

Palacký University Olomouc

University of Clermont Auvergne

University of Pavia

## **MASTER THESIS**

**Binta Souaré**

Supervisor: Lucie Macková

GLODEP 2024

Palacký University Olomouc  
University of Clermont Auvergne  
University of Pavia

MASTER THESIS

Intersectional Migration-related Health Inequalities and Integration Policies in Europe:  
Navigating the Intersections of Social Class, Gender, and Race

Binta Souaré

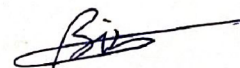
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## Declaration

I, Binta SQUARE, hereby declare that this thesis entitled "Intersectional Migration-related Health Inequalities and Integration Policies in Europe: Navigating the Intersections of Social Class, Gender, and Race" is my own work except where reference has been made and when stated otherwise.


May 2024

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Signature



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### Zásady pro vypracování

This thesis examines the intersectional health-related inequalities among migrant populations in European countries by type of integration policies. Focusing on social class, gender, and race, the research aims to uncover how these intersecting factors impact self-reported health and how national integration policies in Europe influence inequalities from those intersecting factors. Leveraging data from the European Social Survey (ESS) and the Migrant Integration Policy Index (MIPEX), this study explores the relationship between integration policies and migrant health. By analyzing subjective health perceptions and policy inclusivity, the research seeks to contribute insights into shedding light on the effect of integration policies on the health outcomes of migrants as well as the diverse health needs of subgroups of migrants.

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## Abstract

This thesis investigates the complex dynamics of intersectional health inequities among migrant populations across European countries, focusing on integration policies. Through an examination of social class, gender and race, the research uncovers how these factors influence migrant health and how integration policies shape resulting inequities. Utilizing data from the European Social Survey (ESS) and the Migrant Integration Policy Index (MIPEX), this study employs a logit regression analysis and an intersectional framework to explore the relationship between integration policies and migrant health outcomes. Results highlight the significant influence of intersectional factors on migrant health, revealing nuanced patterns across integration regimes. Specifically, migrants in exclusionist countries show higher odds of negative health outcomes, particularly those at multiple marginalized intersections, highlighting the detrimental impact of exclusionary policies. Conversely, inclusive regimes demonstrate a mitigating effect on health inequities stemming from intersecting factors, while assimilationist regimes tend to exacerbate inequities along racial lines. These findings stress the need to consider intersectionality and integration policies in addressing migrant health inequities. Acknowledging this interplay between social determinants of health and policy frameworks can foster more equitable health for all migrants in Europe.

**Keywords:** migrant health, integration regime, race, social class, gender, intersectionality.

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## Abbreviations

AIC	Akaike Information Criterion
BIC	Bayesian Information Criterion
CI	Confidence Interval
DIT	Durable Inequality Theory
EGP	Erikson-Goldthorpe–Portocarero
ESeC	European Socio-Economic Classification
ESS	European Social Surveys
HIC	High Income Country
ICC	Intraclass Correlation Coefficient
ISCED	International Standard Classification of Education
MIPeX	Migration Integration Policy Index
SDGs	Sustainable Development Goals
US	United States
WHO	World Health Organization

## Introduction

“Leave no one behind”, the main aspiration of the Sustainable Development Goals (SDGs) outlined in the Agenda 2030 of 2015, resonates profoundly with the essence of this study. This principle underscores the imperative of safeguarding the rights and well-being of all, including migrants, as part of a global endeavor towards improved well-being. While the protection of migrants' health is not explicitly listed as a target within the 2030 Agenda, it remains deeply embedded within its fabric (Beales & Gelber, 2022; Tulloch et al., 2016). For instance, Alarcão et al. (2021) note lower utilization rates of maternal healthcare among migrants, thus directly impacting SDG target 3.1 aiming at reducing global maternal mortality rates.

As of 2023, more than 27 million foreign citizens were residing in the European Union (EU) (Eurostat, 2024). This statistic does not include Europeans who migrated to a different EU state and individuals who obtained EU citizenship. Within this vast heterogeneous migrant group, obstacles differ, influenced by factors such as citizenship, language, socioeconomic status, and more. As a result, disparities in health outcomes and access between migrant and native populations, as well as within the migrant community emerge. Bollini et al. (2009), for instance, highlight the increased risk of negative pregnancy outcomes among immigrant women compared to their native counterparts, while Hübner et al. (2023) underscore the higher prevalence of unmet needs among migrants, especially those born outside of the EU. These disparities, termed inequities when they stem from systemic injustices, are unacceptable (Arcaya et al., 2015). Indeed, the right to health is universally recognized in the Universal Declaration of Human Rights of 1948 (Arcaya et al., 2015). European countries, being signatories to various international and European declarations guaranteeing the right to health, are obliged to ensure its provision (Article 12 of the International Covenant on Economic, Social and Cultural Rights [United Nations (General Assembly), 1966] or Article 11 of the European Social Charter [Council of Europe, 1996]). However, ensuring this right requires more than legal acknowledgement; it demands a commitment to address the unique needs of migrants.

In this regard, studies show that migrant health experiences are strongly tied to the broader policy landscape (Juárez et al., 2019; Malmusi, 2015). Restrictive policies or those ignorant of their impact on migrants risk exacerbating health inequities (Juárez et al., 2019). For instance, health inequities between natives and migrants are most pronounced in exclusionist countries (Malmusi, 2015). These inequities often stem from systemic barriers, emphasizing the urgent need to address structural inequalities faced by migrants in host countries (Bollini et al., 2009; Bradby et al., 2019; Malmusi, 2015).



Besides, not all migrants experience equal health outcomes. Various social structures interact to influence health outcomes, contributing to health inequities among migrants (Östlin et al., 2011; Urquia et al., 2010). Recognizing this, the World Health Organization (WHO) underscored the need to study social determinants of health by establishing of the Commission on Social Determinants of Health in 2005 (Arcaya et al., 2015; CSDH, 2008). Given that race, gender, migration status, and social class are significant social determinants of health, it is imperative to examine migrant health through an intersectional lens.

Consequently, these insights prompt critical inquiries: How do social determinants of health, such as race, gender, and social class, affect migrant health? To what extent do intersectional factors contribute to migrant health inequities? How do integration policies influence these migrant health inequities? In seeking answers to these questions, this research utilizes data from MIPLEX and ESS, aiming to shed light on the nexus between integration policies and migrant health inequities across race, gender, and social class. Building upon previous research endeavors that aimed at deconstructing the idea of a homogeneous migrant group, this thesis aspires to address the literature gap on health inequities within the migrant group in the context of integration regimes. The thesis commences by establishing essential conceptual frameworks and reviewing existing literature (chapter 1). Following this, the methodological approach and data sources are detailed (Chapter 2), thereby paving the way for a comprehensive analysis of the topic (Chapter 3). The findings are then critically discussed in the context of the literature (Chapter 4), leading to the thesis's concluding chapter (Chapter 5).

## Chapter 1: Literature Review

### 1.1. Conceptual frameworks

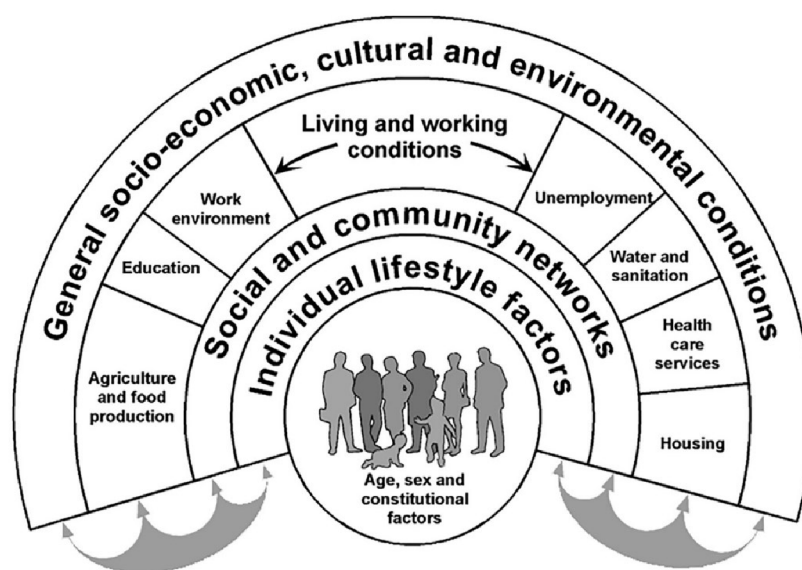
#### 1.1.1. Health determinants, inequalities, and inequities

The health status is the outcome of the complex interaction of multiple factors, encompassing biological, behavioral, structural group-level factors, and more. Any element that threatens, promotes or safeguards health is deemed a “determinant of health” (Dahlgren & Whitehead, 1991). In the 1990s, Dahlgren and Whitehead introduced a conceptual framework, known as the “Dahlgren and Whitehead model” or the “Rainbow model”, aiming at enhancing the comprehension of health determinants (Dahlgren & Whitehead, 2021). This model delineates different layers of influence on health while trying to synthesize it for wider accessibility. It identifies 4 main layers encompassing the general socio-economic, cultural, and environmental conditions; the living and working conditions; the social and community networks; and the individual lifestyle factors (Dahlgren & Whitehead, 1991). The model also accounts for age, sex, and other constitutional factors on which individuals have limited control (Dahlgren & Whitehead, 1991). Consequently, an interdependent and complex system is created wherein health status arises from the interplay of various layers and components within those layers (see **Figure 1**). Although the model is crafted as a straightforward illustrative framework presenting juxtaposed health determinants from broader group-level factors to more specific individual-level factors, it is crucial to recognize that these factors influence each other in multiple possible directions (Dahlgren & Whitehead, 2021).

In a review of their model, the authors caution against employing the Rainbow Model to conceptualize health inequality determinants, asserting that it is not tailored for that purpose (Dahlgren & Whitehead, 2021). They emphasize that their model lacks the necessary concepts to explain how health determinants, as depicted in their model, translate into social gradients in health (Dahlgren & Whitehead, 2021). The term “social gradient” denotes a scenario where improvements in health status are attributable to increases in social resources, such as education, income, ... (Arcaya et al., 2015). This concept draws attention to the link between socioeconomic factors and health status, highlighting inequalities or inequities in health outcomes. While the words “inequalities” and “inequities” are often used interchangeably, they represent distinct realities with diverging implications for research and policymaking. “Health inequalities” simply describe variations in health among individuals or groups without making moral judgments (Arcaya et al.,

**Figure 1**

*The Rainbow Model*



Source: adapted from Dahlgren and Whitehead, 1991

Note. From “The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows,” by G. Dahlgren and M. Whitehead, 2021, *Public Health*, 199, p. 22.

2015; WHO, 2013). In contrast, “health inequity” is a specific type of health inequality that is deemed “largely avoidable, preventable and unjust” (Diderichsen et al., 2001, p.19). The crucial distinction lies in the extent to which these are avoidable and thus considered unfair (Arcaya et al., 2015; CSDH, 2008; Diderichsen et al., 2001; Marmot et al., 2012; WHO, 2013). Social inequities arise from the unfair distribution of health risks and resources, and could be mitigated with reasonable means (Arcaya et al., 2015). As exemplified by Arcaya et al. (2015), differences in health status between older and younger age groups are categorized as health inequalities, because they are not preventable; while disparities in infant mortality rates among racial groups in the US are regarded as social inequities, as they are avoidable. Therefore, it is crucial to “differentiate variations in health from inequities in health” (Diderichsen et al., 2001, p. 14). For the rest of this study, we will keep this distinction.

### 1.1.2. Models of social inequities as determinants of health

Now that we have established the framework for comprehending health determinants and inequities, our attention must turn to social determinants of health, as they are intricately connected

to unfair health disparities. In this regard, social epidemiology proves particularly valuable, as it refers to:

The branch of epidemiology that studies the social distribution and social determinants of states of health. Defining the field in this way implies that we aim to identify socioenvironmental exposures that may be related to a broad range of physical and mental health outcomes. (Berkman & Kawachi, 2014, pp. 5–6)

Diderichsen et al. (2001) further elaborate on this concept by recognizing that societies and communities are more than just collections of individuals; the health of some can impact that of others, and health risks and patterns frequently cluster along pertinent social groupings. This notion is rooted in a population perspective, wherein Rose (1992) highlighted the interconnectedness of an individual's health with the disease risk and characteristics of the population to which they belong, emphasizing that it cannot be viewed in isolation (Berkman & Kawachi, 2014). Consequently, the social context must be considered alongside individual-level factors, as it helps to elucidate how health is distributed among different groups.

Applying the population perspective into epidemiological research means asking, “Why does this population have this particular distribution of risk?” in addition to asking, “Why did this particular individual get sick?”. (Berkman & Kawachi, 2014, p. 7)

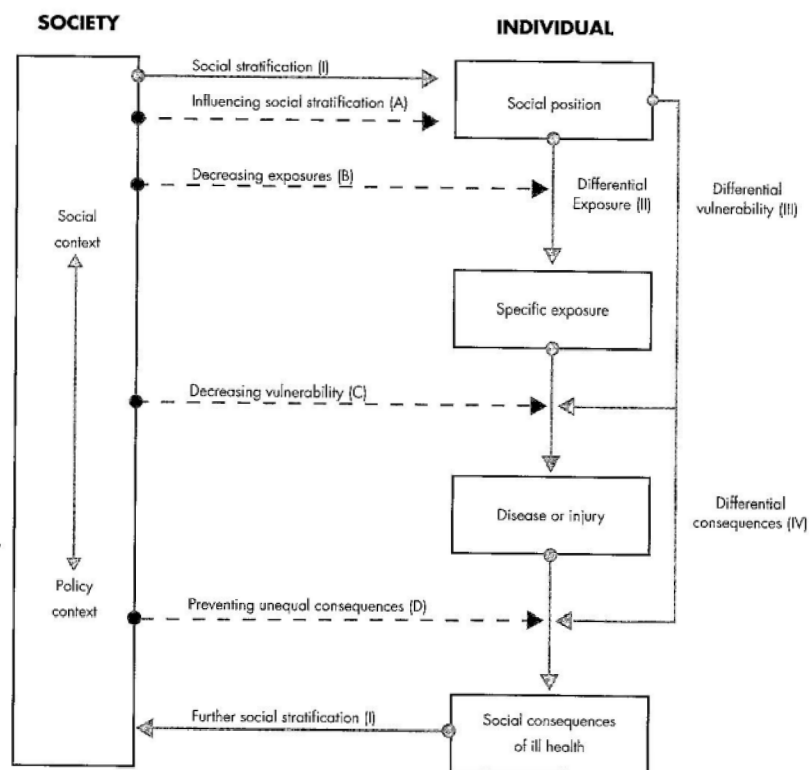
Within this context, Diderichsen et al. (2001) singled out 4 mechanisms that illustrate how the social context and position influence health outcomes (see *Figure 2*):

- **Social stratification:** refers to the “structure, culture and function of a social system” (Diderichsen et al., 2001, p. 15) shaping the distribution of health by defining individuals in relation to their social context. It involves allocating power and wealth to social positions, resulting in differing positions for individuals. The fine line between health inequalities and inequities arises from the fairness or injustice of this process. This mechanism allows to consider broader group-level factors (such as cultural norms), the dependence of individuals (who influence each other), the nature of environments (that can induce injury and disease), and the social environment which explains how advantages (power, wealth) are generated and distributed in a society.
- **Differential exposure:** refers to the idea that “each social position encounters specific patterns of health risks” (Diderichsen et al., 2001, p. 17). Different social groups experience diverse exposures in terms of type, amount, and duration, leading to distinct health outcomes.

- **Differential vulnerability:** the health impact of a particular exposure depends on the presence of other contributing causes or risk factors. Individuals in lower social positions are often exposed to numerous risk factors, potentially increasing vulnerability.
- **Differential socioeconomic consequences:** ill health disproportionately affects individuals from lower social positions pushing them into a downward spiral, which in turn, heightens the risk of further ill health.

**Figure 2**

*From the social context to health outcomes (Diderichsen framework)*



○ ———> Mechanisms that play a role in stratifying health outcomes.

● - - - -> Policy entry points.

