The Health Benefits of Educational Attainment and Citizenship for Racialized Migrants to France

by

Amel Omari

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Health Behavior and Health Education)
in the University of Michigan
2021

Doctoral Committee:

Professor Amy J. Schulz, Chair
Professor Barbara Anderson
Assistant Professor Jean Beaman, University of California Santa Barbara
Assistant Professor Paul J. Fleming
Assistant Professor Justin Heinze

Amel Omari

oamel@umich.edu

ORCID iD: 0000-0002-6345-1947

Acknowledgements

Writing a dissertation is portrayed as a solitary pursuit, but in reality takes an entire community. I would never have come this far without the encouragement and wisdom of my many supporters. During moments when I was truly unsure of myself, I turned to the last page of my planner, where I made a list of "People who think I can do it." These are them.

First, I must acknowledge the incredible investment of my adviser, Amy Schulz. Some aspects of my dissertation topic are somewhat unusual in the context of my department, and I considered abandoning it for a more traditional topic early in my doctoral program. I decided that I would continue pursuing it only if I could find mentors for this work. Amy fulfilled that role for me, reading draft after draft of writing that was at first very vague. Her patience and feedback facilitated the creation of a concrete investigation with its own results and implications. I noticed and deeply appreciated Amy's willingness to let me forge my own paths, including making my own mistakes. I developed trust that if I pitched an idea, and had a good reason for it, Amy would nod thoughtfully and give feedback, not judgement. This is also not to mention the immense volume of my writing that Amy processed during the last several months of final revisions. For all this, I am deeply grateful.

I also extend my heartfelt appreciation to each member of my committee: Barbara Anderson, Jean Beaman, Paul Fleming, and Justin Heinze. Each were incredibly kind to me with their time, encouragement, and feedback. I have a perfectionist habit of wanting my work to be perfect before sharing it. In the doctoral program, I had to learn that this was impossible. My

committee, through their thoughtful and expert advice, helped me learn how productive and even fun it can be to share the research and development process with others.

I truly began to learn that lesson with my research group, RacismLab, where I found an incredible collective of scholars who showed me what it means to truly push the boundaries of academic investigation. This group was a refuge for me and a place where I found not just feedback, but friendship, support, and inspiration. Here I have to give special thanks to Maggie Hicken, who makes RacismLab what it is, and who never fails to give some of the best reflections on scholarly presentations on racism that I've ever seen. She makes so much of her ability and resources available to us as developing scholars, from her expertise to her home. Part of what has been so nourishing about RacismLab is that it is not just one person, but a fully engaged group, which has now graduated several cohorts of successful scholars. The original RacismLab members are folks who I am lucky to think of as both colleagues and friends. Their encouragement to join, and their welcome once I did, was a blessing and nothing less than a milestone in my doctoral process: these include Aresha Martinez-Cardoso, Nicole Novak, Linnea Evans, Courtney McCluney, Amanda Onwuko, Nia Heard, and Myles Durkee. Members who joined later continued the tradition of creating a vibrant scholarly space: Channing Mathews, Asya Harrison, Alexis Stanton, Jennifer Gómez, Ketlyne Sol, Kiana Bess, Dominique Sylvers, Mike Esposito, Angela Bruns, Kayla Fike, Harley Dutcher, Shanice Battle, Gabrielle Peterson, Ramona Perry, Lewis Miles, Gabriel Johnson, Kyle Nisbeth, and others. I feel incredibly lucky to have been a part of this space and look forward to continuing to collaborate with and support RacismLab as it continues to grow and welcome new members.

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Abstract

This dissertation investigates ways that racism, a system that oppresses some racial groups while privileging others, may shape relationships between education, citizenship, and health outcomes of migrants to France by comparing these relationships among groups of migrants likely to be racialized as white and as non-white. What makes this investigation both challenging and unique is its focus on France, which espouses a set of colorblind national policies, including the exclusion of racial identifiers from most datasets. This poses a methodological challenge for efforts to understand implications of racialization in the French context. It also presents an opportunity to investigate the relationship between racism and health in a context that explicitly aims to "not see race." To manage this data environment, I used region of origin as a proxy to estimate migrants' likelihood of being racialized as white or non-white. I explored whether racism weakened the education-health gradient and whether racism diminished the health benefit individuals received from their citizenship status. I developed a quantitative tool for measuring self-reported experiences of discrimination and explored the extent to which discrimination experiences play a role in the education-health relationship.

Results are consistent with previously reported findings that educational attainment is associated with improved health status. They are consistent with the positive relationship that Fundamental Cause Theory posits between increased socioeconomic status and better health for all groups. However, the analysis also found evidence that migrants who are likely to be

racialized as non-white may experience less health benefit from their educational attainment compared with migrants who are likely to be racialized as white.

Analyses showed evidence that citizenship has a positive association with the self-rated health of migrants. Results from analyses assessing whether the association between citizenship and self-rated health were modified by racialization were not statistically significant. Nonetheless, a significant health disadvantage associated with racialization as nonwhite remained robust in these models after accounting for citizenship status. The positive relationship between citizenship and self-rated health was attenuated by the addition of a measure controlling for French language proficiency, suggesting that language proficiency may explain part of the relationship between citizenship and self-rated health.

Finally, I psychometrically validated a discrimination experiences scale among migrants in France, showing that it was reliable and associated with self-rated health in the expected direction. Analysis found evidence that nonwhite migrants and men migrants report higher levels of discrimination experiences compared to their white and women counterparts, respectively. Analyses examined whether discrimination experiences play a role in relationships between racialization, educational attainment, and self-rated health. Findings indicated that higher educational attainment was associated with higher levels of discrimination experiences, the relationship between educational attainment and discrimination was stronger for nonwhites, and discrimination was associated with worse self-rated health. Associations between educational attainment and health remained robust after accounting for discrimination: Discrimination, as measured, influences health but does not explain diminished health benefits of education observed for migrants racialized as non-white in France.

Findings presented in this dissertation are inconsistent with the idea that "colorblind" policies prohibiting the collection of data on racial identifiers can eradicate adverse health effects of social processes that racialize migrants. They are consistent with the idea that the eradication of racial health inequities will likely require action beyond eliminating state-defined racial identifiers, to encompass proactive intervention counteracting the social devaluation of nonwhite people.

Chapter 1 Introduction, Theoretical Frameworks, and Conceptual Model

Introduction

The objective of this dissertation is to investigate the ways that racism, a system that

oppresses and dominates some racial groups while privileging others (Harrell, 2000), may shape

relationships between education, citizenship, and health outcomes of migrants to France by

comparing these relationships among white and non-white migrants. What makes this

investigation both challenging and especially useful is its focus on France, which espouses a set

of colorblind national policies. One implication of those colorblind policies is that racial

identifiers are not collected in the context of most datasets. While this poses a methodological

challenge for efforts to understand processes of racialization and their implications in the French

context, it also presents an opportunity to investigate the relationship between racism and health

in a policy context that explicitly aims to "not see race."

To manage this sparse data environment, I use region of origin as a proxy to estimate

migrants' likelihood of being racialized as white or non-white. Using this method, I explore

whether racism weakens the education-health gradient (chapter 2) and whether racism

diminishes the health benefit individuals realize from citizenship (chapter 3). This work

contributes to the public health literature by examining the question of whether the health

benefits of education and citizenship, respectively, may be moderated by racialization. In this

way, the dissertation builds on the work of Williams and Collins (2001), Phelan and Link (2015),

Masters and colleagues (2015), and others who ask how the relationship between fundamental

causes (etiologies distal to biological and behavioral determinants, a concept which will be discussed in more detail later in this chapter) and health outcomes is complicated by the marginalization of groups along axes of inequality such as race. Results will contribute to public health practice in part by informing practitioners about how racism may function to impact health in a national policy context encouraging colorblindness.

I also develop a quantitative tool for measuring self-reported experiences of discrimination in order to explore the extent to which discrimination experiences play a role in the education-health relationship (chapter 4). This will be the first study to report psychometric properties of a discrimination scale developed specifically for the French context. If the scale is valid and reliable, future research in this context will have access to a validated scale to use in studies of discrimination, and this work may also facilitate future comparative work on discrimination and health across multiple country contexts.

In the following pages, I describe the significance of the project, and describe the project's guiding theoretical and conceptual frameworks. Finally, I describe each chapter's approach and proposed methodology.

Significance

This dissertation will contribute to an understanding of the public health implications of racism for migrant groups within contexts of formal state policies of colorblindness or prohibitions against gathering data regarding race. Such an understanding is critical for public health; since colorblindness has been a popularly espoused strategy to address inequity in law, state practice, and public discourse across national contexts (Plaut, 2010; Simon, Piche, & Gagnon, 2015), it is important to investigate whether the health effects of racism are still

discernible in spaces which attempt to adhere to colorblindness. This gives us a window into whether colorblindness "works" as a policy to address inequity.

The ideology of colorblindness argues that recognition of racial groups or identities reifies the socially constructed differences between races, and reinforces a pernicious racial hierarchy (Bonilla-Silva, 2017; Leonard, 2014; Yogeeswaran, Verkuyten, Osborne, & Sibley, 2018). France embraces colorblindness at the state level (Morris, 2013); for example, the French National Assembly struck the single instance of the word "race" in the French constitution in 2018 (Diallo, 2018), which had occurred in a sentence forbidding discrimination on the basis of race under the law. Further, the collection of racial/ethnic data by the state is prohibited in most situations (Simon et al., 2015). While France's interdiction on racial data collection poses a unique methodological challenge to quantitative study, it also presents a unique opportunity to ask: In a state which has officially ascribed to a colorblind philosophy, to what extent does racism play a role in relationships between other social factors and health?

French social scientist Giraud (2012) argues that in a colorblind research model, investigation of inequality focuses on social factors such as educational attainment, wealth, and income. Indeed, the public health literature across several country contexts has repeatedly shown that these social factors are beneficial for health (Conti, Heckman, & Urzua, 2010; Etilé, 2014; Link & Phelan, 1995). However, it is unclear that nonwhite migrant populations reap the same benefit from social factors that white migrant populations do, even after integrating into receiving countries by attaining credentials such as citizenship and educational diplomas (Beaman, 2017; Campbell, Garcia, Granillo, & Chavez, 2012). This could be due to nonwhite migrants' disproportionate exposure to racism or discrimination (Viruell-Fuentes, 2007).

Prior studies on immigration and health in France have primarily focused on examining health disparities between immigrants and their local-born counterparts; these show that immigrants report worse self-rated health than the local-born (for review, see Khlat and Guillot 2017). Some studies have grouped immigrants to explore how their region of origin is related to their health outcomes compared to those of local-born populations, after controlling for a range of factors (e.g. Cognet, Hamel, & Moisy, 2012; Jusot, Silva, Dourgnon, & Sermet, 2009). However, prior studies in the French context have not yet, to my knowledge, investigated how the relationship between factors such as educational attainment and health among immigrants may differ by racial group. The possibility of this moderation is important because of the complicating effect that racism may have on the relationship between health-protective factors like education or citizenship and health outcomes (e.g., in the US context, Masters et al., 2015). Exposure to racism, including exposure to discrimination, racialized immigration policies, or other components of a racist system, may contribute to differential health returns on educational attainment and citizenship for racialized groups. Thus, the motivating question of this dissertation is: <u>What effect does racism have on the relationship between educational attainment and health, and between citizenship and health, for migrants to France?</u>

In order to tackle this inquiry, this dissertation also addresses a methodological question key to understanding these relationships in contexts, such as France, where colorblindness is in many ways state-mandated (Simon et al., 2015): What methods are required to investigate the ways racism shapes health outcomes in contexts where data on race is not available? I use historical and sociological sources to develop an argument for why migrants from some regions of origin may be more likely to be perceived as nonwhite compared to migrants from other regions of origin.

This work will push the health literature forward in a number of ways. Firstly, it seeks to understand the moderating effect of exposure to racism (estimated using region of origin) on the health effects of educational attainment and citizenship for immigrants to France, where quantitative work on racism and health is sparse (Cervulle, 2014; Simon & Jacobs, 2010). Second, the dissertation investigates whether theorized relationships between fundamental causes and health hold true in a non-U.S. context, and across heterogeneous sub-populations. Third, it adds to the understanding of the relationship between discrimination and health in the French context, where this topic is understudied in the quantitative literature (Simon & Jacobs, 2010; Simon & Piche, 2012; Simon et al., 2015). Fourth, this work will be the first to report psychometric properties of a discrimination scale in the French context, offering a potentially more complete assessment of multidimensional components of discrimination, thus potentially a better measure of discrimination than has been used in the French context in the past (Cognet et al., 2012). Because of the items' similarity with discrimination scales commonly used in other national contexts, (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Williams, Yu, & Jackson, 1997) this work may also enable future comparative work on discrimination and health across multiple national contexts. Finally, it will contribute to a body of research that explicitly explores social determinants of racial health disparities, with an important unique contribution being its examination of these factors in a state context that attempts to minimize racialized identifiers in state documents.

Project Summary

This dissertation's research objective is to explore the ways that racism may shape the relationship between education and health outcomes, and between citizenship and health outcomes, for immigrants to France. A brief overview of my specific aims, grounded by

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fundamental cause theory (Link & Phelan, 1995), racial formation theory (Omi & Winant, 2015), and intersectionality theory (Bowleg, 2012; Crenshaw, 1989), are described below. Research questions pertaining to each aim will be described in greater detail in the subsequent chapters. I specifically aim to:

- **Aim 1 (Chapter 2)**: Examine to what extent the relationship between educational attainment and self-rated health may be moderated by racialization among migrants to France.

- **Aim 2 (Chapter 3)**: Examine the extent to which the relationship between citizenship and self-rated health may be moderated by racialization, and explained by language proficiency, among migrants to France.

- **Aim 3 (Chapter 4)**: Develop a perceived discrimination scale and assess psychometric properties, including validity and reliability measures, and use the resulting measure to explore whether discrimination can explain the moderation effect of racialization on the education-health gradient among migrants to France.

This dissertation explores the interaction of immigrants' region of origin and two other fundamental causes of health (Phelan & Link, 2015): citizenship (Asad & Clair, 2018) and educational attainment (Masters et al., 2015). In Chapter Two, the association between educational attainment and self-rated health will be explored; in Chapter Three, the association between citizenship and self-rated health. Education has been extensively studied as a determinant of health (Conti et al., 2010; Kaplan, Spittel, & Zeno, 2014) and citizenship's association with health is more recently being taken up by public health studies (Asad & Clair, 2018; Campbell et al., 2012; P. J. Fleming, Lopez, et al., 2019; P. J. Fleming, Novak, & Lopez, 2019; Miranda et al., 2017; Nichols, LeBrón, & Pedraza, 2018b; Torres & Young, 2016). This

dissertation will build on each of these literatures to ask whether membership in a migrant group that is likely to experience racialization as nonwhite attenuates the health benefits of educational attainment or citizenship. In Chapter Four, I will develop a discrimination experiences scale, and use it to test for mediation of the moderation effects observed in Chapter Two. In other words, I examine whether discrimination experiences explain part of why racialization moderates the education-health gradient.

Theoretical Framework

I use three theoretical frames to ground my approach. These are Racial Formation Theory, Fundamental Cause Theory, and Intersectionality Theory. Below, I describe each of these frameworks and how they are integrated to ground the proposed studies.

Racialization and Racial Formation Theory. In this work I use the term racialization. In doing so, I draw on work by Omi and Winant (2015) as well as several others (Michele Lamont, Beljean, & Clair, 2014; Schwalbe et al., 2000) who worked to understand the processes by which inequalities (differences between populations) and inequities (differences between populations that are driven by social disadvantage) (Braveman & Gruskin, 2003) arise and are perpetuated. This literature understands racialization as a social process by which cues are used to identify individuals as part of a group, and associate members of that group with stereotypes. These cues may be visible (e.g. skin color, manner of dress) or non-visible (e.g. language, accent, place of residence). Omi and Winant (2015) remark that "through a complex process of selection, human physical characteristics ('real' or imagined) become the basis to justify or reinforce social differentiation" (p. 111). Racialization is one part of the process of racial formation and domination; those racialized as non-white may be marked as different from the "generic" white and are more likely to be subject to racism (Brekhaus, 1998).

Racialization and racial formation are not neutral processes. They have relevance for the life chances and health of populations because of the system of racism, which oppresses and dominates certain groups while privileging others (Harrell, 2000). This system is multidimensional, self-reproducing, historically-rooted and "premised on the categorization and ranking of social groups into races" (Williams & Mohammed, 2013, p.1153). The combination of such categorization and ranking with white supremacy, a system that devalues Black and Brown lives (Ansley, 1997), makes groups racialized as nonwhite more susceptible to the negative impacts of processes such as discrimination (Omi & Winant, 2015).

Using this theoretical framework, I argue that migrants to France from some regions of origin are more likely to experience racialization as nonwhite, while others are more likely to experience racialization as white in their country of destination. In foregrounding the social processes that construct racial groups, this framework is grounded in and informs an understanding of race as a social construction that impacts on people's everyday lives, life chances, and health (Gee & Ford, 2011; Williams & Mohammed, 2013).

Fundamental Cause Theory. In addition to the theoretical work regarding racialization (Michele Lamont et al., 2014; Omi & Winant, 2015; Schwalbe et al., 2000), this dissertation uses Fundamental Cause Theory (FCT) to conceptualize connections between educational attainment, citizenship, racialization, and health outcomes.

Link & Phelan (1995) described FCT, theorizing that socioeconomic status (SES) is a determinant of health that operates through multiple complex pathways, including access to power, social networks, resources, money, and information. Link and Phelan (1995) built on the work of House and colleagues (1990, 1994), as well as several decades of research by medical sociologists, who observed that health gradients could be observed by socioeconomic status,

indicating the existence of causes of health and illness that are more distal than biological pathologies or health behaviors. FCT posits that these distal causes can act on health in multiple ways, and that people of higher socioeconomic status or people with membership in dominant racial groups can use their social advantage in flexible ways to avoid negative health outcomes. Finally, FCT argues that when a fundamental cause is driving health gradients, the elimination of a proximal cause for a negative health outcome may be insufficient to diminish the health gradient. Instead, another intervening mechanism can take its place, reproducing the disproportionate health disadvantage of disempowered groups through new mechanisms.

Williams and Collins (2001) added nuance to our understanding of Fundamental Cause Theory by positing that racial segregation is a fundamental cause of racial health disparities, in part by driving racial disparities in SES. Phelan and Link (2015) built on these ideas and a large literature on racial and ethnic health disparities to argue that racism itself is a fundamental cause of SES disparities, driving racial differences in SES and associated racial health inequities. Racial segregation and racism drive racial differences in socioeconomic status by patterning access to resources through education and employment opportunities, and through those mechanisms, patterning the distribution of access to money, knowledge, beneficial social connections, and other resources across racial groups.

Socioeconomic status is a complex construct, and different measures of SES, such as education, income, occupation, wealth, or others, may have varying, non-interchangeable implications for health (Braveman et al., 2005). These several markers of SES may have different associations with health for groups of different social identities, including race, ethnicity, national origin, immigrant status, and others (Pearson, 2008), helping to drive the moderating impact of racism on the relationship between socioeconomic status and health. One

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reason for complex relationships between distinct dimensions of SES and health may be that the attainment of high-SES markers, as currently measured, may entail health costs for particular groups through mechanisms such as high-effort coping (James, 1994; LeBrón, Schulz, Mentz, & White Perkins, 2015). These groups may pursue alternative, health-protective resources unmarked by traditional SES measures, such as multigenerational support networks (Pearson, 2008).

In this dissertation, I focus in particular on education as an operationalization of SES because of its consistently observed positive relationship with health (Conti et al., 2010), and because of its early occurrence on the pathway toward health compared with other markers of socioeconomic position. Individuals' educational attainment may impact their employment status, occupation, and income level over their life course (Hahn & Truman, 2015).

I also identify citizenship as a marker of another fundamental cause: legal status. Citizenship is a legal designation meant to confer benefits and protections from a state (Brubaker, 1992), as well as a social and cultural designation indicating belonging to a shared national identity (Beaman, 2017). Asad and Clair (2018) argue that legal status acts a fundamental cause because discredited legal status may structure numerous mechanisms influencing health and illness by "marking individuals for material and symbolic exclusion" (p.20). The empirical and theoretical literature regarding citizenship's relationship with health will be discussed in more detail below, and in Chapter Three.

Overall, this theoretical work posits that fundamental causes for health outcomes exist that are distal to biological or behavioral etiologies. However, the implications of such causes for health may be complicated by intersecting axes of inequality, such as the intersection of racism and SES.

Intersectionality theory. The work of Williams and Collins (2001) and Phelan and Link (2015) regarding fundamental cause theory and racism is made more legible for the study of migrants with an understanding of intersectionality theory. Intersectionality theory was developed across multiple disciplines by scholars of Black feminism (Crenshaw, 1989; Mullings, 1997, 2002; Weber, 2006). This framework resists a single-axis analysis of populations, for example by race or socioeconomic status. Instead, it suggests that there may be unique, emergent experiences at the intersection of multiple identities.

Lisa Bowleg described the utility of this theoretical perspective for public health. In brief, she describes intersectionality as a

> "framework for understanding how multiple social identities such as race, gender, sexual orientation, SES, and disability intersect at the micro level of individual experience to reflect interlocking systems of privilege and oppression (i.e. racism, sexism, heterosexism, classism) at the macro social-structural level" (Bowleg, 2012, p. 1267).

This framework invites public health researchers to consider the health implications of overlapping social systems. Mullings and Schulz (2006) also describe how the implications of categories such as race, gender, and immigration status may vary with respect to one another. They emphasize that such axes, as social constructions, are "mutually constitutive and interconnected" (p.6), and thus may operate synergistically to contribute to the production of inequalities in health outcomes.

While varying approaches to incorporating intersectional analyses into quantitative research have been proposed (Bauer & Scheim, 2019; Richman & Zucker, 2019), theoretical understandings of intersectionality intuitively suggest a focus on moderation effects by interrogating interaction terms or stratified analyses. In this way, thinking intersectionally pushes us to ask how exposure to multiple systems of oppression alters bivariate associations between

determinants and health outcomes. In turn, this exploration can expose complications in relationships that have been thoroughly studied and were thought to be well-understood, such as the relationship between SES and health (Conti et al., 2010; Link & Phelan, 1995), by exposing previously hidden heterogeneity across populations (e.g. Colen, Geronimus, Bound, & James, 2006).

Thus, an intersectional approach informed this dissertation's work, which asks how fundamental causes of health interact to impact the health of migrants. For example, respondents' socioeconomic position may overlap with systems of racism in the country of destination to shape their life chances as they settle in the new space, ultimately influencing patterns of disease and wellness (Asad & Clair, 2018).

