b, 2008; Orrenius & Zavodny 2005), some scholars suggest that these results are biased by undercounts of low-skilled immigrants in the US Census. Analyses using Mexican data sources instead find evidence of neutral or negative selectivity (Ibarraran & Lubotsky 2007, McKenzie & Rapoport 2010, Moraga 2011). Yet, using Mexican data is problematic since these data miss entire households who have migrated. Moreover, using counterfactual evidence, Chiquiar & Hanson (2005, p. 272) argue that undercounts in the US Census would need to be “implausibly large” to change the overall conclusion that Mexican immigrants who arrived in the 1980s and 1990s were positively selected on education.

Conclusions about the nature of educational selectivity also vary by measurement approach. For example, some scholars argue that Mexican immigrants are less educated than nonmigrants in Mexico—“hyposlected”—but their measure of selectivity is based on only one indicator: comparing the percentage college-educated among Mexican immigrants to the percentage among their nonmigrant counterparts in Mexico (Lee & Zhou 2015, Tran et al. 2018). This approach disregards that premigration contexts are fundamental to the selectivity concept; the Mexican context

has historically been one in which few attend college. Thus, even Mexican immigrants with only high school degrees may be positively selected (see **Figure 2**). Indeed, analyses using indicators that consider the entire educational distribution tend to show that although Mexican immigrants do not come from the most educated segments of Mexican society, they tend to be more educated than most nonmigrants in Mexico (e.g., Chiquiar & Hanson 2005, Feliciano 2005b, Kaestner & Malamud 2014).

Despite the centrality of premigration contexts to the selectivity concept, for years, scholars did not consider origin contexts in their analyses (e.g., Borjas 1987). This oversight was driven partially by data constraints but also by a theoretical emphasis on assimilation—the process through which immigrants become more like the receiving society’s native-born population. However, people move “to improve their life chances—and their children’s—relative to what they would have been in the origin society” (Zuccotti et al. 2017, p. 98). And if immigrant characteristics are evaluated based only on the receiving context, then immigrant selectivity is unobserved or, at the very least, only loosely proxied, even for seemingly clear-cut indicators such as educational attainment (see **Figure 2**). Thus, placing immigrant attributes within their premigration contexts is central to understanding not only immigrant selectivity but, as I argue, migration processes and outcomes in receiving contexts as well.

Before considering the conceptualization of immigrant selectivity effects, I note some additional complexities related to the concept of immigrant selectivity. The illustration of the concept of selectivity in **Figure 1a** is necessarily oversimplified. In **Figure 1**, all of the eventual emigrants came from the same segment of the sending society, consistent with the observation that immigration often occurs in streams drawn from the same class strata, at least initially. Scholars have long suggested that theoretically, outcomes in receiving countries are shaped by aggregate characteristics of immigrant groups (e.g., Portes & Rumbaut 1996), and, as I discuss below, existing studies suggest that individual outcomes in receiving societies are shaped by immigrant group-level selectivity characteristics. However, individual immigrants may have premigration attributes that differ from what is typical for their migration stream. For example, even while most members of the immigrant group come from the segment indicated in **Figure 1a**, some immigrants from that country may come from low or middle areas in the premigration distribution. Regardless of selectivity at the immigrant group level, these individual-level attributes also likely matter for outcomes such as health, employment, or the next generation’s education. In short, we can consider immigrant selectivity with respect to immigrant groups and/or individual immigrants. Moreover, different dimensions of selectivity are often interrelated. For example, immigration streams may be selected on demographic characteristics such as gender and age, and gender and age may also affect the degree and nature of selectivity on education or health (Donato et al. 2019, Feliciano 2008). Finally, for immigrants from countries that are internally quite heterogeneous, the appropriate reference group (the premigration context in **Figure 1a**) to assess immigrant selectivity may not be the entire country’s population, but the population in the migrants’ region of origin (Moraga 2011). Thus, most studies of immigrant selectivity’s effects are hampered by data that only contextualize selectivity at the country level.

It is beyond the scope of this review to examine the array of factors driving patterns of immigrant selectivity, which reflect the interplay of social structures and migrants’ agency. For example, migrants from countries further away from the destination, for whom migration often bears greater personal and economic costs, tend to be more positively selected than those moving from closer countries (Feliciano 2005b, Hamilton 2019). Additional factors shaping immigrant selectivity include costs and difficulty of migration, cultural differences between countries, reasons for migration, sending and receiving countries’ immigration and emigration policies, the strength and nature of social networks between origin and destination countries, and economic opportunities

in sending and receiving contexts (He & Gerber 2020, Jasso et al. 2004, Model 2018b, Ro et al. 2016, Villarreal 2014). Given these complex factors, it follows that immigrant selectivity varies as these dynamics change over time, as studies using binational data over time have shown (Feliciano 2008, Guveli et al. 2017, Ro & Fleischer 2014); it also follows that immigrant selectivity varies by context of origin and destination (Polavieja et al. 2018, Zuccotti et al. 2017).