Source: Adapted from Diderichsen and Hallqvist 1998

Note. The mechanisms are denoted as I, II, III and IV, while policy entry points are represented with A, B, C and D. From *Challenging Inequities in Health: From Ethics to Action* (p.15), by F. Diderichsen, T. Evans and M. Whitehead, 2001, Oxford University Press.

To complement the Rainbow model, the population perspective and the Diderichsen model, we now turn to the ecosocial theory developed by Nancy Krieger, which provides a conceptual

framework for studying discrimination as a determinants of health inequities. This theory emphasizes “how we literally biologically embody exposures arising from our societal and ecological context, thereby producing population rates and distributions of health” (Krieger, 2014, p. 73). The ecosocial theory examines the biological integration of the material and social environments we experience throughout our lives, conceptualizing diverse pathways of embodiment, from exposure to social and economic deprivation to social trauma, and beyond (Krieger, 2012). According to Krieger’s theory (2014), health outcomes result from the intricate interplay of exposure, susceptibility and resistance where:

- **Exposure** refers to the types and levels of exposure to different social, economic and environmental factors, including discrimination; toxins, hazards and pathogens; ...
- **Susceptibility** pertains to the varying vulnerability of individuals to a specific exposure.
- **Resistance** denotes individuals’ capacity to resist unjust differentials in exposure and susceptibility.

Certain aspects of the ecosocial theory align closely with the mechanisms described in the Diderichsen model, such as differential exposure and differential vulnerability. However, Krieger (2014) elaborates on this conceptual framework to address discrimination, which contributes to health inequities by organizing the entire population into groups with unequal societal relationships, exposing them to varying health distribution. Krieger (2014) applies the ecosocial theory to illustrate the issue of racism in relation to health:

Inequitable race relations simultaneously—and not sequentially: (1) benefit the groups who claim racial superiority at the expense of those whom they deem intrinsically inferior, (2) racialize biology to produce and justify the very categories used to demarcate racial/ethnic groups, and (3) generate inequitable living and working conditions that, via embodiment, result in the biological expression of racism—and hence racial/ethnic health inequities. A corollary is that there are many pathways, not just one, by which discrimination could harm health. (Krieger, 2014, p. 74)

While the example provided focuses on racism, the ecosocial perspective can be applied to any social structure that establishes unequal societal relationships regarding wealth, power and property, and that hierarchizes social groups. Consequently, race, gender, social class, and immigration status will be explored within this conceptual framework in this thesis, as they represent systems of allocation of privileges and disadvantages among hierarchized social groups. With this in mind, it becomes essential to define the term “discrimination” to understand how individuals embody systems of domination (racism, sexism, classism, xenophobia, ...), and how

discrimination can impact a group's health, therefore becoming a determinant of health inequity. Although Krieger's (1999) conceptualization and definitions are framed within the US context, they remain pertinent to our analysis. In her own words, "discrimination" refers to when some people discriminate against others, thus restricting, "by judgment and action, the lives of those whom they discriminate against" (Krieger, 1999, p. 297). Discrimination can emanate from both state and non-state institutions, as well as individuals, but the state plays a major role as it can legally establish *de jure*<sup>1</sup> discrimination; yet, *de facto*<sup>2</sup> discrimination can happen even when the legal context prohibits *de jure* discrimination (Krieger, 1999). Broadly speaking, discrimination serves as a "means of expressing and institutionalizing social relationships of dominance and oppression" (p. 301), aimed at maintaining the social hierarchy of the system (Krieger, 1999). The discrimination's consequences are mediated through the embodiment pathways described earlier (exposure to social and economic deprivation, social trauma, ...). In this context, Tilly's Durable Inequality Theory (DIT) offers insight into the relationship between socioeconomic status and belonging to socially constructed groups such as ethnicity/race (Lorant & Bhopal, 2011), aligning with the embodiment pathways outlined in the ecosocial theory. Central to Tilly's theory is the understanding that inequalities/inequities are inherently relational as they arise from the interaction of individuals with the social context, leading to the creation of social groupings and hierarchies, akin to the perspective of Diderichsen et al. (2001), Krieger (2014) and Rose (Berkman & Kawachi, 2014; G. A. Rose, 1992). Lorant & Bhopal (2011) highlight 5 key components of the DIT:

- **Categories:** individuals are categorized based on defined boundaries and these categories relate to each other with inequitable relationships (women vs men, citizen vs non-citizen, ...).
- **Exploitation:** the dominant category benefits economically from the subordinated category.
- **Opportunity hoarding:** While Tilly refers to this mechanism as the fact that the subordinate category seeks to monopolize resources, Morris (2000) argues that the formulation of this mechanism lacks nuances because it fails to acknowledge that elites opportunity hoard as well through their powerful organizations and networks (Diamond & Lewis, 2022). While subordinate groups may appear to hoard opportunities in certain industries or positions, in reality, they are often confined to small enclaves within the economy (Morris, 2000). Morris (2000) then introduces the concept of "super-exploitation" to describe situations where the dominant group exploits the subordinate group while perpetuating conditions that keep them subordinated.
- **Emulation:** established organizational models are replicated in different settings.

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<sup>1</sup> According to the law

<sup>2</sup> According to practice

- **Adaptation:** structural inequalities are normalized through everyday social interaction between the different social groups.

Exploitation and opportunity hoarding shape the structure of inequalities, while emulation and adaptation perpetuate and disseminate it across various societal settings. Morris (2000) further adds, to the DIT, that inheritance is a powerful mechanism perpetuating inequality over time through the intergenerational transmission of wealth and resources. The DIT also emphasizes that inequalities are more durable and persistent when internal categories are matched to external categories, thus aligning external societal differences (men/women, white/non-white, ...) with internal organizational categories (employer/employee, ...) and socioeconomic disparities (Lorant & Bhopal, 2011). Tilly acknowledges the existence of numerous defining boundaries, allowing individuals to belong to multiple categories simultaneously (Lorant & Bhopal, 2011), highlighting the importance of intersectionality in this conceptual framework.

### 1.1.3. Conceptualizing intersectionality and its relevance

Social stratification or “categorization”, as noted by various authors, is a crucial process that assigns individuals to different social groups based on defined boundaries (Diderichsen et al., 2001; Krieger, 2014; Lorant & Bhopal, 2011). However, these social hierarchies can be established along multiple axes with distinct boundaries. For example, Crenshaw (1991) highlights that "women of color are situated within at least 2 subordinated groups" (p. 1252) based on both gender and race. This underscores the necessity to move beyond single-category thinking and engage with interconnected domains of power (Hankivsky & Jordan-Zachery, 2019; Östlin et al., 2011), recognizing that factors such as race, gender and class are intersectional and fluid (Hankivsky & Jordan-Zachery, 2019).

The concept of intersectionality, introduced by Crenshaw (1989), emphasizes the intertwined nature of various forms of discrimination, particularly focusing on the experiences of Black women in the US. Crenshaw argues against a single-axis analysis, advocating for centering the needs and experiences of marginalized groups to address systemic inequalities effectively because looking at gender or race separately is not sufficient (Crenshaw, 1989). Consequently, intersectionality underscores the importance of social mapping or social location theory, which suggests that different markers of identity intersect to shape an individual's social position, as one can experience privilege and oppression simultaneously depending on the axis of discrimination chosen (Hankivsky & Jordan-Zachery, 2019). Using social mapping, women of color are situated within



overlapping systems of subordination, experiencing the cumulative effects of racism and patriarchy (Belkhir & Barnett, 2001; Crenshaw, 1991). Understanding multiple axes of discrimination involves integrating their effects rather than simply adding them up (Belkhir & Barnett, 2001; Crenshaw, 1991; Hankivsky & Jordan-Zachery, 2019; Krieger, 2014; Östlin et al., 2011). This approach necessitates imagining new models to comprehend “how structures of power organized around intersecting relations of race, class, and gender frame the social positions occupied by individuals” (Collins et al., 1995, p. 491).

In the context of health inequities, defining pertinent social groupings is complex. The interpretation of health data depends on how groups are constructed, which can vary in the level of differentiation (Arcaya et al., 2015). Relevant stratifiers identified by the WHO include place of residence, race or ethnicity, occupation, gender, religion, education, socioeconomic status, and social capital (WHO, 2013). Numerous studies have utilized these stratifiers alone or in combination to examine health patterns and inequities (Berchet & Jusot, 2012; Borrell et al., 2008; Cagnet et al., 2012; Cooper, 2002; Gkiouleka & Huijts, 2020; Malmusi et al., 2010; Starker et al., 2021; Urquia et al., 2010).

In this study, gender, social class and race/ethnicity were chosen as key stratifiers for assessing migrant health, considering their widespread study, significant health implications and data availability constraints. In this regard, Belkhir & Barnett (2001) emphasize the centrality of race, gender, and class as organizing principles in cultural ideologies worldwide, highlighting their role in perpetuating structured inequalities. This work intends to build upon existing research integrating the race, gender and class paradigms. Rather than examining race relations solely from the perspective of men or gender relations solely from the perspective of white women, this study aims to incorporate diverse perspectives to better understand intersecting inequities in health. However, it is acknowledged that this analysis overlooks experiences of other relevant social groupings such as disability status, religion, .... Therefore, the focus remains on identifying interactions between race, class, and gender as key stratifiers, with the recognition that further research is needed to encompass a broader range of identities and experiences.

As race is a major dimension of my analysis, it is worth re-establishing that “race” is not understood as “biological race”, but rather as “sociological race”. “Race” in its biological meaning has been proven to have no scientific basis, it has been instrumentalized throughout history to legitimize dehumanization, discrimination and oppression (Ball et al., 2022; Krieger, 2014; Rivkin & Ryan, 2004; Witzig, 2000). “Race” must be understood as a social construct, as much as gender and social class, all parts of the social fabric (Rivkin & Ryan, 2004). The relevance of “race” in our analysis

can be exemplified by Cooper's study (2002) where she finds no significant gender differences for white adults while the gender differences are stark in different minority ethnic groups. While socioeconomic status explains a large part of health inequities, significant ethnic inequities in health remain, especially for women from minority ethnic groups which points out racial discrimination as an important factor (Cooper, 2002). While some authors consider race as a determinant of health (Viruell-Fuentes et al., 2012) or a social determinant of health inequities (Ingleby, 2012), Dahlgren & Whitehead (2021) believe that racism should not be considered a determinant of health, "but rather be conceptualized as an important 'driving force' influencing almost all determinants of health in the model and driving the social and ethnic patterning of determinants" (p. 23). There is broad consensus that racism produces inequalities in socioeconomic conditions along racial lines, intersecting with other systems of marginalization such as discrimination against migrants, thereby influencing the health outcomes of migrant populations (Bhopal, 2007; Diderichsen et al., 2001; Lorant & Bhopal, 2011; Viruell-Fuentes et al., 2012). In this regard, various authors reject the cultural explanation of health disparities between native and migrant populations, which posits that migrants' health differentials are solely due to cultural differences or that the effect of ethnicity on health is due to cultural differences (Ingleby, 2012; Viruell-Fuentes et al., 2012). Instead, these perspectives underscore the importance of focusing on structural factors that perpetuate inequalities, such as the fact that "exclusionary immigration policies represent a type of structural racism" (Viruell-Fuentes et al., 2012, p. 2103). The debate is still ongoing, but what is sure is that "health disparities along racial, ethnic and socioeconomic lines are observed in both low- and high-income countries [...] underscoring the importance of studying group-level health differences" (Arcaya et al., 2015). The color-blind view of European societies and the insufficiently debated contribution of racism to health inequities in Europe are challenges to addressing racial inequities in health (Bhopal, 2007; Ingleby, 2012).

#### 1.1.4. Migration and integration policies

The term "migrants" refers to individuals residing in a location different from their birthplace (HIAS, n.d.; McBrien, 2017). While refugees and asylum seekers fall under this broad category, their status is safeguarded by specific international laws that allow them to flee their homeland due to life-threatening circumstances (Beales & Gelber, 2022; HIAS, n.d.; McBrien, 2017; UNHCR, 2019). Migrants undergo geographic movement, which can occur within their own country, termed "internal migration", or between countries, referred to as "international migration" (McBrien, 2017). They may be categorized as "immigrants" from the host country's perspective or as

“emigrants” from the departure country’s viewpoint (McBrien, 2017). “Undocumented migrants” or “irregular migrants” are those who cross borders or reside in a country without official authorization (Beales & Gelber, 2022; McBrien, 2017).

The realm of policy dictating entry, exit, and the status of immigrants within a country is termed “immigration policy” (Seri, 2023). More specifically, “integration policies” encompass a set of regulations, rights and measures framing the conditions of immigrant settlement and inclusion in the host society (Meuleman, 2009; Pasetti, 2018; Seri, 2023). Integration policies extend beyond measures explicitly targeting immigrants, encompassing broader policies such as labor market and housing policies (Pasetti, 2018). Scholars concur that key dimensions of immigrant integration policies include political, socioeconomic and cultural rights, residence rights, antidiscrimination legislation, and citizenship, among others (Meuleman, 2009; Pasetti, 2018; Seri, 2023). This aligns with Diderichsen’s (2001) perspective, which highlights the role of the policy context in influencing the health outcomes of social groups.

Various indexes, such as the Migrant Integration Policy Index (MIPEX), have emerged to evaluate integration policies across different countries, allowing for comparisons. To date, the MIPEX covers the period from 2007 to 2019, including in its latest assessments 167 indicators around 8 policy strands for 56 countries (Solano & Huddleston, 2020). The MIPEX is widely used due to its comprehensive evaluation of the following policy strands: labor market mobility, education, family reunion for foreign citizens, political participation, permanent residence, access to nationality, health, and anti-discrimination (Solano & Huddleston, 2020).

Integration policies are often classified according to broader integration models. Authors refer to Castles’ typology, developed in the late 1990s and early 2000s, which has become classical (Meuleman, 2009; Pasetti, 2018; Seri, 2023). This classification identified 3 ideal integration regime types (Meuleman, 2009; Pasetti, 2018; Seri, 2023):

- **Exclusionist ideal-type:** characterizes a regime where immigrants are integrated into the labor market but excluded from other aspects of society, often considered temporary guests without political rights or pathways to citizenship. This model implies that citizenship is reserved for the national ethno-cultural group, with little effort made to facilitate permanent residence or family reunification. Examples included Austria and Switzerland.
- **Assimilationist ideal-type:** operates on the premise that the host society can absorb migrants, who are expected to fully assimilate into the political community by adopting its values, culture, customs and institutions. The goal is for newcomers to blend seamlessly with the rest of the population. France exemplified this regime type.

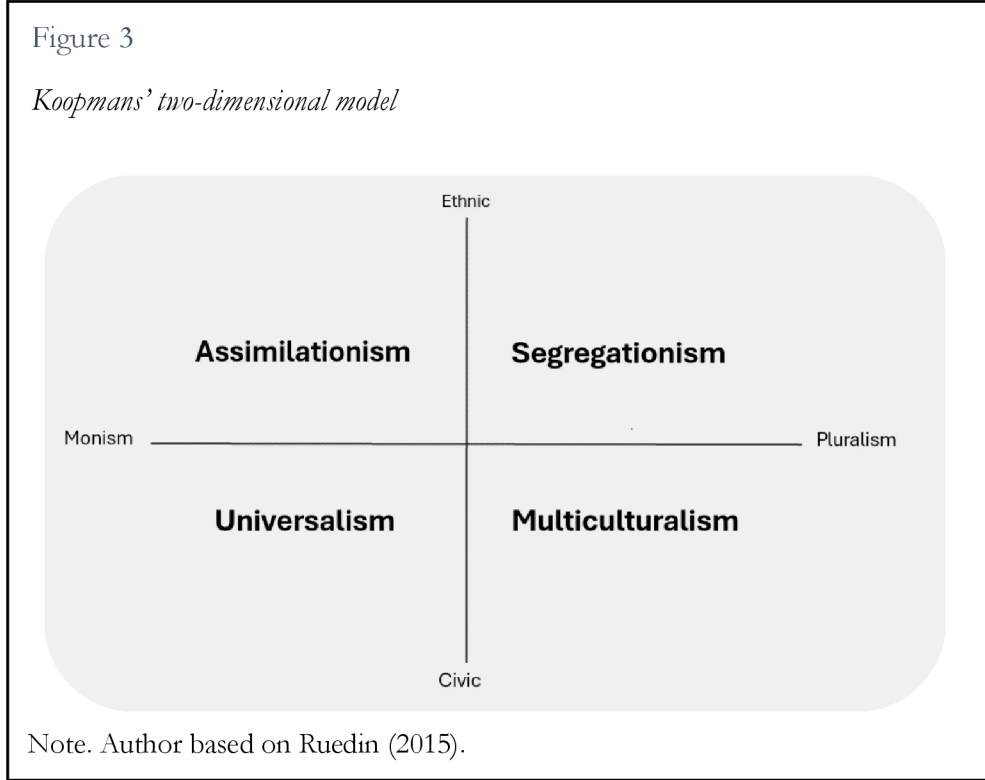
- **Multiculturalist ideal-type:** allows for the expression of diverse cultures, values and customs without requiring migrants to conform fully to the host society. Full participation in public life is encouraged regardless of nationality. Common examples included the Netherlands, Canada and the United Kingdom.