Conceptual Framework

I have operationalized these theories, informed by the empirical literature, to build a conceptual framework which will guide my analyses (see Figure 1).
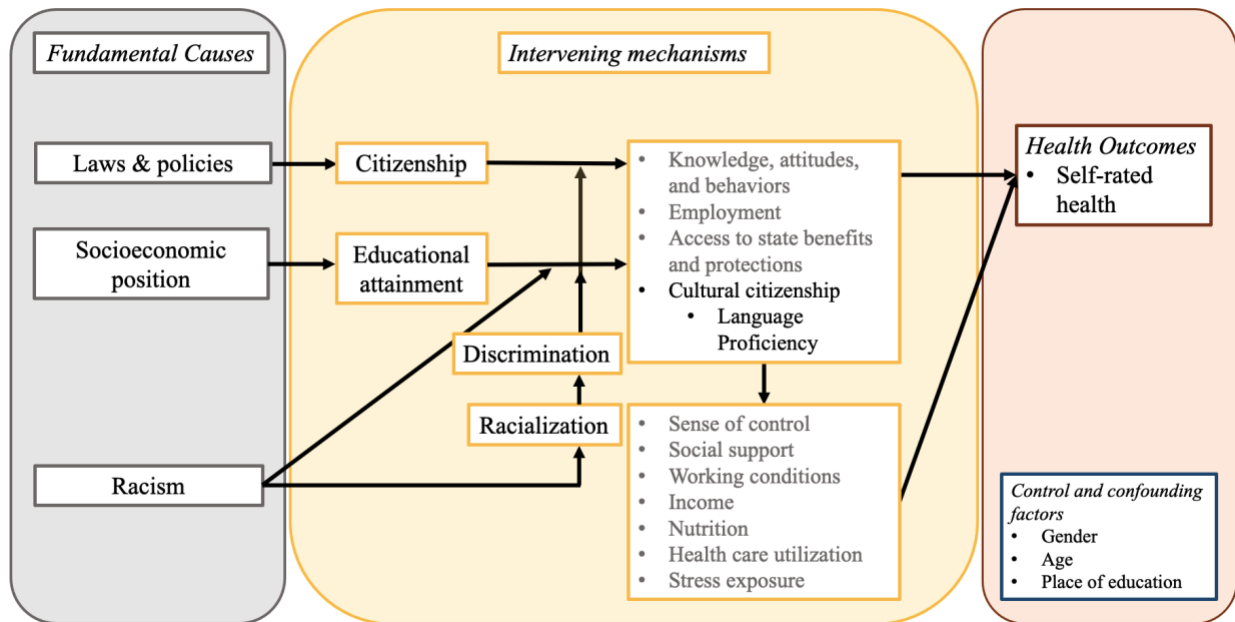
Figure 1.1. Conceptual model. Constructs in gray font are not measured in this analysis.

As the theoretical section describes, fundamental factors such as socioeconomic position, racism, and laws and policies (A. Schulz & Northridge, 2004) may pattern health through a range of intervening mechanisms (Link & Phelan, 1995); educational attainment and citizenship are conceptualized as individual-level operationalizations of how these fundamental causes map onto individuals in order to pattern population health outcomes. While reciprocal, system-level effects may connect fundamental causes with one another and with some downstream factors (A. Schulz & Northridge, 2004), the proposed conceptual model simplifies the relationships between constructs for clarity. Educational attainment and citizenship are posited to pattern health through a range of mechanisms. Hahn and Truman (2015), for example, developed a model that synthesizes literature on the relationship between educational attainment and health through mechanisms such as the psychosocial environment (with dimensions such as sense of control, social support, and social standing), work (e.g. income, working conditions), and health knowledge and behaviors (e.g. nutrition, health care utilization). Beaman (2017) describes citizenship as impacting state benefits and protections, as well as acceptance into the national community (or "cultural citizenship"), each of which may have implications for health (Torres & Young, 2016). However, racism may moderate the relationship between educational attainment and health (Walsemann, Gee, & Ro, 2013), and the relationship between citizenship and health (Beaman, 2017), in part through the mechanism of discrimination (Lewis, Cogburn, & Williams, 2015). Thus, the following discussion of the conceptual model (Figure 1) that will guide this dissertation focuses on the relationship between educational attainment and health, between citizenship and health, and the role that discrimination plays in population health patterning.

Educational Attainment. A positive relationship between health and educational attainment is one of the most consistent findings in the health and social sciences (Conti et al.,

2010), most often referred to as the *education-health gradient*. Educational attainment is understood to impact health outcomes through several mechanisms. By one estimation, someone with an advanced degree can expect, on average, to live 10 to 12 years longer than someone with less than a high school education (Kaplan et al., 2014). On a population level, higher educational attainment is associated with longer life expectancy, fewer depressive symptoms and cardiovascular risk factors, and a range of other health benefits (Bound, Geronimus, Rodriguez, & Waidmann, 2015; Masters, Hummer, & Powers, 2012; Meara, Richards, & Cutler, 2008; Rogers, Everett, Zajacova, & Hummer, 2010; Walsemann et al., 2013).

Although it is difficult to causally associate education with mortality (Kaplan et al., 2014), several explanations for the relationship have been posited (Hahn & Truman, 2015). Hahn and Truman (2015) synthesized the large literature on the education-health gradient to create a conceptual model of posited mechanisms of the relationship. I will summarize a few of these mechanisms here, framed by concepts described and critiqued by Frohlich and Potvin (2008). These authors described Lalonde's (Lalonde, 1974) understanding of population health as fundamentally driven by "populations at risk," groups defined by high levels of risk factors. Frohlich and Potvin contrasted this approach with Rose's (Rose, 1992) focus on contextual and structural factors as defining population risk. Going one step further, Frohlich and Potvin offered an additional notion of "vulnerable populations" that could be combined with Rose's population approach. The notion of "vulnerable populations" acknowledges that certain shared social characteristics such as racial status, nativity status, or others, may elevate multiple risks for sub-populations (reminiscent of an intersectional approach, described above).

From this conceptual perspective, some posited mechanisms of the education-health gradient may take a "populations at risk" approach. For example, economists have suggested that

individuals with higher levels of education place a higher value on their health because of their higher income, therefore supposedly having a larger financial incentive to engage in healthy behaviors (Pampel et al., 2015). As well, traits associated with higher educational attainment, such as goal setting, may be associated with longer life (Kaplan et al., 2014). These mechanisms focus on individual traits and individual choice and may risk victim blaming as an explanation for poor health (Frohlich & Potvin, 2008).

Other posited mechanisms focus more on the influence of education as a structure or institution and its influence on health. For example, education may influence health behaviors such as smoking, exercise, and diet through teaching health-related information or through socialization processes (Conti et al., 2010; Cutler & Lleras-Muney, 2010; Etilé & Jones, 2011). Attaining higher levels of education is related to a higher likelihood of being employed and having higher levels of income, which are themselves associated with better health (Conti et al., 2010). Relatedly, being more educated may make an individual better able to take advantage of advancing technologies that could be health-enhancing or even life-saving (Kaplan et al., 2014). Even when these posited mechanisms touch on individual behavior, they focus on education as an institution that can influence how groups interact with, and are impacted by, their contexts.

Yet, related to Frohlich and Potvin's (2008) "vulnerable population" approach, there may also be factors that modify the extent to which some social groups realize the positive health benefits of education.

Empirical work by Masters and colleagues (2015) investigates these complications, showing that the relationship between education and multiple preventable health outcomes has weakened or stagnated over time for U.S. racial/ethnic minorities, while overall these gradients have become stronger over time for U.S. whites. Walsemann and colleagues (2013) review

additional empirical evidence that the education-health gradient is weaker and sometimes absent among U.S. population groups other than white men.

There are several hypotheses attempting to explain why the education-health gradient is observed to be weaker for groups racialized as non-white. Structural factors such as segregation (Darling-Hammond, 2007; Goldsmith, 2009; Siegel-Hawley, 2013), or interpersonal or cultural factors such as exclusionary discipline (R. J. Skiba et al., 2002; Russell J. Skiba et al., 2014) and stereotype threat (Steele, 2010), may act to diminish such groups' educational attainment compared to whites. After individuals finish their schooling, their educational credentials may not translate to the same likelihood of employment or level of income compared to those with more privileged racial identities (Pierné, 2013, 2018; Quillian, Pager, Hexel, & Midtbøen, 2017; Silberman & Fournier, 2006), with consequences for health outcomes. Going beyond Frohlich and Potvin's (2008) "vulnerable populations" approach, an intersectional approach pushes researchers to consider the overlapping and interlocking systems, such as socioeconomic systems and systematic racism, that may differentiate the opportunities and obstacles that individuals at the intersections of such systems experience (Bowleg, 2012).

Walsemann and colleagues (Walsemann et al., 2013) reviewed another important possible moderator of the relationship between educational attainment and health, particularly for immigrants: *place of education*. Prior work has found that foreign-educated individuals in the U.S. have diminished health returns to their educational attainment compared with same-race, local-born individuals with equivalent U.S. educational attainment (E. Walton, Takeuchi, Herting, & Alegría, 2009). This effect on health may be mediated by a negative impact of foreign education on individuals' wages (Walsemann et al., 2013). Walsemann and colleagues note that comparing education-health gradients across immigrant groups by region of origin

shows a yet-underexplored trend that suggests that immigrants who may be more likely to be identified as Black or Latino in the U.S. experience more severe wage penalties for their foreign education (Walsemann et al., 2013).

This idea is supported in the European context by literature on the educational and labor market trajectories of immigrants. In a high-quality, multi-national, longitudinal study of migration, education, and labor trajectories between Africa and Europe, Castagnone and colleagues (2015) show that African immigrants to several European countries have a "severe worsening" in occupational status post-migration, followed by a "slow occupational recovering during the first 10 years of stay in Europe" (p.201). Gosselin and co-authors (Gosselin et al., 2018) found that almost all immigrants to France from sub-Saharan Africa "go through a long period of insecurity and social hardship" (p.21) in their country of destination, even though many immigrants in this population are highly educated.

Because this dissertation is interested in understanding how racialization may pattern different relationships between educational attainment and health for different immigrant groups, the analysis will treat place of education as a possible confounder of the relationship between educational attainment, racialization, and health.

Several studies mention that language skills may play a role in immigrants' ability to economically integrate into the country of destination (Castagnone et al., 2015; Gosselin et al., 2018; Obućina, 2013). As such, language skills may be relevant to the translation of educational attainment into positive health outcomes (Hahn & Truman, 2015).

Prior work on education and health in France and Europe overall have replicated the education-health gradient whereby educational attainment is associated with better health outcomes (Etilé, 2014; Etilé & Jones, 2011; Pampel et al., 2015; Präg, Wittek, & Mills, 2017).

As in the U.S. (Bound et al., 2015), average educational attainment in France has increased over time. Immediately post-WWII, over 45% of the population had no qualification or only an "Elementary Studies Certificate" certifying basic numeracy and literacy skills (Etilé & Jones, 2011). A more contemporary assessment from 2011 estimates that around 60% of the French population have the Baccalaureat, a certification showing "high school vocational, professional or general studies" (Etilé & Jones, 2011).

Pampel and colleagues (2015) assessed changes in population smoking patterns across cohorts in France, Germany, and the U.S. In France, the education-health gradient became stronger over time. In the youngest cohort (born in 1976-1992 and surveyed in 2009-2010), respondents with low educational attainment had nearly five times the risk of regular smoking compared to respondents with high educational attainment; the authors found this educational disparity in smoking uptake to be strongest in the youngest cohort, suggesting an increasing educational disparity for younger compared to older birth cohorts. Legleye and colleagues (2011) found similar results with a set of slightly older French cohorts, with the youngest cohort exhibiting the strongest negative educational gradient in smoking. These authors did not consider migration inflows or disproportionate exposure to racism among migrants as possible explanations for their findings.

Etilé (2014) assessed the relationship between educational attainment and body mass index (BMI) in France from 1981-2003, decomposing the impacts of educational expansion from the education-health gradient. She found that although educational expansion helped to constrain growing BMI inequalities in the population, the steepening of the health-education gradient meant that inequality grew over time. Etilé (2014) included an assessment of nationality as a contributor to BMI inequality; she conceptualized nationality as a poor proxy for race or

ethnicity, which she understood as contributing to BMI outcomes through genetic factors. While Etilé's paper contributes to an understanding of associations between race or ethnicity and BMI inequality, the biologization of race/ethnicity (Michael Omi, 2010) that underlies her analysis is contra-indicated by the social sciences literature, which has come to a strong consensus that race is socially, not biologically, constructed (Omi & Winant, 2015). Further, measuring nationality may capture effects of formal citizenship in the country of destination on health, but miss possible impacts of migration by aggregating naturalized immigrants with the mainstream population.

In an investigation of which factors explain the relationship between education and health, Etilé and Jones (2011) assessed marginal smoking-related health behavior returns to each additional year of schooling for a repeated cross-sectional data set collected in France between 1992 and 2003. Because students are presumed to learn more information with each additional year of schooling, the authors hypothesized that a relationship between students' increased understanding of health warnings and smoking would be characterized by a marginal decrease in smoking with each additional year of schooling. However, the authors found that marginal health returns to education did not diminish with additional years, so the authors argue that this is evidence against the idea that education reduces smoking through causing actual changes in individuals' understanding of health warnings. Instead, they concluded that this points toward the health impact of education's tendency to differentially socialize individuals. Again, the authors did not assess the impact of immigrant status on changing patterns of education-health relationships over time.

Together, this theoretical and empirical work suggests that SES, assessed as educational attainment, influences health in conjunction with, for example, migration, racism, and

xenophobia. Due to the absence of racial data in France, the interface of these multiple dimensions of inequality and their implications for health have yet to be examined closely using quantitative methods. With this prior work in mind, Chapter Two explores whether the health benefits of educational attainment are constrained for migrants to France who are likely to be racialized as non-white.

Citizenship. Citizenship may impact health outcomes through several mechanisms. Citizenship is a legal designation meant to confer benefits and protections from a state (Brubaker, 1992), as well as a social and cultural designation indicating belonging to a shared national identity (Beaman, 2017). Several scholars have demonstrated associations between U.S. citizenship and access to resources that can be health-protective, including increased access to the health benefits of homeownership and high socioeconomic status (Campbell et al., 2012; Miranda et al., 2017), and increased access to health insurance (Sanchez, Vargas, Juarez, Gomez-Aguinaga, & Pedraza, 2017). In France, despite relatively generous access to state health insurance for migrants (Nay et al., 2016), access to healthcare may nonetheless be diminished for immigrants compared to local born. This diminished access may be due to language barriers (d'Halluin, 2015; Musso, 2005; Tabouri, 2009) or discrimination at the point of the health insurance administrator or healthcare provider (Carde, 2007), and could explain why rates of healthcare utilization are lower among immigrants compared to local-born French (Lefèvre, Rondet, Parizot, & Chauvin, 2014; Rondet, Cornet, Kaoutar, Lebas, & Chauvin, 2013; Rondet et al., 2014).

Discrimination against individuals perceived as "foreign" may be disproportionately applied to those perceived as nonwhite, resulting in limited health returns for nonwhite migrants who have or attain citizenship. Indeed, research in several contexts suggests that the health

benefits of citizenship may be diminished for groups whose members are racialized as non-white (Asad & Clair, 2018; Beaman, 2017; LeBrón et al., 2018; Nichols et al., 2018b; Nichols, LeBrón, & Pedraza, 2018a). Asad and Clair (2018) put forward a theoretical approach that helps frame the possibly reciprocal effects between racialized policies that restrict who has access to citizenship status, as well as constraints this may place on the benefits of citizenship for health. When a legal status such as "undocumented" becomes racialized, spillover effects may also constrain the benefits of citizenship for citizen co-ethnics, for example by increasing fear and distrust of public health institutions and reducing healthcare utilization (P. J. Fleming, Lopez, et al., 2019; P. J. Fleming, Novak, et al., 2019; LeBrón et al., 2018; Nichols et al., 2018b, 2018a).

In the French context, Jusot and co-authors (2009) found that both naturalized immigrants (i.e., those who entered the country without citizenship and subsequently attained it) and non-citizen immigrant residents were more likely than local-born French citizens to report poor self-rated health. However, the study did not examine whether individuals' racial or ethnic group made a difference for their health while holding citizenship status constant, leaving a gap in understanding. Sociologist Jean Beaman (2017) used in-depth interviews to examine constraints on the benefits of citizenship for middle-class, racialized French citizens whose parents immigrated from North Africa. Respondents described being continually questioned as to their national origins, being the target of racist statements or insults, and being subject to employment and housing discrimination (Beaman, 2017). These findings are suggestive of attenuated benefits of citizenship for individuals racialized as nonwhite with a connection to migration. However, this question has not been examined quantitatively in the French context and has not considered its implications for health outcomes.

Based on this prior theoretical and empirical work, Chapter Three investigates the hypothesis that health patterns of immigrant groups will align with Beaman's findings that "citizenship does not confer the same benefits on other populations as it does on whites" (Beaman, 2017, p. 23), and that instead, the strength of the relationship between citizenship and positive health outcomes is diminished for immigrants who are more likely to be non-white. The relationship between citizenship and health may be mediated by French language proficiency.

Discrimination. Discrimination is understood in my conceptual model (Figure 1) as a mechanism by which racism may modify the impacts of educational attainment and citizenship on health. In other words, discrimination is depicted as mediating the moderation. At this point, it is important to note both the distinction and the connections between discrimination and racism; this will contextualize the psychological, physiological, and structural pathways described in the literature connecting discrimination with diminished health outcomes.

Racism is a *system* that oppresses and dominates certain groups while privileging others (Harrell, 2000), making groups racialized as nonwhite more susceptible to the negative impacts of *processes* such as discrimination (Omi & Winant, 2015). Discrimination is conceptualized in the health literature in three ways: as a psychosocial stressor which impacts psychological health outcomes (Harrell, 2000; Lazarus & Folkman, 1984), as a psychosocial stressor which impacts physical health outcomes (Arline T. Geronimus, Hicken, Keene, & Bound, 2006; McEwen, 1998; McEwen & Seeman, 1999), and as a mechanism of structural and institutional racism which systematically blocks access to resources and opportunities for oppressed groups (A. Schulz & Northridge, 2004; Williams & Mohammed, 2013). These conceptualizations are not mutually exclusive, but rather are interconnected; I will describe each in turn.

Harrell (2000) describes manifestations of racism across socio-ecological levels; including interpersonal, collective, cultural-symbolic, and sociopolitical contexts. She sees each of these manifestations of racism as sources of racism-related stress, which are mediated through internal factors such as affective and behavioral stress responses, and external factors such as resources for coping, to ultimately impact health outcomes. This conceptualization draws on prior theory modeling the impacts of stress and coping on adaptational outcomes such as emotional well-being and health behaviors (Lazarus & Folkman, 1984).

In this way, discrimination is conceptualized in the health literature as a psychosocial stressor (Harrell, 2000), which has been shown to disproportionately impact marginalized populations and those racialized as nonwhite in France (e.g. Beauchemin, Hamelle, Lesné, & Simon, 2010).

Researchers have linked discrimination stressors not only to psychological processes such as appraisal and coping (Lazarus & Folkman, 1984), but also to the disturbance of biological stress pathways (Busse, Yim, Campos, & Marshburn, 2017). When the body's stress pathways are triggered repeatedly over time, the result is wear-and-tear on the body with consequences for multiple health outcomes. For example, Geronimus (2006) describes the early health deterioration of Black Americans through chronic exposure to discrimination as *weathering*. This line of research has found significant associations between reported discrimination experiences and health outcomes such as hypertension (Dolezsar, McGrath, Herzig, & Miller, 2014), adverse birth outcomes (Alhusen, Bower, Epstein, & Sharps, 2016), and other health outcomes in U.S. and other national contexts (Williams & Mohammed, 2009).

In a third, interconnected conceptualization, Williams and Mohammed (2013) see institutional and cultural racism as fundamental causes of health, which act through intervening

pathways such as interpersonal racial discrimination. Discrimination is a process that can block access to resources such as employment, healthcare, or quality housing, and that is disproportionately applied to marginalized populations compared to other populations (Williams & Mohammed, 2009). This leads to consequences for power, prestige, socioeconomic status, the stress processes described above, and ultimately health outcomes. Thus, this dissertation operationalizes individuals' discrimination experiences as an intervening mechanism of racism in the context of Fundamental Cause Theory (Phelan & Link, 2015; Williams & Collins, 2001); in its absence, another mechanism may replace it.

To sum, interpersonal discrimination can impact health on an individual level through psychological stress and coping processes with consequences for emotional well-being and health behaviors (Harrell, 2000; Lazarus & Folkman, 1984), through physiological stress responses with consequences for physical health (Lewis et al., 2015), and by acting as a barrier to resources such as employment (Quillian et al., 2017) with consequences for all dimensions of health. Because of the system of racism, discrimination is non-randomly distributed throughout the population, and can impact population health patterns through its disproportionate application onto marginalized populations (Williams et al., 1997).

Despite the lack of state-collected statistics identifying individuals by their race or ethnicity in the French context (Simon & Jacobs, 2010; Simon & Piche, 2012), several domains of discrimination have been studied in the qualitative and quantitative literature, including systematic discrimination in housing, employment, interaction with law enforcement, and everyday interpersonal interactions (Acolin, Bostic, & Painter, 2016; Beaman, 2017; Bonnet, Lalé, Safi, & Wasmer, 2016; Duguet, Leandri, L'Horty, & Petit, 2010; Fassin, 2013; McAvay, 2018; Silberman, Alba, & Fournier, 2007). Researchers have used innovative methods to

document racial/ethnic discrimination without access to racial or ethnic identifiers in most large-scale surveys conducted in France.

Surveys asking respondents to self-report discrimination experiences have also become more common in France in recent years, despite debates over the use of racial/ethnic categories (Alberola, Brice, Guisse, & Hoibian, 2016; Beauchemin, Hamelle, Lesné, et al., 2010; Blum & Guerin-Pace, 2008; Cervulle, 2014; Lozes, 2007). In response to a single-item measure, immigrants and second-generation residents (individuals with at least one parent born outside of metropolitan France) were two and a half times more likely to report having experienced discrimination in the past five years compared with French residents who are not immigrants or the children of immigrants. The most frequently cited reasons for discrimination experiences were ethnic origin or nationality and skin color (Beauchemin, Hamelle, Lesné, et al., 2010).

Cognet and colleagues (2012) assessed the association between self-reported discrimination and health using quantitative analyses of the *Trajectories and Origins* (TEO) data set, measured using a single item ("Have you experienced discrimination in the past five years?"). They reported a significant association between discrimination in the past five years and fair or poor self-reported health among immigrants (Cognet et al., 2012). Apart from this work, quantitative study of how such discriminatory experiences impact self-rated health among racial or ethnic minority immigrants in France remains little explored in the literature (Khlat & Guillot, 2017), and does not capture multiple dimensions of discrimination (Shariff-Marco et al., 2011). Nonetheless, scholars have theorized that discrimination impacts immigrants' health in this context, conceptualized as a social factor alongside "difficulties related to integration" (Boulogne et al., 2012, p. 1215).

To address these gaps, Chapter Four psychometrically validates a discrimination experience scale for the French context and uses it to empirically investigate whether discrimination is indeed a mechanism by which racialization moderates the relationship between educational attainment and self-rated health.

Concluding comments. Together, the set of analyses conducted in this dissertation will investigate the ways that racism may shape relationships between education, citizenship, language proficiency and health outcomes among migrants to France. This is important to an understanding of public health because results will interrogate theorized relationships between fundamental causes and health across heterogeneous migrant populations. Investigating associations between racialization and health across migrant groups goes beyond prior work that focused on health disparities between migrants and local-born residents; re-focusing the investigation on the health trajectories of migrants after arriving in their country of destination. An investigation of whether the health effects of racism are discernible in spaces which attempt to adhere to colorblindness will also contribute to the development of effective approaches to address racial health disparities.

Chapter 2 Is the Education-Health Gradient Colorblind? Racialization of Migrants Shapes Association Between Educational Attainment and Self-Rated Health

Background

  While research on migrant health is a relatively recent focus of the French social sciences (Noiriel, 1996), findings consistently report worse self-rated health among immigrants compared to local-born populations (see review by Khlat & Guillot, 2017). Several studies also report indications of diminished mental health among immigrants, immigrants' children, and even immigrants' grandchildren compared to local born populations with local born parents and grandparents (Pannetier, Lert, Roustide, Desgrées, & Loû, 2017; Pignon et al., 2017; Rolland et al., 2017). The sociology and public health literatures offer several hypotheses to account for disparities in migrant health compared to the local born population. Among these are selection effects (Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999; Moullan & Jusot, 2014; Thomson, Nuru-Jeter, Richardson, Raza, & Minkler, 2013), cultural and behavioral health determinants (e.g. Darmon & Khlat, 2001), the impacts of acculturation or acculturative stress (Bekteshi & van Hook, 2015; Lopez-Class, Castro, & Ramirez, 2011; Salgado, Castañeda, Talavera, & Lindsay, 2012), and the impacts of structural and interpersonal racism (Bécares, Nazroo, Jackson, & Heuvelman, 2012; Nichols et al., 2018b; Novak, Geronimus, & Martinez-Cardoso, 2017; Viruell-Fuentes, 2007; Viruell-Fuentes, Miranda, & Abdulrahim, 2012). However, literature on whether some of these factors differentially impact subsets of migrants is lacking. One specific subgroup of interest is migrants who experience racialization processes which may confer a wide range of disadvantages, with implications for health outcomes.

