



THE EFFECT OF HUMAN CAPITAL, ECONOMIC ANXIETY, AND POLITICAL IDEOLOGIES ON IMMIGRANT HEALTH PERCEPTIONS: A BETWEEN-SUBJECTS EXPERIMENTAL APPROACH

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Abstract

This research examines the factors that influence health-related stereotypes against immigrants, with a focus on how human capital, conservative ideology, and economic anxiety impact these perceptions across different immigrant groups in the United States. The study uses Ordinary Least Squares (OLS) regression analysis of data from the 2020 Collaborative Multi-racial Post-Election Survey to assess attitudes towards all immigrants, as well as specifically Mexican and Chinese immigrants.

Objective: Health stereotypes often depict immigrants as carriers of diseases and burdens on society, which affect public opinion and policy. This study aims to analyze the roles of human capital, political ideology, and economic conditions in shaping these stereotypes.

Method: Using OLS regression, the analysis explores the association between stereotyping and various predictors, including conservative ideology (measured objectively and subjectively), human capital, and economic anxiety. Disaggregating the data by immigrant group allows for nuanced insights into the interplay of these factors.

Results: The results reveal moderate levels of stereotyping across all groups, with variations by immigrant origin. Objective measures of conservative ideology show a strong correlation with increased stereotyping, particularly against Mexican immigrants. Higher human capital is associated with reduced stereotyping, while economic anxiety consistently exacerbates negative stereotypes across all groups. Furthermore, Republican affiliation and racial identity are correlated with heightened stereotyping, especially against Chinese immigrants.

Discussion: The findings highlight the complexity of the factors contributing to health-related stereotypes and emphasize the importance of addressing educational and economic elements to mitigate these biases. Tailored interventions that take into account the distinct dynamics of each immigrant group are crucial for reducing stereotypes and improving integration and health outcomes.

Keywords

Narrative Policy Framework, Experimental design, Conservative index, Immigration, Health stereotype, Economic anxiety, COVID-19

1. Introduction

In the ongoing discussion about public health, the portrayal and narrative surrounding immigrants have become a major point of contention and analysis. This paper explores the different dimensions of how immigrants are depicted in relation to public health issues. It examines the underlying factors that contribute to health stereotypes against this group. The depiction of immigrants as carriers of diseases and individuals living in conditions that facilitate the spread of illnesses has not only influenced public perception but also shaped policy-making and societal attitudes (Castañeda et al., 2015; García et al., 2021; Maskileyson, Seddig, & Davidov, 2021; Szaflarski & Bauldry, 2019).

These narratives, often amplified by the media and political rhetoric, have significant implications for the social integration, access to healthcare, and overall well-being of immigrant populations (Bianchi, Oths, & White, 2019; Howe Hasanali, 2015; Lawlor & Tolley, 2017; Reedy, O'Brien, & Hurst, 2023). This research aims to critically examine these narratives by analyzing responses to statements that assess public opinion on whether immigrants are perceived as more likely to carry illnesses than Americans, live in conditions that contribute to disease transmission, and whether avoiding immigrants is necessary for one's health protection. By focusing on specific immigrant groups, such as Chinese and Mexican immigrants, this study seeks to uncover the nuances and variations in stereotypes and their impact on public health perceptions. Through this exploration, the paper endeavors to highlight the importance of addressing and challenging these stereotypes, not only to promote a more inclusive society but also to ensure equitable health outcomes for all individuals, regardless of their immigration status.

The current literature on health stereotypes against immigrants has mainly focused on the general perceptions and attitudes of host populations towards immigrants (Appel, Weber, & Kronberger, 2015; Cabieses et al., 2024; Dias, Gama, Cargaleiro, & Martins, 2012; Dimitriadis & Ambrosini, 2023; Hacker et al., 2011; Manji et al., 2023; Pillai et al., 2023). However, it often overlooks the specific factors that influence these stereotypes. Previous research has identified the significant roles of media portrayal, political discourse, and economic conditions in shaping public perceptions of immigrants (Abrajano, Hajnal, & Hassell, 2017; Brown, 2019; Haynes, Merolla, & Ramakrishnan, 2016). However, there is a notable gap in understanding how factors such as human capital, political ideology, and economic anxiety contribute to the formation and perpetuation of health stereotypes against immigrants. Additionally, while some studies have examined the impact of country of origin on immigrant stereotypes (Barnett & Walker, 2008; Haley, Zuckerman, Rao, Karpman, & Stern, 2022; Pillai et al., 2023), there is a lack of comprehensive research that systematically compares these effects across different immigrant groups.

This research aims to fill these gaps by examining how human capital, political ideology, and economic anxiety influence health stereotypes against immigrants, specifically considering the country of origin. The study utilizes the 2020 Collaborative Multi-racial Post-Election Survey, which randomly assigned respondents to three groups to assess attitudes towards all immigrants, Chinese immigrants, and Mexican immigrants. By doing so, this study seeks to provide a more detailed understanding of the factors that contribute to health-related stereotypes. Moreover, the inclusion of specific questions targeting perceptions of disease carriage and conditions conducive to disease spread among different immigrant groups allows for a nuanced analysis of stereotypes and their potential variations.

This approach not only addresses the existing knowledge gap by exploring the influence of human capital, political ideology, and economic anxiety on health stereotypes, but also contributes to the broader discourse on immigration and public health by examining the role of country of origin in shaping these perceptions. Through this analysis, the research aims to offer insights into the complex dynamics of stereotype formation and its implications for public health policy and immigrant integration strategies.

This study builds on previous research that has examined health stereotypes against immigrants and the factors that influence these perceptions. The aim of this study is to provide a clear and focused analysis by using a cross-sectional analysis of data from the 2020 Collaborative Multi-racial Post-Election Survey (CMPS). This survey captures attitudes and perceptions at a specific point in time and focuses specifically on the United States, taking into consideration its unique socio-political and economic context and how it impacts immigrant health stereotypes. The investigation aims to analyze the roles of human capital, political ideology, and economic anxiety in shaping health stereotypes against immigrants. Additionally, the study explores potential variations in these stereotypes based on the immigrants' country of origin. This nuanced approach allows for a detailed exploration of the factors at play, shedding light on the complex interplay between individual characteristics and broader societal attitudes.

However, it is important to note that the study intentionally excludes the analysis of media effects on health stereotypes against immigrants. This decision is made because the influence of the media is multifaceted and requires a distinct methodological approach and analytical framework. Instead, the research will control for variables such as partisanship, respondents' perceptions of COVID-19's impact on political engagement, age, gender, and personal or household experience with COVID-19. These controls are intended to isolate the effects of the primary variables of interest and provide a clearer understanding of the factors that contribute to health stereotypes against immigrants.

By setting these specific boundaries, the research aims to offer a focused and in-depth analysis of the determinants of health stereotypes against immigrants in the U.S. context. This approach enhances the study's methodological rigor and ensures that the findings are relevant and actionable for policymakers, public health professionals, and scholars interested in immigration, public health, and the intersection of socio-political factors with health perceptions.

The main focus of this research is to investigate the factors influencing stereotypes about immigrants' health, with a specific focus on the COVID-19 pandemic and increased attention on border issues. The objective of the study is to understand how human capital, economic anxiety, and political ideology shape perceptions of

immigrant health and its impact on public health in the United States. Additionally, it aims to determine whether the country of origin, particularly China and Mexico due to their significance during the pandemic and border crisis, affects the influence of these factors.

The research problem is to understand the relationship between these variables and stereotypes regarding immigrants' health. This issue is important because it has significant implications for public health policy, social cohesion, and the integration of immigrant communities. The research questions explore the extent to which human capital is associated with reduced health stereotypes. The hypothesis is that higher levels of human capital decrease the likelihood of endorsing negative health stereotypes, although this effect may vary depending on the immigrants' country of origin. Economic anxiety is expected to have a positive relationship with health stereotypes, suggesting that greater financial concerns may worsen negative perceptions, again with variations depending on whether the immigrants are from China or Mexico.

Political ideology is another important factor under investigation. The research predicts that conservative ideologies are more likely to be associated with negative health stereotypes against immigrants, and the magnitude of this effect may also differ based on the immigrants' country of origin. This will be examined through both objective measures of conservatism, based on responses to ideologically charged questions, and subjective self-assessments of political ideology.

By integrating these hypotheses into the narrative policy framework and political framing theory, the research aims to provide a comprehensive understanding of how policy narratives and political frames influence public opinion and behavior towards immigrants. By examining these relationships, the study intends to contribute to the development of more informed and effective public health policies that consider the complexities of immigration and ideology. Ultimately, the goal is to mitigate the adverse impacts of stereotypes related to immigrants' health on immigrant communities.