This model parallels the framework presented by Weldon (2006), albeit with different labels: respectively collectivistic-ethnic, collectivistic-civic and individualistic-civic. However, critiques of this model highlight its lack of accountability for integration policy changes and its tendency to oversimplify categories, potentially masking internal variations among countries within the same category (Meuleman, 2009; Pasetti, 2018).

In response to criticisms of this model, Koopmans and other colleagues proposed a two-dimensional model focusing on the legal and cultural dimensions of integration policies. In their model, the first axis focuses on the “equality of individual access to citizenship” (legal dimension) ranging from an ethnic to a civic conception of citizenship, which is granted based on ethno-cultural ties or adherence to common values and principles (Pasetti, 2018; Ruedin, 2015). The second axis is the “amount of cultural difference and group rights that citizenship allows” (cultural dimension), spanning from monistic to pluralistic approaches, which emphasize cultural uniformity or cultural diversity (Pasetti, 2018; Ruedin, 2015). This model presented by Ruedin (2015) identifies 4 categories (see *Figure 3*).

In the 2000s, Germany and Switzerland were examples of assimilationism, while France exemplified universalism and multiculturalism was marked in the Netherlands and the United Kingdom (Ruedin, 2015).

However, it is important to note that integration regimes are dynamic and can evolve over time (Ruedin, 2015). Recent research by Pasetti (2018) identifies 2 stable configurations of integration policies based on an East/West categorization. One encompasses 13 countries in Eastern Europe with more restrictive integration policies, and the other covers 19 countries in Western Europe, and Estonia (Pasetti, 2018). This geographical divide, with differing approaches to integration policies, may be attributed to factors such as shared communist histories, similar entry timings into the EU, and lower percentages of foreign populations in the former group of countries (Pasetti, 2018).



In summary, integration policies are crucial for addressing health equity. The ongoing debate and lack of consensus regarding integration regime typologies underscore the complexity of the field. In this study, we adopt the updated classification by Meuleman (2009), which is based on Castles' typology, due to its prevalence in related research. Additionally, our focus on "migrants" encompasses refugees and asylum seekers; however, irregular migrants may be underrepresented due to accessibility challenges.

1.2. State of previous research

Research on health inequities has emerged as a vital area of study to combat the unjust and preventable consequences of discrimination in health. Although relatively new, this field finds its origins in initiatives such as groupworks led by the WHO in 1979 and international workshops on health inequities in Europe organized by the European Science Foundation in the 1980s (Aïach & Fassin, 2004). A significant turning point occurred in 2009 with the adoption of a World Health Assembly resolution aimed at reducing health inequities by addressing social determinants of health (Östlin et al., 2011). Various authors stress the shift needed from “single risk factor analysis to

more comprehensive perspectives” (Östlin et al., 2011, p. 3), necessitating the consideration of multiple axes of social division to understand health inequities fully.

The intersectional approach sheds light on health inequities within migrant groups. For instance, Gkiouleka & Huijts (2020) find variations in migrant health based on migrant generation<sup>3</sup>, occupational status, and gender. Similarly, Malmusi et al. (2010) identify health inequities related to place of origin, gender, and social class for international and internal migrants in Catalonia, Spain. Borrell et al. (2008) also note gendered differences in health status among migrants in Catalonia, with foreign-born individuals presenting the poorest health status among men, while among women, it is those born in other regions of Spain. Besides gender, place of origin also emerges as a significant determinant of health outcomes among migrants. Berchet & Jusot (2012) find that migrants from Sub-Saharan Africa and Northern Europe tend to report better health than those from Southern Europe. Cagnet et al. (2012) extend this finding by highlighting disparities based on place of origin, particularly among migrant women, where migrants from outside the EU are more likely to report poor health compared to the native population. Additionally, Urquia et al. (2010) identify variations in birth outcomes among migrant women, with Sub-Saharan African, Latin American and Caribbean women having higher odds of delivering low birth weight babies in Europe compared to the US, while South-Central Asian migrants faced increased odds in both continents compared to native-born populations. Social context not only influences physical health outcomes but also mental health outcomes, with first-generation migrants experiencing higher levels of depression due to socioeconomic barriers and discrimination (Juárez et al., 2019; Levecque & Van Rossem, 2015). In this context, exclusionist countries exhibit the largest disparities in mental health between migrant and native populations, with restrictive policies exacerbating these disparities (Juárez et al., 2019; Malmusi et al., 2017). Similarly to physical health, birthplace also serves as an axis of social division impacting mental health risks (Levecque & Van Rossem, 2015).

The concept of the “healthy immigrant effect” (HIE) is a subject of ongoing debate. The HIE suggests that recent migrants often exhibit better health than both the host population and long-term migrants, because of a selection process in which only the healthier individuals can migrate (Ichou & Wallace, 2019). While some authors find evidence supporting it (Giannoni et al., 2016; Ichou & Wallace, 2019), others do not find evidence for it (Berchet & Jusot, 2012; Cagnet et al., 2012) or suggest it may be temporary (Gkiouleka & Huijts, 2020; Malmusi et al., 2010). Further

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<sup>3</sup> It is important to note the distinction between first-generation migrants, who are individuals born abroad, and second-generation migrants, who are born in the host country to parents born abroad. The migrant generation plays a significant role in shaping self-reported health and experiences of discrimination. For example, Borrell et al. (2015) found that discrimination correlates with poorer health among some first-generation immigrants, whereas this association is not observed among second-generation migrants.

investigation reveals nuances in this phenomenon. For instance, the HIE appears prominent among first-generation immigrants in manual employment, while second-generation migrants exhibit higher rates of negative health outcomes (Gkiouleka & Huijts, 2020). Malmusi et al. (2010) find similar patterns among immigrants from poorer countries, especially men with shorter lengths of residence. This could be attributable to selection processes in the labor market (Cognet et al., 2012; Gkiouleka & Huijts, 2020). In France, Berchet & Jusot (2012) notice results contradicting the HIE since the 2000s, with migrants having poorer health than the native population, a trend also noted by Cognet et al. (2012). Moreover, their analysis suggests deteriorating health among migrants with longer periods of residence (Berchet & Jusot, 2012; Cognet et al., 2012). According to Cognet et al. (2012), discrimination in the labor market and the workplace could explain deteriorating working conditions and thus an increasing burden on the health of migrants.

Gender and socioeconomic status further exacerbate health inequities among second-generation migrants, particularly affecting women (Gkiouleka & Huijts, 2020). Studies also highlight changes in preventive care utilization patterns post-migration, with variations across migrant groups and host countries (Berchet & Jusot, 2012; Buia et al., 2022; Starker et al., 2021). Introducing race adds another layer of complexity, with ethnic minority groups facing multiple disadvantages compared to the majority population, even after adjusting for gender and socioeconomic factors (Nielsen & Krasnik, 2010). However, the intersection of race and migration status remains largely underexplored, potentially uncovering even more significant disparities among racialized migrants. Perceived group discrimination is linked to adverse health outcomes in first-generation immigrants from low-income countries (Borrell et al., 2015). However, this connection is not observed in their descendants, and the effects are more significant in assimilationist countries (Borrell et al., 2015). In accordance with these results, immigrants report worse health in exclusionist and assimilationist countries (Malmusi, 2015), with integration policies significantly influencing immigrant health outcomes in Europe (Giannoni et al., 2016; Keller, 2023). Health and mortality inequities between migrant and native populations are most important in exclusionist countries, underscoring the impact of integration policies (Ikram et al., 2015; Malmusi, 2015). Countries with restrictive policies tend to exacerbate poor health and negative pregnancy outcomes among migrants (Bollini et al., 2009; Juárez et al., 2019), while positive changes in integration policies can lead to improvements in migrant health, as evidenced in Italy (Salmasi & Pieroni, 2015). There are also notable differences in subjective well-being between migrants and non-migrants, with the gap diminishing with age and being more pronounced in restrictive countries (Sand & Gruber, 2018). However, further research is necessary to understand the inconsistencies in the association between integration policies and health outcomes (Sorbye et al., 2019).

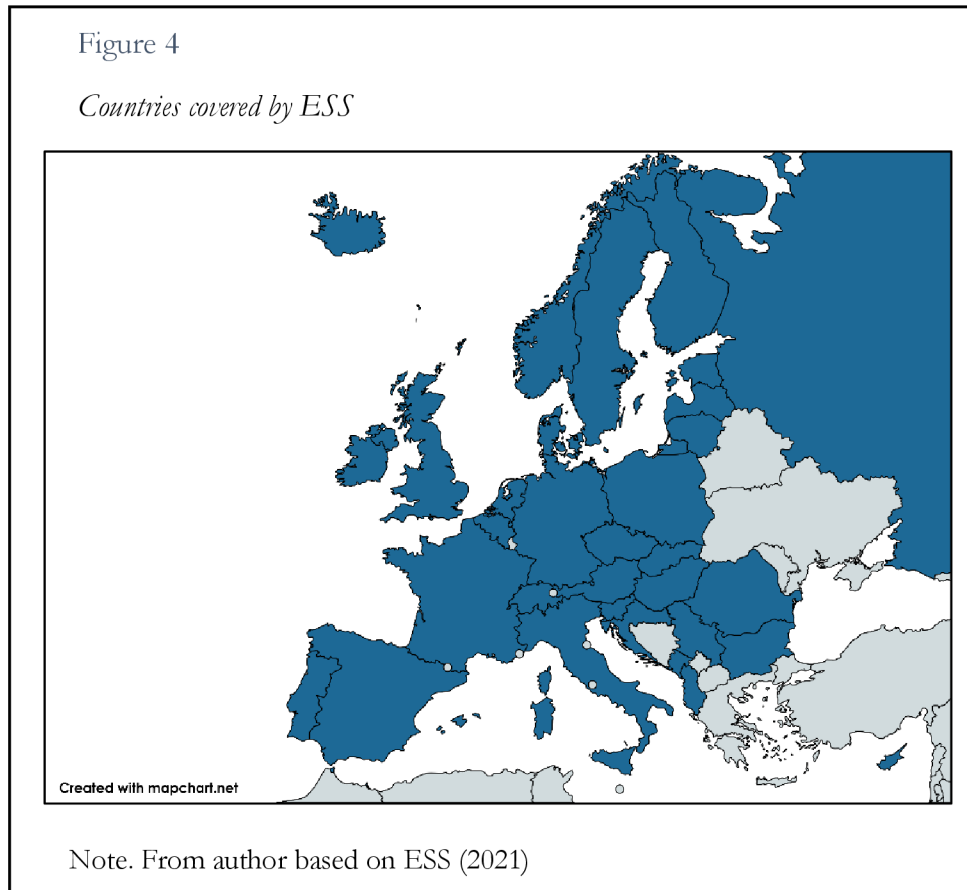
Addressing the existing research gap, this study aims to investigate the complex interplay between integration policies and health inequities among migrant populations, particularly examining how factors such as race, gender, and social class intersect within this framework. By shedding light on these dynamics, our research seeks to contribute valuable insights into the effectiveness of integration policies in mitigating health inequities among migrants, thereby enriching the discourse on health equity and informing more targeted policy interventions in the future.



## Chapter 2: Methods

### 2.1. Data

This study utilizes data from rounds 8 and 9 of ESS, gathered via face-to-face interviews conducted between 2016 and 2019. The survey sample encompasses individuals aged 15 and above, across more than 30 countries (see **Figure 4**).



Individuals below 18 years old were excluded from the sample, as well as countries with insufficient data (Cyprus, Latvia, Montenegro and Slovakia) or beyond the study's geographical scope (Israel and Russia). The latest ESS10 data were unusable due to pandemic-related disruptions. Several countries switched from face-to-face interviews to self-completion mode, introducing mode effects that complicate the analysis (European Social Survey, n.d.). Additionally, for examination of integration policies, we incorporate 2019 MIPLEX data. Following variable organization and data cleansing, the sample comprises 74 044 observations from countries 25 countries, including 35 202 men, 38 842 women and 7 315 first-generation migrants.

### 2.1.1. Outcome variable

Our analysis focuses on two key dependent variables: self-rated general health status and health limitations in daily activities, which serve as prominent indicators in health inequities research (Bakhtiari, 2022; Borrell et al., 2015; Chauvel & Leist, 2015; Cognet et al., 2012; Giannoni et al., 2016; Gkiouleka & Huijts, 2020; Ichou & Wallace, 2019; Keller, 2023; Malmusi, 2015; Malmusi et al., 2010; Pedrós Barnils et al., 2020; Shaw et al., 2014). Self-ratings are widely acknowledged as reliable measures for assessing an individual's general health status, demonstrating strong predictive value for mortality and morbidity across diverse ethnic groups (Chandola & Jenkinson, 2000; Idler & Benyamini, 1997). Participants were asked to rate their general health status using the question “How is your health in general? Would you say it is...” with five response options ranging from “very good” to “very bad”. While the 5-level scale could be used as it is (Chauvel & Leist, 2015; Ichou & Wallace, 2019; Shaw et al., 2014), we dichotomized this variable, assigning a value of 1 if self-rated health was deemed poorer than good. This was to mitigate the limited number of observations in the lowest two ratings and to minimize biases stemming from different interpretations of the scale (Jürges, 2007). For the second variable, the question asked is “Are you hampered in your daily activities in any way by any longstanding illness, or disability, infirmity or mental health problem?”, with response options including “Yes a lot”, “Yes to some extent” and “No”. We also dichotomized this variable into “Yes” or “No”. This approach aligns with previous studies assessing health using dichotomized variables (Bakhtiari, 2022; Borrell et al., 2015; Gkiouleka & Huijts, 2020).

### 2.1.2. Independent variables

The main independent variables are the migration background, race, gender, social class and integration policy classification.

The **migration background** was coded as follows: 2 for second-generation migrants (born in the host country to at least one parent born abroad), 1 for first-generation migrants (born abroad), and 0 for individuals with no migration background. Additionally, **MIGRTIME** served as a variable to distinguish between first-generation migrants who arrived less than 10 years ago and those residing in the host country for over 10 years. This variable was coded as 0 for non-migrants, 1 for first-generation migrants with over 10 years of residency, 2 for those with less than 10 years of residency, and 3 for second-generation migrants. Given the particular dynamics observed among second-generation migrants (Borrell et al., 2015; Gkiouleka & Huijts, 2020; Levecque & Van

Rossem, 2015; Starker et al., 2021) and their scarcity within the sample, we made the decision to exclude them from the study sample during the analysis stage.