This chapter addresses this gap by investigating the interplay of racialization, proxied by region of origin, and educational attainment, and their relevance for self-rated health. This chapter asks: Does racism moderate the association between educational attainment and health? Racism is a system that oppresses and dominates certain groups while privileging others (Harrell, 2000). This system is multidimensional, self-reproducing, historically-rooted and "premised on the categorization and ranking of social groups into races" (Williams & Mohammed, 2013, p.1153), making groups racialized as non-white more susceptible to the negative impacts of processes such as discrimination (Omi & Winant, 2015). In this way, this analysis builds on the work of Williams and Collins (2001), Phelan and Link (2015), Masters and colleagues (2015), and others who ask how the relationship between social determinants and health outcomes is complicated by the marginalization of groups along axes of inequality such as race.

In using the term *racialization*, I draw on work by Omi and Winant (2015) as well as several others (Michele Lamont et al., 2014; Schwalbe et al., 2000) who worked to understand the processes by which inequalities arise and are perpetuated. This literature understands racialization as a social process by which cues are used to identify individuals as part of a group, and associate members of that group with stereotypes. These cues may be visible (e.g. skin color, manner of dress) or non-visible (e.g. language, accent, place of residence). Omi and Winant (2015) note that "through a complex process of selection, human physical characteristics ('real' or imagined) become the basis to justify or reinforce social differentiation" (p. 111). Racialization is one part of the process of racial formation and domination; those racialized as non-white may be marked as different from the "generic" white and are more likely to be subject to racism (Brekhaus, 1998).

A challenge to this study in the French context is the lack of availability of race or ethnicity data (Simon & Jacobs, 2010). In France it is controversial, taboo, and in some situations, illegal to collect racial or ethnic information in large data sets (Cervulle, 2014). To manage this issue, I will compare migrants grouped by region of origin and make an argument for whether migrants from each respective region of origin are likely to be racialized as white or non-white.

Prior work in the French context has, in some cases, split migrants into groups by region of origin (e.g. Jusot et al. 2009). However, studies often did not provide an explicit explanatory framework for why particular countries were included in each designated region. For example, Jusot and colleagues (2009) describe results of these regional analyses, but do not offer an interpretation for them. I argue that such groupings are underpinned by a racial logic, left implicit in prior studies, that assumes a high likelihood of shared racial or ethnic status among migrants who share a regional origin. This logic is made explicit in a more recent study in the French context (Etilé, 2014), but in this case, region of origin was explicitly understood as a proxy for supposed genetic differences between races or ethnicities. In contrast, the analysis presented here argues that region of origin may reflect systematic social, rather than genetic, processes that differentially shape the experiences – and health – of migrants originating in different regions upon their arrival in the country of destination. This view of race as socially constructed has the consensus of the field (Boyd, Lindo, Weeks, & McLemore, 2020), in part in light of findings of greater genetic variation within population groups than across them (Witherspoon et al., 2007).

Being explicit about assumptions regarding how migrants may be racialized depending on their region of origin offers opportunities to interpret health differences in terms of a

framework that takes racism into account (Ford & Airhihenbuwa, 2010). Including a critical

analysis and justification of social groupings in quantitative analyses, including racial groupings,

resists an biological view of race by placing socially-constructed racial groups in historical and

social context (Boyd et al., 2020; Michael Omi, 2010). This practice would be a positive addition

to racial and ethnic disparities work across all contexts; standardizing this approach would

contribute to understanding the social construction of the racial and ethnic designations that

research often leaves unexamined (Boyd et al., 2020; Helms, 2006).

This chapter explores whether the social process of racialization, operationalized using

region of origin, is associated with a significant difference in the relationship between

educational attainment and self-rated health; in other words, whether racialization modifies

associations between educational attainment and self-rated health. Analyses show that migrants

who are more likely to be racialized as non-white based on their region of origin have diminished

health returns to their education compared with migrants who are likely to be racialized as white.

Data

The Trajectories and Origins (TEO) dataset is the result of a nationally representative

study conducted in France in 2008-09 (Beauchemin, Hamelle, & Simon, 2010). The study

oversampled immigrants and the children of immigrants.

All non-migrant respondents are dropped from the data set, defining "migrant" as any

respondent residing in hexagonal France[1] who was born outside of hexagonal France. Migrants

[1] The term "hexagonal France" or "continental France" refers to the French territory in Western Europe flanked by
Belgium, Germany and Switzerland to the west, Spain to the southeast, and Italy to the southwest. This term
references the roughly hexagonal shape of the territory. Territories that are not part of hexagonal France and yet are
part of the French state include the overseas departments. Another term, "metropolitan France," is also commonly
used to refer to hexagonal France. "Metropolitan France" is a relational term with ties to the colonial era, during

represented in this dataset include respondents born in Europe outside of France, those born in France's overseas departments, and those born in Africa, resulting in a final sample size of 4,946. Departing from some prior research (Beauchemin, Hamelle, & Simon, 2010), I recognize the migration experience of former European colonists who have repatriated to hexagonal France, known as repatriates, and these respondents are included in the analysis.

Measures

Dependent variable. Self-rated health is measured with a single item asking respondents to evaluate their own health on a five-point scale, including "very good," "good," "average," "poor," and "very poor." In studies across a number of national contexts, including France, self-rated health has been shown to be strongly associated with mortality (DeSalvo, Bloser, Reynolds, He, & Muntner, 2004; Goldberg, Guéguen, Schmaus, Nakache, & Goldberg, 2001; Wu et al., 2013). Prior study of self-rated health of migrants versus local-born residents in the French context have generally dichotomized the self-rated health outcome, splitting respondents into those who reported "fair" or "poor" self-rated health, and those who responded "good" or better (Berchet & Jusot, 2010; Cognet et al., 2012; Jusot et al., 2009; Lanari & Bussini, 2012; Moullan & Jusot, 2014; Solé-Auro & Crimmins, 2008). This approach is supported by the work of Manor and colleagues (Manor, Matthews, & Power, 2000), who found similarity in the size and significance of coefficients in analyses using dichotomous or ordinal responses, respectively. I dichotomize the measure by splitting respondents into those who reported "average," "poor," or "very poor" self-rated health, versus those who responded "good" or "very good."

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which hexagonal France was recognized as the seat of colonial power and the central place from which other spaces are viewed. In other words, hexagonal France was the "metropole" ruling over the colonial "periphery" in other areas of the world.

Independent variables. *Educational attainment* is measured in the TEO as the highest

diploma received. Educational attainment is measured by degree attained and is constructed as an

ordered ordinal variable. Respondents are sorted into one of eight educational levels or its

equivalent if their education was attained abroad.

In the French educational system, a certificate or diploma is given at each educational

level. The lowest educational attainment level measured in the dataset is "no degree or diploma

attained" (identified with an assigned value of 1). The highest possible educational attainment,

identified with an assigned value of 8, is "diploma at a level higher than a BAC+2." The term

"BAC+2" indicates four semesters of schooling completed after successfully passing a

Baccalauréat exam at the end of secondary school. While the American and French educational

systems are not fully parallel, a "BAC+2" diploma may be similar to an American associate's

degree. However, only one additional year of schooling ("BAC+3") allows a student to attain a

licence, similar to an American Bachelor's degree (Consulate General of France in Boston,

2019). This variable's coding would assign a value of 8 to anyone with a BAC+3 or above.

Racialization is a key construct in these analyses. Racialization is operationalized using

region of origin as a proxy for whether immigrants are likely to be racialized as white or non-

white. Respondents' region of origin is used to sort them into white or non-white groups. Such

groups are not understood to be perfectly classified; some people who are usually racialized as

non-white may be from a region of origin classified as "white," while some white people who

are usually racialized as white may be from a region of origin classified as "non-white."

Nonetheless, following Nazroo and co-authors' (2007) use of historical migration trajectories to

contextualize the health of Black populations in the U.S. and U.K., I argue that an understanding

and application of historical and demographic knowledge can help us make meaningful

population-level comparisons across migrant groups, toward understanding whether racism has implications for the associations of citizenship and educational attainment with health for migrants to France. To accomplish this, I draw on three types of information: 1) demographic information, 2) political and historical information, and 3) contemporary reports of discrimination experiences across immigrants from each region of origin.

Because social understandings of race in France are likely more complex than a binary "white" and "non-white" system, I also conduct a sensitivity test, analyzing the sample by region of origin rather than racialization groups. Below, I describe each region of origin that is identifiable in the data set and the likely to racialization status of respondents from that region.

Non-white groups. In this analysis as in others (e.g. Berchet & Jusot, 2012), migrants to France born in the North African states of Morocco, Algeria, and Tunisia are grouped together, with a region of origin known as the *Maghreb*. For this analysis, migrants born in an African nation other than those in the Maghreb are grouped together in one region of origin (*born in Africa outside the Maghreb*). While Africa outside the Maghreb represents an enormous geographical territory including hundreds of cultures and ethnicities, this distinction may be made in the dataset because Maghrebi migrants are presumed to be non-Black people of color (often referred to in popular discourse as Arab), while other African migrants are presumed to be Black, despite the likely existence of misclassification of these assumptions across the groups. Indeed, racialization processes obscure geographic, cultural, and other heterogeneity, homogenizing diverse peoples on the basis of visual or non-visual cues such as skin color, accent, or name (Omi & Winant, 2015).

The Maghreb region was colonized by the French empire from the early nineteenth century until decolonization after World War II. *Maghreb-born* migrants consistently contributed

the largest group of non-EU migrants to France from 1998 to 2013 (D'Albis & Boubtane, 2015).

Slightly over 29% of immigrants born in the Maghreb report having experienced discrimination or unfair treatment in the past five years (see Table 4 for reported levels of discrimination by region of origin). Differentiating this population from other African immigrants, Maghrebi immigrants tend to respond that their ethnicity or national origin is the reason for their experience of discrimination, while other African immigrants are more likely to respond that their skin color explains their experience of racism (Beauchemin, Hamelle, Lesné, et al., 2010), corroborating a conception of Maghreb-born migrants as, on average, non-Black people of color. Based on the historical, sociological, and demographic information available, I identify Maghreb-born populations as likely to be racialized as nonwhite in France.

Lamont (2002) argues that French residents of Maghrebi origin are analogous to Black populations in the U.S. due to their shared experiences of racism and similar positions in their respective economies. I argue that this postulate of a direct parallel between racial groups obscures differences in social contexts across the two nations and ignores the existence of Black populations residing in continental France, who are generally migrants or the descendants of migrants. While comparative approaches are possible, they should compare specific social processes and exposures in each context rather than drawing direct parallels across whole groups. However, the single-country analysis of this chapter does not require comparative claims.

Migrants from *Africa outside the Maghreb* primarily come to continental France from nations that were formerly under French or Belgian colonial influence; these include mainly west and Sahelian African nations (Gosselin et al., 2018), but also include south and central African nations (Beauchemin, Hamelle, & Simon, 2010). The proportion of migrants from this region in France increased from 2% in 1975 to 13% in 2011 (Gosselin et al., 2018). They represent the

most recent wave of migration to France (Brutel, 2017; C. F. Sargent & Larchanché-Kim, 2006). Just under 43% of non-Maghrebi African migrants to France report having experienced discrimination or unfair treatment in the past five years (see Table 4). This is the highest rate across all the population groups included in this study, exceeding rates reported by the next closest group by twelve percentage points. Non-Maghrebi African migrants were the most likely among all migrants to report that their skin color explains their experience of discrimination or unfair treatment (Beauchemin, Hamelle, Lesné, et al., 2010). For these reasons, I identify non-Maghrebi African migrants as non-white.

Migrants from the overseas French departments will be grouped with the designation *DOM-born*.[2] At the time of the TEO's data collection, the overseas departments included Guadeloupe, Martinique, French Guiana, and the Reunion Islands. DOMs are sites of historical colonization by European imperial powers, whose populations are understood to be made up largely of people of color. This is partly because in the seventeenth and eighteenth centuries, the French Caribbean was the destination for hundreds of thousands of victims of the trans-Atlantic slave trade, exploited for their labor primarily on sugar plantations (Childers, 2009; C. M. Fleming, 2017). On the Caribbean islands that did not escape French imperial control through revolution, slaves were not permanently freed until 1848.

France annexed these territories after the Second World War, and thus all DOM-born respondents in the data set are French citizens. Encouraged by government programs, there has been robust migration from the DOMs to continental France in the post-World War II era

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[2] The abbreviation "DOM" references the French-language designation for overseas departments, "*départements d'outre-mer.*"

(Temporal, Marie, Bernard, & Grieve, 2011). Social historian Pap Ndiaye (2008) notes that many contemporary DOM-born residents of hexagonal France may not identify as Black. Instead, many identify as Indian, *métis(se)* ("mixed"), or other ethno-racial designations. Some may resist any ethno-racial identification and exclusively report a national identity (French). Despite these diverse self-identifications, Ndiaye specifies that most DOM-born people are likely to be racialized as non-white when in continental France. Going further, sociologist Crystal Marie Fleming (2017) asked a sample of DOM-born residents of continental France to define their identity. 97% of first-generation migrants included an ethno-racial frame among their multidimensional responses. Using data collected from a larger sample that included DOM-born migrants as well as children of DOM-born migrants, Fleming found that while 92% of respondents included themselves in the category of Black, only 39% included Blackness as a "salient dimension of their collective identity" (Fleming, 2017, p.147). Fleming posited that this finding shows that most respondents "saw themselves as belonging to the *group category* Black partly because they are aware of how whites and other groups in mainland France perceive them" (emphasis hers, p. 147). Her interpretation highlights the importance of racialization as a social process that influences individuals' likelihood of being marked as other, with possible consequences for their likelihood of experiencing discrimination.

Indeed, over 30% of DOM-born respondents in the TEO survey reported experiencing discrimination or unfair treatment in the past five years (see Table 4). The most common reason that DOM-born respondents cite for their discrimination experiences is skin color (Beauchemin, Hamelle, Lesné, et al., 2010).

Thus, historical background and contemporary data show that DOM-born residents of hexagonal France have an experience that in some ways overlaps with other non-white migrants

(through some shared identities and high levels of self-reported discrimination) and in other ways does not (through freely accessible citizenship and labor markets). I identify DOM-born respondents as likely to be racialized as non-white.

White groups. Migrants from Belgium, Germany, Italy, Luxembourg, the Netherlands, Denmark, Ireland, the UK, Greece, Portugal, Spain, Austria, Finland, and Sweden are grouped together with an "*EU15*" region of origin. Around the time of TEO data collection (2008-09), internal European Union migration was relatively small (Migali, 2018; Zaiceva & Zimmerman, 2008). Eremenko and coauthors (2017) discuss that although increases in immigration to France from south, central, and eastern Europe after the 2008 recession were all modest, political and public debate largely ignored southern European immigrants while stigmatizing eastern and central European immigrants, particularly Roma populations, alongside non-European migrants such as those from Africa and North Africa (Eremenko, El Qadim, & Steichen, 2017; Geddes & Scholten, 2016). This conclusion is supported by Ferbrache and Yarwood's (2015) in-depth interviews of British nationals residing in France, showing their high level of integration with day-to-day French civic life. About 10% of respondents to the TEO who were born in an EU15 nation reported having experienced discrimination or unfair treatment in the past five years (see Table 4). This is similar to the mainstream French population, 9.8% of whom reported having such an experience.

Migrants designated as from "*EU04*" nations were born in countries that acceded to the European Union in 2004, including Estonia, Latvia, Hungary, Poland, and six others. By contrast with EU15 migrants, around 25% of respondents to the TEO who were born in an EU04 nation reported having experienced discrimination or unfair treatment in the past five years (Table 4).

This is a higher rate of perceived discrimination than the mainstream French population, and a lower rate than those born in a DOM, in the Maghreb, or in sub-Saharan Africa.

Based on this demographic and social situation contemporaneous with TEO data collection, I interpret members of these groups as likely to be racialized as white.

Finally, the TEO identifies a group of migrants of European descent who came to France from many of the countries that are now known for the emigration of non-white populations; members of this group are known as *repatriates or French born abroad*. In past studies of health using the TEO, repatriates have been included in the control population (or "mainstream population"), despite their experience of migration (e.g. Cognet, Hamel, and Moisy 2012). Demographic studies also have generally excluded this population from the immigrant group (D'Albis & Boubtane, 2015). However, Alba & Silberman (2002) argue that disaggregating this population from "mainstream" French residents may help us understand how racial and citizenship differences across European versus indigenous postcolonial migrants influence their life chances after arrival. Based on the history and migration contexts of repatriates, these groups are likely to be of "European descent," or white. These migrants still report discrimination: 22% repatriates responding to the TEO report discrimination experiences (Table 4), compared with 9.8% among other respondents within the "mainstream population." Yet, the proportion of repatriates reporting discrimination experiences remains smaller than the proportion of African (29-43%) or DOM-born (31%) migrants. This may be due to the lower likelihood that repatriates are visible as racially different to the surrounding society (Brekhaus, 1998; Omi & Winant, 2015). I identify this group as likely to be racialized as white. Table 2.1 summarizes the number of respondents from each racialization group.

Table 2.1. Total size of analytic sample and number of respondents by racialization group.

	N

Non-white (migrants born in Africa or a DOM)	3,482
White (migrants born in Europe or those who are repatriates or French born abroad)	1,464
Total	**4,946**

In part of this chapter's analysis, repatriates and French born abroad will be the reference group for a set of five dummy variables indicating region of origin. This control group is well-suited for an exploration of the relationships between racialization and educational attainment on the health of immigrants to France, since repatriates are French-speaking migrants from outside of Europe who are likely to be racialized as white.

Control variables. *Age* is measured as a continuous variable (range: 18-50). Only binary *gender* is available in this data set (women = 1; men=0).

Possible confounders, as depicted in the conceptual model above, will include *place of education* and *French language proficiency*.

Prior work in the US has found that foreign-educated individuals have diminished health returns to their educational attainment compared with same-race, local-born individuals with equivalent U.S. educational attainment (E. Walton et al., 2009). To control for this possibility in the French context, *place of education* is measured using a set of three dummy variables, indicating whether the respondent was educated only in France, only outside of France, or a mix of inside and outside the country. Education in France alone is used as the reference category.

Prior studies also indicate that language skills may play a role in immigrants' ability to economically integrate into their country of destination (Castagnone et al., 2015; Gosselin et al., 2018; Obućina, 2013). As such, language skills may be relevant to the translation of educational attainment into positive health outcomes (Hahn & Truman, 2015). In this study, *French*

language proficiency is measured using a combined score across four items measuring self-reported proficiency in comprehension, speaking, writing, and reading the French language. This measure's maximum score (three) indicates very good French language proficiency, and its minimum score (zero) indicates that the respondent has no French language abilities at all. DOM-born migrants and repatriates were not assessed for this item, likely because both groups are understood to use French as a native language. Thus, respondents in these groups were assigned a score of three.

Analysis

To estimate the extent to which *education attainment's* association with health is moderated by *racialization*, a set of nested logistic regression models were specified using Stata 16.0. All models use dichotomized self-rated health as the dependent variable.

First, I fit a model examining associations between *educational attainment* and self-rated health (SRH), controlling for *gender* and *age* (model 1), allowing for assessment of the baseline associations between educational attainment and self-rated health before assessing relationships with *racialization group*.

To test for main effect associations of educational attainment with SRH (Research Question 2A), model 2 regressed educational attainment, racialization group, age and gender variables on SRH.

To assess differential health returns to educational attainment by racialization (Research Question 2B), model 3 interacted the racialization group dummy with educational attainment. This interaction variable was regressed on SRH, controlling for age, gender, and the main effects of educational attainment and racialization group. In other words, this model assessed whether

racialization implied by membership in some region of origin groups moderates the relationship between educational attainment and SRH.

In addition to assessing direction, magnitude, and significance of interaction variables, the Hosmer-Lemesbow test was used to compare goodness-of-fit in model 3 with that of model 2 (Hosmer & Lemesbow, 1980). This coefficient assesses the contribution of the interaction term to the fit of the model and informs decisions regarding which of the models most correctly specifies the associations in question.

To this estimation, model 4 adds *place of education* dummy indicators and *French language proficiency scores* to assess whether the interaction coefficients' magnitude and significance are robust to adjustment for these possible confounders.

Sensitivity analysis. To explore nuances beyond a binary "white" and "non-white" social racial hierarchy, I also conduct a sensitivity test by analyzing the sample by region of origin rather than racialization groups. All models use self-rated health as the dependent variable.

Model 1a regressed educational attainment, age and gender variables on SRH to test for main effect associations of educational attainment with SRH (Research Question 2A), followed by a model controlling for *region of origin* dummy variables (model 2a).

To assess differential health returns to educational attainment by racialization (Research Question 2B), model 3a adds interaction terms for each *region of origin* dummy with *educational attainment*. This model assessed whether racialization implied by membership in some region of origin groups moderates the relationship between educational attainment and SRH, allowing for nuances across specific regions of origin. In addition to assessing direction, magnitude, and significance of interaction variables, I use the Hosmer-Lemesbow test to compare goodness-of-fit in model 3a with that of model 2a (Hosmer & Lemesbow, 1980). To

this estimation, Model 4a adds *place of education* dummy indicators and *French language proficiency scores* as a final control for possible confounding.

Results

Table 2.2 presents descriptive statistics for the full sample and for the sample stratified by racialization group. There are more respondents in the non-white racialization group (70.4%) compared to in the white racialization group (29.6%). The sample is skewed toward better self-rated health, with 83.1% reporting very good or good self-rated health. The average age of respondents is 37.4 years. White migrants are slightly older than non-white migrants (mean age of 39.5 versus 36.6, respectively). The percent of respondents reporting discrimination in the past five years differs significantly by racialization group; 13.3% among those in the white racialization group report discrimination often or sometimes in the past five years, compared to 35.0% among those in the non-white racialization group. Mean educational attainment for the full sample falls between 4 (indicating having attained a certificate of professional aptitude or diploma of the same level) and 5 (indicating attainment of a technical or professional Baccalauréat or a diploma of the same level). These represent educational levels earned around ages sixteen to eighteen years old. A plurality of the full sample (44.9%) was educated only outside of France. A large proportion of DOM-born respondents (87.2%) were educated only in France (data not shown in Table 2.2); however, there is no available data on whether they were educated in continental France or in the overseas departments. A significantly larger percentage of non-white migrants were educated both inside and outside of France (29.6%) compared with white migrants (25.1%). The sample has a high level of French language proficiency, with an average language proficiency score of 2.2, close to the highest possible rating (3) which indicates

French fluency in speaking, reading, and writing. This level is nearly identical across

racialization groups.

Table 2.2. Descriptive statistics for the full sample and stratified by racialization group. Asterisk indicates significant differences between the racialization groups using a two-tailed t-test or proportion test as appropriate.

		Racialization Group		
Measure	*Full sample*	*White*	*Non-white*	
		29.6%	70.4%	
Very good or good self-rated health (%)	83.1	84.5	82.6	
Women (%)	52.1	54.9	50.9	*
Age (mean)	37.4	39.5	36.6	*
Reported discrimination "often" or "sometimes" in the last 5 years (%)	28.6	13.3	35.0	*
Educational attainment (mean)	4.5	4.6	4.5	*
Educated in France (%)	26.9	28.6	26.2	
Educated outside France (%)	44.9	46.4	44.2	
Educated inside & outside France (%)	22.2	25.1	29.6	*
French language proficiency score (mean)	2.2	2.2	2.2	

Research Question 2A: To what extent is educational attainment associated with self-rated health for migrants to France? After adjusting for age and gender, educational attainment was significantly associated with very good or good self-rated health (Table 2.3). In this model (model 1), migrants with each higher level of educational attainment had an average of 1.2 (p<0.05) times better odds of reporting very good or good self-rated health.