2. Background

The Narrative Policy Framework (NPF) is a theoretical model that emphasizes the significance of narratives in shaping public policy and opinion. It suggests that policy narratives are structured stories that help make sense of policy developments by integrating events into broader interpretive schemes, such as normative frames or shifts in the political landscape (Baumgartner & Jones, 2010; Kingdon & Stano, 1984; Sabatier, 1988). The NPF posits that narratives play a crucial role in policy development by providing a coherent story that makes complex policy issues intelligible, thereby influencing public opinion and policy outcomes.

The framework identifies narratives as essential tools for understanding policy dynamics over time, highlighting the importance of historical context, strategic agency, and contingency. It acknowledges substantial disagreements over policy interpretations and emphasizes that the power to craft and disseminate narratives can significantly influence what is accepted as logical or sensible in policy discussions. The NPF also points out that competition between different narratives can drive the advancement of literature towards more comprehensive explanations of policy phenomena (Jones & McBeth, 2010; Shanahan, Jones, McBeth, & Radaelli, 2018; Van Eeten, 2017).

The NPF is applied across various policy contexts, including the EU budget, the Common Agricultural Policy, and healthcare policies in the UK, to illustrate the dynamics of policy development. These case studies demonstrate how resistance to reform, the collapse of established policy paradigms, and the interplay of new initiatives with existing policies can be better understood through the lens of narrative analysis (Shanahan, Jones, & McBeth, 2011; Shanahan, McBeth, & Hathaway, 2011).

By focusing on the role of narratives in the policy-making process, the NPF offers a methodological approach that seeks to quantify the impact of narratives on policy debates and outcomes. It integrates elements of narrative form—such as plot, setting, characters, and morals—while categorizing story content with respect to ideologies or belief systems, thereby providing a comprehensive framework for analyzing policy narratives and their influence on public policy processes (Shanahan, Jones, McBeth, & Radaelli, 2018). The Narrative Policy Framework (NPF) is a valuable analytical tool for understanding health-related stereotypes against immigrants in the United States. It allows for analyzing policy narratives to reveal underlying ideologies and power structures shaping public opinion and policy outcomes. In the context of the COVID19 pandemic, the NPF can help us analyze the increase in anti-Asian sentiment and health stereotypes (Croucher, Nguyen, & Rahmani, 2020; Gover, Harper, & Langton, 2020; Hahm et al., 2021). The pandemic's association with Asia, especially China, has been reinforced by narratives that use metaphors and symbols, often spread through social media and political rhetoric. These narratives have stigmatized Asian Americans, incorrectly portraying them as villains or sources of the virus, leading to increased discrimination and violence against them (Huang, Krupenkin, Rothschild, & Lee Cunningham, 2023).

During the pandemic, there was a rise in anti-Asian sentiment, with political figures, including former President Donald Trump, using terms like "Chinese virus" or "Kung Flu." This added to the stigmatization of Asian

Americans and immigrants as responsible for spreading the virus (Cao, Lindo, & Zhong, 2023; Hswen et al., 2021; Ng, 2021). Consequently, discrimination and violence against this community increased. The Federal Bureau of Investigation (FBI) warned that hate crimes against Asian Americans would likely rise as COVID-19 spread, partly due to political rhetoric and the increase in anti-Asian incidents (Croucher et al., 2020). The Asian Americans Advancing Justice (AAJC) organization has been raising awareness about the amplified racism and discrimination against Asian Americans during the pandemic. They highlight the additional physical and mental health harm faced by the community due to the rise of anti-Asian hate (Chiang, 2020). Anti-immigrant campaign ads that connect the COVID-19 pandemic to the threat of diseases brought by immigrants can disproportionately affect Asian communities (Dhanani & Franz, 2021; Reny & Barreto, 2022).

Similarly, the NPF can provide insight into the border crisis and the mistrust surrounding Mexican immigrants. Policy narratives that portray Mexican immigrants as threats to national security or economic stability have influenced immigration policies and public attitudes. These narratives often depict immigrants as villains or burdens on society, disregarding their contributions and the complex factors driving migration, such as violence and economic hardship in their home countries (Cabot, 2014; Soug, 2023; Szaflarski & Bauldry, 2019). The broader issue of immigration in the U.S. lends itself to examination through the lens of the NPF. Immigration narratives in policy discussions often depict immigrants as either heroes embodying the American dream or as villains threatening society. These narratives have a significant influence on the development and implementation of immigration policies, which in turn can greatly impact the health and well-being of immigrant populations.

Political narratives that frame Mexican immigrants specifically as criminals or disease carriers during discussions of the border crisis contribute to an environment of fear and discrimination against Latino immigrants. This can be observed in political campaigns and policy debates focused on border security and immigration enforcement (Duncan & Vazquez, 2023). By perpetuating negative stereotypes, including those related to their health, political leaders and organizations indirectly target Latino immigrants. For example, campaign ads depicting Latino immigrants as disease carriers or as a burden on the healthcare system reinforce negative health-related stereotypes (Sanchez & Bennett, 2022). Additionally, policies that impose waiting periods for health insurance coverage based on immigration status or deny coverage to DACA recipients strengthen the stereotype that Latino immigrants are undeserving of healthcare services (Shanahan, Jones, McBeth, & Radaelli, 2018). These negative stereotypes can create obstacles to accessing healthcare and contribute to poorer health outcomes in certain communities (Dulin, Tapp, Smith, Urquieta de Hernandez, & Furueth, 2011).

Political leaders or organizations that support policies or rhetoric perpetuating these barriers indirectly target Latino immigrants by reinforcing negative health-related stereotypes and limiting their access to healthcare, thereby exacerbating health disparities (Ornelas, Yamanis, & Ruiz, 2020; Rojas Perez et al., 2023). By using the NPF, policymakers and advocates can identify and challenge harmful narratives, promote more inclusive and accurate stories that recognize the diversity and humanity of immigrant communities, and work towards policies that protect the health and rights of all individuals, regardless of immigration status.

The NPF provides a framework for understanding the role of narratives in shaping public policy and opinion, particularly regarding health-related stereotypes against immigrants in the United States. Negative stereotypes against immigrants can manifest in different ways, including through discourse, legislative actions, and the inaction of political leaders or organizations. Political leaders often use language that portrays immigrants as a burden on the healthcare system, insinuating that they exploit public health resources or contribute to the spread of diseases. These narratives can be observed in political speeches and campaigns that emphasize the need to protect national resources from being "overrun" by immigrants (Goel, McCarthy, Phillips, & Wee, 2004; Heinrich, 2018; Lau et al., 2013).

Additionally, policies that restrict immigrants' access to healthcare, such as excluding qualified and undocumented immigrants from Medicaid eligibility and participation in health care exchanges under the ACA, reinforce the stereotype that immigrants should not receive the same level of healthcare services as citizens (Bustamante, Chen, McKenna, & Ortega, 2019; Light & Terrasse, 2017). Moreover, the absence of policy responses to address the specific health needs of immigrant populations or the failure to counteract misinformation about immigrants and public health can perpetuate negative stereotypes and contribute to an exclusionary environment (Shanahan, Jones, & McBeth, 2018).

3. Theory

This study assesses the relationship between health stereotypes of immigrants and factors such as human capital, economic anxiety, and conservative perspective in a pandemic context.

Human capital

The concept of human capital comes from economics and refers to personal attributes like knowledge, skills, and health that are valuable in the production process (Deming, 2022). Human Capital Theory (HCT) proposes that investing in these attributes can increase an individual's productivity and economic value.

Irving Fisher first formally used the term "human capital" in economics in 1897 but it became widely used in economic literature in the late 1950s (Goldin, 2014; Mincer, 1993). Economists from the Chicago School, including Gary Becker, Jacob Mincer, and Theodore Schultz, played a significant role in developing and popularizing HCT (Khaykin, Lapinskas, & Kochergina, 2020).

The foundational papers that established HCT were published in the late 1950s and early 1960s. Becker's work, "Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education" (1964), and Schultz's publications "Investment in Human Capital" and "Formation of Human Capital" in the early 1960s were particularly influential (Becker, 2009; T. Schultz, 2003; T. W. Schultz, 1961). These economists expanded on the idea that an individual's skills and abilities constitute a stock of human capital, making them more productive and potentially leading to higher income (Hanushek & Woessmann, 2008).

Initially, the concept of skills as "human capital" faced skepticism due to its association with slavery and the implication of treating humans as property. The theory also received criticism for justifying inequality (Rindermann, 2008). However, HCT gained acceptance over time, especially as neoliberal politics gained traction in the 1970s and 1980s. The theory became a way to justify income inequality by suggesting that the wealthy earned their income through their productivity. In the 1990s and beyond, the concept of human capital continued to evolve and became a fundamental aspect of microeconomic theory, bridging the gap between micro and macroeconomics (Goldin, 2014). It was recognized that investing in human capital yielded significant economic returns and that differences in human capital stocks could explain variations in labor market earnings within countries and income per capita between countries (Goldin, 2014). The theory has been expanded to include not only education and training but also health, job search, migration, and other factors that affect future income or productivity. It has also been used to understand the residual in growth accounting and the role of education in economic recovery and growth (Gillies, 2011).