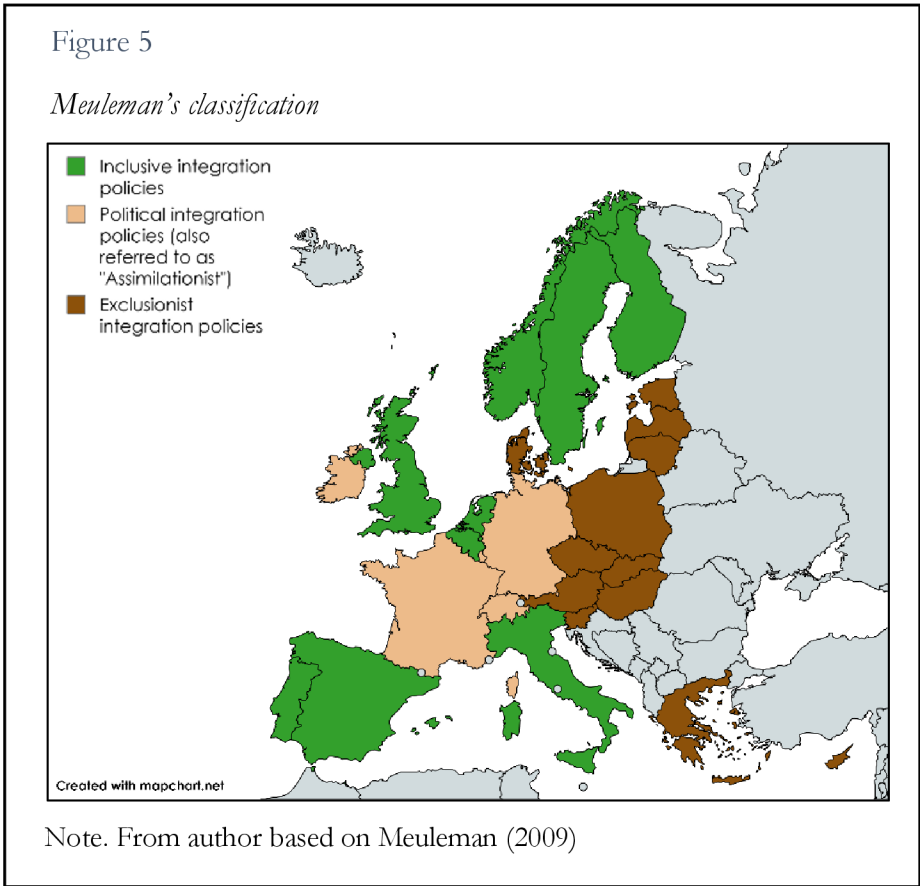
In addressing the **racial dimension**, we opted for self-reported discrimination measures, acknowledging their inherent limitations as they rely on individuals' perceptions and experiences (Cognet et al., 2012; Krieger, 1999). At the national level, diverse understandings of discrimination and racism can exist, which may impact reporting consistency, particularly among migrant populations (Cognet et al., 2012). Indeed, migrants may be navigating unfamiliar racial constructs in their new environment, as race is a context-specific socially constructed concept that varies between countries (Krieger, 2012). For instance, recent migrants of color in the US are less likely to report discrimination based on race (Krieger, 2012). Consequently, data on reported racial discrimination may be biased, especially among immigrant communities (Schaeffer & Kas, 2023). Despite these challenges, self-reported measures remain the most relevant for our analysis, given the data availability. Hence, we used two key questions: “Would you describe yourself as being a member of a group that is discriminated against in this country?” and “On what grounds is your group discriminated against?”. Respondents who answered affirmatively to the first question were presented with various response options for the second question. Subsequently, we constructed a variable coded as 1 if respondents indicated discrimination based on "Colour or race" or "Ethnic group", and 0 otherwise.

Besides, **gender** is coded as 1 if man and 2 if woman, which reflects a binary understanding of gender, thus overlooking the experiences of gender-expansive individuals.

In addition, regarding **social class**, the data are initially under ISCO-08 format, corresponding to occupational data. However, converting these data into a social class typology is necessary as ISCO-08 classification primarily serves administrative use (Mikucka, 2016). While many studies, employing socioeconomic status or social class as a control variable, fail to specify the social class scheme they utilize, those directly addressing social class often employ a social class typology (Borrell et al., 2008; Chauvel & Leist, 2015; Gkiouleka & Huijts, 2020; Malmusi et al., 2010; Meuleman, 2009; Muntaner et al., 2017; Pedrós Barnils et al., 2020; Shaw et al., 2014; Weldon, 2006). Social position can be measured using continuous or categorical measures (Christoph et al., 2020; Connelly et al., 2016; Mikucka, 2016), and we opt for the latter to allow the application of intersectionality. The European Socio-Economic Classification (ESeC) emerged in the 2000s, highly influenced by the Erikson-Goldthorpe-Portocarero scheme (Christoph et al., 2020; Mikucka, 2016). It is tailored to cross-country comparative research and comprises ten collapsible social classes (Connelly et al., 2016; Harrison & Rose, 2006; Rose & Harrison, 2007). Opting for the

narrowest categorization, we utilize the three-class model, consisting of the salariat, intermediate (comprising higher white collar and blue collar, petit bourgeois, and small farmers), and working classes (including lower white collar, skilled manual, and semi-/unskilled workers) (Rose & Harrison, 2007). Following guidelines from Harrison & Rose (2006), the paper of Wirth (2023) and the “SPSS Syntax for ESeC 2008” (Harrison, n.d.), the 4-digit ISCO-08 data were converted into the 9-class ESeC, subsequently collapsed into the 3-class model.

Finally, the **integration regime** will be analyzed based on Meuleman’s (2009) classification, which categorizes countries into exclusionist, assimilationist or inclusive types (refer to **Figure 5**). This widely used classification allows us to contribute to current research.



2.1.3. Controls

According to the literature, there seem to be differences in health according to the **country of origin** of migrants (Bakhtiari, 2022; Berchet & Jusot, 2012; Borrell et al., 2015; Giannoni et al., 2016; Levecque & Van Rossem, 2015; Malmusi et al., 2010, 2017; Sand & Gruber, 2018; Urquia et al., 2010). While an EU-born/non-EU-born differentiation could be used (Giannoni et al., 2016; Levecque & Van Rossem, 2015), we will prefer a differentiation based on the country’s HDI or

income class as used by Borrell et al. (2015), Malmusi et al. (2010), Malmusi (2015) and Malmusi et al. (2017). The most suited to our analysis is to classify the countries of origin in a dummy variable equal to 1 if the country of origin is not a HIC in the year of the survey and 0 otherwise (*WB List of Economies*, 2017; *WB List of Economies*, 2019).

Additionally, we include the respondent's **age** and the **MIPEX score** of the country as control variables. Age is centered around the cluster mean, while the MIPEX score is centered around the grand mean (refer to Enders & Tofighi, 2007; Sommet & Morselli, 2017). **Education level** based on ISCED is also added as a control variable and coded into 3 categories: low (less than primary, primary or lower secondary), medium (upper secondary or post-secondary non-tertiary) and high (tertiary) education (Eurostat, 2023; LIS, 2011; Malmusi et al., 2017). Finally, **marital status** is added as a dummy, which is equal to 1 if the person is married, and 0 otherwise. Missing values are dropped because they represent small proportions of the sample.

## 2.2. Research methodology

Due to the clustering of respondents by country, observations from the same country are more likely to have similar answers, rendering them non-independent and potentially leading to correlated error terms (Garson, 2013; Sommet & Morselli, 2017). The hierarchical nature of the data violates the assumption of independence of observations, thus traditional regression models may lead to biased standard errors and coefficients (Weldon, 2006). While a multilevel analysis would be suited (Garson, 2013; Leckie, 2010; Snijders, 2012; Sommet & Morselli, 2017; Williams, 2018), time and expertise constraints led me to use single-level logistic regressions with clustered standard errors based on countries.

In this analysis, individual-level predictors such as migration status, gender, race, social class, country of origin, education, age and marital status are allowed to vary within clusters, while country-level predictors such as the overall MIPEX score and the integration regime remain constant within countries (Sommet & Morselli, 2017).

The logistic regression model can be expressed as (Sommet & Morselli, 2017):

$$P(\text{POORHEALTH}_i = 1) = \frac{\exp(\beta_0 + \beta_1 * X_i)}{1 + \exp(\beta_0 + \beta_1 * X_i)} \quad (1)$$

Where the log-odds are modeled as (Snijders, 2012; Sommet & Morselli, 2017):

$$\text{Logit}\left(\frac{P(\text{POORHEALTH}_i = 1)}{1 - P(\text{POORHEALTH}_i = 1)}\right) = \text{Logit}(\text{odds}) = \beta_0 + \beta_1 * X_i \quad (2)$$

(Refer to Appendix 1)

For our analysis, we hypothesize that the prevalence of poor health will vary between countries and integration regime types. This hypothesis leads us to consider how cluster characteristics may modulate the effects of individual-level predictors on health outcomes. For instance, countries with exclusionary policies may exacerbate the effect of gender on health.

To commence the analysis, we will first outline the sample by detailing the MIPEx scores of countries and the variables of interest according to the integration policy regime, gender, and migration status (**Figure 7** and **Appendix 2**). Following this, logistic regressions will be employed to analyze our binary outcomes related to less than good health and limitations in daily life.

Moreover, to facilitate the intersectional analysis, we will use a quantitative approach grounded in intersectionality. Traditional interaction terms prove inadequate for this purpose due to their binary comparison, which overlooks the nuances between categories (Sen et al., 2009). For instance, in our case, interacting gender and race might only consider the contrast between a racialized woman (gender==1 and race==1) and all other combinations combined (gender==1 and race==0, gender==0 and race==1, gender==0 and race==0), thereby neglecting crucial intermediary categories (Sen et al., 2009). To address this limitation, we adopt an “intersectional approach”, wherein a separate dummy is generated for each intersecting social position. This approach enables a more comprehensive examination of the impact of each intersecting social identity on health outcomes (Sen et al., 2009). Besides, the intersectional approach has been employed in various studies seeking to conduct quantitative analyses using an intersectional framework, including in health research (Hollander et al., 2013; Pedrós Barnils et al., 2020; Wamala et al., 2009; Wesson et al., 2021).

All statistical analyses are conducted using Stata package version 18.0.



# Chapter 3: Analysis

## 3.1. Overview

### 3.1.1. Meuleman’s classification: Descriptive Statistics

On average, the data corresponds closely to Meuleman’s (2009) description of each regime type (see **Table 1**): inclusive countries score high on all policy strands; assimilationist countries score similarly high on political participation and citizenship, while restricting access to family reunion and labor market with heavy restrictions to long-term residence; and exclusionist countries have much lower scores, with strong restrictions to citizenship and political participation.

Table 1  
*Means of MIPEX scores for the 3 integration policy regimes*

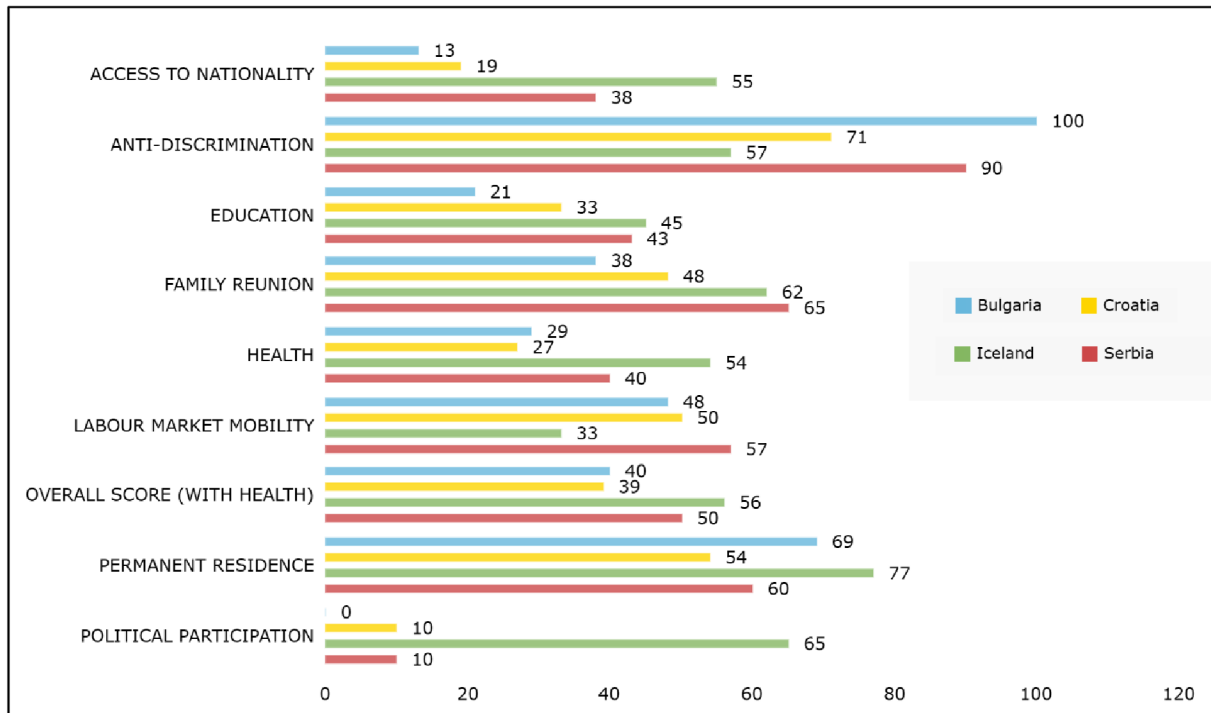
	Integration policy regime		
	Inclusive	Assimilationist	Exclusionist
Overall score	<b>69.00</b>	<b>57.00</b>	<b>45.38</b>
Labour Market Mobility	<b>73.78</b>	<b>54.50</b>	<b>49.12</b>
Family Reunification	<b>58.22</b>	<b>43.50</b>	<b>53.88</b>
Education	<b>64.22</b>	<b>46.00</b>	<b>41.88</b>
Political participation	<b>63.89</b>	<b>61.25</b>	<b>22.50</b>
Permanent residence	<b>72.78</b>	<b>52.50</b>	<b>59.62</b>
Citizenship	<b>60.44</b>	<b>54.75</b>	<b>28.12</b>
Antidiscrimination	<b>86.78</b>	<b>70.25</b>	<b>64.50</b>
Health	<b>73.67</b>	<b>74.00</b>	<b>43.38</b>

Note. The MIPEX scale range from 0 (critically unfavorable) to 100 (favorable) for each policy strand. From author based on 2019 MIPEX data.

Besides, Iceland, Bulgaria, Croatia and Serbia are in our ESS sample, but not in the Meuleman classification. Hence, we look at the MIPEX data to classify them (see **Figure 6**). Based on their scores, Bulgaria and Croatia belong to the exclusionist type, they have overall lower scores (maximum 40), and particularly low scores in political participation, access to nationality and health dimensions. Serbia seems to also belong to the exclusionist type, even if it is less evident. Its overall score is average, but political participation is highly restricted, and rights related to citizenship are somewhat limited. Finally, Iceland will go in the inclusive class because its overall score is not too low, and it does not have a low score on family reunion and permanent residence.

Figure 6

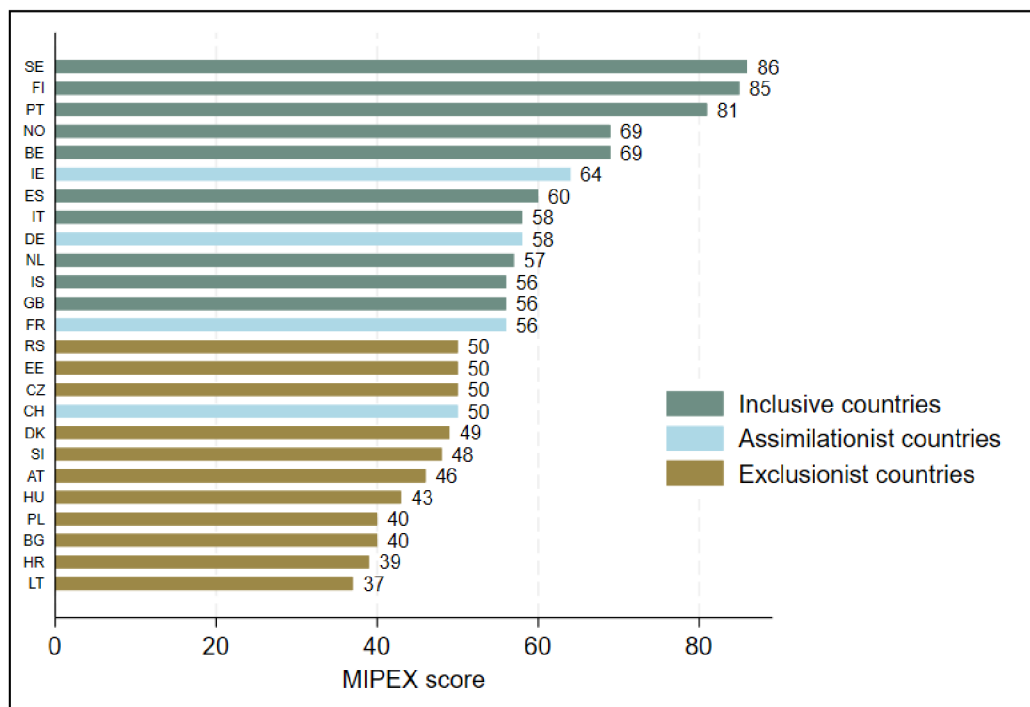
*MIPEX scores of Bulgaria, Croatia, Iceland and Serbia*



Note. From MIPEX (2020).