After adding a control for racialization category, educational attainment remained significantly associated with very good or good self-rated health (Table 2.3), and migrants with each higher level of educational attainment had an average of 1.2 (p<0.05) times better odds of reporting very good or good self-rated health.

Table 2.3. Nested logistic regression models predicted likelihood of reporting very good or good self-rated health based on educational attainment, the interaction of educational attainment with

racialization group, and controls. Odds ratio estimates and 95% confidence intervals are reported. Bolded coefficients indicate a p-value <0.05.

	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
Independent and control variables				
Woman	**1.21** (1.17, 1.25)	**0.67** (0.57, 0.78)	**0.65** (0.55, 0.76)	**0.72** (0.59, 0.88)
Age	**0.67** (0.57, 0.79)	**0.94** (0.93, 0.95)	**0.94** (0.93, 0.95)	**0.94** (0.92, 0.95)
Educational Attainment (ordered ordinal)	**0.95** (0.94, 0.96)	**1.2** (1.2, 1.2))	**1.4** (1.3, 1.5)	**1.4** (1.3, 1.5)
Racialization Category (white ref.)				
Nonwhite		**0.76** (0.64, 0.91)	**1.4** (1.03, 2.0)	**1.5** (1.1, 2.2)
Interaction terms				
Nonwhite*Educational attainment			**0.84** (0.78, 0.91)	**0.81** (0.74, 0.89)
Additional Controls				
French language proficiency score				**1.2** (1.0, 1.3)
Educated abroad only (educated in France ref.)				1.1 (0.80, 1.4)
Educated abroad and in France (educated in France ref.)				0.87 (0.65, 1.2)

Research Question 2B: To what extent does membership in a migrant group from a region of origin racialized as non-white moderate the relationship between educational attainment and self-rated health for migrants to France? Results indicate significant moderation of the education-health relationship by racialization group. While increasing educational attainment is associated with better self-rated health for all groups, this positive effect is significantly weaker for migrant groups likely to be racialized as non-white compared to migrants likely to be racialized as white (model 3). A Hosmer-Lemesbow goodness-of-fit test for model 3 resulted in a p-value of 0.9, indicating that there is no evidence of poor fit.

The significant interaction effect found in model 3 is robust to the addition of controls for place of education and French language proficiency score (model 4).

Interactions between educational attainment and racialization as non-white were significant and smaller in magnitude than the main effect of educational attainment. In order to

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calculate the slope of the education-health gradient for the two groups of African migrants, taking the interaction term into account, I use results from model 4 to exponentiate the sum of the value of the log odds interaction coefficient and the value of the log odds educational attainment coefficient. Migrants likely to be racialized as non-white realize less benefit for each added level of educational attainment (odds of 1.11) compared to those likely to be racialized as white (odds of 1.37 with each added level of educational attainment).

To visualize these results, Figure 2.1 uses the estimation calculated in model 4 to plot the average marginal effect of each additional level of educational attainment, by racialization group, on the probability of reporting good or very good self-rated health, after controlling for all covariates. This plot shows a steeper slope for migrants likely to be racialized as white compared to the slope for migrants likely to be racialized as non-white.
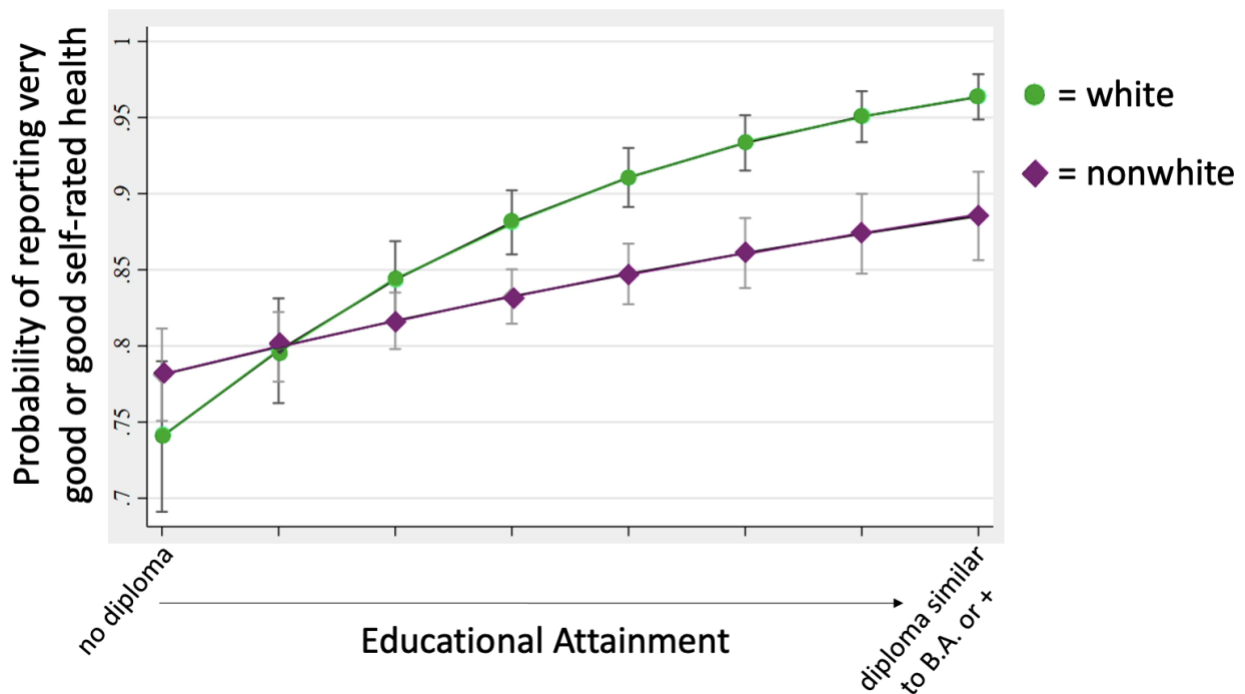
Figure 2.1 Average marginal effect of each additional level of educational attainment, by racialization group, on the probability of reporting good or very good self-rated health, after controlling for all covariates in model 4.

Because social understandings of race in France are likely more complex than a binary "white" and "non-white" system, I also conduct a sensitivity test, analyzing the sample by region of origin rather than racialization groups.

Descriptive statistics. Table 2.4 presents descriptive statistics for the sample, stratified by region of origin. The sample is skewed toward better self-rated health, with the percentage of migrants from each region of origin reporting very good or good self-rated health ranging from 80.7% among those born in the Maghreb to 92.8% among those born in EU countries which acceded to the EU in 2004 ("EU04"). The average age of respondents is 37.4 years of age, with the oldest migrants born in the EU15 at an average of 41.1 years old. The sample overall is slightly more women (52.1%) than men, with migrants born in the Maghreb most skewed toward women at 66.3%. Mean educational attainment for the full sample falls between 4 (indicating having attained a certificate of professional aptitude or diploma of the same level) and 5 (indicating attainment of a technical or professional Baccalauréat or a diploma of the same level). These represent educational levels earned around ages sixteen to eighteen years old. The percent of respondents reporting discrimination in the past five years varies across the regions of origin, from 10.2% among those born in the EU15, to 42.8% among those born in Africa outside the Maghreb. A plurality of the full sample (44.9%) was educated only outside of France. A large proportion of those born in the overseas departments (87.2%) were educated only in France; however, there is no available data on whether they were educated in hexagonal France or in the overseas departments. The sample has a high level of French language proficiency, with an average language proficiency rating of 2.2.

Table 2.4. Descriptive statistics for the sample, stratified by region of origin.

Region of Origin

Measure	Full sample	Africa outside the Maghreb	Maghreb	DOM	EU15	EU04	Repatriates or French born abroad
		28.1	31.4	11.0	22.3	3.4	3.9
Very good or good SRH (%)	83.1	84.1	80.7	84.4	82.9	92.8	83.1
Age (mean)	37.4	36.1	36.9	36.7	40.8	35.2	36.0
Women (%)	52.1	54.1	66.3	47.7	54.8	49.8	50.3
Educational attainment (mean)	4.5	4.3	6.1	4.2	4.7	4.6	5.1
% reporting discrimination "often" or "sometimes" in the last 5 years	28.5	42.8	29.3	30.9	10.2	24.7	23.0
Educated in France (%)	26.9	6.8	20.5	87.2	29.2	6.6	44.4
Educated outside France (%)	44.9	55.1	49.5	4.2	48.3	65.1	18.7
Educated inside & outside France (%)	22.2	38.1	30.0	8.6	22.6	28.3	36.9
French language proficiency score (mean)	2.2	1.8	2.0	3.0	2.0	2.0	3.0

Research Question 2A: To what extent is educational attainment associated with self-rated health for migrants to France? After adjusting for age and gender, educational attainment was significantly associated with very good or good self-rated health (Table 2.5). In this model (model 1a), migrants with each higher level of educational attainment had an average of 1.2 (p<0.05) times better odds of reporting very good or good self-rated health.

After adding a control for region of origin, educational attainment remained significantly associated with very good or good self-rated health (Table 2.5, model 2a), and migrants with

each higher level of educational attainment had an average of 1.2 (p<0.05) times better odds of

reporting very good or good self-rated health.

Table 2.5. Nested logistic regression models predicting the likelihood of reporting very good or good self-rated health based on educational attainment, the interaction of educational attainment with region of origin, and controls. Odds ratio estimates and 95% confidence intervals are reported. Bolded coefficients indicate a p-value of <0.05.

	Model 1a OR (95% CI)	Model 2a OR (95% CI)	Model 3a OR (95% CI)	Model 4a OR (95% CI)
Independent and control variables				
Educational Attainment (ordered ordinal)	**1.21** (1.17, 1.25)	**1.20** (1.16, 1.24)	**1.44** (1.19, 1.74)	**1.45** (1.20, 1.76)
Woman	**0.67** (0.57, 0.79)	**0.66** (0.56, 0.78)	**0.64** (0.54, 0.75)	**0.70** (0.58, 0.86)
Age	**0.95** (0.94, 0.96)	**0.94** (0.93, 0.95)	**0.94** (0.93, 0.95)	**0.94** (0.92, 0.95)
Region of origin dummy variables (repatriates ref.)				
EU15		1.16 (0.74, 1.84)	1.70 (0.70, 4.16)	2.21 (0.87, 5.65)
EU04		1.70 (0.82, 3.55)	0.92 (0.21, 4.02)	1.24 (0.27, 5.65)
Magheb		0.83 (0.53, 1.30)	2.16 (0.90, 5.18)	**2.94** (1.17, 7.33)
Africa outside the Maghreb		0.94 (0.60, 1.49)	2.38 (0.97, 5.83)	**4.29** (1.64, 11.24)
Born in DOM		1.00 (0.61, 1.64)	1.99 (0.75, 5.26)	2.10 (0.77, 5.65)
Interaction terms				
EU15*Educational attainment			0.93 (0.76, 1.14)	0.93 (0.75, 1.15)
EU04*Educational attainment			1.11 (0.81, 1.53)	1.05 (0.76, 1.46)
Maghreb*Eduatinal attainment			**0.79** (0.65, 0.98)	**0.75** (0.61, 0.92)
Africa outside the Maghreb*Educational attainment			**0.80** (0.65, 0.97)	**0.73** (0.58, 0.90)
Born in DOM*Educational attainment			0.85 (0.68, 1.06)	0.83 (0.67, 1.04)
Additional controls				
French language proficiency score				**1.23** (1.06, 1.42)
Educated abroad only (educated in France ref.)				1.05 (0.74, 1.47)
Educated abroad and in France (educated in France ref.)				0.86 (0.61, 1.21)

Research Question 2B: To what extent does membership in a migrant group from a region of origin racialized as non-white moderate the relationship between educational attainment and self-rated health for migrants to France? Results indicate significant moderation of the education-health relationship for some region of origin groups. Specifically, while increasing educational attainment is associated with better self-rated health for all groups, this positive effect is significantly weaker for migrant groups from Africa compared to the reference group (model 3a). A Hosmer-Lemesbow goodness-of-fit test for model 3a resulted in a p-value of 0.6, indicating that there is no evidence of poor fit.

The significant interaction effect found in Model 3a is robust to the addition of controls for place of education and language proficiency score (model 4a).

Interactions between educational attainment and being born in the Maghreb or Africa outside of the Maghreb were significant, negative, and smaller in magnitude than the main effect of educational attainment. In order to calculate the slope of the education-health gradient for the two groups of African migrants, taking the interaction term into account, I use results from model 4a to exponentiate the sum of the value of the log odds interaction coefficient and the value of the log odds educational attainment coefficient. Migrants from the Maghreb and those from non-Maghrebi Africa realize less benefit for each added level of educational attainment (odds of 1.09 and 1.06, respectively) compared to the reference group (odds of 1.45 with each added level of educational attainment).

Conversely, interactions between educational attainment and having been born in Europe or the overseas departments are not significant; this indicates that there was no evidence of a significant difference in the slopes of the relationship between educational attainment and self-rated health between these migrants and the reference group (models 3a and 4a).

To visualize these results, Figure 2.2 uses the estimation calculated in Model 4a to plot the average marginal effect of each additional level of educational attainment, by region of origin, on the probability of reporting good or very good self-rated health, after controlling for all covariates. This plot shows a steeper slope for migrants from Europe (EU15 and EU04) as well as for the reference group (repatriates or French born abroad) compared to the slopes for migrants from either African region. The slope for migrants born in the overseas departments (DOM, depicted with the symbol "x") does not significantly differ from the reference group (depicted with the symbol "+") in terms of the relationship between educational attainment and

self-rated health. However, this plot suggests that DOM-born migrants trend toward grouping with other regions of origin that are likely to be racialized as non-white.
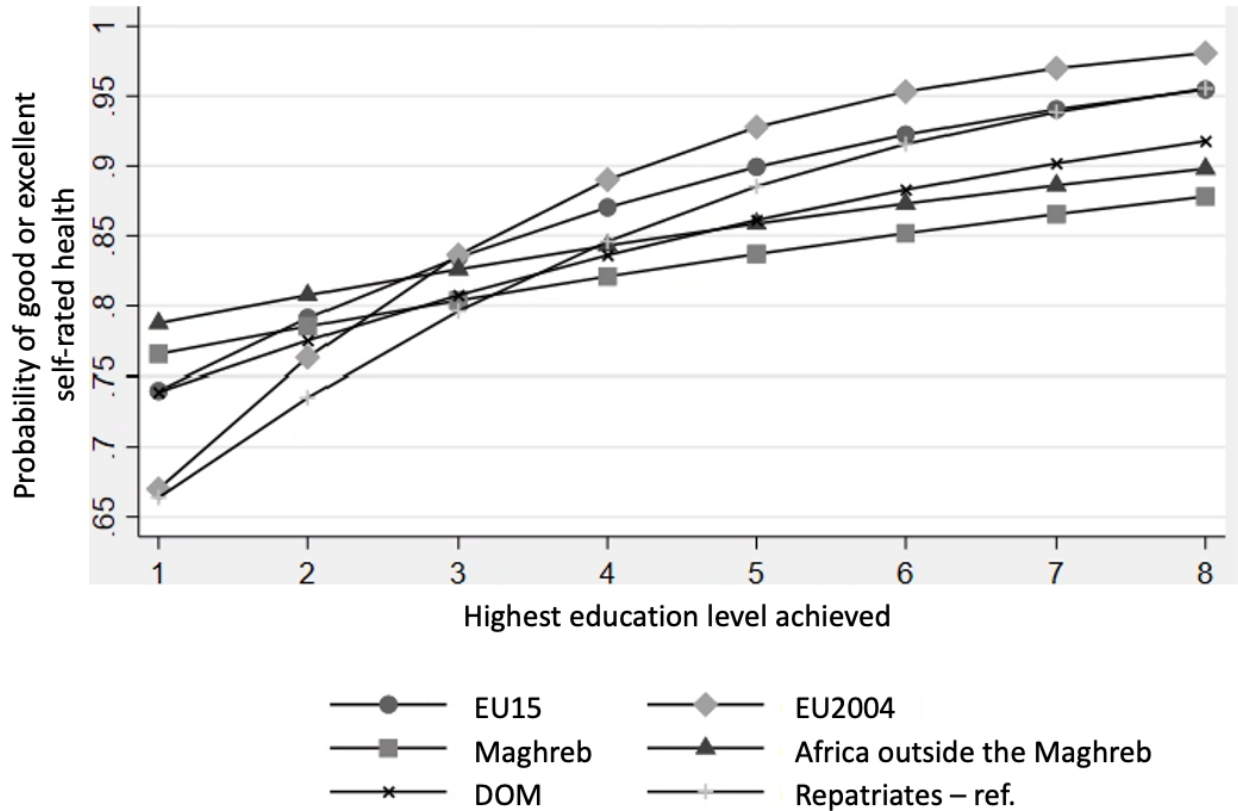
Figure 2.2. Average marginal effect of each additional level of educational attainment, by region of origin, on the probability of reporting good or very good self-rated health, after controlling for all covariates in model 4a.

Discussion

These analyses affirm prior findings that educational attainment is associated with improved health status (Etilé, 2014; Etilé & Jones, 2011; Pampel et al., 2015; Präg et al., 2017) in a sample of migrants to hexagonal France. The analysis also found that migrants who are likely to be racialized as non-white based on their region of origin may experience less health benefit to their educational attainment compared with migrants who are likely to be racialized as white. Specifically, migrants born in the Maghreb or other African regions experience

significantly less health benefit from their educational attainment compared to repatriates and French born abroad.

These findings suggest that non-white immigrant groups experience health benefits associated with increasing levels of educational attainment, but that those benefits are smaller than those experienced by white immigrant groups. These findings are consistent with the relationship that Fundamental Cause Theory posits between SES and health for all groups, which proposes that increased educational attainment, as one marker of socioeconomic position, should be associated with better health. However, this study adds nuance by showing that educational attainment's association with health differs by likelihood of racialization as non-white.

This study aligns with findings in other national contexts. For example, Masters and colleagues (2015) found that the relationship between education and multiple preventable health outcomes has weakened or stagnated over time for U.S. racial/ethnic minorities, while overall these gradients have become stronger over time for U.S. whites.

Sensitivity analyses found that the education-health gradient was significantly attenuated for migrants born in the Maghreb or other regions of Africa. This moderation effect was not significant for DOM-born migrants when the non-white racialization group was disaggregated. This finding may align with a sociological understanding of the structural position of DOM-born French residents, who have an experience that in some ways overlaps with other non-white migrants (through some shared identities and high levels of self-reported discrimination) and in other ways does not (through access to citizenship, labor markets, and welfare). Such findings may also align with prior work by Grosfoguel (1997), who found that migrants from Guadeloupe and Martinique to continental France faced lower levels of economic exclusion compared to Caribbean postcolonial migrants to other metropoles, including West Indians to the UK,

Surinamese/Dutch Antilleans to the Netherlands, and Puerto Ricans to the US. He attributed this relative difference not to the absence of discrimination against residents of Caribbean origin in France, but to comparatively more robust policies to foster economic integration of this population.

There are several possible mediators that could explain the differential slopes of the education-health gradient across migrant groups. For example, discrimination on the labor market could impact the economic and financial returns that migrants receive for their educational attainment. Prior French audit studies find that migrants with names indicating "foreign" or non-white status are less likely to receive call-backs on job applications (Duguet et al., 2010; Pierné, 2018). If migrants' ability to translate their education into employment or career progression is blocked by racial or ethnic discrimination, this could have downstream effects on health by constraining migrants' ability to access salutary resources or engage healthy behaviors (A. Schulz & Northridge, 2004; Williams & Mohammed, 2013).

Currently, individuals may make formal complaints to several civic bodies to seek redress for their discrimination experiences. Despite high percentages of migrants, and particularly non-white migrants, reporting discrimination experiences, only 7% of migrants in the TEO reported filing official complaints (Beauchemin, Hamelle, Lesné, et al., 2010). If discrimination on the labor market is indeed one explanatory factor in the gap in health returns to education across differently racialized migrants, the low level of discrimination experiences which are addressed by anti-discrimination civic agencies suggests that French governmental responses to discrimination could be strengthened. For example, instead of waiting for individuals to submit complaints, anti-discrimination offices could seek ways to proactively

enforce anti-discrimination regulations on labor and housing markets through "secret shopper" or other approaches.

Stereotype threat, a process tied to the existence of racism, can also impact the benefit of the education individuals receive. Prior study has shown stereotype threat impacts on educational achievement among North African migrant youth in France (Berjot, Roland-Levy, & Girault-Lidvan, 2011; Chateignier, Dutrévis, Nugier, & Chekroun, 2009). Stereotype threat could impact the benefit of education for health behaviors by constraining the information individuals take in during their schooling (Taylor & Walton, 2011). Stereotype threat can also impact educational achievement (Appel, Weber, & Kronberger, 2015) with consequences for economic outcomes such as employment, occupation, and income. However, preliminary evidence already exists to support the use of some interventions to counteract the effects of stereotype threat, such as the use of interventions to boost sense of social belonging (G. M. Walton & Cohen, 2011).

Beyond discrimination's impacts on respondents' learning and labor market returns, disproportionate, chronic experiences of interpersonal or other forms of discrimination could act as a repeated stressor, with sequelae for psychological and physical health outcomes (Lewis et al., 2015).

Overall, this study's findings are suggestive that the effects of racism are detectable even in a context that espouses formal national policies aligned with an ideology of colorblindness (Beaman, 2017). While the French health disparities literature focuses chiefly on differences in health outcomes by socioeconomic status (Noiriel, 1996), this study suggests that race and racism may nuance the association between socioeconomic factors, such as educational attainment, and health. These findings suggest that health interventions should pay particular

attention to racial and ethnic minority groups, who may face additional challenges to their health above and beyond those posed by socioeconomic position.

Findings suggest that interventions that foster educational attainment are likely to be beneficial to the health of all groups. However, this study also suggests that universal educational interventions, alone, will not result in fully equitable health outcomes across racialized migrant groups in France. As described above, prior study suggests that racism may impact the quality of education individuals receive, for example through stereotype threat processes (Berjot et al., 2011; Chateignier et al., 2009; Taylor & Walton, 2011). After individuals complete their education, discrimination may constrain their educational attainment's returns on the labor market (Duguet et al., 2010). Finally, discrimination experiences can directly impact health through physiological and psychological stress processes (Lewis et al., 2015), which may diminish the average health status of groups that are disproportionately exposed to such stressors (Williams et al., 1997).

Addressing each of these mechanisms is recommended to achieve equitable population health outcomes. However, Fundamental Cause Theory suggests that the underlying relationship between racism and health is robust to the elimination of intervening mechanisms (Phelan & Link, 2015). This implies that ultimately, a long-term elimination of such disparities will only be achievable by eliminating the system of valuation and devaluation of populations on the basis of their socially-defined race.

Limitations & Strengths. The data set that this chapter analyzed is cross-sectional; thus, these analyses found evidence for associations between variables, but conclusions regarding causality cannot be drawn. Future studies should analyze longitudinal data with an oversample of

migrants to France in order to move toward an assessment of the causal relationships between educational attainment, racialization and health.

Using region of origin measures to explore associations between health and racialization has limitations. This approach likely misclassifies individuals with regard to racialization in the following ways: Firstly, people who are racialized as white are likely included in groups I identify as likely to be racialized as non-white. This is because migrants from Africa, North Africa, and the overseas departments are not homogenous, and some white people may migrate from these regions. Secondly, people who are racialized as non-white are likely included in control groups which I identify as likely to be racialized as white. This is because European regions are also not homogenous, and some non-white migrants are likely included in those groups. These individuals are statistically invisible in the data set with respect to socially constructed race. Because of this, the results presented here may be conservative estimations of the relationships analyzed.