Despite its evolution and widespread acceptance, HCT has been criticized for its potential to devalue the concept of the human and education and for its failure to consider motivation in human behavior beyond personal gain (Teixeira, 2014). Critics have also noted that the theory does not adequately address issues of ownership, power, domination, reproduction, inequality, and the economic system (Crook, Todd, Combs, Woehr, & Ketchen Jr, 2011; Garavan, Morley, Gunnigle, & Collins, 2001; Gillies, 2011). Human capital refers to individuals' skills, knowledge, and intangible assets that can generate economic value. It is a concept rooted in economics, sociology, and business and is seen as essential for organizational and economic growth and productivity (Goldin & Katz, 1998; Kunz & Ludwig, 2022). Epistemologically, human capital theory is based on the idea that investing in people enhances their productivity. Ontologically, it represents the inherent potential within individuals for economic development. Normatively, higher levels of human capital are associated with lower levels of discrimination and stereotypes. Individuals with greater skills and knowledge are typically more valued in the labor market, leading to more equitable treatment (Emerson & Murphy, 2014; Fiske, Cuddy, Glick, & Xu, 2018). The relationship between human capital and stereotypes, especially regarding immigrants, is complex. Higher levels of human capital are linked to reduced susceptibility to negative stereotypes and discrimination. Education and exposure to diverse environments can foster more inclusive attitudes and reduce prejudice (Pager & Shepherd, 2008; Tibajev, 2022). Educated individuals, having invested in their human capital, are likely to recognize the value of diversity in the labor market and are less likely to view immigrants as direct job competitors (Garcia Quijano, 2020; Wilkes & Wu, 2019). Instead, they may view immigrants as contributing complementarily to economic growth and innovation (Hall & Farkas, 2008). Furthermore, the acquisition of human capital is associated with higher cognitive abilities, such as critical thinking and empathy, which can help mitigate the formation of stereotypes and discriminatory attitudes (Szaflarski & Bauldry, 2019). Educated individuals are more likely to be exposed to diverse cultures and perspectives, challenging preconceived notions and reducing biases against immigrants (Pager & Shepherd, 2008). However, the relationship between human capital and stereotypes is not straightforward. Systemic barriers and entrenched social inequalities can still perpetuate stereotypes and discrimination, even among the highly educated.

Discrimination can still impact individuals with diverse forms of human capital, such as neurodivergent individuals, affecting their employment experiences (Dalton, 2013; Farrugia, 2009). Therefore, while higher human

capital can contribute to reducing negative stereotypes and discrimination against immigrants, it is not a panacea. Addressing these issues requires comprehensive strategies that include education, policy reforms, and efforts to promote social inclusion and equity (Szaflarski & Bauldry, 2019). Measuring human capital involves using various indicators. One primary measure is education level, which is often associated with higher income and better job prospects (Crook et al., 2011). Income itself reflects the market value of an individual's skills and knowledge. Employment status, including job type and stability, is correlated with skill and education levels (Garavan et al., 2001). Mental and physical health are also crucial to human capital because they impact an individual's ability to work and be productive (Corrigan, Morris, Michaels, Rafacz, & Rüsich, 2012).

To minimize the adverse effects of stereotypes and discrimination, it is crucial to challenge public stigma, as demonstrated by Corrigan et al. (2012), who conducted a meta-analysis of studies aiming to reduce the stigma of mental illness. Their work highlights the importance of addressing societal biases to improve employment outcomes for individuals with mental health conditions.

Economic anxiety

Economic anxiety theory explores the complex relationship between economic fluctuations and their psychological effects on individuals. The theory, which originated from historical economic crises like the Great Depression, has since evolved to encompass a wide range of economic psychology. Its goal is to understand how economic turmoil can impact societies, affecting individuals' mental states and behaviors (Gadarian & Albertson, 2014).

Economic anxiety theory relies on empirical methods such as detailed surveys and comprehensive longitudinal studies to capture individuals' feelings about their economic stability. These insights reveal the significant influence of economic perceptions on personal well-being and societal actions (Western, Bloome, Sosnaud, & Tach, 2012).

The theory posits that economic phenomena are not solely external factors but also have a significant psychological component. It argues that individuals' subjective interpretations of economic conditions play a crucial role in shaping their mental health and decision-making processes. This highlights the internalization of economic realities (Lewis-Beck & Nadeau, 2011; Lewis-Beck & Stegmaier, 2000; Morgenstern, Smith, & Trelles, 2017).

In the realm of politics, particularly in the United States, economic anxiety theory has been instrumental in understanding the dynamics of economic voting. It explains how voters' perceptions of economic prosperity or downturns can directly influence their electoral choices, often rewarding or punishing incumbents based on their perception of the economic climate (de Benedictis-Kessner & Warshaw, 2020; Jensenius & Suryanarayan, 2022).

Furthermore, economic anxiety intersects with social psychology, providing insights into the mechanisms of prejudice and discrimination, particularly in the context of immigration. The theory suggests that economic threats can trigger out-group derogation, with immigrants often being cast as the out-group competing for limited resources. This competition is believed to be more intense during economic downturns, leading to increased economic anxiety among the native-born population (Alesina & Tabellini, 2024; Appel et al., 2015; Walsh & Tartakovsky, 2021).

These economic apprehensions can give rise to negative stereotypes against immigrants, including unfounded health-related fears. These stereotypes are part of a broader disease avoidance behavior, reflecting an evolutionary mechanism to mitigate health risks. However, in the context of economic anxiety, these fears can lead to unjust associations of immigrants with diseases, which are further fueled by their perceived outsider status and living conditions (Stuber, Meyer, & Link, 2008).

Economic anxiety can worsen negative stereotypes about immigrants, which often stem from concerns about job competition, cultural differences, and social cohesion. Immigrants are often stereotyped as being more prone to criminal behavior, such as theft, drug dealing, and human trafficking. However, empirical evidence contradicts these perceptions and shows that immigrants are actually less likely to commit crimes compared to the native-born population (Yakushko, 2009). Despite this evidence, a significant portion of the public still believes that immigrants have a negative impact on the economy, evade taxes, and exploit social services without contributing to them (Yakushko, 2009).

In addition, immigrants are sometimes labeled as lazy and unwilling to work hard, although this view varies greatly among different immigrant groups and ignores their contributions to the labor force (Appel et al., 2015). This stereotype also portrays immigrants as uneducated and suitable only for low-level, poorly paid jobs, ignoring the fact that they have diverse skills and educational backgrounds.

Concerns about cultural integration are also prevalent, with fears that immigrants may undermine social cohesion and dilute traditional cultural values by forming isolated communities. These concerns are amplified by stereotypes that associate immigrants, particularly those from regions like the Middle East, with disloyalty and terrorism, fueled by political rhetoric (Yakushko, 2009). Furthermore, some people believe that immigrants are more likely to carry diseases, leading to discrimination and behaviors such as avoiding sitting near perceived immigrants on public transport.

These pervasive stereotypes affect not only immigrants themselves but also the societies that host them, as they foster prejudice, discrimination, and social fragmentation. During times of economic uncertainty, these negative views can become more pronounced, as individuals who are economically anxious may blame immigrants for broader societal issues.

The implications of economic anxiety extend beyond health concerns, influencing social behaviors such as the avoidance of immigrants in public spaces. This social distancing, rooted in stereotypes induced by economic anxiety, presents challenges to social cohesion and the integration of immigrants into society (Tajfel, 1970; Tajfel, 1974; Tajfel, Billig, Bundy, & Flament, 1971).

Economic anxiety theory provides a comprehensive framework for analyzing the interaction between economic conditions, electoral behavior, and societal attitudes toward immigrants. By examining the psychological foundations of economic anxiety, we can better understand how economic stressors contribute to negative stereotypes and discriminatory practices against immigrants, particularly regarding health and social interactions. This holistic approach emphasizes the importance of addressing economic anxiety to foster more inclusive and cohesive societies.

Political ideology

In the United States, there has traditionally been a division between liberalism and conservatism in the political landscape. These ideologies have evolved significantly since the nation's inception and can be traced back to the debates between the Federalists and the Anti-Federalists. The modern liberal-conservative spectrum influences various policy areas, including the economy, social welfare, and international relations (Frohnen, Beer, & Jeffrey, 2014; Liaquat & Jost, 2023).

Conservatism in the U.S. is rooted in preserving tradition, advocating for limited government intervention, individual freedoms, and a free-market economy (Frohnen et al., 2014). Conservatives prefer maintaining the status quo and are skeptical of rapid reforms that may disrupt established norms and values. The movement champions minimal government interference, individual autonomy, adherence to historical precedents, and state governance over federal oversight. Many Americans align with conservative principles, and within the Republican Party, conservative ideology is central (Frohnen et al., 2014).