## CONCEPTUALIZING IMMIGRANT SELECTIVITY EFFECTS

Building from our understanding of immigrant selectivity, how do we conceptualize selection effects in immigration? In social research, we tend to think of selection effects as a potential source of bias in drawing conclusions about the relationships between variables in observational studies. Indeed, in immigration research, ignoring immigrant selection can bias the results of research studies purporting to examine the causal effects of factors such as culture or migration itself on outcomes in receiving societies. For example, to assess the independent effect of traditional culture on immigrant women's labor market participation, Polavieja (2015) proposes a new method that hinges on a comparison between migrant women and equivalent nonmigrant women in the home country. However, as Chou (2017) critiques, nonmigrant women in the home country are likely not equivalent, given selection into migration. If immigrants differ systematically from nonmigrants prior to migration (such as espousing more gender egalitarian values), it is problematic to assume that they represent the home country culture generally. In another example, to assess the impact of migration on stress, a research design that only compares immigrants to natives in the receiving society might draw the wrong conclusions—such as that migration is not stressful (if immigrants are no more stressed than natives)—if they fail to consider that migrants may be uniquely selected on their ability to withstand stress. Such concerns motivate much of the new empirical research incorporating selectivity analyses and arguments, which I review in the subsequent sections. These studies often challenge prior work by presenting evidence that immigrant–native differences in health or socioeconomic outcomes are driven by immigrant selectivity rather than culture or the act of migration.

Immigrant selectivity is a central feature of the migration process itself. As such, it is not just important to control for in studies about how other factors affect outcomes among migrants and their children. Rather, it is substantively important to understanding processes through which immigration contributes to inequality. Theoretically, who leaves and who stays might affect outcomes and inequalities in relation to both sending and receiving societies. Economists debate how selective emigration of high skilled citizens (i.e., brain drain) affects the remaining population of sending countries (e.g., Cañibano & Woolley 2015). However, sociologists more frequently study how immigrant selectivity relates to integration outcomes among immigrants and their children in Western receiving countries, the focus of this review.

The most rigorous assessment of the effects of immigrant selectivity requires linking how immigrants compare to nonmigrants in the premigration context to outcomes of interest in receiving contexts. Sociologists often engage with assimilation and integration theories by considering outcomes in relation to natives (or natives with native-born parents) in receiving societies. A strong direct test of immigrant selectivity effects on integration outcomes requires comparisons between immigrants and nonmigrants in the sending context (i.e., retrospectively placing immigrants in their place in **Figure 1a**), and constructing measures from those comparisons to predict how immigrants compare to natives in the receiving context (**Figure 1b**). For theoretical reasons, different research questions may focus on different comparison groups. For example, it may make sense to compare some outcomes of immigrants to those of their same-race native counterparts in receiving societies (e.g., Corra & Borch 2014). The strongest direct test of selectivity effects

would require longitudinal data to assess (a) emigrants' attributes prior to migration relative to the sending population (**Figure 1a**), (b) immigrants' attributes right after migration (to distinguish between selection effects and the effects of migration, assimilation, or contexts of reception), and (c) integration outcomes among immigrants and their children over time (as the effects of selectivity may only become apparent after an adjustment period). While some studies I highlight later in this review move in these directions, the ideal data are rarely available.

Many studies nonetheless move the field forward by relying on indirect evidence of selectivity effects. Such approaches include comparing immigrants' outcomes to those of nonmigrants in their home countries without empirically linking those relative measures to outcomes in the receiving country (e.g., Riosmena et al. 2013) or assessing immigrants' outcomes relative to both internal migrants (also a selective group) and internal nonmigrants (e.g., Hamilton 2019). This review focuses primarily on studies that indirectly and/or directly consider immigrant selectivity effects within the three major areas of existing sociological research: immigrant health, immigrant labor market outcomes, and educational outcomes among children of immigrants.

## EFFECTS OF IMMIGRANT SELECTIVITY ON HEALTH

Selectivity has long been offered as a key explanation for some puzzling findings in the empirical research on health, namely that immigrants tend to have better health outcomes than natives in Western receiving countries (Jasso et al. 2004, Rumbaut 1999). The Hispanic health paradox refers to the finding that the health and health-related behaviors of Hispanics, especially immigrants, are better than expected given their lower socioeconomic status relative to native-born Whites (Palloni & Arias 2004). A more general immigrant paradox has been found for a number of specific immigrant health outcomes relative to their native-born counterparts in Canada, the United States, Australia and the United Kingdom, including age-adjusted death rates (Jasso et al. 2004, Lariscy et al. 2015, Mehta et al. 2016), pregnancy-related outcomes (Urquia et al. 2012), disability (Elo et al. 2011), hypertension and obesity (Kennedy et al. 2015, Riosmena et al. 2013), chronic conditions (Kennedy et al. 2015), and self-reported health (Acevedo-Garcia et al. 2010, Hamilton & Hummer 2011, Kennedy et al. 2015, Newbold & Danforth 2003).