Finally, this study was unable to include measures of some intersections of identities that are relevant for racism. In particular, religion and race are intimately connected in the French setting, as in the US setting (Galonnier, 2015). However, indicators of religion are redacted from this version of the data set because religious practices and identities are considered sensitive data in the French setting. The intersection of racism and religion, for example through Islamophobia, is currently being theorized in the public health and sociology literatures (e.g. Abdulrahim, James, Yamout, & Baker, 2012; Samari, Alcalà, & Sharif, 2018; Selod & Embrick, 2013). In order to model such intersections in quantitative health studies, theory surrounding the distinctions and overlaps between religious and racial discrimination should be clearly specified.

Future studies should examine the intersection of religion and racialization in the interest of understanding the effects of racism on health outcomes.

Future studies should examine employment, income, and wealth as possible mechanisms mediating the relationships between education, region of origin and health outcomes described here. Specifically, studies should explore whether the differential health returns to educational attainment by migrant group is partially mediated by differential experiences of discrimination with regards to employment, income, and wealth. The role of language proficiency in the health of migrants to France, which was significant in both models in which it was included, deserves further study. Prior French work highlights two possible pathways between language proficiency and health among migrants: the first focuses on healthcare quality and access, and the second focuses on exposure to discrimination and othering (Carde, 2007; D'Halluin, 2015; Musso, 2005; Tabouri, 2009).

Future studies should also examine additional health outcomes beyond SRH, including biological and behavioral markers of health. Health care-relevant measures, such as quality of care and access to care, may also help to determine to what extent these relationships are influenced by factors related to acute care.

Despite these limitations, a strength of this study is its comparison of the education-health gradient across migrant groups. Migration itself may have health consequences (Castañeda et al., 2015) and may drive selection bias as healthier individuals are more able to move (Hamilton, 2015). In this study, such confounding is mitigated by the exclusion of respondents who have not experienced migration, allowing the analysis to focus on the effects of racialization proxied by region of origin. This approach aligns with that of Hamilton (2015) who sought to manage the selection effect of migration on health by comparing US immigrants to US internal migrants.

Finally, this study's approach uses a reasonable proxy for migrants racialized as white and non-white. It pushes the literature to be explicit about the racialized assumptions inherent in analytic groupings such as region of origin that have been used in other analyses (e.g. Jusot et al., 2009). These findings improve on prior work by making implied assumptions about population differences explicit and available for critique, and by incorporating interpretations of health differences across groups that do not default to biological interpretations of race, but rather explore the social process of racism as a determinant of health.

Conclusion. This chapter explored whether the social process of racialization, operationalized using region of origin, is associated with a significant difference in the relationship between educational attainment and self-rated health. Results suggest that migrants who are more likely to be racialized as nonwhite have diminished health returns to their education compared with migrants who are likely to be racialized as white. This work pushes the health literature forward by adding to our understanding of the moderating effect of exposure to racism on the health effects of educational attainment and citizenship for immigrants to France, where quantitative work on racism and health is sparse (Cervulle, 2014; Simon & Jacobs, 2010). Second, the findings added analysis of a non-U.S. context across heterogeneous subpopulations to prior work consistent with theorized relationships between fundamental causes and health. Finally, it contributed to a body of research that explicitly explores social determinants of racial health disparities, with an important unique contribution being its examination of these factors in a state context that attempts to minimize racialized identifiers in state documents. These findings point toward a need to examine processes of racialization and its impacts on migrants, even in a colorblind context such as France. Stronger, more proactive government responses to discrimination on the labor market, and intentional interventions to address stereotype threat in

the classroom, may represent steps to address these findings. However, ultimately, a long-term

elimination of racial disparities will only be achievable by eliminating the system of valuation

and devaluation of populations on the basis of their socially-defined race.

Chapter 3 Citizenship, Language Proficiency, and Racialization Pattern Self-Rated Health Among Migrants to France

"Our acceptance of your request shows that you have sufficiently adopted the way of life and customs of our country, not to the point of completely resembling the French of this land, but nonetheless enough that you feel at ease among us."

--Excerpt of text read by civil servants at ceremonies of reception to French citizenship (text listed in Fassin & Mazouz, 2007, translated to English by A. Omari)

Background

This chapter explores the relationships between citizenship, racialization, language proficiency, and health. Jusot and colleagues (2009) found that both naturalized immigrants and non-citizen immigrant residents in France were more likely than local-born French citizens to report poor self-rated health (Jusot et al., 2009). However, these authors did not test for the specific relationship between citizenship and health in their sample. Prior work suggests that nonwhite French residents may benefit less from their citizenship compared to white French residents (Beaman, 2017), but does not explore health outcomes. This chapter addresses these gaps by more explicitly examining associations between citizenship and health.

Language proficiency may partially explain the relationship between citizenship and health because of naturalization requirements and stigmatization cued by foreign language or accent (Hajjat, 2013; Musso, 2005). Prior literature suggests a role of language proficiency in migrant health in the healthcare context (d'Halluin, 2015; Tabouri, 2009), as well as through increased exposure to discrimination and othering (Musso, 2005) or through barriers to social participation (Ng, Pottie, & Spitzer, 2011). However, prior work has not interrogated the role of language proficiency in the relationship between citizenship and health.

This chapter's analyses show that citizenship has a positive association with better self-reported health. Language proficiency attenuates a main effect relationship between citizenship and health and may be a mechanism of that relationship. Analyses find no evidence for a moderation effect of racialization on the relationship between citizenship and health but do find persistently worse self-rated health among nonwhite migrants regardless of citizenship status.

Citizenship and health. Citizenship may impact health along multiple pathways. Theoretical public health literature points to the role of formal citizenship in immigrant health. Castañeda and colleagues (2015) argue for the consideration of social position as a structural driver of immigrant health, including "examination of the institutional practices and policies that limit rights, resources, and sense of security in navigating everyday life" (p.382). Such rights and resources are framed, in part, by formal citizenship, which provides a legal definition of the rights and duties of citizens (Brubaker, 1992). Two pathways through which formal citizenship may become relevant to health include: through laws and policies that specifically pertain to the rights and duties of citizens versus non-citizens; and through healthcare access that may be bounded, in part, by formal citizenship.

The health relevance of formal citizenship for immigrants is illuminated by empirical work studying the health consequences of policies which aim to surveil, detain, and deport non-citizens (collectively, "immigration enforcement"). While these studies do not necessarily prioritize identifying the effect size of a citizenship indicator on health outcomes, the laws and regulations they study are meant to delineate rights and duties of citizens compared to non-citizens, and thus have implications for the relationship between citizenship and health. For example, Hardy and colleagues (2012) found that an Arizona law criminalizing failure to possess immigration documents proving citizenship or legal residence had immediate impact on health

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behavioral outcomes such as health care utilization. Rhodes and colleagues (2015) reported an

association between immigration enforcement and delayed or inadequate prenatal care among

immigrant Hispanic/Latina mothers. These findings of an association between reduced

healthcare utilization and immigration enforcement among immigrant populations are consistent

with results reported in other studies (Toomey et al., 2014). Deleterious relationships between

immigration enforcement and other indicators of immigrant health have also been identified,

including self-rated health (Lopez et al., 2017) and food security (Potochnick, Chen, & Perreira,

2017).

The dampening effect of immigration enforcement on healthcare utilization described

above may be driven by fear or distrust (L. J. Hardy et al., 2012). However, legal access to

healthcare and/or health insurance coverage may also contribute to a second pathway between

formal citizenship and health outcomes. The relevance of citizenship for healthcare access varies

by national policy (Vignier et al., 2018). Since the end of World War II, all French citizens are

covered by basic, tax-funded public health insurance. Foreign residents who are students,

workers, or the dependent of someone covered under French social security are also automatic

recipients of this public insurance. In 1999, basic public health insurance was expanded to cover

foreign nationals who had previously lacked access, as long as they reside in France for more

than three months. In the same year, public insurance was also extended to low-SES

undocumented immigrants through *l'aide medicale de l'etat* (AME, state medical aide), though

there remain some additional eligibility requirements. Undocumented immigrants' access to

AME lasts for one year and is renewable (Vignier et al., 2018). Basic public health insurance

provided through these programs does not cover all medical procedures, and supplementary

insurance is available in France through private insurers. Supplementary insurance coverage is patterned by socioeconomic status (Vignier et al., 2018).

Assuming that all migrants to France take advantage of healthcare coverage as soon as they become eligible, this policy environment suggests that formal citizenship may be most relevant for the healthcare access of undocumented immigrants, and may impact healthcare access of documented immigrant residents for only a short time (three months). Additionally, formal citizenship may be relevant for the healthcare access of populations who migrated to France before the coverage expansion of 1999. However, access is influenced by more than the formal policy environment.

An understanding of *cultural* citizenship goes beyond the formal protections, rights, and responsibilities that French law describes as equal across all citizens (Beaman, 2017; Brubaker, 1992). Castañeda and colleagues (2015) recommend that researchers investigate the extent to which immigrants are "considered worthy of attention, investment, and care … distinct from formalized entitlements as well as from pragmatic questions of access" (p.383-4). Cultural citizenship may also have implications for immigrants' stress exposure. For example, Philbin and colleagues (2018) note that "state action has symbolic significance, communicating whether or not immigrants are welcome" (p.32), with implications for stress-related health sequelae. These conceptions of cultural citizenship suggest the importance of both 1) the relationship between symbolic actions of the *state* and immigrants' access to care and inclusion, and 2) the impact of discriminatory or welcoming actions of *non-state institutions* and *individual residents* on immigrants' stress exposure.

Racism as a moderator of the citizenship-health relationship. Racism is a system that oppresses and dominates some groups while privileging others (Harrell, 2000). Groups are

identified as subordinated or privileged through racialization, a social process by which cues are used to identify individuals as part of a group, and associate members of that group with stereotypes (Omi & Winant, 2015). In this chapter's analysis, I conceptualize some groups as racialized as white (privileged) and others as non-white (oppressed). Although delineations of privilege and oppression are more complex than this binary understanding (Wilkerson, 2020), this study's analysis is constrained from more nuanced understandings of racial groupings by data limitations in the French context (Simon & Jacobs, 2010).

Research in several contexts suggests that the health benefits of citizenship may be diminished for groups whose members are racialized as non-white (Asad & Clair, 2018; Beaman, 2017; LeBrón et al., 2018; Nichols et al., 2018b, 2018a). Asad and Clair (2018) posit that spillover effects of immigration and naturalization policies constrain the benefits of citizenship for citizen co-ethnics of racial minorities that have been stereotyped as likely to be undocumented. For example, research done in the U.S. has documented that citizen Latinos may be less likely to access public health resources after the threat or implementation of restrictive immigration policies (P. J. Fleming, Lopez, et al., 2019; P. J. Fleming, Novak, et al., 2019; LeBrón et al., 2018; Nichols et al., 2018b, 2018a). This "chilling effect" on individuals who share a racial and/or ethnic group with a population of non-citizens may, in consequence, reduce the strength of a relationship between citizenship and positive health outcomes for racial minorities.

In the French context, sociologist Jean Beaman (2017) used in-depth interviews to examine constraints on the benefits of citizenship for middle-class, racialized French citizens whose parents immigrated from North Africa. Respondents described being continually questioned as to their national origins, being the target of racist statements or insults, and being

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subject to employment and housing discrimination (Beaman, 2017). These findings are suggestive of attenuated benefits of citizenship for individuals racialized as non-white, through rejection of individuals' claims to cultural citizenship: though respondents were native French speakers, born and educated in France, and "felt French," their experiences indicated that they may not have full acceptance into membership in the national community. While Beaman's respondents were not migrants, her findings highlight that individuals' claims to cultural citizenship may be rejected by institutions or by fellow residents on the basis of that individual's perceived race, or even by the state (for example, see this chapter's epigraph), in part through everyday social processes such as stigmatization and discrimination. Extending Beaman's work implies that cultural citizenship may be more accessible to migrants perceived as white, compared to those perceived as non-white.

The question of whether citizenship's health benefits are diminished for migrants perceived as nonwhite has not, to my knowledge, been examined quantitatively in the French context. For example, Jusot and co-authors (2009) found that both naturalized immigrants (i.e., those who entered the country without citizenship and subsequently attained it) and non-citizen immigrant residents were more likely than local-born French citizens to report poor self-rated health. However, the study did not examine whether individuals' racial group made a difference for their health while holding citizenship status constant, leaving a gap in understanding.

Aiming to address this gap, I hypothesized that the strength of the relationship between citizenship and positive health outcomes would be diminished for migrants who are more likely to be perceived as nonwhite.

Citizenship, language proficiency, and health. Language proficiency may mediate the relationship between citizenship and health among migrants for several reasons. Firstly,

minimum French language proficiency requirements are necessary for most immigrants who wish to naturalize. Until 2012, this requirement was assessed by a civil servant at the naturalization office, who evaluated linguistic assimilation with an interview lasting five to twenty minutes (Hajjat, 2013). More recent updates to the language proficiency requirement rules would not apply to this study's sample, since responses were collected in 2008-09.

Language proficiency may also be relevant for health because migrants who have limited French language proficiency or a noticeable accent may be at higher risk of exposure to discrimination and othering. Carde (2007) found that public health insurance administrators reported assessing applicants' "foreignness" when deciding what proof of legal residence to require. This finding indicates that migrants' accent or language proficiency may cue such investigation by state and non-state actors, leading to structural barriers to care, employment, or housing. It may also cue interpersonal discrimination by individuals.

In these ways, migrants who attain or have always had citizenship, yet have limited language proficiency, may not experience full acceptance into the French national community. This denied belonging may impact health through chronic exposure to stressors (Philbin et al., 2018), or through structural barriers to salutary resources (Williams & Mohammed, 2013).

The current study. In this analysis, I investigate the relationship between citizenship and self-rated health among migrants to France. Next, I explore the interaction of citizenship and racialization, and its relevance for self-rated health for immigrants. Finally, based on the literature described above, I examine whether associations between citizenship status and health are attenuated by French language proficiency.

Data

The Trajectories and Origins (TEO) dataset is the result of a study conducted in France in 2008-09 (Beauchemin, Hamelle, & Simon, 2010) which oversampled immigrants and the children of immigrants.

For this analysis, all non-migrant respondents are excluded: "migrant" is defined as any respondent residing in hexagonal France who was born outside of hexagonal France. Included in the analysis are respondents born in Europe outside of France, those born in France's overseas departments, and those born in Africa. Departing from some prior research (Beauchemin, Hamelle, & Simon, 2010), I recognize the migration experience of former European colonists who have repatriated to hexagonal France; these respondents are included in the analysis and grouped with migrants likely to be perceived as white.

Measures

Dependent variable. Self-rated health (SRH) is measured with a single item asking respondents to evaluate their own health on a five-point scale, including "very good," "good," "average," "poor," and "very poor." In studies across a number of national contexts, including France, self-rated health has been shown to be strongly associated with mortality (DeSalvo et al., 2004; Goldberg et al., 2001; Wu et al., 2013).

Independent variables. *Citizenship status* is operationalized with a binary variable indicating whether the respondent has or does not have French citizenship. Although all respondents in the sample migrated, some were born as French citizens, some acquired French citizenship, and some are non-citizen residents of continental France. All respondents with citizenship status, regardless of method or timing of attaining such status, will be compared with all respondents without citizenship status.

Racialization is defined as a social process by which cues are used to identify individuals as part of a group, and associate members of that group with stereotypes (Omi & Winant, 2015). These cues may be visible (e.g. skin color, manner of dress) or non-visible (e.g. place of residence). Omi and Winant (2015) remark that "through a complex process of selection, human physical characteristics ('real' or imagined) become the basis to justify or reinforce social differentiation" (p. 111). In this chapter, I operationalize racialization by using region of origin to make an educated guess about the likelihood that respondents may experience racialization as white or nonwhite. Respondents who were born in any European nation outside of France, and those who are repatriates or French born abroad, are classified as likely to be racialized as white. Respondents who were born in an overseas department (DOM), the Maghreb, or Africa outside the Maghreb are classified as likely to be racialized as non-white.

Groups are collapsed into "white" and "non-white" categories, rather than using raw region of origin dummy variables, in part due to the distribution of citizenship status across the region of origin categories. *Repatriates and French born abroad* is a group completely composed of French citizens by definition. Similarly, all DOM-born migrants, identified as likely to be racialized as nonwhite, are citizens, since the overseas departments form part of the French state. The remaining four groups, (born in the Maghreb, Africa outside the Maghreb, the first fifteen states to accede to the European Union, or the ten states to accede to the EU in 2004, respectively), include a mix of citizens and non-citizens (Table 3.1).

Table 3.1. Region of origin groups used to designate white and nonwhite racialization groups. Citizenship status varies across the groups as shown.

	Racialization Group	
White		*Non-white*

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Citizen	• Repatriates & French born abroad • Some migrants born in Europe	• DOM-born migrants • Some migrants born in Africa outside the Maghreb • Some migrants born in the Maghreb
Non-citizen	• Some migrants born in Europe	• Some migrants born in Africa outside the Maghreb • Some migrants born in the Maghreb

There are both disadvantages and advantages to this collapsed approach. For example, understanding racialization as a social process, the approach described here obscures nuances in the racialization of migrants from different regions of origin. Collapsing migrants from varying regions of origin into two groups implies that, for example, being born in the Maghreb has the same social significance as being from Africa outside the Maghreb *and* being from a DOM. We know from qualitative work that these groups may have different social experiences (see for example C. M. Fleming, 2017). Similarly, it implies that being a migrant from Western Europe (the EU15 group encompasses mostly western European nations) has the same social significance as being a migrant from eastern Europe (the EU04 group encompasses mostly eastern European nations). Yet social discourse has treated these groups as distinct; for example, Geddes and Scholten (2016) describe that the inclusion of central and eastern European member states into the European free movement space triggered debate in France on whether these new migrants would depress wages in France. These debates sometimes referenced migrants from central and eastern Europe with the phrase "social dumping," suggesting the possibility of stigmatization of such migrants upon their arrival.

Despite these challenges, this approach makes my assumptions about racialization explicit in the model, allowing me to directly test the hypotheses described above. Collapsing the region-of-origin groups also allows me to include repatriates and DOM-born respondents in the model without encountering statistical problems due to collinearity with a citizenship variable.

Finally, *French language proficiency* is measured in this study using a combined score across four items measuring self-reported proficiency in comprehension, speaking, writing, and reading the French language. This measure's maximum score (three) indicates very good French language proficiency, and its minimum score (zero) indicates that the respondent has no French language abilities at all. DOM-born migrants and repatriates were not assessed for this item, likely because both groups are understood to use French as a native language. Thus, respondents in these groups were assigned a score of three.

Control variables. *Age* is measured as a continuous variable (range: 18-50). *Gender* is measured as a binary variable (women = 1; men=0) in this dataset.

Because citizenship status may be attained by naturalization, and because naturalization can be a lengthy process, the association between citizenship status and health may be confounded by the length of time a migrant has spent in France. *Years since arrival* is a continuous measure of the number of years since the respondent's arrival in hexagonal France. Because overseas departments are considered to be part of the French nation, this item was not collected for DOM-born respondents; thus, this indicator is missing for all DOM-born respondents.

Analysis

To investigate the research questions of this chapter, a set of nested logistic regression models were specified using Stata 16.0.

To test for the main effect association between citizenship status and SRH (Research Question 3A), model 1 regressed *citizenship status* and *racialization* variables on SRH, controlling for *age* and *gender*. Model 2 assesses whether this relationship is robust to adjustment for *years since arrival* in continental France.

To assess differential health returns to citizenship status by racialization group (Research Question 3B), model 3 assesses whether *racialization* moderates the relationship between *citizenship status* and SRH after controlling for covariates. To this estimation, model 4 adds an indicator of the number of years since arrival in continental France (*years since arrival*) to assess whether coefficients' magnitude and significance are robust to adjustment for this control.

To explore whether language proficiency attenuates the relationship between citizenship status and health (Research Question 3C), model 5 adds a *French language proficiency* indicator to model 2, and the magnitude of the citizenship variable before and after this addition was assessed.

Results

Table 3.2 presents descriptive statistics for the sample, stratified by racialization group. The sample is skewed toward better self-rated health, with 83.1% reporting very good or good self-rated health. The average age of respondents is 37.4 years. White migrants are slightly older than non-white migrants (mean age of 39.5 versus 36.6, respectively). More respondents are in the nonwhite racialization group (70.4%) compared to the white racialization group (29.6%). 52.5% of migrants are citizens. A higher percentage of nonwhite migrants are citizens (51.8%) compared with white migrants (37.4%). Migrants have spent an average of 18.4 years in France. White migrants have slightly higher mean years since arrival (22.8 years) compared with

nonwhite migrants (16.2 years). Finally, the sample has a relatively high level of French language proficiency, with a mean score of 2.2 out of 3.

Table 3.2. Descriptive statistics for the full sample, and for the sample stratified by racialization group. Asterisk indicates significant difference between the racialization groups using a two-tailed t-test or proportion test as appropriate.

		Racialization Group		
Measure	*Full sample*	*White*	*Non-white*	
		29.6	70.4	
"Very good" or "good" self-rated health (%)	83.1	84.5	82.6	
Women (%)	52.1	54.9	50.9	*
Age (mean)	37.4	39.5	36.6	*
Citizens (%)	52.5	37.4	51.8	*
Years since arrival in France (mean)	18.4	22.8	16.2	*
Language proficiency (mean)	2.2	2.2	2.2	

Research Question 3A: To what extent is citizenship associated with self-rated health for migrants to France? After adjusting for age, gender, and racialization group, citizenship was significantly associated with very good or good self-rated health (Table 3.3, model 1). In this model, migrants with citizenship had 1.3 (p<0.01) times better odds of reporting very good or good self-rated health compared with non-citizen migrants. Model 2 shows that this relationship is robust to adjustment for years since arrival.

Table 3.3. Nested logistic regression models predicting likelihood of reporting very good or good self-rated health based on racialization group and controls. Odds ratio estimates and 95% confidence intervals are reported. Bolded coefficients indicate a p-value<0.05.

	Model 1 OR (95% CI)	Model 2 OR (95% CI)
Citizenship (non-citizen ref.)	**1.3** (1.1, 1.5)	**1.4** (1.2, 1.7)
Nonwhite (white ref.)	**0.68** (0.57, 0.81)	**0.64** (0.53, 0.76)
Woman (men ref.)	**0.65** (0.56, 0.76)	**0.62** (0.53, 0.73)
Age	**0.94** (0.93, 0.95)	**0.94** (0.93, 0.96)
Additional controls		

Years since arrival		**0.99** (0.98, 1.0)

Research Question 3B: To what extent does racialization moderate the relationship between citizenship and self-rated health for migrants to France? Results reported here do not provide evidence for moderation of the citizenship-health relationship by racialization group; the interaction terms in model 3 (0.89, $p=0.535$) and model 4 (0.82, $p=0.294$) (Table 3.4) are non-significant.

Figure 3.1 plots the marginal effect of citizenship status on the probability of reporting better health. In this case, marginal effects are the predicted change in the dependent variable, given a change in the independent variable, after accounting for all covariates included in model 4 (StataCorp, 2019). Plotted marginal effects in Figure 3.1 represent the predicted change in the probability of reporting better self-rated health for each racialization group, given a change in citizenship status. Figure 3.1 shows that the slopes (change in probability of reporting better health) are similar for white and nonwhite migrants. However, the health of groups racialized as nonwhite is consistently poorer than those racialized as white across both citizenship statuses.

Table 3.4. Nested logistic regression models predicting likelihood of reporting very good or good self-rated health based on racialization group, the interaction between racialization and citizenship, and controls. Odds ratio estimates and 95% confidence intervals are reported. Bolded coefficients indicate a p-value<0.05.