Core tenets of conservatism include promoting Christian ethics, traditional family structures, and belief in American exceptionalism. Conservatives typically oppose progressive stances on issues like same-sex marriage, transgender rights, euthanasia, and abortion. They also support free-market capitalism and corporate interests and are critical of socialism and labor unions. On matters of national defense, gun rights, capital punishment, and preserving Western cultural traditions, conservatives stand against socialist ideologies and moral relativism. Some conservatives are skeptical of scientific consensus on topics such as epidemiology, climate change, and evolution (Aberbach & Peele, 2011; Farmer, 2005; Gramlich, 2020; Hawthorne, Poe, Welty, & Porter, 2022; Hoover, 1987; Jillson, 2019; Lloyd & Davenport, 2013; Postell & O'Neill, 2013).

Conservatism derives from the Latin word "conservare," meaning to preserve or protect. This reflects the ideology's goal of safeguarding traditions and institutions. Conservatism views society as an evolving entity and advocates for gradual, considered changes to avoid unforeseen negative consequences. It emphasizes the importance of accumulated societal wisdom as a guiding principle for governance. Morally and ethically, conservatism posits that historical and cultural precedents should inform individual behavior and policy-making (McManus, 2016; Thompson, 2014; Van Kersbergen & Kremer, 2008).

Concerning immigration, conservative ideology is influenced by concerns over national identity, economic competition, and social cohesion. There is a fear that unchecked immigration may erode national identity, strain public resources, and disrupt labor markets, potentially disadvantaging native-born citizens. Such perspectives can lead to detrimental stereotypes against immigrants, driven by apprehensions about healthcare systems, diseases, and adherence to health norms in host countries (Kerr, Panagopoulos, & van der Linden, 2021; Rui, Tian, & Xiong, 2022).

The COVID-19 pandemic has highlighted the ideological divide in the U.S., particularly regarding public health policies, vaccine acceptance, and government roles in crisis management. Research indicates that conservatives generally support fewer public health measures, exhibit vaccine hesitancy, and prioritize economic recovery over containment strategies. This divide extends to perceptions of immigration, as conservatives are more likely to view immigrants as public health risks or burdens on healthcare resources, reinforcing health-related stereotypes (Conway III, Woodard, Zubrod, & Chan, 2021; Havey, 2020; Krieger, Testa, Chen, Hanage, & McGregor, 2022).

Conservative values such as competition, the importance of hard work, and skepticism towards government social programs underscore beliefs in meritocracy, individual responsibility, and the idea that government interventions can impede personal freedoms and initiative. These beliefs indirectly contribute to health stereotypes against immigrants by emphasizing selfreliance and downplaying structural factors in health disparities.

Conservative ideology in the U.S., with its focus on preserving tradition, limiting government intervention,

and upholding individual liberties, significantly influences attitudes toward immigration and public health. The COVID-19 pandemic has further illuminated and intensified these ideological divides, particularly in health-related issues and immigration policies, demonstrating how conservative values can perpetuate health stereotypes against immigrants.

4. Methodology

4.1 Data Source and Sample Design

The Collaborative Multi-Racial Post-Election Survey (CMPS), hosted by UCLA, is a valuable source of data for studying a wide range of sociopolitical beliefs in the United States. With approximately 15,000 participants from the 2020 post-election survey cycle, the survey includes diverse individuals representing key racial groups such as African Americans, Hispanics, Asians, and Caucasians. This inclusivity is crucial for conducting detailed racial studies exploring policy inclinations and political opinions. The CMPS's meticulous approach to capturing a wide range of racial perspectives makes it an essential resource for understanding the complex sociopolitical dynamics in the U.S.

In its execution, the CMPS team uses sophisticated sampling methods that accurately reflect the demographic complexity of the American population. These methods include stratified sampling to align with national demographic trends, data calibration to mitigate potential biases, and the formulation of precise survey questions to generate clear and meaningful insights. The rigorous curation of CMPS data significantly enhances its validity, making it an indispensable asset for behavioral research. This dataset provides a solid foundation for investigating variations in political engagement and viewpoints across different racial groups. Moreover, the CMPS also examines attitudes and behaviors related to public health challenges, including prevalent health-related stereotypes. By considering diverse sociodemographic factors, the survey enables comprehensive examinations of how political beliefs, socioeconomic conditions, and attitudes toward leadership influence health-related behaviors in various racial and ethnic groups. Given the pressing public health issues, such as the COVID-19 pandemic, the insights generated from the CMPS are invaluable. They offer critical intelligence for public health authorities and policymakers working to address health disparities and promote health equity amidst the complex interplay of demographic and political factors in America.

4.2 Experimental design

The experimental design employed in this study is a between-subjects design, which is a fundamental approach in experimental research. This design is particularly well-suited for investigating the influence of different factors on health stereotypes among immigrants, especially during a significant pandemic like COVID-19. The use of a between-subjects design allows for the examination of the effects of specific independent variables—in this case, the country of origin of the immigrants—on the dependent variable, which is the level of xenophobic attitudes among the American electorate. The importance of using a sound experimental design to conduct such research cannot be overstated. Experimental design is the backbone of empirical research, providing a structured methodological approach that enables researchers to make causal inferences about the relationships between variables (Hariton & Locascio, 2018; Kendall, 2003). By randomly assigning participants to different conditions and controlling for confounding variables through statistical techniques like regression analysis, researchers can isolate the effect of the independent variable on the dependent variable (Chalmers, Smith, Blackburn, et al., 1981; Moher et al., 2010). In this study, the random assignment of respondents to one of the three groups (Splits A, B, and C) is crucial for several reasons:

- **Control of Confounding Variables:** Randomization helps to ensure that each group is comparable at the start of the experiment, thereby controlling for confounding variables that could otherwise skew the results.
- **Reduction of Bias:** By preventing the respondents from knowing about the existence of other groups, the study minimizes the risk of bias that could arise from participants adjusting their responses based on knowledge of the full experimental setup.
- **Order Effects:** Rotating the order of the statements for each group helps to control for order effects, which could influence how respondents perceive and answer the questions.
- **Causal Inference:** The between-subjects design allows the researchers to draw stronger conclusions about the causal relationship between the country of origin of the immigrants and the prevalence of xenophobic attitudes.
- **Relevance to Public Health:** Understanding the factors that influence health stereotypes is particularly important in the context of a pandemic, as these stereotypes can affect public health responses, access to healthcare for immigrants, and overall social cohesion.

The experimental design's robustness is further enhanced by the use of regression analysis to control for potential confounders such as age, COVID-19 exposure, and political affiliation. This statistical control is essential for ensuring that the observed effects are not due to these other variables but are indeed a result of the country of origin of the immigrants.

The primary objective of this study is to examine and compare the prevalence of xenophobic attitudes towards different groups of immigrants (general immigrants, Chinese immigrants, and Mexican immigrants) among the American electorate.

The research utilizes a randomized controlled trial design where respondents are randomly assigned to one of three groups (Splits A, B, and C). Each group answers a series of attitudinal questions targeted at a specific immigrant group:

- Split A: Questions about Mexican immigrants.
- Split B: Questions about Chinese immigrants.
- Split C: Questions about immigrants in general.

The random assignment to these groups helps ensure that any differences in responses can be attributed to manipulating the immigrant group variable rather than other extraneous factors. The questions for each group are designed to measure prejudice and xenophobic attitudes, using a Likert scale that ranges from "strongly agree" to "strongly disagree." The order of the statements is rotated to prevent any influence from order effects on the results. Regression analysis will be conducted to control for potential confounders, such as age, COVID-19 exposure, and political affiliation.

4.3 Main variables

4.3.1 Dependent variables

The research investigates public perceptions of immigrants by using a comprehensive survey divided into three sections, each focusing on different immigrant groups. The survey employs a Likert scale, ranging from "strongly disagree" to "strongly agree," to assess attitudes towards four specific aspects related to immigrants' health risks and social interactions. These aspects include the belief that immigrants are more likely to carry diseases compared to native Americans, the perception that immigrants live in conditions that facilitate the spread of diseases, the perceived need to avoid contact with immigrants for health safety, and reluctance to sit next to immigrants in public spaces such as transportation.

Split A of the survey specifically addresses these concerns in relation to Mexican immigrants, Split B focuses on Chinese immigrants, and Split C applies these questions to immigrants in general. This allows the study to measure and compare xenophobic attitudes across different ethnic contexts. By varying the order of the statements, the study aims to reduce response biases and improve the accuracy of the collected data.

A factor analysis was conducted to develop a scale for measuring overall stereotypes against immigrants. The findings indicate a high level of internal consistency, with a Cronbach's Alpha of 0.86 for the general immigrant questions, 0.90 for questions specific to Chinese immigrants, and 0.86 for questions related to Mexican immigrants. These results confirm the scale's reliability and suggest robust underlying constructs that capture negative stereotypes concerning immigrants' health risks and social integration (Cronbach, 1951).