Immigrant selectivity as an explanation for such findings contrasts with the alternative explanation that immigrants import healthier practices from their home countries (Hamilton 2019). Differentiating among possible theoretical explanations is hampered by data limitations as few studies (exceptions discussed below) include data on origin countries and also empirically link selectivity based on such comparisons to outcomes in receiving countries. That is, most studies focus only on the outcomes shown in **Figure 1b**. However, many studies provide indirect evidence of selection effects. For example, Hamilton (2019) finds that Black immigrants report self-rated health more similar to Black American internal migrants than to Black American nonmovers. Since Black internal migrants are also positively selected on other outcomes, this provides indirect evidence of health selectivity and strong evidence challenging cultural explanations for Black immigrant health advantages.

A growing number of health studies provide additional indirect evidence of positive selectivity effects on several health characteristics by comparing immigrants to their nonmigrant home country counterparts. These studies also do not empirically link immigrant health selectivity to later health outcomes in the receiving context (they focus on **Figure 1a** only). For example, studies have found that recent Mexican immigrants in the United States fare favorably compared with their nonmigrant counterparts in Mexico on obesity (Riosmena et al. 2013, Ro & Fleischer 2014), hypertension (Riosmena et al. 2013), height (Riosmena et al. 2013, Ullmann et al. 2011), self-rated health (Cheong & Massey 2019), and activity limitations (Bostean 2013). Similarly, Russian

immigrants in the United States report lower levels of disability than Russians in Russia (Mehta & Elo 2012). Studies of immigrants from multiple origin countries show that immigrants report higher self-reported health and lower levels of chronic conditions (Kennedy et al. 2015), lower smoking rates (Riosmena et al. 2017), and higher life expectancies (Mehta et al. 2016) than among those in their birth countries. Moreover, studies do not find universal patterns of health selectivity across all outcomes. For example, Bostean (2013) finds little difference in chronic conditions between Mexican immigrants and their nonmigrant counterparts in Mexico. Riosmena and colleagues (2017) find that self-selection on some health aspects is particularly strong for some national-origin groups but not others. Thus, it may not be simply that healthier people migrate, but that migrants from some countries are positively selected on some health aspects.

Health researchers have also explored whether selective return migration of those who are less healthy—referred to as salmon bias—helps explain immigrant health advantages relative to host-country natives, particularly among those at older ages (Palloni & Arias 2004). Like testing whether migrants are initially selective on positive health, rigorously testing this hypothesis has been hampered by data limitations. The ideal data set would include longitudinal measures of the health status and mortality patterns of recent return migrants and migrants remaining in the host country, as well as comparisons to host-country natives. Nevertheless, several studies, nearly all focused on the case of Mexican immigrants using binational data, find indirect evidence of salmon bias by showing that return migrants are less healthy across a number of indicators than migrants remaining in the United States (Arenas et al. 2015, Bostean 2013, Donato et al. 2019, Palloni & Arias 2004, Riosmena et al. 2013, Turra & Elo 2008, Ullmann et al. 2011). However, the magnitude of the salmon bias reported in the above studies is small. Thus, scholars conclude that salmon bias might explain only a small portion of the Hispanic health paradox (Riosmena et al. 2013, Turra & Elo 2008). For example, based on simulations, Hummer and colleagues (2007) conclude that salmon bias cannot explain infant mortality advantages of Mexican immigrants as compared with US-born Whites, as “it would take an implausibly large number of Mexican immigrant women and their infants out-migrating from the United States to Mexico for the rates. . .to be equal” (Hummer et al. 2007, p. 453).

In contrast to most of the research suggesting negative health selection among return migrants to Mexico, Van Hook & Zhang (2011) find that poorer self-reported health is not associated with emigration from the United States among Mexican immigrants. Similarly, Cheong & Massey (2019) do not find self-reported health predicts return migration. However, the contradictory findings of the latter two studies may stem from issues related to self-reported health measures.

Indeed, while binational studies are certainly an improvement over studies that assume selectivity when an immigrant advantage relative to natives is observed, they have limitations, especially as pertaining to health. The ideal data to measure health selectivity are rarely available; these would include binational longitudinal studies with direct objective measures of immigrants’ health prior to migration and upon their initial arrival. Comparisons between even recent migrants (operationalized as within the past five years) and nonmigrants in the home country may be tainted by conditions in the receiving context that affect health (Jasso et al. 2004, Palloni & Ewbank 2004). Moreover, the act of migration itself may affect health and subjective assessments of health (Goldman et al. 2014). The latter is especially an issue with reliance on self-reported overall health, as it is unclear what reference point immigrants imagine when reporting their health. In addition, language translation issues lead Hispanic immigrants to report lower health than they might otherwise (Viruell-Fuentes et al. 2011).