	Model 3 OR (95% CI)	Model 4 OR (95% CI)
Citizenship (non-citizen ref.)	**1.4** (1.0, 1.9)	**1.6** (1.2, 2.3)
Nonwhite (white ref.)	**0.71** (0.57, 0.88)	**0.68** (0.54, 0.85)
Woman (men ref.)	**0.65** (0.56, 0.76)	**0.62** (0.53, 0.73)
Age	**0.94** (0.93, 0.95)	**0.94** (0.93, 0.96)
Interaction term		
Nonwhite*citizenship	0.89 (0.63, 1.3)	0.82 (0.57, 1.2)

Additional controls		
Years since arrival		**0.99** (0.98, 1.0)
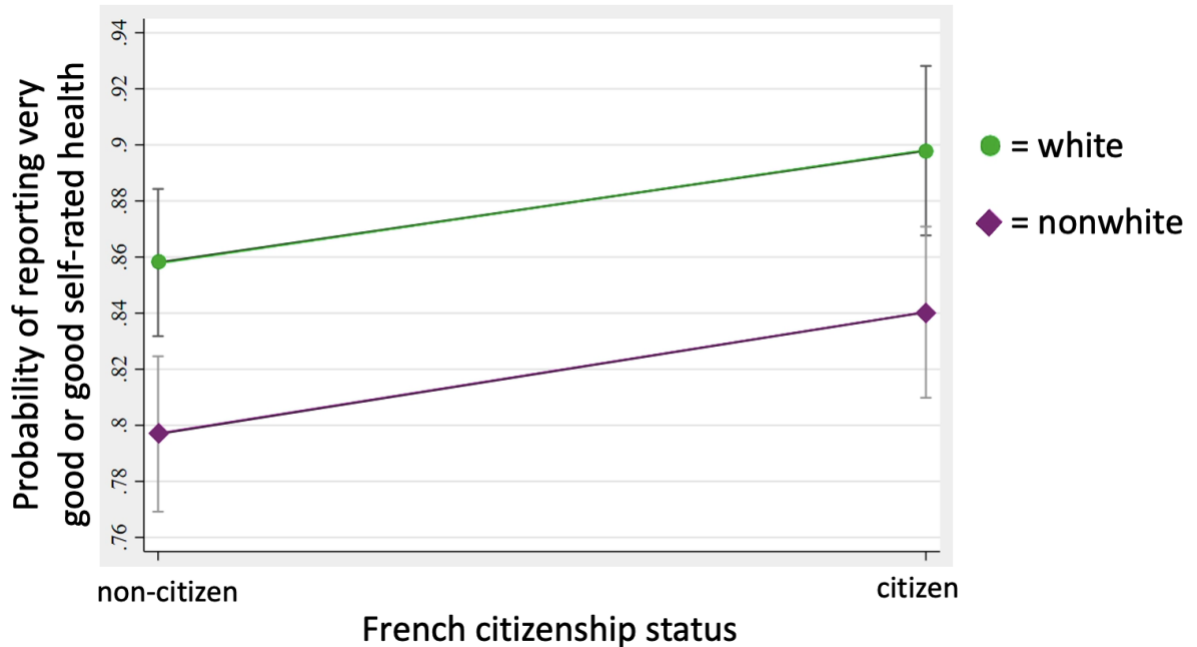
Figure 3.1. Average marginal effect of citizenship status, by racialization group, on the probability of reporting good or very good self-rated health after controlling for all covariates in model 4.

Research Question 3C: To what extent does French language proficiency attenuate the relationship between citizenship status and self-rated health for migrants to France? Comparing model 5 to model 2 (Table 3.5) shows that the addition of a French language proficiency indicator to the model slightly attenuates the relationship between citizenship and self-rated health. A formal test of indirect effects (data not shown) reveals a significant indirect pathway from citizenship to self-rated health through language proficiency (Hicks & Tingley, 2011; Imai, Keele, & Tingley, 2010).

Table 3.5. Nested logistic regression models predicting likelihood of reporting very good or good self-rated health based on racialization group, citizenship, language proficiency, and controls.

Odds ratios and 95% confidence intervals are reported. Bolded coefficients indicate a p-value<0.05.

	Model 2 OR (95% CI)	Model 5 OR (95% CI)
Citizenship (non-citizen ref.)	**1.42** (1.2, 1.7)	**1.38** (1.1, 1.8)
Nonwhite (white ref.)	**0.64** (0.53, 0.76)	**0.63** (0.51, 0.79)
Woman (men ref.)	**0.62** (0.53, 0.73)	**0.74** (0.60, 0.91)
Age	**0.94** (0.93, 0.96)	**0.95** (0.93, 0.97)
Years since arrival	**0.99** (0.98, 1.0)	**0.97** (0.96, 0.99)
French language proficiency		**1.37** (1.2, 1.6)

Discussion

This chapter's analysis showed that citizenship has a positive main effect on the self-rated health of all migrants. An interaction between racialization and citizenship was not significant, meaning that this analysis did not find evidence for a moderation effect of racialization on the relationship between citizenship and self-rated health. The relationship between citizenship and self-rated health was attenuated by the addition of a measure controlling for French language proficiency, suggesting that language proficiency may explain part of the relationship between citizenship and self-rated health.

Both race and linguistic characteristics can be markers of "otherness" (Omi & Winant, 2015) that may shape the potential benefits of citizenship for migrants. While these analyses did not see a significant interaction between racialization and citizenship, there is a persistent, significant health disadvantage associated with racialization as nonwhite. The benefits of citizenship for all migrants appear to be attenuated when language proficiency, another marker of "otherness," is entered into the model. Overall, these findings suggest that stigmatization, marginalization, and discrimination may occur based on characteristics other than racialization

(as defined in these models using region of origin) and raises questions about the extent to which language may be another cue that is used to mark or even racialize migrants.

With these ideas in mind, future research should seek to more explicitly theorize and define citizenship's distinct dimensions, discussed further below. This will facilitate future research into how citizenship functions with respect to racialization, language proficiency, and health.

Citizenship's main effect association with health. The finding that citizenship has a significant main effect association with self-rated health aligns with prior empirical (Campbell et al., 2012; Jones et al., 2014) and theoretical (Castañeda et al., 2015; Philbin et al., 2018) work indicating that citizenship may be associated with better health.

These findings may be driven by factors relevant to one or both dimensions of citizenship defined by the literature. The first is formal citizenship, which Brubaker (1992) defines as a legal relationship between an individual and a state, entailing both rights and responsibilities. The second is cultural or substantive citizenship, which concerns "the extent to which those who enjoy the formal legal status of citizen may or may not enjoy rights that ensure effective membership in a national community" (Lem, 2013, p.144). In this way, formal citizenship is defined by a set of state protections and benefits, while cultural citizenship is defined by access to substantive belonging in a national community.

Each of these conceptions of citizenship may have a main effect relationship to health outcomes that could drive the findings seen in this chapter. Theoretical (Castañeda et al., 2015) and empirical (L. J. Hardy et al., 2012; Rhodes et al., 2015; Toomey et al., 2014) public health literature points to the role of formal citizenship in migrant health. This chapter's finding that citizenship has a positive association with health could be due, in part, to formal citizenship

because of language requirements upon naturalization (Hajjat, 2013) or because of increased access to healthcare benefits over the duration of time since arrival in France (Vignier et al., 2018).

Cultural citizenship is also referenced in the public health literature as an important consideration for migrant health researchers (Castañeda et al., 2015; Philbin et al., 2018). For example, despite a health insurance system that is broadly generous to non-citizens (Nay et al., 2016), access to health care and health insurance for immigrants to France is less straightforward in practice. Sargent and Kotobi's (2017) qualitative investigation documents the difficulties immigrants from North Africa, Eastern Europe, and West Africa experience while attempting to access health care. Carde (2007) reported discriminatory practices among administrators who manage individuals' health insurance coverage applications. Some administrators interviewed in the study reported seeking proofs of legal residence above and beyond those required by law when they guessed that an applicant may be of foreign origin.

Bureaucratic, language, or other access barriers relevant to cultural citizenship may help to explain why healthcare utilization rates are lower among immigrants to France compared to "French-born French" residents (Berchet & Jusot, 2012) despite relatively good access to healthcare insurance coverage. If the citizenship indicator in the model captures cultural citizenship to some extent, this could help explain why citizenship had a significant, positive association with better self-rated health in this chapter's analysis.

However, marginalization or rejection of migrants' claims to cultural citizenship have been shown to be closely linked to race and ethnicity in France, as they are in the U.S. (Beaman, 2017). In this way, rejection of cultural citizenship claims may overlap with othering and discrimination that can occur as part of a racialization process that identifies a group as

subordinate (Omi & Winant, 2015). The study's test of moderation of the citizenship-health relationship is discussed next.

Citizenship, racialization and health. Despite prior work suggesting that racialization as nonwhite may diminish the health benefits of citizenship (Asad & Clair, 2018; Campbell et al., 2012; Castañeda et al., 2015; Miranda et al., 2017; Toomey et al., 2014), this study did not find evidence for a moderation effect of racialization on the citizenship-health relationship. However, groups racialized as non-white reported significantly and consistently poorer self-rated health regardless of citizenship status. These findings may be due to one or more of several factors.

It is possible that citizenship's benefit for the self-rated health of migrants to France truly does not vary by racial group. If this were the case, policy and practice would still need to confront and address the persistently worse health among nonwhite migrants compared to white migrants across both citizenship statuses (see Figure 3.1).

Secondly, it is possible that the racialization variable that this study used is too misclassified to capture a significant interaction effect. Because I created a racialization variable based on migrants' region of origin, some individuals are likely to be misclassified into the white and nonwhite groups. This means that migrants who are unlikely to experience racialization and racism may be included in the "white" group, and vice versa. Future studies could explore this possibility by collecting data in which respondents self-identify the racial identity by which they are most likely to be perceived, which may reduce misclassification across the groups. This type of data may be difficult to collect in the current policy environment (Simon & Jacobs, 2010).

Finally, it is also possible that the citizenship variable that this study used (a binary measure of whether or not the respondent had French citizenship) did not capture dimensions of citizenship that would be likely to be moderated by social racialization processes. If this measure

failed to capture dimensions of cultural citizenship, *and* if racialization processes are relevant for cultural citizenship rather than formal citizenship, then this moderation relationship would've been undetectable in this study. If this is the case, this study's findings would suggest that formal citizenship is relevant for health to a similar extent across racial groups among migrants to France. However, further study which specifically measures these subdimensions of citizenship is necessary in order to substantiate or refute this claim.

Overall, since citizenship was beneficial for migrants racialized as white and non-white to a similar extent, this chapter's findings suggest that expedited pathways to citizenship could benefit the health of all migrants. While such pathways would be beneficial for all, this chapter did not find evidence that they would reduce health disparities between differently racialized migrants; other, targeted interventions may be necessary to achieve equitable health outcomes across these groups.

Language proficiency. Since racialization is a social process driven by cues (Omi & Winant, 2015), language may play a role in whether migrants' claims to cultural citizenship are accepted or rejected by the people and institutions in their country of destination.

The addition of a French language proficiency indicator into the model partially attenuated the relationship between citizenship and self-rated health among migrants. This finding suggests that language proficiency may explain part of the relationship between citizenship and health. The significance of language proficiency in the model aligns with prior findings showing significant relationships between language skills and health (Gee & Ponce, 2010; Kandula, Lauderdale, & Baker, 2007; Ng et al., 2011). The role of language proficiency in the health of migrants to France deserves further study; here, I discuss prior work on the

relationship between language proficiency and health. Then, I propose possible explanations for the role of language proficiency in a citizenship-health relationship.

Prior French work highlights two possible pathways between language proficiency and health among migrants: the first focuses on healthcare quality and access, and the second focuses on exposure to discrimination and othering.

In her piece parsing through factors influencing the health of immigrants to France, Musso (2005) posits that limited language proficiency may pose challenges to accessing adequate care. In her qualitative study of aging immigrant populations in Nantes, France, d'Halluin (2015) describes barriers to healthcare access, including limited language proficiency and the insufficient availability of medical interpreters, alongside the complexity of navigating the healthcare and health insurance systems. Tabouri (2009) corroborated this view in her work arguing that professional medical interpreters are underused in French medical care. She reports that providers often rely on "interpreters of convenience," such as the patient's family members, neighbors, or even children, instead of making use of professional medical interpreters. This may be detrimental to healthcare access because patients or interpreters of convenience may constrain what they say out of embarrassment or insufficient knowledge of medical terminology translations. Interpreters of convenience may also degrade doctor-patient confidentiality, harming the quality of communication between the two parties.

These qualitative French findings relevant to healthcare access and quality are corroborated by quantitative investigations in other national contexts. Lebrun (2012) found that in general, immigrants with lower official language proficiency in Canadian and U.S. samples showed lower rates of healthcare utilization compared with those with better language proficiency. Brodie and coauthors (2014) analyzed a patient experience survey, finding that

South Asian patients in England reported worse doctor-patient communication than did their white British counterparts, and that language used at home partially explained this relationship.

Language proficiency may influence health through factors related to contexts outside the healthcare setting; such explanations are consistent with a cultural citizenship and social determinants of health framing. Musso (2005) argues that limited French language proficiency may expose immigrants to othering, including exposure to xenophobia and discrimination across multiple contexts. In a longitudinal study of immigrants to Canada, Ng and colleagues (2011) found that proficiency in one of two Canadian official languages (English and French) was associated with better self-rated health. This result was robust to controls for both pre- and post-migration conditions, including living standard in the country of origin, motivation for immigration, education at entry, visible minority status (e.g. non-white skin color), economic problems, barriers to health care, social isolation, and discrimination experiences. Immigrants whose language proficiency was low on arrival, and which remained low during their first four years in Canada, were more likely to report a significant decline in health over that period. The authors posit that language proficiency may act on health by limiting economic opportunities in the country of destination, creating a barrier to health care access, and/or limiting access to social participation.

In a cross-sectional U.S. study, Gee and Ponce (2010) found that limited English language proficiency was associated with worse self-rated health among Chinese, Korean, and Vietnamese Americans. Racial discrimination among these groups was also associated with poorer health, and while the authors posited that a noticeable accent may trigger discrimination, they did not test a mediation or moderation relationship between these factors. The authors posited that language proficiency may affect health through decreased quality of care, barriers to

employment, and stress. In contrast to this structural interpretation, Kandula and co-authors (2007) used similar results to offer an individual-level explanation for language proficiency-health associations: while they also found that limited English proficiency was associated with poorer self-rated health among an ethnically diverse sample of Hispanic and Asian Americans, they interpreted this result as signaling differences in health perceptions across languages rather than indicating any "true" relationship between language proficiency and health.

This body of prior work aligns with this chapter's finding of a significant main effect of French language proficiency on the self-rated health of migrants to France. Additional work is needed to identify whether one or several of the proposed mechanisms explain why language proficiency is significantly associated with better self-rated health.

Language proficiency may mediate the relationship between formal citizenship and health because of minimum French language proficiency requirements necessary for immigrants who wish to naturalize (Hajjat, 2013). This explanatory pathway would be relevant for only a subset of the respondents in the sample. Repatriates, French born abroad, and DOM-born migrants all have access to French citizenship from birth. There also exist some cases that automatically exempt individuals from having to prove the minimum language proficiency: refugees, stateless persons, elderly persons, and persons with physical disabilities may be exempted from the language requirement (Hajjat, 2013). Language proficiency may also be relevant for health because migrants who have limited French language proficiency or a noticeable accent may be at higher risk of exposure to discrimination and othering (Carde, 2007; Musso, 2005).

Future studies may be able to empirically explore these pathways by constructing and examining variables that group respondents based on the route by which they attained French

citizenship. If language proficiency significantly explains health advantages among those who naturalized after proving minimum French language proficiency, this would suggest that 1) formal citizenship is a distinctly important variable for health and that 2) language proficiency mediates the relationship between formal citizenship and health.

To address the role of language proficiency in population health patterns, increasing the accessibility of language courses to migrants could be an intervention avenue to explore. Similarly, increasing the availability of proficient medical translators may also reduce the challenges of doctor-patient communication for migrants with low language proficiency. However, if language is associated with health because accents or low language proficiency expose migrants to xenophobia or discrimination, social interventions may be more fruitful; community groups to foster social cohesion across neighbors may be one intervention to explore.

Limitations & strengths. The data set that this chapter analyzed is cross-sectional; thus, these analyses found evidence for associations between variables, but conclusions regarding causality cannot be drawn. Future studies should draw on or collect longitudinal data with an oversample of migrants to France in order to move toward an assessment of the causal relationships between health, citizenship, language proficiency, and racialization.

Using region of origin to group respondents by likely racialization experience has limitations, which were explored in the *Measures* section, above. Future studies should aim to access more nuanced data regarding the racialization experiences of respondents in order to more accurately explore the impact of the social process of racialization on the relationship between social factors such as citizenship and health outcomes.

A strength of this study is its comparison of the citizenship-health gradient across migrant groups. Migration itself may have health consequences (Castañeda et al., 2015). In this study,

such effects are mitigated by the exclusion of respondents who have not experienced migration, allowing the analysis to focus on the effects of racialization proxied by region of origin.

Future studies should further explore the role of language proficiency in the health of migrants, including possible mechanisms explaining that relationship, such as healthcare access, quality, and utilization, as well as discrimination exposure. Given the possible role of discrimination and othering in the relationship between language proficiency and health, future studies should examine whether the relationship between language proficiency and health differs across racial groups. Sense of belonging and sense of well-being may also be fruitful areas to study, given the theoretical literature's suggestion that cultural citizenship may be linked to these factors.

The health literature on citizenship could use clearer guidance from theory and empirical work, including the development and validation of measurable proxies for cultural citizenship. Specifically, if studies could explicitly disentangle the constructs of formal citizenship from cultural citizenship, and their effects on health, policy prescriptions may become clearer. For example, if the rights and benefits of formal citizenship are not being met for immigrants in general or for specific subgroups of migrants, a legal remedy may be possible. However, if citizens' formal rights and benefits are technically in place, while claims to cultural citizenship and realized membership in the national community are withheld, as may be the case for racially marginalized migrants, solutions may need to extend across levels of the socio-ecological model (Bronfenbrenner, 1979) to encompass policies, non-state institutions, communities, and individuals.

Concluding Comments. This chapter investigated the relationship between citizenship and self-rated health among migrants to France, the interaction of citizenship and racialization

and its relevance for self-rated health for immigrants, and whether associations between citizenship status and health are attenuated by French language proficiency. Analyses found evidence that citizenship has a positive main effect on the self-rated health of all migrants, and that the relationship between citizenship and self-rated health was attenuated by the addition of a measure controlling for French language proficiency. These results point toward the need for further study of the relationship between language proficiency and racialization in the context of migrant health, and toward studies clarifying the distinct health relevance of formal versus cultural citizenship. Findings suggest that smoothing pathways to citizenship, increasing language proficiency training accessibility, and social cohesion interventions may be indicated to benefit population health, though targeted interventions may be necessary to reduce health disparities across differently racialized migrants. However, ultimately, the system of racism must be eliminated in order to achieve long-term elimination of racial disparities.

Chapter 4 The Role of Discrimination in the Education-Health Gradient Among Racialized Migrants to France

Background

In light of prior work in the extant literature (e.g. Masters, Link, & Phelan, 2015) and in this dissertation (see Chapter 2) suggesting that racialization may moderate the relationship between educational attainment and health among migrants to France, a logical next question is what explains this moderation relationship. The systematic and disproportionate exposure to discrimination experiences among people of color may be one social process that explains why race shows associations with health, and why race may moderate the relationship between educational attainment and health. This chapter asks whether discrimination explains the role of racialization in the education-health gradient among migrants to France. In order to conduct this analysis, this chapter first psychometrically validates a discrimination scale in the French context.

Boulogne and colleagues (2012) offer theoretical arguments for understanding discrimination as a significant predictor of immigrant health outcomes. Cognet and colleagues (2012) provide some empirical support for this association, reporting that discrimination, assessed using a single-item measure, was significantly associated with health in the French context. However, multiple scholars (Krieger et al., 2005; Shariff-Marco et al., 2011) suggest that discrimination is multifaceted, and argue that a multidimensional indicator is likely to more completely capture this construct. This chapter leverages the rich discrimination data available in

the TEO to psychometrically validate a discrimination scale in the French context for a diverse population of migrants.

This scale can then be used to explore whether a reliable, valid, and multidimensional measure of discrimination experiences plays a role in the relationship between race and other social determinants of health and may provide a better estimate of these relationships than a single-item measure (Baugh, 2002; Pieterse, Todd, Neville, & Carter, 2012). Because there is evidence that the relationship between education and health may differ by racialization among migrants to France, I explore whether such differences can be explained in part by exposure to discrimination experiences.

Education-health gradient & discrimination as a mechanism of the moderation. A positive relationship between health and educational attainment is one of the most consistent findings in the health and social sciences (Conti et al., 2010), most often referred to as the *education-health gradient*. Prior work on education and health in France and Europe overall have replicated the education-health gradient whereby educational attainment is associated with better health outcomes (Etilé, 2014; Etilé & Jones, 2011; Pampel et al., 2015; Präg et al., 2017). Yet, related to Frohlich and Potvin's (2008) "vulnerable population" approach, there may be factors that modify the extent to which some social groups realize the positive health benefits of education.

Empirical work by Masters and colleagues (2015) investigates these complications, showing that the relationship between education and multiple preventable health outcomes has weakened or stagnated over time for U.S. racial/ethnic minorities, while overall these gradients have become stronger over time for U.S. whites. Walsemann and colleagues (2013) review additional empirical evidence that the education-health gradient is weaker and sometimes absent among US population groups other than white men.

This idea is supported in the European context by literature on the educational and labor market trajectories of immigrants. In a high-quality, multi-national, longitudinal study of migration, education, and labor trajectories between Africa and Europe, Castagnone and colleagues (2015) show that African immigrants to several European countries have a "severe worsening" in occupational status post-migration, followed by a "slow occupational recovering during the first 10 years of stay in Europe" (p.201). Gosselin and co-authors (Gosselin et al., 2018) found that almost all immigrants to France from sub-Saharan Africa "go through a long period of insecurity and social hardship" (p.21) in their country of destination, even though many immigrants in this population are highly educated.

There are several hypotheses attempting to explain why the education-health gradient is observed to be weaker for groups racialized as non-white. Structural factors such as segregation (Darling-Hammond, 2007; Goldsmith, 2009; Siegel-Hawley, 2013), or interpersonal or cultural factors such as exclusionary discipline (R. J. Skiba et al., 2002; Russell J. Skiba et al., 2014) and stereotype threat (Steele, 2010), may act to diminish such groups' educational attainment compared to whites. After individuals finish their schooling, their educational credentials may not translate to the same likelihood of employment or level of income compared to those with more privileged racial identities (Pierné, 2013, 2018; Quillian et al., 2017; Silberman & Fournier, 2006), with consequences for health outcomes. In this chapter I examine the proposal that a multidimensional measure of discrimination experiences may operationalize some of these mechanisms by examining the extent to which respondents have experienced housing, employment, interpersonal, and other types of discrimination. This measure is then used to assess the extent to which discrimination experiences can explain the blunted protective association between educational attainment and health among non-white migrants.

Prior operationalizations of discrimination. In France, the relationship between discrimination and health has, to my knowledge, only been quantitatively studied using a single-item measure of perceived discrimination experiences in the past five years (Cognet et al., 2012). However, in a meta-analysis of the relationship between racial discrimination and health in the US, Carter and colleagues (2017) found that the strategy used to measure racial discrimination significantly moderated the effect size, with single-item measures yielding a smaller effect size than multi-item scales. These authors reviewed psychometrics literature indicating that the diminished instrument reliability of a single-item measure could result in an underestimation of the effect size of racial discrimination on health (Baugh, 2002; Pieterse et al., 2012). By definition, tests with a larger number of items have higher internal consistency reliability, as long as all items are parallel (in other words, the additional items measure the same underlying construct) (Furr & Bacharach, 2014). These findings indicate that not only might the single-item measure used in the French literature lack reliability, but it also may underestimate the impact of discrimination on health outcomes.