Scale Development and Factor Analysis

The study aims to explore attitudes towards immigrants by developing a scale based on responses to four Likert-type items. These items reflect opinions on:

1. The perceived health risk immigrants pose compared to Americans.
2. The living conditions of immigrants as they relate to disease spread.
3. The need to avoid contact with immigrants for health safety.
4. Hesitancy towards sitting next to immigrants in public transportation.

Responses were collected on a scale from *strongly disagree* to *strongly agree*. To construct a reliable scale, factor analysis was used, following the common factor model:

$$x_i = \lambda_{i1}f_1 + \lambda_{i2}f_2 + \dots + \lambda_{ip}f_p + \epsilon_i \quad (1)$$

Here, x_i represents observed variables (responses), λ_{ij} represents factor loadings, f_j represents common factors, and ε_i represents unique factors or error terms. This model helps extract one or more factors that account for the variance in responses, facilitating the creation of a reliable scale.

Linking Factor Analysis to Scale Reliability: The reliability of the scale, as developed from factor analysis, requires quantification to ensure internal consistency among the items. This is where Cronbach's Alpha (α) comes into play, offering a measure of scale reliability.

Reliability Analysis: Cronbach's Alpha is a function of the number of items on the scale and the average inter-item covariance. It is calculated as:

$$\alpha = \frac{N\bar{c}}{\bar{v} + (N-1)\bar{c}} \quad (2)$$

where N is the number of items, \bar{c} is the average inter-item covariance, and \bar{v} is the average item variance. This formula assesses the extent to which items are correlated, thus contributing to the overall scale consistency.

This methodical approach enables a detailed exploration of public opinion and supports a comprehensive comparison among various groups. It uncovers the influence of specific ethnic prejudices on overall attitudes toward immigrants. Through careful analysis of these factors, the research offers significant insights into how health, ethnicity, and stereotypes intersect within modern social environments.

4.3.2 Key independent variables

This study investigates health-related stereotypes about immigrants based on their country of origin, focusing on three main variables: Human Capital, Economic Anxiety, and Political Ideology.

Political Ideology

Political ideology is evaluated using two different methods. The first method involves a subjective measurement obtained through the question: "When it comes to politics, do you consider yourself as liberal, moderate, or conservative?" Participants respond using a 5-point Likert scale that ranges from "very liberal" to "very conservative." The second method, which provides an objective measurement, constructs a conservatism scale by analyzing responses to three statements. These statements are rated on a four-point Likert scale that ranges from strongly disagree to strongly agree.

1. People should be allowed to compete to ensure the best person wins.
2. I've benefited from working hard, so there's no reason others can't.
3. A problem with government social programs is that they hinder personal freedom.

An index is created by calculating the average score of responses for each respondent, assuming equal weight for each question.

$$\text{Conservative Index} = \frac{Q1 + Q2 + Q3}{3}$$

Where Q1, Q2, and Q3 represent the responses to each statement, reflecting an individual's beliefs about competition, individual effort, and the role of government in society. This index indicates the ideological spectrum from liberal to conservative.

Liberal and conservative perspectives often differ significantly when it comes to the belief that "people should be allowed to compete to ensure the best person wins." This viewpoint reveals their fundamental assumptions about society, the economy, and the role of government. Liberals generally emphasize the importance of creating structural conditions that foster fair competition. They advocate for policies that provide equal opportunities for all participants, such as affirmative action or social welfare programs aimed at balancing socioeconomic scales (Davies, 2020; Radic, 2022). These measures are seen as essential to counteract inherent disparities that can favor certain groups in competition.

On the other hand, conservatives emphasize the importance of maintaining freedom to compete with minimal government interference. They argue that this freedom allows the most capable, diligent, or innovative individuals to succeed (Gane, 2020; Hearn, 2016). According to this viewpoint, government interventions are often seen as obstacles that hinder, rather than help, the natural sorting of abilities and efforts. This fundamental ideological divide reflects broader divisions over the role of government in society, individual accountability, and definitions of fairness and equality.

The divergences between liberal and conservative ideologies extend to other areas, such as personal effort and systemic barriers. For example, the statement "I've benefited from working hard, so there's no reason others can't" encapsulates a typical conservative belief in individualism and a merit-based system where personal effort is the primary determinant of success. Liberals, however, point to systemic inequities that can hinder equal opportunity, supporting policies like progressive taxation and affirmative action that aim to address these barriers. This ideological contrast highlights differing views on the root causes of and solutions to societal and economic disparities.

Furthermore, opinions on government social programs also vary significantly between these groups. Liberals tend to support such programs, viewing them as essential for promoting societal well-being, protecting rights, and ensuring a basic level of equality across society. They argue that these programs do not infringe on personal freedoms but rather enhance collective welfare, supporting the role of government in safeguarding and promoting the public good (Maddox & Lilie, 1984).

Conversely, conservatives often see government intervention in social programs as threatening personal liberty and free-market principles. They prefer a more limited governmental role, suggesting that private efforts and charities effectively solve social issues (Frimer, Skitka, & Motyl, 2017; Narveson, 2000). Conservatives believe that such programs reduce incentives for personal responsibility and self-sufficiency, advocating for an environment where individuals can choose their services without compulsory government involvement (Ditto et al., 2019). This ideological disparity underscores the fundamental differences in how liberals and conservatives envision the balance between government assistance and personal freedom in addressing social challenges.

Economic Anxiety

The variable of Economic Anxiety is assessed by asking the question, "When you think about the past year and your personal economic well-being, how do you feel...?" A five-point Likert scale is used to measure this, ranging from "Much less afraid" to "Much more afraid." This scale is designed to determine the level of concern or apprehension that respondents have about their financial situation in the previous year. By effectively capturing the range of economic sentiments, it provides insights into how individuals perceive their economic stability and the impact of broader economic conditions on their personal financial fears. This approach enables researchers to quantify the extent of economic anxiety, offering a detailed understanding of the variations in economic confidence among different demographic groups.

Human Capital

This study outlines the procedures used to develop a Human Capital Index (HCI) that evaluates different predictors of economic productivity. The HCI combines various aspects of human capital, including education, health, employment, and income, into a comprehensive index.

The construction of the HCI involves three key steps: imputing missing data, standardizing values, and aggregating these standardized values into a composite index. Min-Max scaling, which transforms the variables to a uniform 0-1 scale, ensures that each dimension of human capital contributes equally to the overall index. This standardization is vital for effectively comparing and integrating diverse variables.

The HCI incorporates the following essential variables, each representing a different dimension of human capital:

- **Level of Education:** This is measured on an ordinal scale ranging from 1 (representing elementary education, Grades 1-8) to 7 (indicating advanced education, such as a Postgraduate degree). The relevant survey question is: "S13. What is the highest level of education you completed?"
- **Physical Health:** Assessed on a scale from 1 to 5, which corresponds to poor to excellent health. The corresponding survey question is: "In general, would you rate your health as excellent, very good, good, fair, or poor?"
- **Mental Health:** Also evaluated on a scale from 1 to 5, mirroring the physical health scale in assessing mental health from poor to excellent. The survey question for this measure is: "In general, would you rate your mental health as excellent, very good, good, fair, or poor?"
- **Employment Status:** This is a binary variable where 1 indicates employment and 0 signifies unemployment.
- **Income (Income):** Captured on an ordinal scale from 1 to 12, reflecting a range of income levels.

To address missing values, the index uses median imputation for continuous variables and mode imputation for categorical variables. These imputation methods help maintain the integrity and consistency of the dataset, enabling more reliable and accurate construction of the index. This comprehensive approach to measuring human capital allows for a nuanced understanding of how different elements contribute to individual economic productivity. Data standardization is applied using the following Min-Max scaling formula:

$$x_{\text{standardized}} = \frac{x - \min(x)}{\max(x) - \min(x)} \quad (3)$$

where x is the original value, and $\min(x)$ and $\max(x)$ are the minimum and maximum values observed in the data, respectively.

The HCI is computed as the arithmetic mean of the standardized scores:

$$\text{HCI} = \frac{1}{n} \sum_{i=1}^n x_i \quad (4)$$

where n is the number of variables, and x_i is the standardized score of the i^{th} variable.

The inclusion of each variable is supported by empirical research highlighting their importance in economic productivity and personal well-being.

- **Education:** Education is positively correlated with higher income and employment opportunities (Melton, 1965; T. W. Schultz, 1961, 1972).
- **Health:** Both physical and mental health significantly impact productivity and economic output (Becker, 2007; Bleakley, 2010; Grossman, 1972).
- **Employment Status:** Reflects the practical application of skills in the workforce, crucial for economic stability (Becker, 1975, 1992).
- **Income:** Represents the economic valuation of skills and productivity in the labor market (Jacobs & Bovenberg, 2010; Lee & Lee, 2018).

The HCI developed in this report provides a comprehensive measure of individual human capital based on key dimensions that affect economic outcomes and quality of life.