Figure 7

*2019 overall MIPEX score of the countries studied*



Note. From author based on 2019 MIPEX



Variability within each category is evident, with countries exhibiting notable differences among integration regimes (refer to *Figure 7*). However, as previously described, it is evident that exclusionist countries tend to have considerably lower scores compared to inclusive ones, while assimilationist countries (such as Ireland, Germany, France, and Switzerland) display a broader distribution. Notably, Sweden has the highest MIPEX score at 86 out of 100, while Lithuania holds the lowest score of 37 out of 100.

### 3.1.2. Sample: Descriptive Statistics

Upon examination of the table in the *Appendix 2*, it becomes apparent that individuals with no migration background and second-generation migrants in inclusive and assimilationist countries (excluding second-generation male migrants in inclusive countries) tend to report less than good health more frequently, on average. These findings hint at the potential existence of a HIE in inclusive and assimilationist countries. Conversely, in exclusionist countries, this trend is more pronounced among first-generation immigrants. Regarding limitations in daily life, reports are more prevalent among non-migrants and second-generation migrants in inclusive and assimilationist countries compared to first-generation migrants, again pointing to a HIE. In contrast, in exclusionist countries, the trend is reversed, with first-generation migrants reporting more hindrances in daily life, among women and men.

Additionally, respondents from both first-generation and second-generation immigrant groups in inclusive and assimilationist countries are systematically younger than natives, necessitating the inclusion of age as a control in all regressions to mitigate its confounding effect. Conversely, in exclusionist countries, first-generation migrant respondents tend to be older than natives, while the second-generation is younger than them.

Furthermore, notable gender disparities emerge, with women exhibiting poorer health across all integration regime types. This discrepancy is particularly pronounced among first-generation migrant women in exclusionist countries, where 55% report less than good health and 43% report being hampered daily.

Moreover, in all integration regimes, the second-generation reports either the same level or higher levels of racial and ethnic discrimination compared to the first-generation migrants, underscoring the significance of nativity, as highlighted by Krieger (2012). This disparity is especially striking in

inclusive countries, where there is a notable increase in reports of racial or ethnic discrimination among second-generation immigrants. Conversely, such reports are relatively lower in exclusionist countries.

Counterintuitively, first-generation immigrants appear to occupy lower social class statuses in comparison to natives and second-generation immigrants in inclusive and assimilationist countries, contrasting with trends observed in exclusionist countries. Interestingly, the distribution of second-generation migrants tends to resemble that of natives in inclusive and assimilationist countries, except for second-generation migrant women in assimilationist countries who seem to face challenges in attaining the salariat class. In exclusionist countries, a higher share of the population belongs to the working class, regardless of the migration background, with no significant differences observed between first- and second-generation migrants compared to natives. Besides, in inclusive and assimilationist countries, there is a large proportion of high education among first-generation migrants; however, this high educational attainment does not seem to translate into their social class, as they are overrepresented in the working class.

Finally, exclusionist countries exhibit the highest proportion of first-generation migrants with over 10 years of residence, at 90%, while this figure does not exceed 80% for the other types of countries. The country of origin of migrants also varies across integration regimes.

## 3.2. Statistical analysis

### 3.2.1. Empty model

Initially, we explored a hierarchical logistic model to account for the clustering of observations within countries. However, due to time and methodological constraints, we ultimately opted for a single-level logistic analysis with clustered standard errors. Nevertheless, the insights gained from the null model of the hierarchical approach remain relevant. Thus, we run a null model, which contains no explanatory variable, to identify the variation in the log-odds of reporting poor health from one cluster to another, thereby capturing the country effect on health (Leckie, 2010; Sommet & Morselli, 2017).

The null model is applied to the entire sample clustered into 25 groups (countries) of varying sizes, ranging from 1 372 to 4 592 observations. The fixed intercept when applied to less than good health was determined to be -0.63, representing the baseline log-odds of reporting poor health. Converting the log-odds into average probability reveals that an individual, on average, has a 35%

$(\exp(-0.63)/(1+\exp(-0.63)))$  chance of reporting less than good health across all countries (Sommet & Morselli, 2017). Conversely, the average probability of reporting daily hindrances stands at 27% across all countries.

From this null model, we derive the intraclass correlation coefficient (ICC), which quantifies the degree of homogeneity of the health outcomes among clusters (Garson, 2013; Sommet & Morselli, 2017). In our analysis, the ICC for reporting poor health is 0.06, indicating that 6% of the variation in reporting poor health is explained by differences between countries, while 94% of it is attributed to differences within countries (Sommet & Morselli, 2017). Similarly, for daily hindrances, the ICC is 3%. Notably, when the sample was restricted to first-generation migrants exclusively, the ICC increased to 13% and 12% for reporting poor health and daily hindrances, respectively. This increase underscores the higher between-country differences in health outcomes of migrants.

### 3.2.2. Simple models without interactions

To determine the most suitable model, we utilized the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) to ensure that my variables effectively explained the data (Werth, 2022). Whenever the AIC/BIC decreased, signifying a better fit, we considered the model with the additional variable to be superior to the previous one. However, upon adding the variable for racial or ethnic discrimination, the AIC/BIC increased for both regressions. Despite this, recognizing the importance of race to my analysis, we retained it in the model.

Ultimately, the models without interactions comprise the following variables:

$$\begin{aligned} \text{Logit}(\text{oddsP}_i) = & \beta_0 + \beta_1 * \text{ESECLASS}_i + \beta_2 * \text{GNDR}_i + \beta_3 * \text{DISCRIMINATION}_i + \beta_4 \\ & * \text{EDUC}_i + \beta_5 * \text{AGE}_i + \beta_6 * \text{MARRIED}_i + \beta_7 * \text{LIC}_i + \beta_8 * \text{MIPEX}_i + \beta_9 \\ & * \text{MEULEMAN}_i + R_i \end{aligned} \tag{3}$$

$$\begin{aligned} \text{Logit}(\text{oddsH}_i) = & \beta_0 + \beta_1 * \text{ESECLASS}_i + \beta_2 * \text{GNDR}_i + \beta_3 * \text{DISCRIMINATION}_i + \beta_4 \\ & * \text{EDUC}_i + \beta_5 * \text{AGE}_i + \beta_6 * \text{MARRIED}_i + \beta_7 * \text{MIPEX}_i + \beta_8 \\ & * \text{MEULEMAN}_i + R_i \end{aligned} \tag{4}$$

In which  $\text{Logit}(\text{oddsP}_i)$  is the log-odds of reporting less than good health for an individual  $i$ , while  $\text{Logit}(\text{oddsH}_i)$  is the log-odds of reporting daily hindrances for an individual  $i$ .

$\beta_0$  represents the log-odds of the baseline category.  $ESECLASS_i$  is a three-class variable (salaried, intermediate and working class) indicating the individual's social class;  $GNDR_i$  is a dichotomous variable representing the respondent's gender;  $DISCRIMINATION_i$  is a dichotomous measure indicating if the respondent reports being discriminated on the grounds of race or ethnicity;  $EDUC_i$  is highest level of education attained (three-class variable);  $AGE_i$  is the age of the interviewee;  $MARRIED_i$  indicates if the individual is married or not;  $LIC_i$  differentiates individuals not born in a HIC;  $MIPEX_i$  represents the MIPEX score of the country where the respondent lives;  $MEULEMAN_i$  indicates the category within the Meuleman classification to which the country of residence of the respondent belongs. Lastly,  $R_i$  represents the error term, which is assumed to follow a normal distribution with a mean of zero and variance  $\sigma^2$ .

The results are presented in **Table 2**, demonstrating the relevance of the dimensions under study, including gender, race, and social class. Among the 7 315 observations, women are 1.26 times and 1.23 times more likely to report poor health and daily hindrances, respectively, than men, holding all other things equal. Similarly, individuals from the working class are respectively 1.52 and 1.28 times more likely to report less than good health and daily hindrances than individuals from the higher social class, holding everything else equal. Moreover, respondents who reported ethnic or racial discrimination are 1.42 times more likely to report poor health than those who did not report such discrimination, holding all other things equal. However, race does not seem to be a significant predictor of reporting daily hindrances. To put it another way, reporting racial discrimination increases the likelihood of reporting less than good health by 59% compared to not reporting discrimination. Similarly, being a woman increases this probability by 56% compared to men, while belonging to the working class increases it by 60% compared to individuals from the higher social class, all else being equal.

As anticipated, age shows significant factors bigger than 1, indicating that older individuals have higher odds of reporting less than good health compared to younger individuals, all else equal. The country of origin also plays a significant role in predicting reports of less than good health, with individuals born abroad in a non-HIC being 1.39 times more likely to report poor health than those born in a HIC, holding all other things equal. Additionally, education emerges as a significant factor, with individuals having lower levels of education being respectively 1.77 and 1.53 times more likely to report less than good health and daily hindrances compared to those with higher education

levels, under the same conditions. Furthermore, marital status demonstrated significant effects, suggesting its utility as a control variable.

Table 2

*Regression table of the simple models*

Observations: 7315	Less than good health	Daily hindrances
<b>Main predictors</b>		
Woman (gender==1)	1.255*** (0.083)	1.226*** (0.072)
Social class (Ref: Salaried class)		
Intermediate	1.299** (0.138)	1.225** (0.113)
Working class	1.515*** (0.122)	1.276*** (0.091)
Racially discriminated (discrimination==1)	1.423*** (0.160)	1.212 (0.151)
Integration regime (Ref: Inclusive country)		
Assimilationist	1.213 (0.264)	1.334 (0.309)
Exclusionist	2.540*** (0.902)	2.678*** (0.758)
<b>Controls</b>		
Age	1.051*** (0.005)	1.047*** (0.004)
Born abroad, not in a HIC (LIC==1)	1.392*** (0.162)	
Education (Ref: High education)		
Medium education	1.353*** (0.111)	1.171 (0.114)
Low education	1.765*** (0.131)	1.531*** (0.146)
Married (married==1)	0.783*** (0.048)	0.780*** (0.038)
MIPEX score	1.012 (0.011)	1.019** (0.010)

Exponentiated coefficients; Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Note. Odds ratios are presented. From author's calculations.

At the country level, the MIPEX score does not show significance in predicting less than good health, but it does in predicting daily hindrances, despite standard errors being clustered. This

suggests that the national integration policy environment may exert a more pronounced effect on specific health-related outcomes, such as daily hindrances. Additionally, the country's integration regime proves to be significant for both regression models, signifying its strong predictive power when it comes to migrant health. Specifically, individuals residing in exclusionist countries are respectively 2.54 and 2.68 times more likely to report poor health and daily hindrances compared to those in inclusive countries, holding all other things equal.

Besides, it is pertinent to examine whether the widely discussed HIE observed in the literature is applicable to our dataset. Hence, we conducted the previous regressions on the entire sample instead of the restricted first-generation migrant's sample.

Our findings reveal evidence of the HIE, as previously described in studies (Giannoni et al., 2016; Ichou & Wallace, 2019) (see **Table 3**). First-generation migrants with less than 10 years of residence have lower odds of reporting poor health and daily hindrances compared to non-migrants, with a statistical significance observed, all else equal.

Conversely, second-generation migrants demonstrate higher odds of reporting less than good health and daily hindrances compared to non-migrants, holding everything else equal. In contrast, first-generation migrants with more than 10 years of residence do not show significant differences from non-migrants in reporting less than good health or daily hindrances.

Table 3  
*Identifying the Healthy Immigrant Effect*

Observations: 74 044	Less than good health	Daily hindrances
Migration background (Ref: Non-migrants)		
1st gen with more than 10 years of residence	0.942 (0.095)	1.060 (0.089)
1st gen with less than 10 years of residence	0.532*** (0.091)	0.640*** (0.078)
2nd generation migrants	1.325* (0.198)	1.172* (0.109)

Exponentiated coefficients; Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Note. Odds ratios are presented. All variables are included in the regression, but only relevant coefficients are presented. From author's calculations.

Overall, these results underscore the significance of gender, race, social class and integration regime as robust predictors of migrant health. Further analysis to differentiate the effects of these predictors according to an intersectional framework and integration regime type will be insightful.

### 3.2.3. Interacting Gender, Race and Social class with the Integration regime

To explore how the effects of key variables differ across integration regimes, we introduce interaction terms between each predictor and the integration regime variable. The regression equations are as follows:

*Logit(oddsP<sub>i</sub>)*

$$\begin{aligned}
 &= \beta_0 + \beta_1 * ESECLASS_i + \beta_2 * GNDR_i + \beta_3 * DISCRIMINATION_i + \\
 &\beta_4 * EDUC_i + \beta_5 * AGE_i + \beta_6 * MARRIED_i + \beta_7 * LIC_i + \beta_8 * \\
 &MIPEX_i + \beta_9 * MEULEMAN_i + \beta_{10} * GNDR_i * MEULEMAN_i + \beta_{11} * \\
 &ESECLASS_i * MEULEMAN_i + \beta_{12} * DISCRIMINATION_i * \\
 &MEULEMAN_i + R_i
 \end{aligned}$$

(5)

*Logit(oddsH<sub>i</sub>)*

$$\begin{aligned}
 &= \beta_0 + \beta_1 * ESECLASS_i + \beta_2 * GNDR_i + \beta_3 * DISCRIMINATION_i + \beta_4 \\
 &* EDUC_i + \beta_5 * AGE_i + \beta_6 * MARRIED_i + \beta_7 * MIPEX_i + \beta_8 \\
 &* MEULEMAN_i + \beta_9 * GNDR_i * MEULEMAN_i + \beta_{10} * ESECLASS_i \\
 &* MEULEMAN_i + \beta_{11} * DISCRIMINATION_i * MEULEMAN_i + R_i
 \end{aligned}$$

(6)

The findings outlined in **Table 4** shed light on the relationship between the main predictors and the integration regime in predicting less than good health and daily hindrances. It is notable that only a few interactions emerge as significant when considering daily hindrances, contrasting with less than good health. This suggests that race, gender and social class may not have varying effects depending on the integration regime when predicting daily hindrances. Interpreting odds ratios for interactions between categorical variables poses challenges, particularly as the reference category consists of multiple pairs rather than a single category. Consequently, a detailed interpretation of the results is avoided.

One observable trend is the loss of significance in many coefficients within the migrant sample, possibly indicating either a genuine lack of significance in this group compared to non-migrants or a consequence of a smaller sample size hindering significance attainment. Nevertheless, it remains evident that the influence of gender, race and social class on reporting poor health varies with the integration regime.



Table 4

*Interacting the integration regime with gender, race and social class*

	Less than good health		Daily hindrances	
	Non-migrants	1st gen	Non-migrants	1st gen
<b>Gender x Meuleman</b>				
Woman × Assimilationist	0.881* (0.067)	0.805 (0.107)	0.846*** (0.035)	0.894 (0.128)
Woman × Exclusionist	1.027 (0.083)	0.990 (0.158)	0.954 (0.054)	1.012 (0.129)
<b>Social class x Meuleman</b>				
Intermediate × Assimilationist	0.873 (0.082)	1.396 (0.291)	0.951 (0.084)	1.204 (0.161)
Intermediate × Exclusionist	0.817** (0.072)	1.091 (0.254)	0.992 (0.101)	0.916 (0.218)
Working class × Assimilationist	0.742** (0.091)	1.212 (0.219)	0.959 (0.074)	1.282 (0.227)
Working class × Exclusionist	0.862** (0.059)	1.170 (0.172)	1.057 (0.098)	1.199 (0.199)
<b>Race x Meuleman</b>				
Racially discr. × Assimilationist	1.848*** (0.378)	1.278 (0.287)	1.099 (0.247)	1.112 (0.257)
Racially discr. × Exclusionist	1.008 (0.218)	0.732 (0.243)	0.695 (0.216)	0.962 (0.499)
Observations	66729	7315	66729	7315

Exponentiated coefficients; Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Note. Odds ratios are presented. “Racially discr.” refers to “racially discriminated against”. Only relevant coefficients are presented. From author’s calculations.