Not all indicators suffer from these issues: Adult height is associated with childhood and adolescent nutrition and health, correlated with adult health outcomes, and largely immune from such



issues, but it is only a health proxy. Research examining height selection has found results consistent with positive health selectivity and salmon bias among Mexicans: Migrants from Mexico tend to be taller than nonmigrant Mexicans, and those who return to Mexico tend to be shorter than those who remain in the United States (Donato et al. 2019, Riosmena et al. 2013, Ullmann et al. 2011). Although they provide strong evidence that immigrants tend to be positively selected on health, these studies do not empirically link health selectivity to other, later health outcomes, and they provide only indirect evidence of selection effects.

Recent studies have attempted to directly test whether health selectivity helps account for immigrant advantages in health relative to host country natives, but they have yielded mixed support for the proposition. For example, Fenelon (2013) considers whether the positive selectivity of Mexican immigrants on smoking behavior explains Hispanic advantages in life expectancy relative to US-born Whites but finds lower levels of smoking among recent Mexican immigrants and Mexicans in Mexico, not selection. Ro and colleagues (2016), using combined international and US data on immigrants from 19 sending countries, find no evidence that national-origin group-level selection on self-rated health (a limited measure, as discussed above) helps explain advantages among immigrants in self-rated health relative to US-born Whites. In contrast, analyzing several health conditions by gender using combined US and Mexican data, Martinez and colleagues (2015) find some evidence that Mexican immigrants' positive selection on diabetes and ulcers relative to nonmigrants in Mexico helps explain positive health outcomes relative to Whites. However, this was not the case for cancer and obesity (Martinez et al. 2015).

Future research is needed on the effects of immigrant selection on health to address several shortcomings of existing research. First, to disentangle the effects of health selectivity from the effects of migration or assimilation, we need longitudinal data that place premigration health in the home country context and assess health immediately after migration and over time. Second, we need more precise measures of health, especially objective indicators. Third, although health affects socioeconomic outcomes and socioeconomic status affects health (Akresh & Frank 2008, Hamilton 2019), most studies have focused only on one domain (i.e., health or education) rather than linking them. Some recent studies have made advances along some of these lines, and I return to these themes later in this review. First, I synthesize findings on the second major domain of existing research: immigrant labor market outcomes.

## IMMIGRANT SELECTIVITY AND LABOR MARKET OUTCOMES

Theoretically, as in the health literature, selectivity has long been offered as an explanation for seeming paradoxes when comparing immigrants' labor market outcomes to those of receiving-country natives. The theory suggests that after an initial adjustment period, immigrants, who are highly selected on characteristics associated with labor market success (which may be easily measured, like educational selectivity, or less easily observed, such as motivation, work ethic, or ability), should perform better than their native-born counterparts (Chiswick 1986). While the health selectivity literature focuses more often on Mexican immigrants, debates about selectivity and labor market outcomes center more on the case of Black immigrants, in part because Mexican immigrants do not appear to perform better than US natives. For example, studies find no earnings advantage (Orrenius & Zavodny 2005). However, high-school-educated Mexican immigrants have higher employment rates than their similarly educated US-native counterparts (Waldinger & Feliciano 2004), a finding that might reflect educational selectivity, which is not fully accounted for by controls for absolute levels of education given variations in premigration contexts (see **Figure 2**), or selectivity on unobserved characteristics, like work ethic.

A growing body of work has considered the role of selectivity in accounting for the fairly consistent finding that Black immigrants, from both the West Indies and Africa, tend to fare better than African Americans in labor force participation, occupational prestige, and earnings, after an initial adjustment period (Corra & Borch 2014; Hamilton 2014, 2019; Ifatunji 2016, 2017; Model 2008). Selectivity theories offer an alternative explanation to pernicious claims, such as that Black immigrant success in the labor market reveals cultural deficiencies among African Americans and that racial discrimination no longer impacts labor market outcomes (see Hamilton 2019). However, while the pattern of labor market advantage among Black immigrants relative to African Americans years after migration is often posited as evidence itself of the effects of immigrant selectivity (Model 2018a), it is indirect at best. Other factors could also explain the pattern, such as selective return migration or employer preferences for immigrants (Ifatunji 2017).

Thus, like the research suggesting health selectivity accounts for immigrant advantages in outcomes, much of the existing literature in this area provides suggestive, rather than direct, evidence of selection effects. For example, Hamilton (2019) shows that Black immigrants from every origin country in Africa as well as the Caribbean are more highly educated than their home country compatriots—to varying degrees—which correlates to advantages in the labor market. While Hamilton (2019) does not link educational selectivity to labor market outcomes empirically, he provides suggestive evidence for selection effects by showing that the labor market outcomes of Black immigrants are more similar to those of Black American movers—who are also positively selected—than Black American nonmovers. However, a stronger test would empirically connect educational selectivity to labor market advantages, an endeavor for future researchers to pursue.