Control variables

This research investigates various critical factors that are believed to influence the reliability of the connections between prevalent health-related stereotypes and the primary variables being studied. A critical aspect of the analysis is the influence of political affiliation on perceptions of immigrants. It is suggested that political orientation significantly shapes attitudes towards immigrants, with Democrats generally having more positive sentiments compared to Republicans (Baker & Bader, 2022; Baker & Edmonds, 2021; Hajnal & Rivera, 2014). This division reflects deeper socio-psychological constructs of in-group versus outgroup dynamics, where political identities strongly influence one's viewpoints and reactions to discussions about immigration. These patterns align with the principles of dual-process models of social cognition, which argue that partisan biases greatly affect attitudes and policy preferences regarding immigrants (Greene, 2002).

Additionally, the study takes into account the role of COVID-19 Political Engagement Perception as a control variable. This is measured by asking participants the following question: "Since early 2020, the U.S. has been dealing with disruptions and health and economic issues due to a new coronavirus and the disease it causes, COVID-19. Has coronavirus affected how active you were in politics and civic life during 2020 compared to what you had expected?"

Because of coronavirus, were you more active, less active, or did it have little effect on how you engaged in politics?" The response "had little effect on how you engaged in politics" is used as the baseline for multiple regression analysis. This variable aims to assess the impact of the COVID-19 pandemic on individuals' political and civic engagement, hypothesizing that changes in engagement levels may correlate with the prevalence of health-related stereotypes towards immigrants.

The research also evaluates the significance of exposure to COVID-19 as another crucial control variable.

We hypothesize that those who have had direct or indirect experiences with COVID-19 may exhibit more pronounced negative health-related stereotypes towards immigrants compared to those without such exposure (Cabieses et al., 2024; Makarova, Makarova, & Korovin, 2022). This line of inquiry aims to explore how the pandemic may have shaped or intensified societal biases and perceptions toward immigrant populations.

In addition to these factors, the analysis incorporates demographic variables such as age, gender, and race, which are essential for a comprehensive understanding of the study's findings and for contextualizing the impact of the aforementioned variables on public attitudes and stereotypes.

4.4 Data Analysis

This investigation uses the Ordinary Least Squares (OLS) regression technique to examine the relationship between the continuous dependent variables and a set of independent variables. The OLS method is preferred because it can generate accurate and unbiased estimates, reducing the differences between the observed values of the dependent variable and the predicted values from the model. This approach helps to understand the dynamics between the dependent variable and the independent variables being considered.

Additionally, the study focuses on analyzing the data based on immigrants' countries of origin. The categories include immigrants without a specific country distinction, those from Mexico, and those from China. This categorization allows for a detailed investigation into how the independent variables may have different effects on the dependent variable across these distinct groups based on their country of origin. This detailed approach is important for understanding the complex perceptions and stereotypes related to health against immigrant populations.

Model Specification The general form of the OLS regression model used in this analysis is given by:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon \quad (5)$$

where:

- Y represents the continuous dependent variable
- β_0 is the intercept term,
- $\beta_1, \beta_2, \dots, \beta_n$ are the coefficients of the independent variables X_1, X_2, \dots, X_n , respectively,
- ε denotes the error term

To account for the differing levels of country of origin, the dataset is disaggregated into three distinct subsets:

1. Perception about Mexican immigrants
2. Perception about Chinese immigrants
3. Perception about immigrants in general

In order to examine the relationship between the dependent and independent variables in different categories based on the country of origin, separate Ordinary Least Squares (OLS) regressions are conducted for each subset. This disaggregation of the data allows for a more detailed analysis, revealing how the key independent variables in this study vary depending on the country of origin. By analyzing the data in this manner, specific patterns and effects that may be overlooked in a more generalized analysis can be uncovered, providing clearer insights into how the origins of immigrants impact the study's outcomes.

To ensure the reliability and accuracy of the regression models, it is crucial to assess potential multicollinearity among the predictors. This is where the Variance Inflation Factor (VIF) comes into play. The VIF quantifies the degree to which the variance of an estimated regression coefficient increases when the predictors are correlated. A high VIF indicates a strong correlation between the predictor being considered and other predictors in the model, which can compromise the reliability of the statistical analysis. Calculating the VIF for each predictor helps identify the presence of multicollinearity, enabling researchers to make necessary adjustments to enhance the validity of the model (Rawlings, Pantula, & Dickey, 1998).

$$VIF_j = \frac{1}{1 - R_j^2} \quad (6)$$

where R^2 is the coefficient of determination of a regression of predictor X_j on all the other predictors.

This can be further elaborated in the context of Ordinary Least Squares (OLS) as follows:

1. Consider the OLS regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \epsilon \tag{7}$$

2. For each predictor X_j , fit a regression model using X_j as the dependent variable and all other independent variables as predictors:

$$X_j = \alpha_0 + \alpha_1 X_1 + \dots + \alpha_{j-1} X_{j-1} + \alpha_{j+1} X_{j+1} + \dots + \alpha_k X_k + u_j \tag{8}$$

3. Calculate the R^2 of this model, which is the proportion of variance in X_j that is predictable from the other variables.
4. Substitute R^2 back into the VIF formula to compute the VIF for X_j .

A VIF of 1 indicates no correlation among the j^{th} predictor and the remaining predictors in the model, and therefore no inflation. A VIF greater than 1 indicates the presence of multicollinearity, with higher values signaling increased redundancy and potential issues with regression estimates.

GVIF is the Generalized Variance Inflation Factor, which extends the concept of VIF to models that include categorical predictors. A higher GVIF value indicates higher multicollinearity. DF represents the degrees of freedom associated with the predictor. For categorical variables, this is more than 1 (based on the number of categories minus one). For continuous variables, this is typically 1.

$GVIF1^{\frac{1}{2-DF}}$ DF is the GVIF adjusted for degrees of freedom. It provides a more interpretable scale, similar to the traditional VIF, making it easier to compare variables with different numbers of categories. A value close to 1 suggests little to no inflation of the variance of the model coefficient due to multicollinearity with other predictors. As the values increase much above 1, they indicate greater multicollinearity. Common thresholds for concern in traditional VIF interpretations are values above 5 (or 10 in more relaxed scenarios), suggesting significant multicollinearity that could distort the OLS estimates (James, Witten, Hastie, Tibshirani, et al., 2013; Rawlings et al., 1998; Sheather, 2009).

Table 1 presents the Variance Inflation Factor (VIF) results for the independent variables used in three separate Generalized Linear Models (GLMs). The table highlights the VIF values for variables in three models that are customized for different immigrant groups: All Immigrants, Mexican Immigrants, and Chinese Immigrants. The results demonstrate that the VIF scores are consistently low across all models, indicating that multicollinearity is not a significant problem in this instance. This confirms that the regression coefficients estimated by these models are stable and dependable, thus offering strong insights into the factors that influence perceptions of immigrants.

Variable	All Immigrants			Mexican Immigrants			Chinese Immigrants		
	GVIF1	DF1	$GVIF1^{\frac{1}{2-DF1}}$	GVIF2	DF2	$GVIF2^{\frac{1}{2-DF2}}$	GVIF3	DF3	$GVIF3^{\frac{1}{2-DF3}}$
COVID-19 Political Engagement Perception	1.139	2	1.033	1.138	2	1.033	1.121	2	1.029
Conservative Index	1.178	1	1.085	1.185	1	1.089	1.178	1	1.085
Political Ideology	1.469	1	1.212	1.511	1	1.229	1.531	1	1.237
Human Capital Index	1.11	1	1.054	1.102	1	1.05	1.085	1	1.042
Economic Anxiety	1.051	1	1.025	1.06	1	1.03	1.051	1	1.025
Republicans	1.589	1	1.261	1.58	1	1.257	1.527	1	1.236
Democrats	1.505	1	1.227	1.513	1	1.23	1.534	1	1.239
Race	1.322	3	1.048	1.254	3	1.039	1.264	3	1.04
Female	1.04	1	1.02	1.033	1	1.016	1.028	1	1.014
Age	1.156	1	1.075	1.176	1	1.084	1.148	1	1.071
Have had COVID-19	1.145	1	1.07	1.124	1	1.06	1.101	1	1.049
Someone in the household had COVID-19	1.14	1	1.068	1.107	1	1.052	1.086	1	1.042

Table 1: VIF Results for Three GLM Models

5 Results

This research employs Ordinary Least Squares (OLS) regression to examine the effects of conservative ideology, human capital, and economic anxiety on health-related stereotypes towards immigrants. Specifically, the study focuses on three groups: all immigrants, Mexican immigrants, and Chinese immigrants. Stereotyping is measured on a scale ranging from low to high. The initial findings show moderate levels of stereotyping, with statistically significant intercepts for all immigrants (1.36, SE=0.15, ***p<0.001), Mexican immigrants (1.17, SE=0.16, ***p<0.001), and Chinese immigrants (1.31, SE=0.14, ***p<0.001).