Generally, when predicting poor health, observed effects in both non-migrant and migrant samples align in the same direction. However, the impact of social class according to the integration regime varies starkly between the two groups. In the non-migrant sample, all odds ratios are below 1, while in the migrant sample, they are consistently above 1. This suggests differing influences of the interaction “Social class x Meuleman” on reports of poor health in migrant and non-migrant populations.

To summarize, while the preceding analysis does not definitively pinpoint varying effects of the main predictor based on the integration regime in the migrant sample, it does suggest the possibility of significant interactions when predicting less than good health, albeit not for daily hindrances.



### 3.2.4. Intersectional migrant health

Due to cautionary advice against using 3-way interactions, we abstained from incorporating an interaction of the three main independent variables together. Instead, we adopted an intersectional approach (refer to Chapter 2) which focuses on modeling intersections among the dimensions of race, gender and social class. This approach resulted in a total of 12 intersections, each representing a unique combination of these dimensions. The regression equations retained the same control variables as previously employed as well as the integration regime. However, rather than including race, gender and social class as distinct predictors, we integrated all intersections into the model, except for one designated as the reference category (non-racialized man from the salariat class).

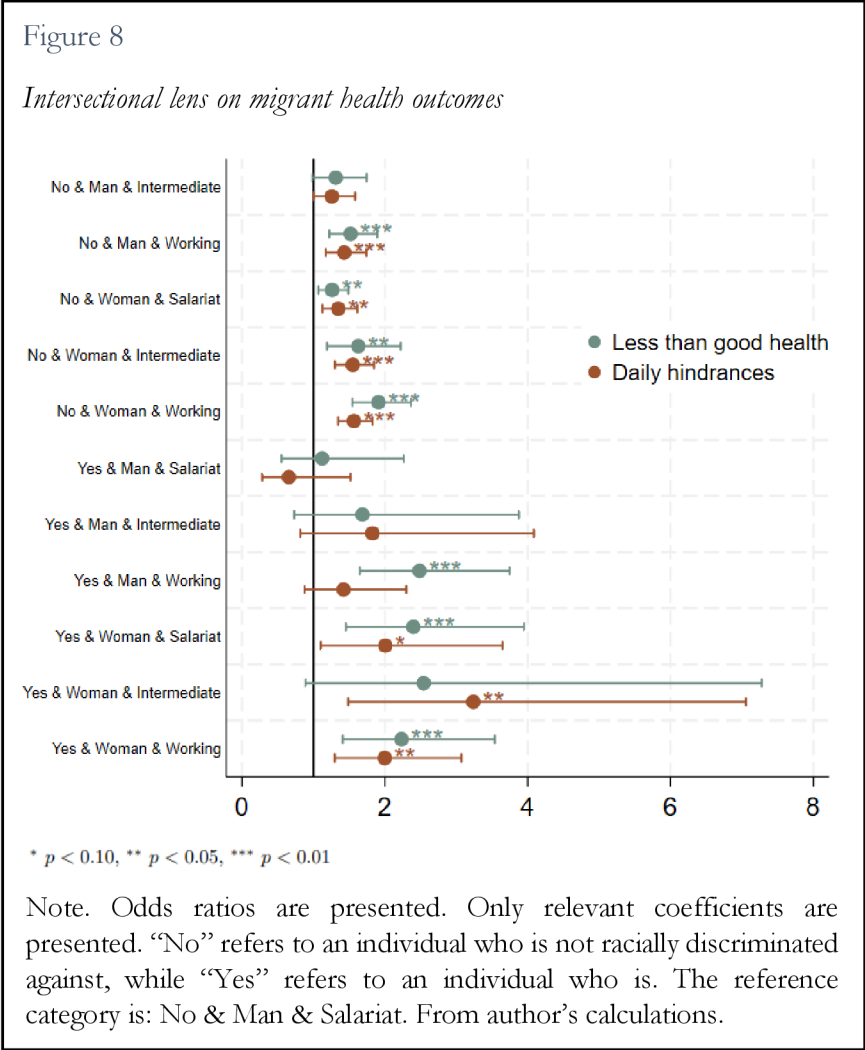
Moving forward, all results will be presented in the format of unique intersections, following the structure of “Race & Gender & Social class”. Within this framework, “Race” denotes whether the individual experiences racial discrimination, with options of “Yes” if the individual is racially discriminated against and “No” otherwise. “Gender” is categorized as either “Man” or “Woman”, while “Social class” can be either “Salariat”, “Intermediate” or “Working”. Later in section 3.2.5, the intersections will follow the format “Race & Gender & Social class & Integration regime”, with “Integration regime” categorized either as “Inclusive”, “Assimilationist” or “Exclusionist”.

*Figure 8* presents a comprehensive examination of intersectional dynamics, unveiling nuanced insights into health outcomes through the social mapping of intersecting social identities. The significance of numerous intersections underscores the importance of intersectionality in quantitative research.

Notably, a distinct pattern emerges where only non-racialized men from the intermediate class, alongside racialized men from the salariat and intermediate classes, exhibit no significantly elevated odds of reporting less than good health or daily hindrances compared to their non-racialized counterparts from the salariat class, all else held constant. This suggests a mitigating effect of the gender “man”, particularly in higher social class, against the influence of race. Migrant men from the highest social classes notably enjoy a health advantage. In contrast, women, regardless of their race and socioeconomic situation, face significantly higher odds of reporting negative health outcomes compared to the reference group, underscoring the pervasive effect of gender on health outcomes.

When significant, though confidence intervals overlap, the point estimates for intersections involving racialized individuals tend to be higher (ranging from 2 to 3.2) than those involving non-racialized individuals (ranging from 1.3 to 1.6). This suggests that race might exacerbate health

inequities, but this does not apply to men from the higher classes. Notably looking at point estimates, racialized women, irrespective of their social class, are at least twice as likely to report poor health and daily hindrances (except women from the intermediate class) compared to non-racialized men from the higher social class, holding other factors constant. These inequities are particularly worrying in predicting less than good health, with significance established at the 99% confidence level and upper confidence interval nearing 4.

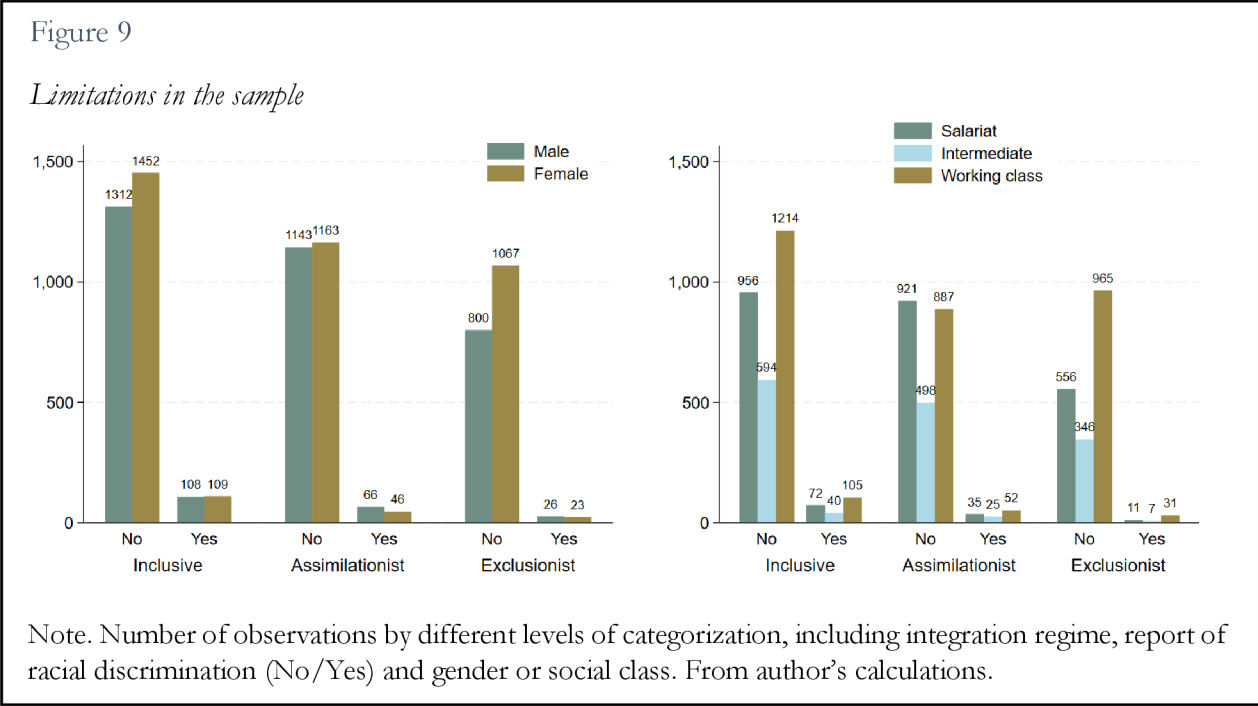


Additionally, social class appears as a pivotal factor in determining whether the combination of other social dimensions confers a health disadvantage. Individuals from the lower social class (working class) consistently exhibit higher odds of reporting negative health outcomes, irrespective of gender or race, compared to the reference category, all else being equal. In contrast, the situation is less predictable for individuals from the intermediate class, with outcomes largely contingent on whether they already face other health disadvantages.

Despite the challenges posed by wider confidence intervals for racialized individuals, likely due to fewer reported instances of racial discrimination, intersectional identities offer crucial insights into migrant health, revealing health inequities within the population. Notably, advantages in social class and gender simultaneously, confer a clear health advantage regardless of race, while accumulating disadvantaged positions significantly heightens the odds of reporting negative health outcomes.

3.2.5. Intersectional migrant health and integration regimes

As depicted in **Figure 9**, the number of observations who reported racial or ethnic discrimination is particularly low in exclusionist countries. Moreover, when stratified by social class and gender, this number diminishes further, raising concerns about the robustness of subsequent analyses which include race, particularly in exclusionist countries.



In this section, each intersection now incorporates race, gender, social class and integration regime. It is important to note the limitations of this approach, as the classification of integration regimes, initially developed by Meuleman (2009), may not accurately reflect current policies. Some countries may have undergone policy changes that could alter their classification. This limitation will be further discussed in the thesis' limitations section. Additionally, the integration regime of the country where the migrant lives cannot be considered as part of its social identity on the same grounds as race, gender, or social class. Despite these imperfections, incorporating the integration regime as an intersecting variable enables comparisons across different regimes.

The models used in this section encompass 36 intersections, derived from the intersections of race, gender, social class and integration regime. Additionally, the models include the previously defined controls. Among these 36 unique intersections, 35 are included in the model, while one is assigned as the reference category.

The results allow us to contrast an “absolute gap” with a “relative gap”. In our context, we define the “absolute gap” as the difference between the common reference category and all other intersections. This enables comparisons across integration regimes; for instance, we can juxtapose the non-racialized man from the salariat class in an inclusive country (reference category) with its identical counterparts in assimilationist and exclusionist regime types. On the contrary, the “relative gap” does not allow comparisons across regime types, because the reference category is tailored to each regime type.

Finally, we will employ the concepts of the “most advantaged intersection” and the “most disadvantaged intersection”. The former denotes an individual privileged in all dimensions (non-racialized, man, salariat class, inclusive country), while the latter refers to an individual at the intersection of all disadvantages (racialized, woman, working class, exclusionist country).

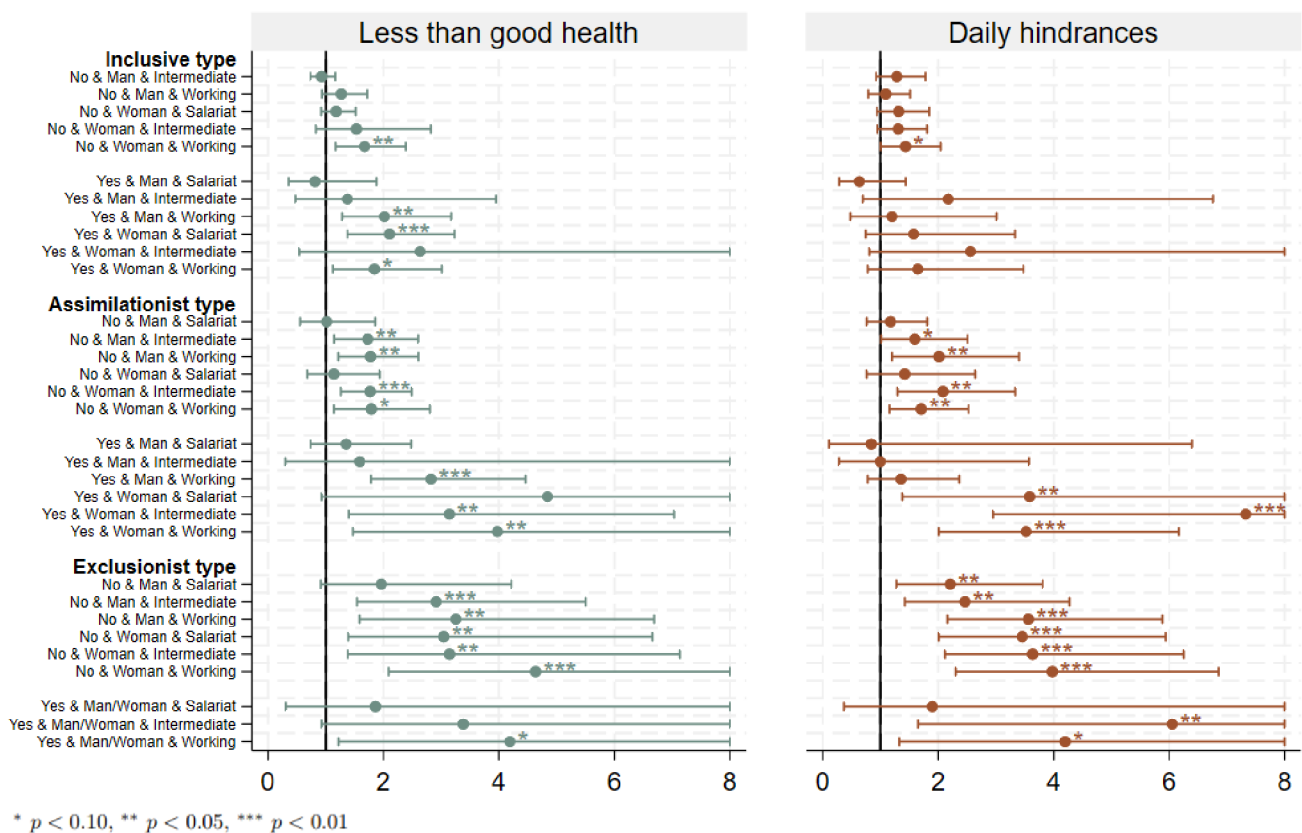
#### *i. Interpreting “absolute” gaps*

In **Figure 10**, we delve into the repercussions of different integration regimes on each intersection. Here, all intersections are presented against a common reference category. Consequently, rather than contrasting the most disadvantaged intersection with the most advantaged one within the same integration regime, we gauge them against the most advantaged intersection in what appears to be the least detrimental integration regime – specifically, non-racialized men from the salariat class in an inclusive country.

When it comes to predicting less than good health and daily hindrances, intersections within the inclusive regime type exhibit fewer significant coefficients overall compared to those in assimilationist and exclusionist countries. This suggests that the integration regime itself has a significant impact on health outcomes, as the most advantaged intersection in the most favorable regime type does not deviate drastically from other intersections within the same regime, yet it markedly outperforms intersections in other regime types. Hence, the inclusive regime inherently confers a health advantage to migrants, while the exclusionist regime represents a health disadvantage, with point estimates tending to be higher in this regime type.