In addition to positive educational selectivity, selectivity attributes that are usually unobserved, such as work ethic and motivation, are also implicated in debates about labor market differentials between immigrants and natives. Recent studies have attempted to measure such characteristics. Using a unique data set containing two scales measuring motivation, Ifatunji (2017) does not find evidence supporting the idea that these attributes help explain Afro Caribbean labor market advantages, and on one measure—personal mastery—African Americans scored higher than Black immigrants. Along similar lines, Polavieja and colleagues (2018) attempt to directly measure motivational selectivity using survey data on European immigrants and nonmigrants in their home countries. They find little evidence that migrants tend to be more motivated or ambitious than their nonmigrant counterparts, in sharp contrast to selectivity arguments (Polavieja et al. 2018). However, Model (2018a) notes that self-reports of traits such as motivation are problematic and fail to capture selectivity on soft skills. Ifatunji (2018) calls for future longitudinal studies to assess migrants' motivation and ambition before and after migration, which would both better measure selectivity on personal attributes and determine whether destination experiences and/or the act of migration itself alter such characteristics.

In addition to longitudinal studies, future research on labor market differentials should incorporate more direct measures of selectivity into their analyses, which ultimately requires comparing migrants to the populations from which they came (**Figure 1a**). One recent study focused on the case of Turkish migrants in Europe makes advances along these lines by sampling immigrants in multiple destinations and nonmigrants in Turkey (Guveli et al. 2017). This research shows that adult immigrants tend to be more educated than nonmigrants in Turkey; however, positive educational selectivity does not translate into better occupational outcomes as compared with nonmigrants, possibly due to labor market discrimination in receiving countries (Zuccotti et al. 2017). Nevertheless, immigrant selectivity may influence other outcomes, such as the educational success of the next generation, a growing area of research I turn to next.

## IMMIGRANT SELECTIVITY AND CHILDREN OF IMMIGRANTS' EDUCATIONAL OUTCOMES

Several recent reviews have touched on the growing body of empirical research and theory linking the selectivity of the immigrant generation to outcomes among the second generation (Drouhot & Nee 2019, Sakamoto et al. 2009, Zhou & Gonzales 2019). Immigrant selectivity has been suggested as an explanation for two seemingly contradictory sets of findings in research on children of immigrants and education. On the one hand, we see large variation in educational outcomes correlated with racial/ethnic background, in which children from low socioeconomic groups are not doing particularly well (Drouhot & Nee 2019, Heath et al. 2008). On the other hand, children of immigrants tend to have better educational outcomes than those with native-born parents, in another apparent immigrant paradox (García Coll & Marks 2012, Kasinitz et al. 2008, Suárez-Orozco et al. 2009, White & Glick 2009).

As in the labor market, an immigrant advantage in education is especially stark when comparisons are made between Black immigrants and African Americans (Massey et al. 2007, Rong & Brown 2001, Thomas 2012). For example, like many labor market researchers, Thomas (2012) attributes the continued advantage of children of Black immigrants from Africa and the West Indies, after controls for standard family background measures, to unobserved selectivity attributes. Other scholars have moved beyond providing indirect evidence of selectivity to directly measuring the effects of immigrants' educational selectivity on the education of children of immigrants. These analyses and theoretical arguments have operated on different levels of analysis: Some focus on ethnic groups, while others focus on individuals.

Researchers first began empirically linking immigrant selectivity to second-generation outcomes by focusing on selectivity at the group level, recognizing that migrant streams from particular countries vary in selectivity and that the outcomes of children of immigrants are shaped by characteristics and resources of ethnic groups, not just families (Feliciano 2006a,b). The focus on the ethnic group was driven by both theoretical and practical considerations. Theoretically, immigrants' children are often embedded within ethnic communities. Studies suggest that such communities and ethnic social structures influence second-generation adaptation and may help account for group-level differences, such as persistent ethnic and racial gaps in schooling among the second generation (Feliciano 2006b, Zhou & Bankston 1998, Zhou & Kim 2006). Practically speaking, measuring selectivity at the individual level (i.e., the selectivity of immigrant parents), even on easily measured characteristics such as educational attainment, has, until recently, been difficult due to data limitations.

Even at the group level, early research was hampered by a lack of harmonized data across multiple origin countries that could be linked to data on second-generation outcomes. Feliciano's early work (2005a,b, 2006b) relied on published reports of the educational attainment distributions of multiple origin countries, which she compared with the distributions of immigrants from those countries in the Census and linked to US survey data on immigrants' children. These studies show that variations in educational selectivity at the national-origin group level influence children of immigrants' educational expectations (Feliciano 2006a) and attainment (Feliciano 2005a), and that national-origin group differences in educational selectivity largely account for racial gaps in college attainment between Asian and Latino children of immigrants (Feliciano 2005a).