	All Immigrants	Mexican Immigrants	Chinese Immigrants
(Intercept)	1.36***	1.17***	1.31***
	-0.15	-0.16	-0.14
Conservative measures			
Objective	0.20***	0.26***	0.13***
	-0.04	-0.04	-0.04
Subjective	0.08***	0.05*	0.07***
	-0.02	-0.02	-0.02
Human Capital Index	-0.30**	-0.22*	-0.27**
	-0.09	-0.1	-0.09
Economic Anxiety	0.08***	0.08***	0.09***
	-0.02	-0.02	-0.02
Partisanship			
Republicans	0.25***	0.20**	0.18***
	-0.06	-0.06	-0.05
Democrats	-0.02	0	-0.02
	-0.04	-0.04	-0.04
Races (Others)			
Black people	0.18***	0.15**	0.33***
	-0.05	-0.05	-0.05
Latinos	0.08	-0.10	0.27***
	-0.05	-0.05	-0.05
White people	0.19***	0.14*	0.24***
	-0.05	-0.06	-0.05
Female	-0.16***	-0.15***	-0.17***
	-0.04	-0.04	-0.03
Age	-0.07***	-0.06***	-0.12***
	-0.01	-0.01	-0.01
COVID political Perception (Had little effect)			
Less active	0.37***	0.39***	0.58***
	-0.04	-0.05	-0.04
More active	0.59***	0.49***	0.54***
	-0.06	-0.06	-0.05
COVID-19 exposure			
Have had COVID-19	-0.02	0.04	0.01
	-0.06	-0.06	-0.07
Somoene in the household had COVID-19	0.01	-0.07	-0.01
	-0.06	-0.07	-0.07
Deviance	4372.9	4426.68	4474.53
Dispersion	0.95	0.98	0.95
Num. obs.	4587	4500	4712

***p < 0.001; **p < 0.01; *p < 0.05

Table 2: Ordinary Least Square regression.

The study differentiates between objective and subjective measures of conservatism. Objective conservatism exhibits a strong positive correlation with increased stereotyping for all immigrants (0.20, SE=0.04, ***p<0.001), Mexican immigrants (0.26, SE=0.04, ***p<0.001), and Chinese immigrants (0.13, SE=0.04, ***p<0.001). Subjective conservatism also shows a positive correlation, although to a lesser extent: all immigrants (0.08, SE=0.02, ***p<0.001), Mexican immigrants (0.05, SE=0.02, p<0.05), and Chinese immigrants (0.07, SE=0.02, **p<0.001).

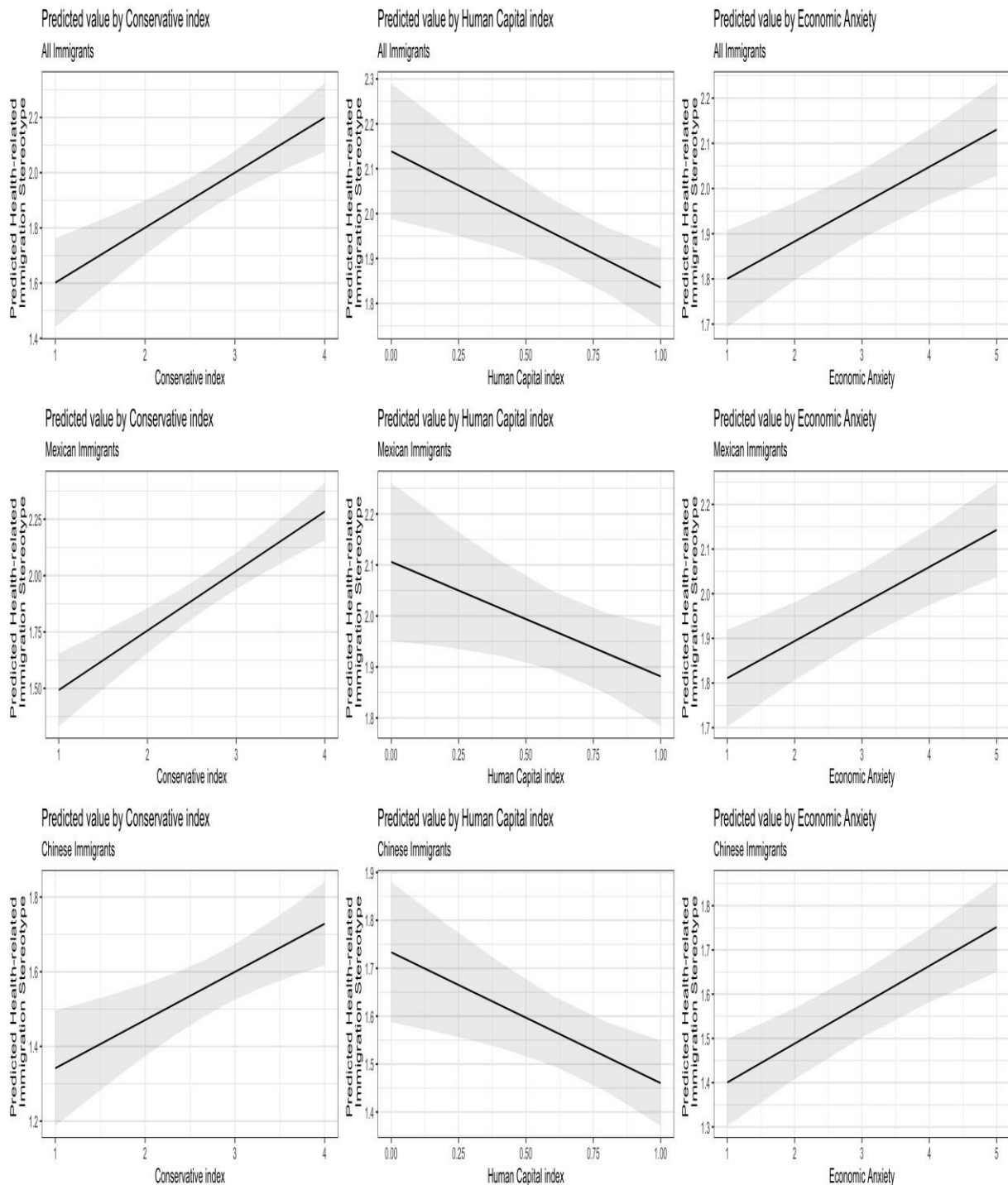


Figure 1: Predicted values Main Explanatory Variables
 2020 Collaborative Multi-Racial Post Election Survey (CMPS)

Regarding human capital, there is a significant negative correlation with stereotyping. This indicates that higher levels of human capital contribute to reduced stereotypes across all groups, including all immigrants (-0.30, SE=0.09, $p < 0.01$), Mexican immigrants (-0.22, SE=0.10, $p < 0.05$), and Chinese immigrants (-0.27, SE=0.09, $p < 0.01$). On the other hand, economic anxiety shows a positive correlation, suggesting that greater economic stress is associated with increased stereotyping for all groups, including all immigrants (0.08, SE=0.02, $p < 0.001$), Mexican immigrants (0.08, SE=0.02, $***p < 0.001$), and Chinese immigrants (0.09, SE=0.02, $***p < 0.001$). As demonstrated in Figure 1, while human capital has a negative association with health-related stereotypes against immigrants, there is a positive association between conservative ideologies, economic anxiety, and health-related stereotypes against immigrants. Additionally, the study finds that political affiliation influences stereotyping, with Republicans exhibiting higher levels of bias against all immigrant groups (All: 0.25, Mexican: 0.20, Chinese: 0.18). However, Democratic affiliation does not significantly correlate with stereotyping levels. Demographic factors such as race and

gender also play a role: Black and White people demonstrate higher levels of stereotyping, particularly towards Chinese immigrants, while females and older individuals display lower levels.

Moreover, there is a link between political engagement and stereotyping in relation to COVID-19. Increased political activity during the pandemic is associated with higher levels of stereotyping, as indicated by the correlation coefficients (All: 0.59, Mexican: 0.49, Chinese: 0.54), which are supported by the data presented in Figure 2. It is important to note, however, that direct exposure to COVID-19 within households does not significantly influence stereotyping.

These comprehensive results highlight the multifaceted nature of factors that influence health-related stereotypes against immigrants. The interaction between conservative ideology, human capital, and economic anxiety emphasizes the importance of adopting a multifactorial approach to understanding and addressing stereotypes. Such an approach can help improve health outcomes and reduce biases in diverse populations.