Figure 10

*Intersectional health according to the integration regime (absolute gaps)*



Note. Odds ratios are presented, with the reference category set as “No & Man & Salarial & Inclusive”. For ease of visual comparison, any confidence intervals extending beyond 8 have been truncated at 8 on the x-axis. From author’s calculations.

Upon closer examination, it is evident that despite existing health inequities among migrants in the inclusive type concerning less than good health, these inequities may not necessarily extend to daily hindrances. For instance, only non-racialized women from the working class exhibit significantly higher odds of reporting poor health and daily hindrances compared to non-racialized men from the salariat class within the same regime type, all else equal. Moreover, within this regime type, being a man from the highest social classes appears to be a health advantage, irrespective of race. Similarly, among non-racialized intersections, women from the highest social classes, alongside men regardless of socioeconomic status, enjoy protection against reports of adverse health outcomes. Here, race emerges as a significant worsening factor, except for men from the highest social classes. Although the intersection “Yes & Woman & Intermediate” does not have a significant coefficient, the size of the confidence intervals, in comparison to the others, suggests imprecision that may hinder significance. Hence, compared to the reference category, being racialized is a worsening factor, applicable to men from the lower class and women regardless of

their social class, while for individuals not facing racial discrimination, only those disadvantaged in the other two axes (Woman & Working class) significantly report more negative health outcomes, all else equal.

Furthermore, when compared to the assimilationist regime type, the notable increase in significant intersections predicting daily hindrances indicates that disparities in overall health status translate more into daily hindrances, when contrasted with the reference category. However, in terms of predicting less than good health, intersections involving the salariat class, regardless of gender or race, are not significantly different from the reference category in the inclusive type. Thus, in assimilationist countries, belonging to the highest social class seems to confer a health advantage irrespective of gender and race. While confidence intervals are wider for intersections involving racial discrimination, suggesting greater imprecision, significant point estimates are higher than among non-racialized individuals, once again indicating race as a worsening factor. The dynamic shifts in predicting daily hindrances, as among non-racialized individuals, the health advantage tied to the salariat class remains, while among racialized individuals, being a man constitutes the new health advantage compared to the reference category, all else equal.

Finally, when comparing to intersections in the exclusionist type, it appears that only the most advantaged intersection “No & Man & Salariat” does not exhibit significantly higher odds for reporting less than good health compared to the reference category, all else being equal. However, this does not hold true in predicting reports of daily hindrances. Regarding racialized individuals, interpretation is challenging due to imprecise estimates, resulting in confidence intervals extending to unreasonable numbers. Besides, among non-racialized individuals, although confidence intervals overlap, point estimates are higher than those of the same intersections in other regime types, suggesting overall higher odds of reporting negative health outcomes in exclusionist countries compared to others.

In summary, being in an inclusive country entails a health advantage, particularly regarding daily hindrances, while being in an exclusionist country constitutes a health disadvantage. Additionally, race emerges as a consistent worsening factor across all regime types, although racialized men from higher social classes can mitigate the effects in inclusive and assimilationist countries. In assimilationist countries, individuals from the highest social class exhibit protection against poor health regardless of gender and race, while in exclusionist countries, inequities in health outcomes compared to the reference category are stark across all intersections.



These findings illuminate the “absolute gaps” between the most advantaged intersection in the most advantageous regime type and other intersections across regime types. Yet, they do not allow for comparisons of the size of inequities within each integration type.

ii. *Interpreting “relative” gaps*

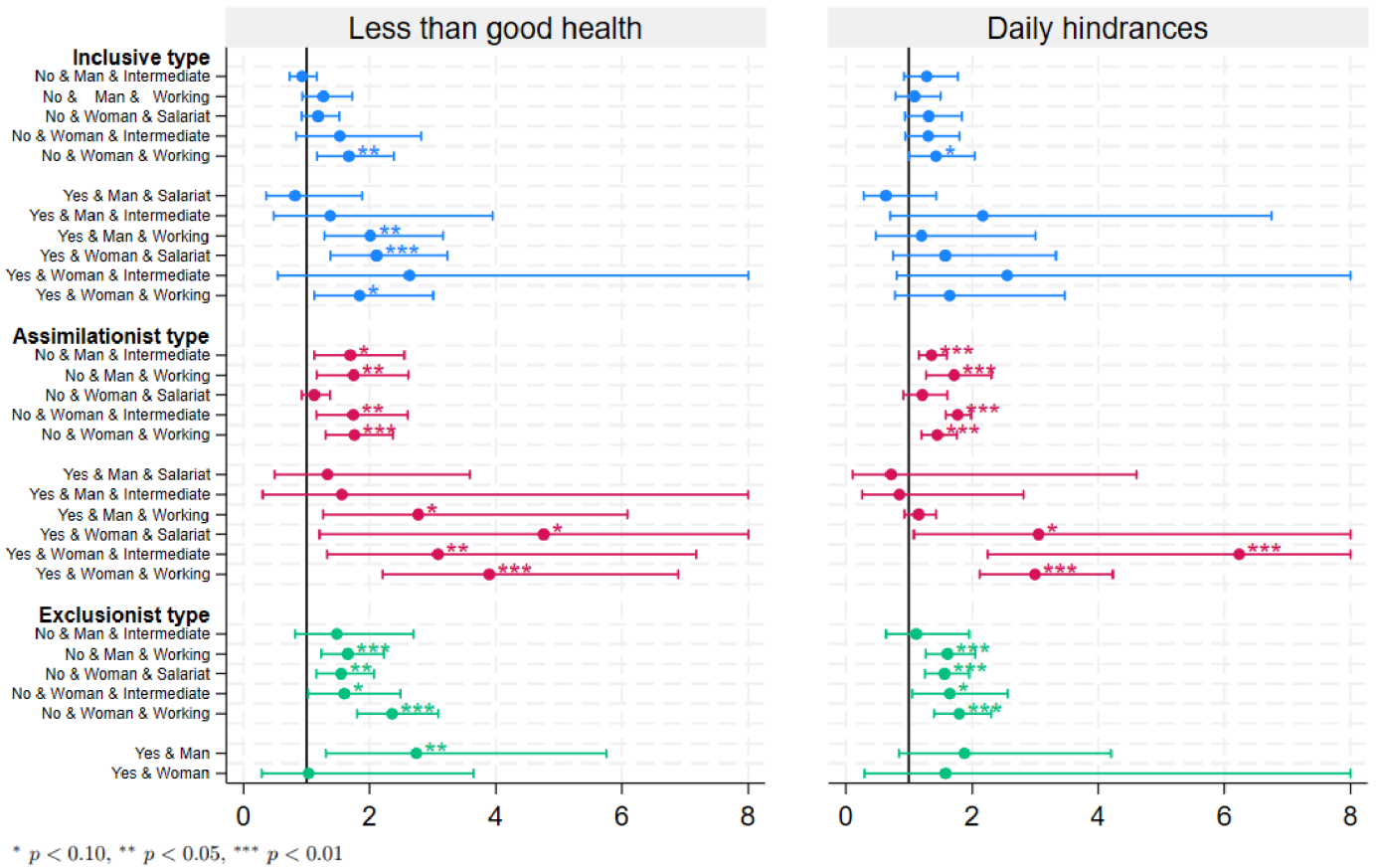
In this section, we aim to use adapted reference categories by using the most advantaged intersection within each integration regime as the reference category. **Figure 11** employs "No & Man & Salariat" as the reference category, with adjustments made for each integration regime. Consequently, we conduct three different regressions, each corresponding to a specific regime type, allowing us to adapt the reference category accordingly. These regressions include the defined controls along with the 35 intersections analyzed. To facilitate visual representation, we present only the pertinent results from each regression. Besides, it must be noted that within the exclusionist type, the number of respondents who answered that they are subject to racial discrimination is very small (refer to **Figure 9**), thus hindering the interpretation of the factor of race in our analysis. This is why we collapsed some categories together.

**Figure 11** presents results that indicate how intersectional inequities are within each integration regime. Indeed, now, when we compare the most advantaged intersection to other intersections within the same integration regime type, we lose the inherent effect of the integration regime on migrant health. This is clearly noticeable, as in comparison to the previous figure, the point estimates in the exclusionist type are no longer higher than those in the inclusive type. In predicting less than good health and daily hindrances, the inclusive type exhibits the lowest number of significant intersections, followed by the assimilationist and exclusionist types.

For the inclusive type, the results are unchanged in comparison to the previous figure as the reference category is the same. As highlighted earlier, regarding the inclusive regime, being racially discriminated against is a health disadvantage in predicting less than good health against which only men from the higher social classes can protect themselves from. Among non-racialized individuals, cumulating two disadvantages on the gender and social class axes results in significantly higher reports of less than good health and daily hindrances compared to the reference category, everything else being constant.

Figure 11

*Intersectional health according to the integration regime (relative gaps)*



Note. Odds ratios are presented, with the reference category set as “No & Man & Salarial”. For ease of visual comparison, any confidence intervals extending beyond 8 have been truncated at 8 on the x-axis. From author’s calculations.

In comparison to the previous figure, the results regarding the assimilationist type are quite different. Indeed, only individuals belonging to the highest social class among non-racialized migrants and men from the higher social classes among racialized migrants do not show significantly higher reports of less than good health, compared to the most advantaged intersection in the assimilationist regime type, all else equal. When predicting daily hindrances, the pattern remains, where being a man and belonging to the highest social class confer a health advantage among racialized individuals and non-racialized individuals, respectively. The effect of race is again clear, as a strong worsening factor, as all significant point estimates for racialized individuals range from 2.8 to 4.8, while the ones for non-racialized individuals do not exceed 2.

Finally, when it comes to the exclusionist type, the impact of race is difficult to assess. Yet, we can notice that racialized men as a group exhibit significantly higher odds of reporting poor health compared to the reference group, while it is not the case for racialized women, all else equal.



However, given the very small number of observations in these intersections, the results are not robust for intersections involving racial discrimination. In this regime type, in contrast with the assimilationist type, gender and social class combine for non-racialized individuals. Indeed, a man from the intermediate class does not have significantly higher odds of reporting daily hindrances or less than good health, while a woman from the salariat class does, compared to the reference category, all else equal.

In summary, in the inclusive type, intersectional migrant health is somehow addressed, as fewer intersections are significant in predicting less than good health and daily hindrances, in comparison to other regime types. Among non-racialized individuals, only cumulating the most disadvantaged positions in the gender and social class axes exposes one to significantly higher reports of negative health outcomes, all else equal. Whereas, among racialized individuals, only men from the higher social classes are spared. In comparison, in the assimilationist type, race is a much stronger worsening factor, non-applicable to men from the highest social classes. In this regime type as well as in the exclusionist regime type, intersectional health is seriously challenged, with diverse health inequities among migrants.

## Chapter 4: Discussion

This research enriches existing literature by delving into the intersectional effects of social determinants of health, particularly gender, racial discrimination, and social class, on migrant health within the context of integration regimes. It adopts an intersectional approach to explore migrant health inequities across 25 European countries. Building on prior research demonstrating the influence of integration regimes on migrant health and well-being (Giannoni et al., 2016; Ikram et al., 2015; Malmusi et al., 2017; Sand & Gruber, 2018), as well as the role of gender, race and social class as health predictors of health in Europe (Bakhtiari, 2022; Borrell et al., 2008; Ingleby, 2012; Malmusi et al., 2010; Pedrós Barnils et al., 2020; Urquia et al., 2010; Wamala et al., 2009), our study aims to shed light on the interplay between these social determinants of health and integration policies in shaping migrant health inequities.

### 4.1. Healthy Immigrant Effect, second-generation migrants and country of origin

The HIE is clearly identifiable in our analysis, with recent migrants (with less than 10 years of residence) exhibiting significantly lower odds of reporting poor health (99% CI: 0.38 - 0.74) and daily hindrances (99% CI: 0.50 - 0.81) compared to non-migrants, all else being equal. This finding aligns with prior research indicating a selection effect that results in newly arrived migrants tending to be healthier than longer-term migrants, non-migrants and second-generation migrants (Gkiouleka & Huijts, 2020; Malmusi et al., 2010). While our study did not delve into subgroup analyses as conducted by others, such as Gkiouleka & Huijts (2020) and Cognet et al. (2012), our results affirm the transitory nature of the HIE observed in previous studies (Cognet et al., 2012; Malmusi et al., 2010).

Additionally, second-generation migrants demonstrate significantly higher odds of reporting less than good health and daily hindrances compared to non-migrants holding other factors constant (refer to **Table 3**), consistent with prior research highlighting distinct health dynamics for this group (Gkiouleka & Huijts, 2020).

Finally, the country of origin is found to be a significant predictor of less than good health, with individuals born in non-HIC showing increased odds of reports (refer to **Table 2**). This finding echoes previous research indicating health inequities in the disfavor of migrants from economically disadvantaged regions (Malmusi et al., 2010).

Overall, these preliminary results underscore the complex dynamics at play in shaping migrant health outcomes.

#### 4.2. Integration regimes

Within our study sample, the effect of the integration regime on migrant health is evident. The exclusionist regime type is particularly detrimental to migrant health, this is evidenced by significantly higher odds of reporting chronic health limitations (99% CI: 1.5 - 4.7) and less than good health (99% CI: 1.3 – 5.1) compared to the inclusive regime type. These findings corroborate prior research by Juárez et al. (2019), Giannoni et al. (2016), Ikram et al. (2015), and Malmusi (2015), as well as the theoretical framework of Diderichsen (2001). Within exclusionist regimes, migrants face stronger restrictions, particularly in access to political participation, citizenship and health (refer to **Table 1**). Hence, the results underscore the urgent need for revisions in integration policies and the imperative of addressing systematic barriers, within exclusionist regimes, to safeguard migrant health and well-being.

#### 4.3. Race, gender and social class as social determinants of health

Exploring the individual axes of oppression—race, gender, and social class—within the general context and the context of integration regimes offers valuable insights into the multifaceted nature of migrant health inequities.

Race emerges as a significant predictor of poor health in the migrant sample (99% CI: 1.1 - 1.8), consistent with findings from previous research (Nielsen & Krasnik, 2010; Wamala et al., 2009). Despite challenges in analyzing race across integration regimes due to sample size constraints, it remains a crucial factor in addressing health inequities among migrant groups in Europe. Interestingly, the effect of race appears strongest in assimilationist countries, aligning with results from Borrell et al. (2015), while reports of racial discrimination are importantly higher in inclusive countries among second-generation migrants in comparison to first-generation migrants (refer to **Appendix 2**).

Gender also emerges as a significant social axis, with women facing sexist discrimination and socioeconomic inequalities across societies (Cognet et al., 2012). Descriptive statistics reveal a prevalence of women in the working class compared to men with similar migration backgrounds,

particularly in inclusive and assimilationist countries. Consequently, being a woman is a strong predictor for reporting less than good health (99% CI: 1.1 – 1.4) and daily hindrances (99% CI: 1.1 – 1.4) in the migrant sample, consistent with previous research by Malmusi et al. (2010) and Wamala et al. (2009). Notably, the effect of gender on health outcomes appears to decrease significantly in assimilationist countries compared to inclusive countries in the non-migrant sample, but not in the migrant sample (refer to **Table 4**), suggesting nuanced dynamics between non-migrant and migrant groups influenced by integration types (Gkiouleka & Huijts, 2020).

Finally, social class emerges, in our analysis, as a significant social determinant of health. Indeed, individuals from the intermediate and working social classes exhibit significantly higher odds of reporting poor health (99% CI for the working class: 1.3 – 1.8, in the migrant sample) and daily hindrances (99% CI for the working class: 1.1 – 1.5) compared to the salariat class, consistent with previous research (Wamala et al., 2009). While differences in the effects of occupational status on first-generation migrants across countries are not identified by Gkiouleka & Huijts (2020), our analysis reveals distinct dynamics for first-generation migrants (refer to **Table 4**). Notably, the varying effects of social class, according to migration background and integration regime, underscore the complexity of these interactions. Moreover, differences in the direction of these effects between non-migrant and migrant populations (odds ratios below 1 for non-migrants and above 1 for first-generation migrants) highlight the unique mechanisms impacting migrants' experiences when it comes to social class dynamics.