Recent research builds upon this work in several ways, including examining whether and how group-level educational selectivity matters for second-generation educational outcomes when other factors related to contexts of exit and reception are also considered. Along these lines, Feliciano (2018) shows that group-level educational selectivity influences second-generation educational attainment in the United States more than postmigration characteristics such as the

average postmigration socioeconomic status of the national-origin group, group size, level of political incorporation, or various measures reflecting the premigration context. In addition, this research shows that for children of immigrants from low socioeconomic status families, coming from a highly selective immigrant group is more beneficial for educational attainment than attending a high socioeconomic status school. Van de Werfhorst & Heath (2019) make further advances by examining variation in the effects of immigrant group selectivity in different receiving countries. They link the educational selectivity of 34 immigrant groups who migrated to 10 different Western countries to ethnic inequalities in educational outcomes, showing that disadvantages in test scores and track placement relative to the majority population are smaller for positively selected ethnic groups across destination countries (van de Werfhorst & Heath 2019).

While studies focused on immigrant selectivity at the group level provide valuable insight into ethnic differences among the second generation, these approaches overlook the widespread variation in educational outcomes within national-origin groups (see Luthra et al. 2018). Indeed, more variation in educational attainment among the second generation is explained by postmigration family socioeconomic status than by immigrant group selectivity (Feliciano 2018), suggesting that differences in immigrant selectivity among immigrant parents within any one national-origin group should also be considered.

However, individual-level analyses of selection effects on second-generation outcomes have been hampered by data limitations, as the best tests of selectivity require data that contextualize premigration attributes of immigrants and follow immigrants (and their children) over time. Pong & Landale (2012) provide some suggestive evidence using longitudinal data from the New Immigrant Survey. Although they do not measure selectivity directly—since they lack a home country comparison—they show that premigration parental attributes, including premigration education, occupation, and work experiences of immigrant parents, completely explain the test-score disadvantage of children of Mexican immigrants and matter more than postmigration socioeconomic circumstances (Pong & Landale 2012). This suggests that individual-level immigrant selectivity may help account for ethnic differences as well as another puzzling finding, namely, that standard (postmigration) measures of parental socioeconomic status do not influence second-generation educational outcomes as strongly as they do for native-born with native-born parents in both the United States (Feliciano & Lanuza 2017, Luthra et al. 2018) and Europe (Heath et al. 2008, Zuccotti et al. 2017).

Fortunately, recent advances in the availability of harmonized data across multiple countries have led to advancements in the measurement of immigrant educational selectivity at the individual level and a spate of new studies. Ichou (2014) advances this research immensely by linking data from the Barro-Lee data set, which contains educational data by year, gender, and age across 146 countries, to French survey data to create an individual-level measure of immigrant selectivity that compares immigrant positions in the home country's educational attainment distribution by cohort and gender. He then shows that, after controlling for absolute levels of family socioeconomic status, immigrant parents' relative educational attainment helps predict their children's educational attainment in France.

Recent studies in other receiving countries build upon Ichou's approach. Feliciano & Lanuza (2017) show that immigrant parents' educational selectivity—referred to as parental contextual attainment—helps explain the educational attainment advantage of immigrants' adult children relative to those with US-born parents, after controlling for absolute measures of family socioeconomic status. Focusing on Sweden, Engzell (2019) finds that parental contextual attainment is more important than immigrant parents' absolute level of education in predicting their children's educational attitudes, occupational status aspirations, and transitions to academic secondary tracks. These studies suggest a social reproduction process occurring among immigrants

and their children, as children of immigrants tend to replicate the premigration status of their parents (**Figure 1a**) in the new receiving context. Teasing out the precise mechanisms through which immigrant selectivity—and educational selectivity in particular—shapes educational outcomes among immigrants' children is a promising area of new research.

Theoretical arguments pertaining to immigrant selectivity and second-generation outcomes focus on the transmission of social status and cultural resources (Feliciano 2006b, Feliciano & Lanuza 2017, Ichou 2014). Immigrant educational selectivity—whether considered at the level of the national-origin group or individual immigrant parents—captures, in some sense, premigration social status (**Figure 1a**). This may be especially relevant to outcomes in the receiving country because immigrants often experience downward mobility in occupational status after migration due to language difficulties or the lack of transferability of premigration credentials (Gans 2009). Furthermore, immigrants often experience educational status loss, as those who ranked higher in the educational distribution in their home countries often rank lower within the context of Western receiving countries (Engzell & Ichou 2020).

At the individual/family level, recent research suggests that premigration social status may matter through the same cultural mechanisms shaping class reproduction more generally, such as those proposed by Bourdieu (1977). In particular, *habitus*—one's conception of where one fits in the social world and the set of dispositions, skills, and habits that emerge from that conception—suggests a mechanism through which immigrant parents' prior class position leads to social reproduction (Bourdieu 1977, Bourdieu & Passeron 1977). For example, in her qualitative study, Fernández-Kelly (2008) applies Bourdieu's theories to immigrant families, arguing that parents' *habitus*es serve as transferable assets in the United States. Children of immigrants emulate their parents' cultural styles and actions (Lareau 2003, Swidler 1986), which may stem from their high premigration status rather than their current socioeconomic position. Furthermore, through shared family narratives, children learn where they come from, both literally and figuratively (Fernández-Kelly 2008). Immigrants' children may internalize their parents' premigration class orientations and narratives of hardships, propelling them to vindicate their parents' sacrifices through their own success in the United States (Louie 2012).