Self-reported discrimination scales developed by prior literature in settings outside France (Lewis et al., 2015) aim to measure perceptions of discrimination that are: a) understood to trigger stress response; and b) understood to indicate exposure to structural or institutional racism (Williams & Mohammed, 2013). Chronic exposure to discrimination stressors is indicated by reports of "everyday" discrimination experiences that happen recurrently, and this type of measure often focuses on instances of interpersonal discrimination (Williams et al., 1997). Acute discrimination questions assess unfair treatment in areas such as education, employment, housing, among others (Krieger et al., 2005; Williams et al., 1997). These questions aim to assess individual experiences that resulted from conditions of structural and

institutional racism and that may shape health trajectories through their structural implications. While individuals may not be aware of the full range of impacts of institutional and structural racism on their lives (Williams & Mohammed, 2013), such subjective measures have nonetheless been repeatedly associated with a variety of health outcomes (Lewis et al., 2015).

Latent variable approach to a discrimination scale. As is the case with any survey, discrimination scales are imperfect measures of respondents' experiences, with potential for systematic bias linked to perception or social desirability (Krieger et al., 2005; Lewis et al., 2015). Thus, scales derived from survey data measure experiences that respondents perceive, remember, and report. In particular, structural racism or discrimination may be difficult to evaluate using survey measures (Shavers et al., 2012).

In light of these measurement challenges, the level of discrimination a person actually experiences is not observable using standard survey measurement approaches. A latent variable score may improve the utility of the scale by using responses to multiple items to identify a score that is indicative of the respondent's overall level of discrimination experiences (Furr & Bacharach, 2014; Krieger et al., 2005). Thus, this study conducts exploratory and confirmatory factor analysis to develop a discrimination latent factor score for each respondent using a discrimination scale composed of a set of items intended to measure the single latent construct of discrimination.

A latent variable approach also offers methodological opportunities such as allowing for differential item functioning (DIF) analysis to assess whether the scale is comparable across relevant subpopulations. If DIF is ruled out, this would provide evidence to support the comparability of subpopulations in quantitative analyses of the relationship between discrimination and health. Thus, after completion of exploratory and confirmatory factor

analysis, this study assesses differential item functioning within the scale by relevant exogenous variables including gender and race.

Concurrent evidence of validity. Concurrent evidence of validity assesses the extent to which a measure is associated with a construct it is theorized to predict, in a case in which both constructs are measured at the same time (West & Beckman, 2018). The data used in the analysis presented here are cross-sectional and as such longitudinal assessments are not possible; thus, predictive evidence of validity is not measurable using this data set. Because discrimination is theorized to negatively affect self-rated health (Krieger et al., 2005; Lewis et al., 2015), this chapter assesses the extent to which respondents' discrimination latent factor scores are associated with self-rated health. Because individuals racialized as non-white are understood to experience a disproportionate number of discrimination events compared to individuals racialized as white (Keyes, 2009), this chapter also assesses the extent to which respondents' discrimination latent factor scores are correlated with nonwhite racial group. Since racial identifiers are unavailable in the French context, respondents' white or nonwhite status is estimated using their region of origin.

Reliability. The reliability of a test refers to the proportion of the variance in observed scores that is due to the variance in "true," underlying amount of construct being measured, rather than being due to measurement error (Furr & Bacharach, 2014; Streiner, 2003). Because "true" scores of latent constructs are unobservable, it is impossible to know the true reliability of a test. There are several approaches to reliability estimation. For example, test-retest reliability estimation asks the same sample of respondents to respond to the same survey test at two different times, and then calculates the correlation between the two tests (Furr & Bacharach,

2014). This approach is unavailable for the purposes of this study, due to the cross-sectional nature of the data.

A second approach to reliability assessments, which is feasible with this study's discrimination scale, is estimation of internal consistency reliability. The most common method of calculating internal consistency reliability is the coefficient alpha, or Cronbach's alpha, which uses the variance of the overall test score, the sum of the covariances across the test items, and the number of the items on the test to calculate an estimate of internal consistency (Furr & Bacharach, 2014). When all items are dichotomous, the Kuder-Richardson 20 formula is often used in place of the Cronbach's alpha (Furr & Bacharach, Streiner 2003). This study's items are categorical with some dichotomous and some ordinal outcomes. There is some debate in the psychometrics literature for a formula to measure internal consistency for latent factors that rely on combinations of such items (Raykov & Marcoulides, 2011). Many researchers use Cronbach's alpha or omega total to estimate reliability despite such methodological concerns by assuming categorical indicators may approximate continuous measures. I offer an estimate of internal consistency by calculating the omega total, which McNeish (2018) describes as a more general form of the Cronbach's alpha that does not require as many strict assumptions as the latter.

Data

The Trajectories and Origins (TEO) dataset is the result of a study conducted in France in 2008-09 (Beauchemin, Hamelle, & Simon, 2010). The study oversampled immigrants and the children of immigrants.

For this analysis, all non-migrant respondents are excluded: "migrant" is defined as any respondent residing in continental France who was born outside of continental France. Included

in the analysis are respondents born in Europe outside of France, those born in France's overseas

departments, and those born in Africa. Departing from some prior research (Beauchemin,

Hamelle, & Simon, 2010), I recognize the migration experience of former European colonists

who have repatriated to hexagonal France; these respondents are included in the analysis and

grouped with migrants likely to be perceived as white.

To conduct a psychometric analysis of a discrimination scale, I split the respondents into

two random subsamples using Stata 16.0. The first random subsample was used to run an

exploratory factor analysis (EFA), and the second random subsample was available for

confirmatory factor analysis (CFA) to confirm results from the EFA. The second random

subsample was also used to test for DIF across relevant exogenous variables. Table 4.1 describes

sample sizes in each random subsample by racialization group.

Finally, to test for evidence of concurrent validity and to explore the role of

discrimination in the relationship between education and health, I will use the full sample of

migrants to France (N=4,946).

Table 4.1. Samples sizes by racialization group in each random subsample of the TEO.

Racialization group	Subsample 1 (EFA)	Subsample 2 (CFA)	Total
Nonwhite	1724	1760	3484
White	749	713	1462
Total	2,473	2,473	4,946

Measures

TEO data include a rich set of discrimination-related items similar to items in commonly-

used scales in the anglophone literature such as the Experiences of Discrimination (EOD) scale

(Krieger et al., 2005) and the Everyday and Major Discrimination Scales (Williams et al., 1997),

which have commonly been used in prior studies of health. Nine discrimination-related items

were selected from the dataset, including questions about educational experiences, police interaction, employment experiences, healthcare, housing, civic life, and interpersonal discrimination experiences. These items are described in Table 4.2.

Regarding selection of the items in Table 4.2: all discrimination-related items in the dataset were considered for inclusion. Two items were considered but were ultimately not included.

First, an item on discrimination experienced in the course of respondents' day-to-day working life was not included due to a complicated skip pattern. Respondents were asked different sets of questions about their working life depending on their occupational group; for example, salaried workers were asked whether they were given pointless or degrading tasks, while business owners were asked whether they had difficulties in obtaining business loans. Because questions in this section varied so widely across respondents, this item was dropped before beginning the factor analysis.

Second, an item asked respondents, "Do you think you could be the victim of racism in France, even if it has never happened to you?" Because this item did not ask about discrimination experiences, but rather hypothetical discrimination that could happen in the future, it was not included in the factor analysis. However, this item seems relevant to the concept of vigilance, or "the anticipation of or perseveration on possible discrimination" (p.101, Hicken, Lee, Ailshire, Burgard, & Williams, 2013), and may be considered in future studies on that topic.

Several of the items are two-stage questions, meaning that they ask the respondent to assess whether they have experienced unfair treatment, and if they respond affirmatively, they are asked a second-stage question regarding why they think they had this experience. For this

study's factor analysis, the measures were coded to identify discrimination linked to

racialization; thus, discrimination that was reported to be linked to sex, age, health status, or

sexual orientation were given the same designation as respondents who reported that they did not

experience the type of discrimination in a given item.

Table 4.2. Discrimination-relevant items from the TEO selected for this study and their sample means. Second stage follow up items and response items are included if applicable.

Item	Description	Response options	Second stage & response options		Full sample mean	Sample 1 mean	Sample 2 mean
frequency	How often respondent is asked about their origins in their daily life	0= Never 1= Rarely 2= Sometimes 3= Often	None		1.82	1.83	1.81
education	Indicator of unfair treatment at school in terms of grading, discipline, treatment by teachers, and specialization decisions	0= Treated the same as others or better than others in all four categories 1= Less well treated in one category 2= Less well treated in two categories 3= Less well treated in three categories 4= Less well treated in all four categories	IF YES: In your opinion, this different treatment was linked to …	Your sex, health status/disability, skin color, national origin, manner of dress, age, other	0.28	0.29	0.26
employment	Indicator of experiencing unfair hiring, firing, and/or promotion decisions	0= No unfair treatment 1= One category of unfair treatment 2= Two categories of unfair treatment 3= Three categories of unfair treatment	IF YES: Do you think this unjust behavior was linked to …	Your sex, health status/disability, skin color, national origin, manner of dress, age, other	0.17	0.17	0.16
policing	Indicator of being unfairly stopped by the police	0= Never 1= One time 2= Several times	IF AT LEAST ONCE: The last time it happened, do you think that …	The police were doing their job normally, you were asked for no reason	0.13	0.13	0.14
healthcare	Indicator of unfairly receiving poorer healthcare than other patients	0= No 1= Yes	IF YES: In your opinion, this behavior was linked to …	Your sex, health status/disability, skin color, national origin, manner of dress, age, other	0.06	0.06	0.05
disc5	Indicator of discrimination experienced in the last 5 years	0= No 1= Sometimes 2= Never	IF OFTEN OR SOMETIMES: In your opinion, was this mostly because of …	Your age, sex, health status/disability, skin color, national origin, neighborhood reputation,	0.33	0.32	0.33

				accent, family status, sexual orientation, religion, manner of dress, other			
liferacism	Whether the respondent has been the target of racist statements, insults, or attitudes over their lifetime	0= No 1=Yes	None		0.35	0.35	0.35
housing	Indicator of unfair refusal while trying to buy or rent housing	0= No 1= Yes	IF YES: Do you think this behavior was linked to …	Your sex, health status/disability, skin color, national origin, manner of dress, age, other	0.091	0.088	0.095
civdisc	Indicator of unfair treatment at a place of leisure, bank, city hall, prefecture, post office, other government administration	0= No unfair treatment 1= Unfair treatment in at least one venue	IF YES TO AT LEAST ONE: Do you think these behaviors were linked to …	Your sex, health status/disability, skin color, national origin, manner of dress, age, other	0.18	0.17	0.18

Gender and *racialization* measures are used to assess differential item functioning during scale development. *Gender* is measured as a binary variable (women = 1; men=0) in this dataset.

Racialization is defined as a social process by which cues are used to identify individuals as part of a group, and associate members of that group with stereotypes (Omi & Winant, 2015). These cues may be visible (e.g. skin color, manner of dress) or non-visible (e.g. accent, place of residence). Omi and Winant (2015) remark that "through a complex process of selection, human physical characteristics ('real' or imagined) become the basis to justify or reinforce social differentiation" (p. 111). In this chapter, I operationalize racialization by using region of origin to make an educated guess about the likelihood that respondents may experience racialization as white or non-white. Respondents who were born in any European nation outside of France, and those who are repatriates or French born abroad, are classified as likely to be racialized as white (designated with a 0). Respondents who were born in an overseas department (DOM), the

Maghreb, or Africa outside the Maghreb are classified as likely to be racialized as non-white (designated with a 1). Although delineations of race and ethnicity, and the privilege and oppression with which such identities are associated, are more complex than this binary understanding (Wilkerson, 2020), this study's analysis is constrained from more nuanced understandings of racial groupings by data limitations in the French context (Simon & Jacobs, 2010).

To test for concurrent evidence of validity, I use *self-rated health* as an outcome measure. Self-rated health is measured with a single item asking respondents to evaluate their own health on a five-point scale, including "very good," "good," "average," "poor," and "very poor." In studies across a number of national contexts, including France, self-rated health has been shown to be strongly associated with mortality (DeSalvo et al., 2004; Goldberg et al., 2001; Wu et al., 2013). Comparing the relationship between a self-rated health measure and health outcomes across European national contexts, Bardage and colleagues (Bardage et al., 2005) found that "most of the indicators of medical and functional health were homogeneously associated with self-rated health" (p. 149). In a vignette study comparing respondents' ratings of situations according to the five-point scale typical in the single self-rated health question, respondents' ratings of vignette descriptions were similar (Salomon, Tandon, & Murray, 2004). Finally, in a cross-national comparative study across Europe, Hardy and colleagues (M. A. Hardy, Acciai, & Reyes, 2014) found that while national, cultural, and person-specific factors related to self-rated health, they did not significantly change the relationship between self-rated health and a range of disease and disability indicators.

Prior study of self-rated health of immigrants versus local-born residents in the French context have generally dichotomized the self-rated health outcome, splitting respondents into

those who reported "fair" or "poor" self-rated health, and those who responded "good" or better (Berchet & Jusot, 2010; Cognet et al., 2012; Jusot et al., 2009; Lanari & Bussini, 2012; Moullan & Jusot, 2014; Solé-Auro & Crimmins, 2008). This approach is supported by the work of Manor and colleagues (Manor et al., 2000), who found similarity in the size and significance of coefficients in analyses using dichotomous or categorical responses, respectively.

The independent variable in the test for concurrent validity is the factor score for the latent variable identified by the psychometric analysis conducted in this study. The latent variable identified in this study measures *discrimination experiences*. The test for concurrent evidence of validity will adjust for *age*, measured as a continuous variable, and *gender*, measured as a dichotomous variable.

To explore the role of discrimination experiences in the relationship between racialization and the education-health gradient, I will use an indicator of *educational attainment*. Educational attainment is measured in the TEO by the highest diploma received and is constructed as an ordered ordinal variable. Respondents are sorted into one of eight educational levels or its equivalent if their education was obtained abroad. This analysis will include controls for *place of education* and *French language proficiency*. *Place of education* is measured using a set of three dummy variables, indicating whether the respondent was educated only in France, only outside of France, or a mix of inside and outside the country. Education in France alone is used as the reference category. *French language proficiency* is measured using a combined score across four items measuring self-reported proficiency in comprehension, speaking, writing, and reading the French language. This measure's maximum score (three) indicates very good French language proficiency, and its minimum score (zero) indicates that the respondent has no French language abilities at all. DOM-born migrants and repatriates were not assessed for this item, likely because

both groups are understood to use French as a native language. Thus, respondents in these groups were assigned a score of three.

Analysis

Research Question 4A: To what extent can discrimination experiences reported by French residents in several contexts be explained by a latent factor with acceptable reliability? EFA was conducted using MPlus in order to determine the factor structure of the discrimination items highlighted above using the first random subsample. Because the discrimination items have categorical responses, tetrachoric correlation coefficients were analyzed to assess the underlying factor structure (Muthén, 1989; Woods, 2002). Eigenvalues and scree plot analysis guided the initial identification of a factor solution. Next, four fit statistics (including CFI/TLI, SRMR, and RMSEA) were assessed for adequate adherence to commonly-accepted cutoffs (Hu & Bentler, 1999). An *a priori* factor loading cutoff was set at 0.4 (Furr & Bacharach, 2014). EFA is conducted as an iterative process in which some variables may be dropped in order to maximize suitability of the final factor structure; this process is guided by both data-driven diagnostics such as fit indices and factor loadings, as well as theoretical understandings of the discrimination construct (Furr & Bacharach, 2014; Hu & Bentler, 1999).

Following Krieger and colleagues (2005), I used the second random subsample to conduct confirmatory factor analysis (CFA). Model fit was assessed for whether fit indices surpass commonly-accepted cutoffs (Hu & Bentler, 1999); factor loadings were also assessed. The factor's omega total was calculated as an assessment of internal consistency reliability.

Research Question 4B: To what extent does differential item functioning explain mean differences in latent discrimination scores across gender and racialization group? To assess Research Question 1B, I used MPlus to fit MIMIC models to assess whether two exogenous

variables (gender and racialization) influence the major discrimination latent variable modeled by the CFA. Changes in model fit indices after inclusion of the exogenous variables were assessed. The latent mean difference in the discrimination experiences latent variable was also assessed. To assess whether there was evidence for DIF, modification indices were examined (Furr & Bacharach, 2014; Krieger et al., 2005).

Research Question 4C: Is there concurrent evidence for validity of the major discrimination scale (i.e. the scale is significantly associated with a lower likelihood of very good or good self-rated health among all study participants)? After determining respondents' latent factor scores for the major discrimination variable, I used Stata 16.0 to regress the dichotomized self-rated health measure on respondents' latent factor score for the discrimination score, adjusting for gender and age.

Research Question 4D: To what extent does discrimination explain the moderation effect of racialization on the education-health gradient among migrants to France? Finally, to explore the extent to which major discrimination experiences mediate the moderation effect of racialization on the relationship between educational attainment and self-rated health, I use a formal mediated moderation test (Muller, Judd, & Yzerbyt, 2005).

Baron and Kenny (Baron & Kenny, 1986) described the classic formal test for mediation. Muller and colleagues (2005) expanded on their and others' work to develop a formal test for mediated moderation. This requires three steps; the equations for each step are shown in Table 4.3. The first step tests for moderation of the association between educational attainment and racialization; this was addressed in Chapter 2, and the results will be reproduced in this chapter. Equations for the second and third steps (Table 4.3) will be fit for this chapter's study.

Table 4.3. Equations for each step of the test of mediated moderation.

Step 1	$SRH = \beta_0 + \beta_1(educational\ attainment) + \beta_2(racialization)$ $+ \beta_3(educational\ attainment * racialization) + \varepsilon_1$
Step 2	$Discrimination\ experiences$ $= \beta_4 + \beta_5(educational\ attainment)$ $+ \beta_6(racialization) + \beta_7(educational\ attainment$ $* racialization) + \varepsilon_2$
Step 3	$SRH = \beta_8 + \beta_9(educational\ attainment) + \beta_{10}(racialization)$ $+ \beta_{11}(educational\ attainment * racialization)$ $+ \beta_{12}(discrimation\ experiences) + \beta_{13}(racialization$ $* discrimination\ experiences) + \varepsilon_3$

The second step equations will yield the association between the hypothesized moderator (racialization group) and the hypothesized mediator of the moderation (discrimination experiences). The third step equations will yield the association of the mediator (discrimination experiences) by the moderator (racialization group).

Evidence for mediated moderation would require the following. First, either or both of the following would be true: a) both β_7 and β_{12} are significant, and/or b) both β_5 and β_{13} are significant. If both (a) and (b) are true, this indicates that the relationship between region of origin and discrimination, and the relationship between discrimination and the interaction between educational attainment and racialization are both significant sources of the indirect effect of racialization on the relationship between educational attainment and health through discrimination. Second, β_{11} should be smaller in magnitude than β_3, showing that the interaction effect is attenuated by accounting for the indirect pathway. To visualize this analysis, see Figure 4.1. Following Muller and colleagues (2005), I also offer interpretations of each slope parameter in Table 4.4.
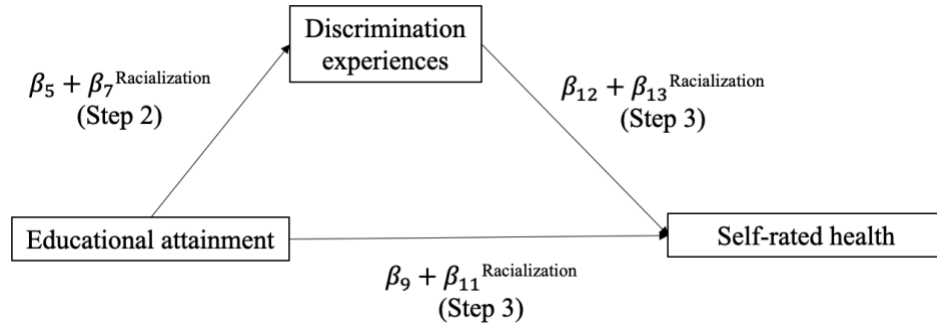
Figure 4.1. Model illustrating this study's mediated moderation test.

Table 4.4. Interpretation of the slope parameters in Steps 1, 2, and 3.

Step	Slope parameter	Interpretation of slope parameters
Step 1	β_1	Association between educational attainment and SRH at the mathematical mean of the sample's racialization indicator
	β_2	Average association between racialization and SRH across educational attainment levels
	β_3	Change in overall association between educational attainment and SRH as racialization changes from white to nonwhite
Step 2	β_5	Association between educational attainment and discrimination experiences at the mathematical mean of the sample's racialization indicator
	β_6	Average association between racialization on discrimination experiences across educational attainment levels
	β_7	Change in overall association between educational attainment and discrimination experiences as racialization changes from white to nonwhite
Step 3	β_9	Residual direct association between educational attainment and SRH at the mathematical mean of the sample's racialization indicator
	β_{10}	Association between racialization and SRH within each educational attainment level and at the mean level of discrimination experiences
	β_{11}	Change in the residual direct association between educational attainment and SRH as discrimination experiences increase
	β_{12}	Average association between racialization and SRH across educational attainment levels and at the average level of discrimination experiences
	β_{13}	Change in the association between racialization and SRH as discrimination experiences increase

Results

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Research Question 4A: To what extent can discrimination experiences reported by French residents in several contexts be explained by a subset of factor(s) with acceptable reliability?

Exploratory Factor Analysis. Before beginning the first iteration of the EFA, the educational discrimination item was dropped because in this sample of migrants, only 26.9% of respondents had been educated exclusively in France. Because this study aims to measure discrimination exposure in the country of destination, educational discrimination experienced abroad is not relevant to the construct.

Thus, using the first random subsample of migrants to France, the first iteration of the EFA sought a factor structure underlying eight items (Table 4.2). Both the eigenvalues and the scree plot indicated a one-factor solution. All four fit indices surpassed cutoffs, indicating acceptable model fit (CFI and TLI were above 0.95, SRMR was below 0.06, and RMSEA was below 0.05 within the 90% confidence interval). The item indicating frequency of being asked one's origins (*frequency*) had the poorest factor loading score (0.399). Despite falling slightly below a 0.4 *a priori* cutoff, *frequency* remained within an acceptable range according to the literature (Furr & Bacharach, 2014). Prior qualitative research in the French context also identified the relevance of repeatedly being asked one's origins for individuals' racialization in this context (Beaman, 2017). For these reasons, this item was retained in the scale.

This one-factor structure was selected since it had strong theoretical reasons for including all items. In this final factor structure, items loaded as expected onto a latent construct conceptualized as the respondents' level of discrimination experiences.

Confirmatory Factor Analysis. After developing evidence for a hypothesized one-factor structure for these five items using exploratory factor analysis, the structure was tested with

confirmatory factor analysis (CFA) on the second random subsample. CFA determined the

pattern of factor loadings onto the hypothesized latent variable: major discrimination

experiences. Three out of four model fit indices surpassed *a priori* cutoffs (CFI= 0.974, TLI=

0.948, SRMR= 0.041, RMSEA= 0.033), indicating acceptable model fit. All items loaded

significantly onto the latent variable (see Figure 4.2). The acceptable model fit indices and strong

factor loadings provide evidence that the factor structure identified through EFA was in fact a

good fit for these data.

Although there is not a strong consensus in the literature about a reliability estimation

formula when categorical items are used (Raykov & Marcoulides, 2011), I computed the omega

total for the five items. The omega total was acceptable at 0.84.
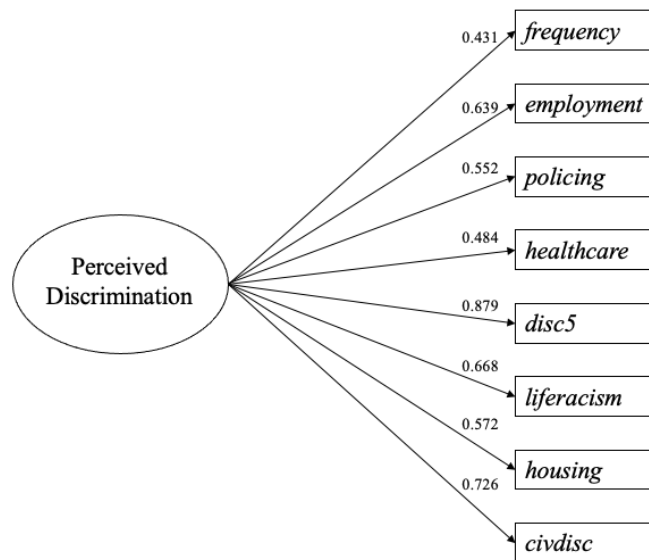
Figure 4.2. Confirmatory factor analysis diagram for multiple measures of discrimination. All coefficients are standardized (betas) and all are significantly greater than zero at p<0.01.