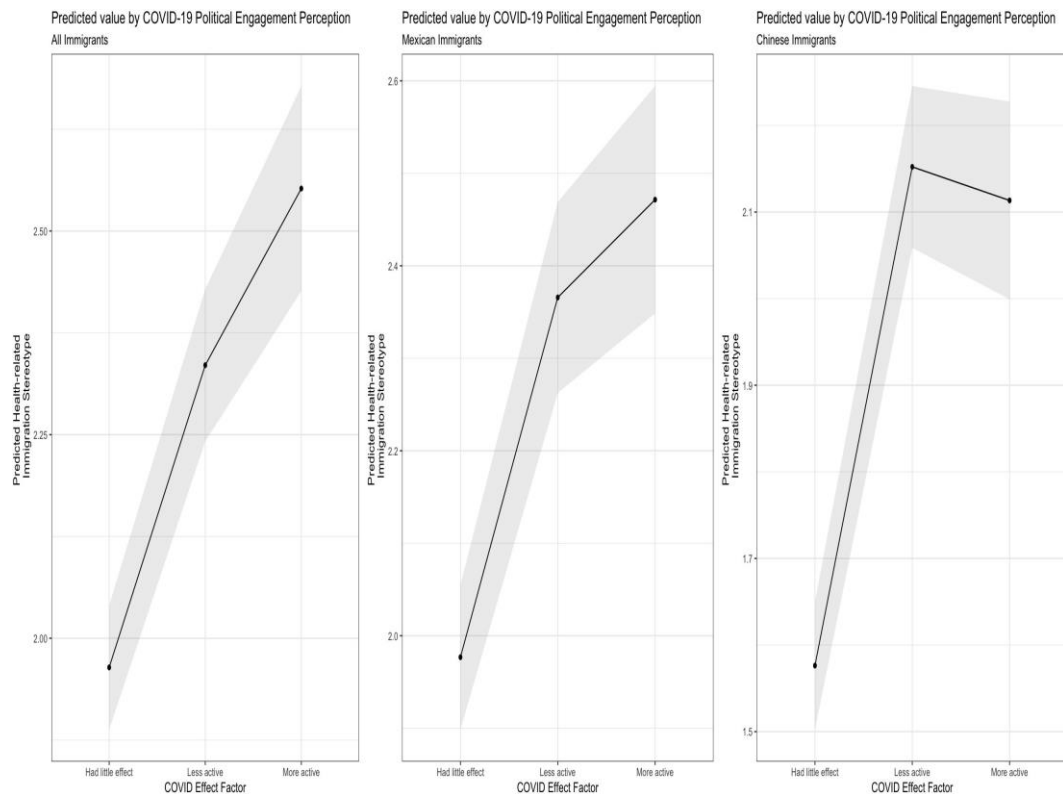


Figure 2: Predicted values Perceived COVID-19 effect on political engagement 2020 Collaborative Multi-Racial Post Election Survey (CMPS)

6 Discussion

This research explores the complex relationship between conservative ideologies and health-related stereotypes against immigrants. It reveals that both objective and subjective conservative ideologies play a role in shaping these stereotypes. Objective measures, which reflect concrete policy preferences and behaviors, have a greater impact on stereotypes than subjective measures based on personal beliefs. This suggests that the actions and policies endorsed by conservatives have a significant effect on societal views towards immigrants. The data indicates that Mexican immigrants are more vulnerable to stereotypes due to conservative ideologies compared to Chinese immigrants. This may be attributed to specific socio-political contexts and media narratives surrounding Mexican immigration. These narratives often highlight issues of border security, economic competition, and cultural integration from a conservative perspective.

The implications of these findings are far-reaching for policy and social interventions. The influence of objective conservative ideology on stereotypes suggests that changes in public policy or behavior could transform public stereotypes. If these changes promote inclusivity and understanding, they have the potential to reduce bias against immigrants. Furthermore, the differential impact observed among immigrant groups calls for tailored approaches in social policies and public communication strategies to confront and alleviate stereotypes, particularly in contexts where they are most pronounced.

Additionally, this research examines how human capital and economic anxiety affect health-related stereotypes against immigrants. The analysis reveals complex dynamics that vary among different immigrant groups.

According to the Human Capital Theory, investments in education and health are associated with more open attitudes towards immigrants. The observed inverse relationship between human capital and stereotyping supports this theory. However, there is a slightly weaker negative correlation for Mexican immigrants compared to the general and Chinese immigrant groups. This could be due to specific socio-cultural dynamics or media narratives that shape perceptions differently among these groups. On the other hand, the Economic Anxiety Theory is supported by the positive correlation found between economic anxiety and higher levels of stereotyping. This suggests that economic insecurity can intensify xenophobic attitudes, as individuals experiencing economic anxiety may see immigrants as competitors for limited resources. Importantly, the impact of economic anxiety is consistent across all immigrant groups, indicating that economic conditions might influence stereotypes universally, regardless of the specific immigrant community.

These findings have profound implications for policy and social practice. They highlight the potential of enhancing human capital as a strategy to reduce negative stereotypes and promote social cohesion. Educational initiatives that deepen understanding of immigration and celebrate diversity can be particularly effective. Additionally, policies that address economic anxiety, such as ensuring job security, providing economic support programs, and educating the public about the economic advantages immigrants bring, can help alleviate unfounded fears and stereotypes.

It is important to recognize the distinct nature of stereotypes and the socio-economic contexts in which they arise. Tailored interventions may be necessary for different immigrant groups. For example, strategies to counteract stereotypes against Mexican immigrants may require different approaches compared to those for Chinese immigrants.

In summary, these research findings provide insights into the complex relationship between human capital, economic anxiety, and the stereotyping of immigrants. They suggest that educational and economic interventions are crucial in shaping public perceptions and attitudes towards immigrant communities.

This paper examines the impact of partisanship and political engagement on health-related stereotypes against immigrants, focusing on data disaggregation by country of origin. The findings reveal a significant association between Republican partisanship and increased stereotyping against immigrants. This may reflect broader socio-political narratives and biases within certain political groups. The influence of the COVID-19 pandemic on political engagement also highlights how external crises can shape public opinions and potentially intensify negative stereotypes, particularly among those who became more politically active during this period.

The study also identifies notable relationships between respondents identifying as Black or White and increased stereotyping against Chinese immigrants. These findings invite interpretation through the lens of racial dynamics and existing societal prejudices. They suggest a complex interplay of minority status and perceived competition or threat from other minority groups, which can be further explored through race theory and intergroup bias studies.

Gender and age differences in stereotyping are also worth noting. The consistent findings among female respondents, who exhibit lower levels of stereotyping, could be related to gender theories that propose women may show greater empathy and social tolerance. On the other hand, the negative relationship with age might reflect generational shifts in attitudes, with younger cohorts potentially holding more progressive views, or it may indicate a life-course effect where attitudes become more accepting with age.

These insights have significant implications for policy and social interventions. The correlation between higher stereotyping and specific partisan and racial identities suggests that targeted educational initiatives and community engagement strategies could be effective in addressing these issues. Such interventions should aim to improve factual understanding and alleviate fears or misconceptions about immigrants. Furthermore, the need to address stereotypes in the context of current events, like the COVID-19 pandemic, emphasizes the importance of crafting public health communications that consider the socio-political foundations of public attitudes.

Overall, the results provide valuable insights into the factors contributing to health-related stereotypes against immigrants. These findings are particularly important for policymakers, community leaders, and researchers who aim to promote inclusive and accurate perceptions within diverse societies.

7 Conclusion

This study examines health-related stereotypes against immigrants, highlighting the important factors of human capital, conservative ideology, and economic anxiety. The research shows that conservative ideology strongly predicts negative stereotypes, especially towards Mexican immigrants. On the other hand, human capital, which includes education and skills development, acts as a protective factor against stereotyping. Conversely, economic anxiety consistently worsens stereotypes for all immigrant groups, suggesting that economic stress fuels negative views.

Moreover, the findings on political affiliation and racial identity reveal inherent biases that shape public

perceptions. The link between Republican affiliation and increased stereotyping highlights how immigration issues have become politicized. Additionally, the racial dynamics indicate a complex interplay of minority statuses and societal prejudices.

This study advocates for a comprehensive approach that addresses human capital, economic anxiety, and political and racial biases. These strategies are vital not only for reducing stereotypes but also for promoting social integration and improving the health outcomes of immigrant populations. By developing targeted interventions that cater to the specific needs and challenges faced by different immigrant groups, we can formulate more effective policies and foster a more inclusive society.

8 Future research

To build on the findings of this study and further explore the dynamics of health-related stereotypes against immigrants, future research could focus on the following areas:

- **Longitudinal Analysis:** Investigate how changes in the political climate, economic conditions, and public policies over time influence stereotypes against immigrants. This could help understand the causality and volatility of these perceptions.
- **Media Influence:** While this study did not focus on media effects, examining the role of media portrayals in shaping public perceptions about immigrants could provide valuable insights into the mechanisms of stereotype formation and propagation.
- **Intervention Studies:** Conduct empirical research on the effectiveness of specific educational and policy interventions designed to reduce stereotypes. This would include evaluating the impact of diversity training programs and inclusive educational curricula.
- **Comparative International Studies:** Extend the research framework to other countries with significant immigrant populations to compare how different sociopolitical environments affect health-related stereotypes. This could highlight universal factors versus countryspecific dynamics.
- **Psychological and Sociological Factors:** Explore deeper psychological and sociological reasons behind why certain demographics (e.g., political affiliations, racial identities) are more prone to endorsing stereotypes. This could involve qualitative studies to complement the quantitative data used in this research.

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