Recent quantitative findings are consistent with the interpretation that family processes, such as the development of high aspirations, expectations, motivation, optimism, and a strong work ethic, among children with highly selected parents, even those with low socioeconomic status in the host country, help explain the observed pattern of advantage in several outcomes among children of immigrants (Engzell 2019, Feliciano & Lanuza 2017). For example, although they do not include a direct measure of selectivity in their analyses, Hsin & Xie's (2014) findings that the Asian American advantage relative to Whites in educational achievement is explained more by immigrant status and cultural orientations toward effort than by absolute levels of socioeconomic status or cognitive ability is consistent with such arguments. Feliciano & Lanuza (2017) find more direct evidence in support of the theory that cultural resources link immigrant selectivity to educational outcomes. They show that the effect of parental contextual attainment—a relative measure of education based on the ranking within the origin country's educational distribution—on the educational attainment advantage of children of immigrants over Whites with US-born parents is mediated by parental aspirations and children's own aspirations and expectations. Engzell (2019) extends the literature to the Swedish context, finding that parental contextual attainment predicts children of immigrants' educational attitudes, occupational status aspirations, and transition to academic secondary tracks more strongly than an absolute measure of parental educational attainment does.

While the above work on mechanisms focuses on family processes, which relate to both within-group and between-group inequalities (since compositional differences contribute to ethnic differences), recent qualitative work further illuminates possible mechanisms linking

group-level immigrant selectivity to educational outcomes. For example, Lee & Zhou (2015) suggest mechanisms that link high immigrant group selectivity to the Asian second-generation advantage in education, including ethnic community resources, strict definitions of success, and positive ethnic stereotypes. Imoagene (2017) also stresses the importance of frames of success in the case of the Nigerian second generation. Her interviews reveal that because educational success is inextricably tied to their identities as Nigerians, the second generation have high expectations. In his ethnographic case study of Armenians, Khachikian (2019) shows that youth from low socioeconomic status families acquire cultural capital through interactions with higher-status coethnics in an ethnic community organization. This research begins to show how such group-level cultural resources extend to coethnics who do not themselves have highly positively selected immigrant parents, suggesting the importance of considering educational selectivity at the levels of both ethnic groups and families (Khachikian 2019). Future research should build upon these approaches through comparisons across ethnic groups that help tease out the roles of family and ethnic group immigrant selectivity in shaping inequalities in outcomes.

## **NEW DIRECTIONS IN THE STUDY OF IMMIGRANT SELECTIVITY EFFECTS**

In this section, I highlight some recent research that begins to take the study of immigrant selection effects in promising new directions. First, a limitation of existing research is that most immigrant selectivity research tends to focus on only one domain, such as health or education. But as scholars have suggested, health outcomes are linked to socioeconomic outcomes, and socioeconomic status is linked to health. For example, immigrant health selectivity may impact subsequent health differentials because health is associated with premigration socioeconomic characteristics, such as education or wealth (Fenelon 2013). Likewise, “those factors that induce more skilled immigrants to emigrate. . . also induce healthier immigrants” (Jasso et al. 2004, p. 255). Yet, researchers have rarely considered multiple forms of selectivity in the same analysis. For example, what has been framed as a health paradox among Mexican immigrants—weak associations between educational attainment and health outcomes (Acevedo-Garcia et al. 2007, Buttenheim et al. 2010)—may be partially explained by educational selectivity since those with low absolute levels of education (by US standards) may not be at the bottom of the educational distribution in Mexico. However, most health research only includes absolute measures of educational attainment.

One recent study breaks new ground by explicitly considering precisely such linkages. Using survey data from France along with the Barro-Lee data set, Ichou & Wallace (2019) measure whether immigrant educational selectivity relates to immigrants’ health advantages over French natives. They show that a relative measure of education—an individual’s ranking within the origin country in which their education was completed—explains a substantial portion of the immigrant advantage in various health outcomes over French natives, even with controls for absolute levels of educational attainment (Ichou & Wallace 2019). Future research should build upon this approach by examining different receiving contexts and incorporating other aspects of immigrant selectivity that are correlated with both health and education (such as occupational or wealth selectivity) as well as using longitudinal data that can more firmly establish that outcomes are shaped by selectivity and not by the receiving context or the act of migration itself.

Another promising direction in recent research is the consideration of how other forms of immigrant selectivity, beyond health or education, shape outcomes in receiving countries. Recent research, for example, considers how female migrants are self-selected on gender ideology (He & Gerber 2020, Hofmann 2014). Using migration sequencing as a proxy for gender ideology selectivity, He & Gerber (2020) show that origin country culture more strongly influences US labor

market outcomes for female migrants who migrate after their husbands, who are more likely to espouse traditional gender-role beliefs than lead female migrants. Similarly, examining families of migrants from Georgia, Hofmann (2014) shows that women migrants tend to come from relatively egalitarian households. Future research that considers gender ideology selection may complicate long-standing arguments both that the act of migration from developing to developed countries substantially changes gender roles and that origin country culture strongly impacts female migrants' labor market outcomes.