Overall, these findings align with the theoretical frameworks presented in the literature review, demonstrating how the social context manifests itself in the experiences of migrants and influences health outcomes along pertinent social axes (Diderichsen et al., 2001; Krieger, 2012, 2014; Lorant & Bhopal, 2011). This underscores the complexity of migrant health dynamics and highlights the need for targeted research that addresses the intersectional influences of race, gender and social class within the context of integration policies.

#### 4.4. Intersectional health

Examining intersectional health within migrant populations provides a nuanced understanding of how gender, race, and social class intersect to shape health outcomes. Indeed, assuming homogeneity within groups, such as the “working class group” or the “racialized group”, overlooks the distinct experiences at each intersection. For instance, while both intersections involve women, the intersection of “No & Woman & Salariat” differs from “Yes & Woman & Working” (refer to

*Figure 8*), with the latter exhibiting higher odds of reporting poor health than the former, compared to the reference category, all else being equal. This highlights the specific nature of each intersection. Despite the expectation of a monotonous additive effect of each social determinant of health following a social mapping of intersections, previous research has demonstrated that the relationship between multiple disadvantages is more complex (Gkiouleka & Huijts, 2020; Pedrós Barnils et al., 2020).

In fact, a racialized man from the highest social class shows no significant difference in reports of poor health compared to the reference category, suggesting a health advantage for men in higher social classes, irrespective of race (refer to *Figure 8*). This health advantage is not applicable to other similar groups, as intersections involving racialized individuals show on average increased point estimates in comparison to non-racialized counterparts, compared to the same reference category, aligning with existing research (Cooper, 2002). While we did not find women from the highest social class to be the most disadvantaged health-wise (Borrell et al., 2008); a pattern emerged from *Figure 8*, with racialized and non-racialized women from this class facing significantly higher odds of reporting poor health and daily hindrances compared to male counterparts of similar socioeconomic status, all else being equal (Gkiouleka & Huijts, 2020). Consistent with the research from Wamala et al. (2009), our findings suggest that the most substantial disadvantage arises from being racially discriminated against, followed by gender and lower social class.

These findings highlight the complex interplay of intersecting social determinants on migrant health, underscoring the need for targeted interventions that address the unique challenges faced by individuals at various intersections of identity and social position.

#### 4.5. The influence of integration regimes on intersectional health

The influence of integration regimes on intersectional health outcomes is crucial in understanding the complexities of migrant health inequities. Our findings confirm and refine previous research on the intersectional health of migrants, highlighting the nuanced effects of social dimensions within each intersection and their variation across integration regimes.

First and foremost, at the integration regime level, migrants in exclusionist countries face significantly higher odds of reporting negative health outcomes compared to those in assimilationist or inclusive countries. While previous studies have indicated the highest health inequities within exclusionist regimes (Juárez et al., 2019; Malmusi, 2015), our analysis reveals a clearer picture, with intersections in exclusionist countries consistently exhibiting higher odds of

reporting less than good health and daily hindrances compared to the reference category in an inclusive country (refer to **Figure 10**). However, racialized migrants face particularly adverse health impacts due to race in assimilationist countries, as evidenced by the findings presented in the same figure and in **Figure 11**. This corroborates earlier research emphasizing the health challenges faced by racialized migrants within assimilationist regimes (Borrell et al., 2015).

Moreover, for inclusive countries (refer to **Figure 11**), our conclusions largely echo prior research (Giannoni et al., 2016; Juárez et al., 2019; Keller, 2023; Malmusi, 2015; Malmusi et al., 2017). When predicting less than good health, gender and social class appear relatively well-handled among non-racialized individuals, provided they are not disadvantaged in both dimensions. In contrast, racialized migrants experience significant health inequities, underscoring the exacerbating effect of race on migrant health outcomes. Conversely, in predicting daily hindrances, intersectional health appears relatively well-addressed, indicated by the very few significant intersections. This suggests that while inequities in less than good health may be prevalent, it does not necessarily translate into severe daily impediments.

In comparison, in assimilationist countries, gender appears to be effectively handled, whereas social class and race are significant social determinants of health disadvantages. Individuals from the intermediate and working class, as well as those facing racial discrimination, exhibit declines in health regardless of other dimensions. Once again, race stands out as a prominent exacerbating factor, interacting with gender and social class to shape specific health outcomes. Particularly noteworthy is the observation that among non-racialized individuals, only women from the highest social class are spared, while among racialized individuals, this pattern shifts, with men tending to be spared irrespective of their social class. This gender disparity in health outcomes is starkly evident among racialized individuals, but not observable among non-racialized groups, aligning with the findings of Cooper (2002) and Gkiouleka & Huijts (2020).

Finally, in exclusionist countries, the impact of race in conjunction with other factors proves difficult to assess due to the limited sample size of racialized individuals. This may be attributed to the smaller presence of racialized migrants in exclusionist countries compared to other integration regimes (Bakhtiari, 2022; Borrell et al., 2015). However, when considering the other dimensions, experiencing a disadvantage in any dimension significantly increases the odds of reporting poor health and daily hindrances. Notably, nearly all intersections, except for non-racialized men from the intermediate class, demonstrate substantially higher odds compared to the reference category, all else being equal. These findings suggest that intersectional health challenges are inadequately addressed within this regime type.

In summary, discerning a definitive pattern related to integration regimes is challenging. However, it is evident that each integration regime addresses and manages differently intersectional migrant health. Exclusionist countries exhibit the poorest handling of intersectional health, while assimilationist countries grapple with social class disparities. In contrast, inclusive countries succeed in addressing intersectional health for non-racialized migrants who are privileged in other social dimensions but fail to address the health needs of the most disadvantaged individuals adequately. Despite this, across all integration regimes (excluding the exclusionist one, which lacks reliable results), addressing the health inequities faced by racialized migrants remains a struggle, irrespective of their other social identities. Our analysis reveals that even when migrants belong to a higher social class, the health advantage diminishes or disappears entirely in the face of racial discrimination, particularly impacting women, as emphasized by Bakhtiari (2022). Therefore, our analysis underscores the importance of employing intersectionality alongside an examination of integration regimes, as it sheds light on the varying interactions of race, social class and gender across different integration contexts. This aligns with previous research by Bakhtiari (2022), demonstrating that sexism, racism and classism significantly impact migrant populations, generating health inequities that may be exacerbated or mitigated by integration policies (Diderichsen et al., 2001).

#### 4.6. Limitations

While our analysis provides valuable insights into the intersectional health of first-generation migrants in Europe within different integration regimes, several limitations challenge the robustness and accuracy of our findings. Primarily, certain groups are underrepresented in the ESS8 and ESS9 survey samples (Koch & Briceno-Rosas, 2021). For instance, the scarcity of migrants surveyed in some countries and the limited number of racialized migrants in the entire sample, particularly in exclusionist countries, present significant obstacles to our analysis. While it would be recommended to use the complex survey design provided by ESS (Kaminska, 2023) to account for this underrepresentation, it was deemed impractical due to limited knowledge and support in implementing it effectively. Therefore, we chose not to use it, prioritizing methodological coherence.

Moreover, our analysis faces limitations regarding the construction of the main variables under study. Firstly, our approach to gender classification adhered to a binary framework, overlooking non-binary and gender-fluid identities, which thus obscures nuances in health outcomes.



Additionally, the subjective nature of self-reported racial discrimination introduces potential bias, particularly among migrants navigating unfamiliar racial structures in host countries (Krieger, 2012). Furthermore, the classification of countries into integration regime types, initially conducted in 2009, may not accurately reflect current policies due to shifts over time. For instance, the categorization of the Netherlands as an inclusive country may overlook recent policy changes toward assimilationist approaches (Entzinger et al., 2011; Sobolewska et al., 2017).

In terms of analytical methods, while multilevel analysis is commonly utilized in similar studies, logistical constraints (time and expertise) limited its application in our research. Instead, we employed clustered standard errors, which may pose limitations, especially with fewer than 50 clusters (Gormley, n.d.; Huang et al., 2023). This methodological choice necessitates a cautious interpretation of our results and underscores the need for further rigorous investigation to validate and expand upon our findings.

Lastly, the complex interplay between social class, gender and race as social determinants of health introduces challenges in isolating their individual effects. Social class, in particular, acts as a mediator between gender/race and health outcomes, as gender and race collectively influence social class, which in turn impacts an individual's health (Ingleby, 2012; Lorant & Bhopal, 2011). Rather than controlling for social class, our analysis embraced all three determinants of health, allowing us to explore how they interact to shape migrant health outcomes within an intersectional framework.



## Conclusion

Our analysis sheds light on the complex interplay between social determinants of health and migrant health outcomes, particularly focusing on the influence of race, gender, and social class. Moreover, it investigates the intersectional health of migrants within the context of various integration regimes in Europe. Through our examination, we explored how these factors intersect and contribute to health inequities among migrant populations within different European integration regimes.

Firstly, our findings underscore the importance of considering intersectionality when analyzing social determinants of health to better understand migrant health outcomes. We observed that race, gender, and social class interact in intricate ways, creating unique health advantages and disadvantages specific to each intersection. Notably, across migrant populations in Europe, migrant men from higher social classes, irrespective of race, experience a strong health advantage. This highlights the necessity of a holistic approach that accounts for the combined influence of these factors, rather than examining them in isolation.

Secondly, our analysis highlights the role of integration policies in shaping migrant health inequities. We found that integration regimes, categorized as exclusionist, assimilationist, or inclusive, have varying impacts on migrant health outcomes. In particular, migrants in exclusionist countries face the highest odds of reporting negative health outcomes, while racialized migrants in assimilationist countries also experience significant health inequities. In contrast, inclusive countries show some success in managing intersectional health for privileged non-racialized migrants but struggle to address the health needs of the most disadvantaged individuals and racialized intersections.

Summarizing our results, we have identified several key insights:

1. Migrants in exclusionist countries face significantly higher odds of reporting negative health outcomes. This finding suggests an urgent need to address systemic barriers to migrant integration in this regime to better support migrant health.
2. Race, gender and social class interact differently to shape migrant health outcomes in each context. As a result, it is essential for countries to conduct their own social mapping to identify how these social determinants of health interact and contribute to migrant health inequities.

3. Race consistently exacerbates health inequities across the different integration regimes, intersecting significantly with gender and social class. Its impact is particularly pronounced for racialized migrants in assimilationist countries.
4. Social class may mediate the relationship between gender/race and health outcomes among migrants, emphasizing the need for a comprehensive approach to better understand migrant health. This approach should encompass not only healthcare policies, but also broader policies that collectively shape the experiences of migrants.

Despite these findings, our analysis is not without limitations. We recognize the need for further research employing more robust statistical methods, such as a multilevel analysis, to confirm or refute our results. Additionally, utilizing a complex survey design would allow for a better representation of subgroups within the migrant population. Besides, an updated integration regime classification, based on more recent data sources, may provide a more accurate reflection of current policies and their impact on migrant health.

To conclude, our study underscores the importance of addressing social determinants of health and integration policies in tackling migrant health inequities. By adopting an intersectional lens and employing rigorous research methodologies, future studies can contribute to a more nuanced understanding of migrant health and inform evidence-based policies aimed at promoting health equity among migrant populations in Europe.

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## Appendix

### Appendix 1: Logit formula

In Equation (2):

$P(\mathbf{POORHEALTH}_i = \mathbf{1})$  refers to the probability that the  $i$ -th individual reports poor health, while  $\mathbf{1} - P(\mathbf{POORHEALTH}_i = \mathbf{1})$  is the probability for an individual not to report poor health.

$\mathbf{Logit} \left( \frac{P(\mathbf{POORHEALTH}_i = \mathbf{1})}{\mathbf{1} - P(\mathbf{POORHEALTH}_i = \mathbf{1})} \right)$  denotes the log-odds for the  $i$ -th individual of reporting poor health.

Finally,  $\beta_0$  represents the log-odds of reporting poor health when all independent variables are set to zero, and  $\beta_1$  is the effect in log-odds for a one-unit change in the predictor  $\mathbf{X}_i$ .

## Appendix 2: Descriptive Statistics

Variables studied	Inclusive						Assimilationist						Exclusionist					
	Men			Women			Men			Women			Men			Women		
	Natives	1st gen	2nd gen	Natives	1st gen	2nd gen	Natives	1st gen	2nd gen	Natives	1st gen	2nd gen	Natives	1st gen	2nd gen	Natives	1st gen	2nd gen
Health																		
Very good or good health	70%	77%	82%	66%	72%	70%	69%	75%	70%	67%	72%	66%	63%	55%	60%	57%	45%	54%
Fair, bad or very bad health	30%	23%	18%	34%	28%	30%	31%	25%	30%	33%	28%	34%	37%	45%	40%	43%	55%	46%
Hampered																		
No	76%	82%	82%	72%	79%	75%	72%	80%	79%	71%	77%	72%	73%	66%	76%	69%	57%	66%
Yes	24%	18%	18%	28%	21%	25%	28%	20%	21%	29%	23%	28%	27%	34%	24%	31%	43%	34%
Social Class																		
Salaried	44%	34%	43%	40%	35%	42%	47%	40%	48%	43%	40%	33%	30%	28%	31%	33%	31%	31%
Intermediate	26%	22%	25%	24%	20%	19%	26%	23%	23%	26%	20%	33%	18%	22%	15%	20%	16%	17%
Working class	30%	44%	32%	36%	45%	38%	27%	38%	29%	31%	40%	34%	52%	50%	54%	47%	54%	53%
Racially/ethnically discriminated																		
No	99%	92%	82%	100%	93%	87%	99%	95%	95%	99%	96%	94%	99%	97%	97%	99%	98%	96%
Yes	1%	8%	18%	0%	7%	13%	1%	5%	5%	1%	4%	6%	1%	3%	3%	1%	2%	4%
Education																		
High education	34%	38%	37%	39%	45%	39%	40%	43%	38%	35%	45%	29%	22%	28%	27%	28%	26%	29%
Medium education	36%	33%	36%	31%	30%	44%	43%	37%	48%	45%	31%	54%	60%	53%	61%	52%	50%	58%
Low education	30%	29%	28%	31%	26%	17%	17%	20%	14%	20%	24%	17%	19%	19%	12%	20%	24%	14%
Age	53	47	41	54	46	44	54	47	43	54	48	45	51	55	47	54	57	50
Marital Status																		
Not married	42%	40%	57%	47%	45%	63%	43%	36%	51%	49%	44%	49%	44%	35%	45%	51%	49%	50%
Married	58%	60%	43%	53%	55%	37%	57%	64%	49%	51%	56%	51%	56%	65%	55%	49%	51%	50%
Length of residence																		
Recent: less than 10 years		17%			19%			23%			19%			8%			7%	
More than 10 years		77%			75%			76%			80%			90%			90%	
N/A		6%			6%			0.4%			0.3%			2%			3%	
Country of origin																		
Born in a HIC		31%			32%			50%			54%			25%			27%	
Not born in a HIC		69%			68%			50%			46%			75%			73%	
Number of observations (N=74 044)	12 705	1 420	196	12 815	1 561	201	6 180	1 209	238	6 310	1 209	228	12 127	826	301	15 092	1 090	336

Note. From author's calculations.

### Appendix 3: Limitations in the migrant samples

Country	Code	Total sample size	% of migrants
Austria	AT	4 176	10.18%
Belgium	BE	3 048	14.90%
Bulgaria	BG	1 978	0.76%
Croatia	HR	1 553	10.50%
Czech Republic	CZ	4 066	2.51%
Denmark	DK	1 372	6.63%
Estonia	EE	3 610	15.10%
Finland	FI	3 283	4.05%
France	FR	3 710	11.13%
Germany	DE	4 592	11.11%
Hungary	HU	2 717	1.47%
Iceland	IS	1 574	6.99%
Ireland	IE	4 362	16.80%
Italy	IT	4 094	9.04%
Lithuania	LT	3 553	2.90%
Netherlands	NL	2 977	9.10%
Norway	NO	2 544	10.85%
Poland	PL	2 762	0.69%
Portugal	PT	1 679	9.77%
Serbia	RS	1 721	9.47%
Slovenia	SI	2 264	11.04%
Spain	ES	3 107	11.78%
Sweden	SE	2 809	12.50%
Switzerland	CH	2 710	28.12%
United Kingdom	GB	3 783	12.85%