Finally, as emphasized throughout this review, research on the effects of immigrant selectivity has been hampered by data and measurement limitations. Fortunately, recent research using innovative research designs has moved the field in promising directions. Overall, as I argued at the outset, the concept of immigrant selectivity requires a consideration of the context from which migrants are drawn. Thus, it is a positive step forward that more studies use the place of origin as the starting point for research on the effects of selectivity, building upon the success of the Mexican Migration Project (Massey et al. 1987) by examining multiple origin and destination societies and incorporating nonmigrant families. For example, the 2,000 Families Study locates labor migrant families in their origin regions in Turkey, includes comparisons to nonmigrants from the same regions, and examines migrants and their families in eight European destination countries (Guveli et al. 2017). While the study is limited to male migrants, it nevertheless may provide new insights into the effects of migrant selectivity across different destinations (Zuccotti et al. 2017).

Another promising approach to ensure that outcomes are driven by selectivity, and not by the migration process itself or destination contexts, is to examine potential migrants by examining how/whether individuals with migrant intentions differ from those with no intentions of migrating (Berlinschi & Harutyunyan 2019, Cebolla-Boado & Soysal 2018). Cebolla-Boado & Soysal (2018) use this approach with Chinese data to assess a usually unobserved characteristic on which migrants are thought to be selected—optimism. They find that adolescents who expected to migrate already had higher expectations than their counterparts with no migration intentions, but that optimism was not related to experiencing migration itself (Cebolla-Boado & Soysal 2018). Berlinschi & Harutyunyan (2019) similarly find that individuals who intend to emigrate from Eastern European and former Soviet countries are self-selected on optimism as well as various other beliefs and attitudes. This approach to examining migrant selectivity could be the basis for subsequent longitudinal studies examining who actually migrates and how their outcomes are shaped by immigrant selectivity.

New studies also provide more precise measures of immigrant selectivity. For example, Spörlein & Kristen (2019) improve upon measures of educational selectivity by comparing Polish and Turkish immigrants to nonmigrants in not only their home countries, but the specific regions from which they came. Building upon Ichou's (2014) relative ranking measure of educational selectivity, their approach provides more precise indicators, recognizing that educational contexts can vary immensely both within and between countries. They combine region-of-origin-specific educational selectivity measures with longitudinal data surveying immigrants upon their arrival in their country of destination and following them over time. With this approach, the authors show that language proficiency progresses more quickly for more positively selected immigrants, regardless of their absolute levels of education or other factors (Spörlein & Kristen 2019). This research thus contains several elements that provide directions for future studies: It includes more precise measures of immigrant selectivity, compares immigrants' outcomes in multiple destination contexts, uses longitudinal data that capture immigrants upon initial arrival and over time, and examines linkages between socioeconomic selectivity (education) to an outcome in a cultural domain (language).

## CONCLUSION

The study of immigrant selectivity and its effects has moved from a largely theoretical endeavor to a robust area of empirical research. While the current historical moment is filled with nativist rhetoric based on assumptions that migrants to Western countries are not “the best,” existing empirical research suggests to the contrary that the positive selection of immigrants can help explain some paradoxical patterns of success among immigrants and their children in the domains of health, labor market outcomes, and education. Yet, there is much work to be done. Immigrant selectivity is constantly changing, as it is driven by multiple, complex factors that change over time. For example, immigrants may become more positively selected as migration becomes more difficult due to anti-immigrant policies in Western countries, and climate change migrants may differ in selectivity from labor migrants, which may impact sending and receiving societies in different ways. Future research should continue to explore how changes in selectivity relate to health, socioeconomic, and other outcomes for immigrants and their children in multiple receiving contexts.

Future studies should also include more rigorous research designs that directly measure immigrant selectivity by comparing immigrants’ characteristics with nonmigrants in their sending societies before migration and over time. Studies should also assess the interconnections between multiple types of selectivity. For example, selection on health, optimism and ambition, occupational skills, wealth, education, and work ethic may all be intertwined and intersect to shape patterns of incorporation among immigrants and their children. Teasing out the mechanisms through which immigrant selectivity matters is another direction for future research: Which family and community processes lead to high educational attainment for children of highly educationally select immigrants, for example? Here, a combination of quantitative and qualitative approaches may be useful. In addition, future researchers should consider how immigrant selectivity impacts not only incorporation in new destinations but also the populations remaining in the sending society. Ultimately, understanding the effects of different forms of immigrant selectivity on multiple outcomes in both sending and receiving contexts will enhance understanding of how migration processes contribute to inequalities within and between countries.

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