Research Question 4B: To what extent does differential item functioning explain mean

differences in latent discrimination scores across gender and racialization group? I used MIMIC

models to assess whether exogenous variables indicating gender or nonwhite status influenced

the latent variable modeled by the CFA. CFI/TLI fit indices worsened slightly after controlling

for nonwhite status but did not fall below acceptable cutoffs. The latent mean difference was significant for the exogenous variables (discrimination on nonwhite status = 0.395). This finding indicates that nonwhite respondents were more likely to have higher latent discrimination scores than white respondents. This difference between nonwhite and white respondents could represent a true difference by nonwhite status in underlying discrimination experience levels, or could indicate that the scale for the latent variable functions differently by nonwhite status. To check for the latter possibility, I conducted a check for differential item functioning (DIF).

Because significant latent mean changes were observed once I controlled for the exogenous variables, I explored whether there was DIF. No modification indices indicated that any individual items were predicted by nonwhite status, so there was no further evidence of DIF. Thus, latent mean difference by nonwhite status may be a true difference.

All model fit indices worsened slightly after controlling for gender but did not fall below acceptable cutoffs. The latent mean difference was significant for the exogenous variables (discrimination on gender = -0.108). This finding indicates that women respondents were less likely to have higher latent discrimination scores than men respondents. This difference between women and men respondents could represent a true difference by gender in underlying discrimination variables or could indicate that the scale for the latent variable functions differently by gender.

Because significant latent mean changes were observed once I controlled for the exogenous variables, I explored whether there was differential item functioning (DIF). No modification indices indicated that any individual items were predicted by gender, so there was no further evidence of DIF. Thus, latent mean difference by gender may be a true difference.

Research Question 4C: Is there concurrent evidence for validity of the major

discrimination scale? Results indicate that discrimination experiences are significantly associated

with a lower odds of reporting very good or good self-rated health after controlling for age and

gender (Table 4.5). Since this aligns with prior findings (Cognet et al., 2012) and theoretical

understandings of the relationship between discrimination exposure and health (Lewis et al.,

2015), this constitutes evidence for concurrent validity of the discrimination experiences scale.

The effect size associated with the discrimination experiences latent factor score (0.44)

was larger than that associated with a dichotomized, single-item discrimination measure (0.68,

model not shown) when estimated in a parallel model controlling for age and gender. Note that

although 0.68 is a larger number than 0.44, an odds ratio of 0.44 represents a larger absolute

effect size than an odds ratio of 0.68. The standard error for the discrimination experiences latent

factor score (0.055, data not shown in Table 4.5) was also smaller than the standard error for a

dichotomized, single-item discrimination measure (0.059, data not shown). Together, these

results suggest that the single-item measure may underestimate the effect size of discrimination's

association with self-rated health.

Table 4.5. Logistic regression model predicting likelihood of reporting good or very good self-rated health based on discrimination experience factor score, age, and gender. Odds ratio estimates and 95% confidence intervals are reported. Bolded coefficients indicate a p-value <0.05.

	OR (95% CI)
Discrimination experiences	**0.44** (0.34, 0.56)
Age	**0.93** (0.92, 0.94)
Woman	**0.63** (0.54, 0.74)

Research Question 4D: To what extent does discrimination explain the moderation effect

of racialization on the education-health gradient among migrants to France?

Descriptive statistics. Table 4.6 presents descriptive statistics for the full sample and for

the sample stratified by racialization group. There are more respondents in the non-white

racialization group (70.4%) compared to in the white racialization group (29.6%). The sample is

skewed toward better self-rated health, with 83.1% either reporting very good or good self-rated

health. The average age of respondents is 37.4 years. White migrants are slightly older than non-

white migrants (mean age of 39.5 versus 36.6, respectively). Discrimination experiences factor

scores ranged from -0.38 to 1.2. The average discrimination experiences factor score in the full

sample was 0.033, with higher levels of discrimination experiences among nonwhite respondents

compared to white respondents. The percent of respondents reporting discrimination in the past

five years differs significantly by racialization group; 13.3% among those in the white

racialization group report discrimination often or sometimes in the past five years, compared to

35.0% among those in the non-white racialization group. Mean educational attainment for the

full sample falls between 4 (indicating having attained a certificate of professional aptitude or

diploma of the same level) and 5 (indicating attainment of a technical or professional

Baccalauréat or a diploma of the same level). These represent educational levels earned around

ages sixteen to eighteen years old. A plurality of the full sample (44.9%) was educated only

outside of France. I note that a large proportion of DOM-born respondents (87.2%) were

educated only in France (data not shown in Table 4.6); however, there is no available data on

whether they were educated in continental France or in the overseas departments. A significantly

larger percentage of non-white migrants were educated both inside and outside of France

(29.6%) compared with white migrants (25.1%). The sample has a high level of French language

proficiency, with an average language proficiency score of 2.2, close to the highest possible

rating (3) which indicates French fluency in speaking, reading, and writing. This level is nearly identical across racialization groups.

Table 4.6. Descriptive statistics for the full sample, and for the sample stratified by racialization group. Asterisk indicates a significant difference between the racialization groups using a two-tailed t-test or proportion test as appropriate.

		Racialization Group		
Measure	*Full sample*	*White*	*Non-white*	
		29.6%	70.4%	
Very good or good self-rated health (%)	83.1	84.5	82.6	
Women (%)	52.1	54.9	50.9	*
Age (mean)	37.4	39.5	36.6	*
Discrimination experiences latent factor score (mean)	0.033	-0.11	0.092	*
Educational attainment (mean)	4.5	4.6	4.5	*
Educated in France (%)	26.9	28.6	26.2	
Educated outside France (%)	44.9	46.4	44.2	
Educated inside & outside France (%)	28.2	25.1	29.6	*
French language proficiency score (mean)	2.2	2.2	2.2	

Test of mediated moderation. Table 4.7 shows the results of regressions that fit the models specified in Table 4.3, above, for each of the three steps of a mediated moderation test. The coefficient associated with the nonwhite*educational attainment interaction term in Step 2, the coefficient associated with educational attainment in Step 2, *and* the coefficient associated with discrimination experiences in Step 3 are both significant. This indicates that there is evidence for a significant pathway from the moderator (racialization group) to the proposed mediator (discrimination experiences) and finally to the moderated relationship (education-health gradient). However, the nonwhite*educational attainment interaction term in Step 1 is identical to the parallel interaction term in Step 3. This means that this analysis did not find any evidence that the interaction effect is attenuated by accounting for the indirect pathway.

To put the findings in different terms: Analysis found evidence (a) that higher educational attainment was associated with more self-reported discrimination, (b) that the relationship between educational attainment and self-reported discrimination was significantly stronger for nonwhites, and (c) that self-reported discrimination was associated with worse self-rated health at each education level. Findings (a) and (b) indicate that there is evidence for the significance of the first leg of the triangle (see Figure 4.3). Finding (c) indicates that there is evidence for the second leg of the triangle (see Figure 4.3). Together, these findings indicate evidence for the indirect pathway: in other words, there is evidence that discrimination plays a role in the way that racialization moderates the education-health gradient for migrants to France. However, since the first leg of the triangle is positive and the second leg is negative, the magnitude of racialization's moderation of the education-health gradient was almost identical after accounting for discrimination (that is, β_3 is almost identical to β_{11}).

Table 4.7. Mediated moderation test results. Enumerated βs correspond with the equations described in Table 4.3, above. However, results for Steps 1 and 3 represent odds ratios, not linear regression coefficients. Bolded font indicates significance at the level of alpha=0.05.

		Step 1: Regressed on SRH		Step 2: Regressed on discrimination experiences		Step 3: Regressed on SRH
		OR (95% CI)		β (95% CI)		OR (95% CI)
Nonwhite (white ref.)	β_2	**1.5** (1.1, 2.2)	β_6	**0.17** (0.13, 0.20)	β_{10}	**1.86** (1.27, 2.73)
Educational attainment	β_1	**1.4** (1.3, 1.5)	β_5	**0.01** (0.00, 0.01)	β_9	**1.39** (1.28, 1.50)
Nonwhite*Educational attainment	β_3	**0.81** (0.74, 0.89)	β_7	**0.01** (0.00, 0.02)	β_{11}	**0.81** (0.74, 0.89)
Discrimination experiences					β_{12}	**0.25** (0.12, 0.54)
Nonwhite*Discrimination Experiences					β_{13}	1.62 (0.70, 3.74)
Woman		**0.72** (0.59, 0.88)				**0.68** (0.56, 0.84)
Age		**0.94** (0.92, 0.95)				**0.93** (0.92, 0.94)
French language proficiency score		**1.2** (1.0, 1.3)				**1.21** (1.05, 1.39)
Educated abroad only (educated in France ref.)		1.1 (0.80, 1.4)				1.13 (0.84, 1.52)

| Educated abroad and in France (educated in France ref.) | 0.87 (0.65, 1.2) | | | 0.91 (0.68, 1.22) |
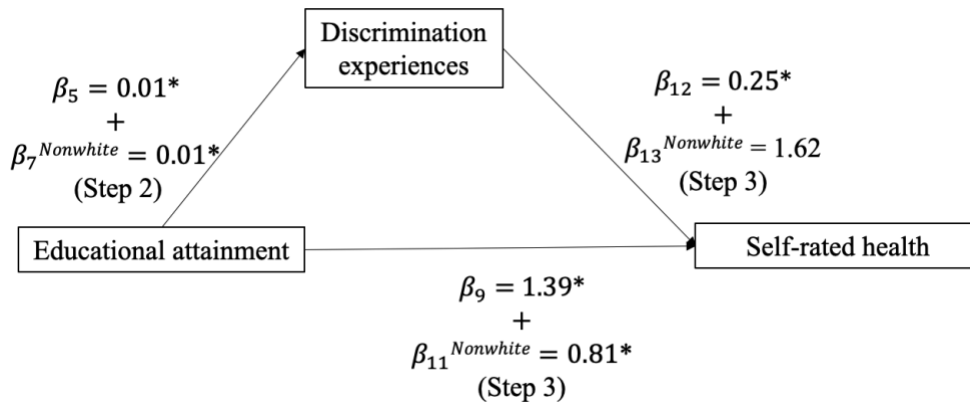
Figure 4.3. Summarized results of the mediated moderation test. Asterisk indicates significance at alpha=0.05.

Discussion

This study psychometrically validated a discrimination experiences scale among migrants in the French context, showing that it was reliable and associated with self-rated health in the expected direction. In a mediated moderation test, this study found that discrimination plays a role in the relationship between racialization, educational attainment, and self-rated health. However, the analysis did not find evidence that discrimination explains the diminished health benefits that nonwhite migrants to France receive from their educational attainment compared to white migrants.

Discrimination scale development. The single-factor structure of the discrimination scale validated in this study aligns with the factor structure of discrimination scales tested in the U.S. context (Krieger et al., 2005; Shariff-Marco et al., 2011). This finding is suggestive that parallel scales could be developed across the two contexts to facilitate cross-national comparative studies in the future.

This study also found no evidence for differential item functioning with respect to racialization group or gender, suggesting that the scale should function comparably across white and non-white migrants and across men and women migrants. In a validation of the U.S.-based Experiences of Discrimination (EOD) scale, Krieger and colleagues (2005) found only one possible source of differential item functioning ("black participants were more likely than expected to report discrimination for store service", p.1580), but this ultimately had no impact on the overall model fit. Similarly, Shariff-Marco and colleagues (Shariff-Marco et al., 2011) found low levels of DIF for some items in their discrimination scale, but with no impact on the overall model fit. Thus, this chapter's finding of a lack of differential item functioning is similar to prior work.

This chapter's analysis found evidence of a true difference in the level of discrimination experiences across these groups, with nonwhite migrants and men migrants reporting higher levels of discrimination experiences compared to their white and women counterparts, respectively. This aligns with Krieger and colleagues' (2005) finding in the U.S. context that Black participants had higher EOD values compared to white participants. The finding that nonwhite and men migrants had higher discrimination experiences values compared with white migrants in France was also expected based on reports of discrimination in response to a single-item measure (Beauchemin, Hamelle, Lesné, et al., 2010).

It is important to note that whenever possible, this study coded discrimination-related items in accordance with a "two-stage attributed to race/ethnicity" approach (Shariff-Marco et al., 2011). The TEO often asked a question related to general unfair treatment, followed by a second stage that asked the respondent to causally attribute their unfair treatment to one or more of a list of identities or traits (sex, age, skin color, etc.). In these cases, unfair treatment due to a

factor unrelated to race was re-coded to mark that participant as having experienced no discrimination. This means that the scale developed in this study focuses on measuring racial/ethnic discrimination experiences, not discrimination experiences more generally.

Shariff-Marco and colleagues (2011) did an investigation directly comparing discrimination measurements with three approaches: 1) two-stage items without considering attribution, which measured general unfair treatment; 2) two-stage items taking into account only attribution to race/ethnicity, with other attributions re-coded to indicate no discrimination; and 3) one-stage questions which ask respondents to report only unfair treatment related to race/ethnicity. They found that two-stage unattributed items yielded the highest percentage of people reporting discrimination experiences, and the lowest difference between races or ethnicities. The one-stage approach yields the second highest percentage of people reporting discrimination, while the two-stage attributed approach yields the lowest percentage. While there is currently no "gold standard" comparator to determine which approach is closest to populations' true levels of discrimination experiences, the two-stage attributed approach may be the most conservative estimate.

Mediated moderation test. These analyses found evidence (a) that higher educational attainment was associated with higher levels of discrimination experiences, (b) that the relationship between educational attainment and discrimination was significantly stronger for nonwhites, and (c) that discrimination was associated with worse self-rated health at each education level. Together, these findings are consistent with the idea that discrimination plays a role in the way that racialization moderates the education-health gradient for migrants to France. However, since the association between educational attainment and discrimination is positive, while the association between discrimination and self-rated health is negative, this pathway

cancels itself out. In the end, discrimination experiences alone, as measured in this study, cannot explain the results in Chapter 2 which found that nonwhite migrants receive less health benefit to their educational attainment compared with white migrants.

This could be due to measurement error: despite utilizing a latent variable approach to manage the unobservable nature of discrimination exposure, the discrimination scores analyzed in this study are estimated based on self-reported responses to a set of items. Relying on self-report could pose an obstacle to this analysis. For example, if discrimination in the labor market is effectively hidden from job applicants, self-reported discrimination scales would not capture its effect. In this way, associations observed may be conservative estimates. To explore this possibility, future studies could directly investigate income or employment as mediators for racialization's moderation association with the education-health gradient. Measures of income or employment would ostensibly bypass the ability of respondents to perceive discrimination events and could measure this pathway directly.

If this finding is due to true underlying relationships it suggests that there exists an unmeasured mechanism that explains the moderation relationship of racialization on the education-health gradient. Other mechanisms could include socialization processes (Etilé & Jones, 2011), access to power and influence, or other measures of socioeconomic position such as wealth (Braveman et al., 2005; Phelan, Link, & Tehranifar, 2010).

Relevant to these relationships, Esposito (2019) conducted an analysis asking whether the gap in health returns to college degree attainment between Black and white Americans would disappear if income was controlled away. He found that income was less important to the education-health relationship for whites, and more important to the education-health relationship for Blacks. Once models fully adjusted for income, the gap in health returns to education actually

increased across the two racial groups. Esposito remarks that these results "hint that the underlying causal infrastructure that links college completion to health deviated across racial groups in a more dynamic way than is often assumed" (p.278). In other words, the assumption that educational attainment relates to health through the same mechanisms across different groups may be incorrect (Pearson, 2008). The ways that differently racialized populations attain benefit or are blocked from benefit to their education could be different. These findings suggest that future studies should continue to investigate moderation effects or via stratified analyses to identify the ways relationships between social factors and health may differ across racialized populations.

Finally, this chapter's analysis showed that while nonwhite migrants had higher average levels of discrimination experiences compared to white migrants, there was no evidence of a different relationship between discrimination and self-rated health across the racialization groups. This finding represents evidence that any disproportionate impact of discrimination on the health of nonwhite migrants is due to the disproportionate distribution of discrimination experiences, and not due to any difference in the intensity of discrimination's relationship with health across groups.

Limitations and strengths. This study psychometrically evaluated a discrimination experiences scale using a sample of migrants to France, and thus is not immediately generalizable to other populations. Before using this scale to analyze another population, such as a nationally-representative population of French migrants and local-born, it should be re-evaluated in that population or systematically tested for measurement invariance.

This study uses data collected cross-sectionally. Testing for a mediated moderation in a cross-sectional dataset can identify attenuation of pathways, but without access to longitudinal

information, cannot comment on causality. Future studies could illuminate this study's questions further with access to a robust, multi-wave dataset including relevant variables.

This study cannot rule out pre-migration factors associated with region of origin as possible explanations for why nonwhite migrants do not reap the same health returns to their education compared to white migrants. Future research should seek to study or collect longitudinal data that includes information about respondents before and after they migrate. One example of such a methodologically thorough data collection is the MAFE study (Castagnone et al., 2015), however, MAFE lacks robust health indicators. Should MAFE incorporate health indicators in future waves, it would be an excellent source of information to pursue the questions remaining from this dissertation.

Despite these challenges, this chapter developed the first psychometrically evaluated discrimination scale in the French context, to my knowledge. The mediated moderation test added to a literature that has rarely asked *why* health returns to education among nonwhite populations is diminished compared to white populations (Esposito, 2019). Findings that discrimination is disproportionately distributed to nonwhite migrant populations, and that this discrimination is negatively associated with self-rated health, suggests that addressing discrimination is recommended to address health disparities across racialized populations. However, Fundamental Cause Theory suggests that the underlying relationship between racism and health may be robust to the elimination of intervening mechanisms (Phelan & Link, 2015), and this is emphasized by results of the mediated moderation test which suggested that other factors beyond discrimination are at play in the differences in health returns to educational attainment across differently racialized migrants to France. Ultimately, a long-term elimination of such disparities will be achievable through elimination of the system of valuation and

devaluation of populations on the basis of their socially-defined race. Evidence presented in this

dissertation suggests that the elimination of the health effects of the system of racism may not be

achievable solely by eliminating state-defined racial identifiers, but requires proactive

intervention to counteract the devaluation of people by racial group.

Chapter 5 Conclusion

Together, the set of analyses conducted in this dissertation investigated the ways that racism may shape relationships between education, citizenship, language proficiency and health outcomes among migrants to France. These analyses interrogated theorized relationships between fundamental causes and health across heterogeneous migrant populations, going beyond prior work that focused on health disparities between migrants and local-born residents. Instead, this dissertation re-focused the investigation on the health trajectories of migrants after arriving in their country of destination. I found evidence that migrants' health may be patterned by their perceived race in their country of destination, and that differing experiences of racialization may be meaningful for population health patterns even among migrants who attain citizenship, high education, or other markers of belonging. This suggests that reducing inequalities in SES or citizenship alone, while beneficial for health, likely will not eliminate racial health disparities across migrants. My findings also indicate that the health shows associations with likely racialization even in the French context which aims to be colorblind, suggesting that racism is unlikely to be dismantled using colorblind approaches. Thus, health policy and intervention should aim to explicitly prioritize reducing inequity alongside the public health aim of improving overall health indicators. Explicit work toward reducing inequity may require data collection that specifically aims to track the magnitude of disparities.

Contributions

This dissertation explored the interplay of three factors that the literature has argued are fundamental causes of health – racism, socioeconomic position, and legal status – for population health patterns across differently racialized migrants to France. Fundamental causes are determinants of health and illness that are more distal than biological pathologies or health behaviors, can act on health in multiple ways, and are mediated by replaceable intervening mechanisms (House et al., 1990, 1994; Link & Phelan, 1995; Phelan & Link, 2015; Williams & Collins, 2001). Prior studies have described racism (Masters et al., 2015; Phelan & Link, 2015; Williams & Collins, 2001), socioeconomic position (Phelan et al., 2010), and legal status (Asad & Clair, 2018) as fundamental causes, and yet the interactions between them are understudied, particularly in the French context where quantitative studies on racism and health are sparse (Simon & Jacobs, 2010).

Chapter Two: Is the education-health gradient colorblind? The purpose of my first analytic chapter was to explore whether the social process of racialization is associated with a significant difference in the relationship between educational attainment and self-rated health among migrants to France. This study leveraged the oversampling of migrants in the TEO, and used sociological and historical information to explicitly justify the grouping of regions of origin into estimated racialization groups. This allowed me to manage a data-sparse environment in which access to racial identifiers is limited.

A colorblind approach, exemplified in France's policy approach (Browne, 2009), works from the notion that the recognition of racial groups or identities reifies the socially constructed differences between races, and reinforces racial hierarchy (Bonilla-Silva, 2017; Leonard, 2014; Yogeeswaran et al., 2018). Using region of origin as a proxy for the likelihood of racialization as white or non-white, results from this study are consistent with the hypothesis that racism is

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significantly associated with poorer health outcomes, even in a context such as France which pursues "colorblind" policies.

Specifically, findings from this study are consistent with prior work suggesting that educational attainment is associated with improved health status (Etilé, 2014; Etilé & Jones, 2011; Pampel et al., 2015; Präg et al., 2017). Results from this analysis found that migrants who are likely to be racialized as non-white based on their region of origin reported significantly less health benefit from their educational attainment compared with migrants who are likely to be racialized as white. Migrants born in the Maghreb or other African regions experienced significantly less health benefit from their educational attainment compared to repatriates and French born abroad.

Importantly, findings from this study are consistent with fundamental cause theory (Link and Phelan 1995, 2015), which suggests that relationships between socioeconomic status and health are persistent over time and across multiple health outcomes. They are also consistent with the understanding that these relationships are influenced by fundamental associations between racism and health (Williams and Collins, 2001).

These findings suggest that increasing access to education should be beneficial to the health of all migrants. However, interventions targeting factors driving the moderation observed in this study are indicated to work toward reducing health inequities across differently racialized migrants. To address inequities in students' ability to take in information during school, interventions to address stereotype threat in the classroom may represent a step forward, with dividends for health (Hahn & Truman, 2015; G. M. Walton & Cohen, 2011). Discrimination on the labor market could pose a challenge to nonwhite migrants' efforts to translate their educational attainment into health-protective employment and income. To mitigate this, more

proactive government responses to discrimination on the labor market, above and beyond

waiting for individual complaints, could be warranted. However, ultimately, a long-term

elimination of racial disparities will only be achievable by eliminating the system of valuation

and devaluation of populations on the basis of their socially-defined race.

Chapter Three: Citizenship, language proficiency, racialization, and self-rated health. The

purpose of this dissertation's second analytic chapter was to explore the relationships between

citizenship, racialization, language proficiency, and health. Citizenship has similarly been

hypothesized to operate through multiple pathways to influence health (Asad & Clair, 2018;

Campbell et al., 2012; Castañeda et al., 2015; Miranda et al., 2017; Philbin et al., 2018). Using

the same TEO dataset used in the prior study, I first examined whether citizenship had a main

effect relationship with health. Next I asked whether the relationship between citizenship and

health was moderated by racialization: That is, whether a positive association between

citizenship and health differed by the likelihood of being racialized as white or non-white.

Finally, I examined the hypothesis that French language proficiency attenuated the relationship

between citizenship and health.

This study found a positive main effect of citizenship on the self-rated health of migrants.

This analysis did not find evidence for a moderation effect of racialization on the relationship

between citizenship and self-rated health: In other words, there was no evidence that the benefits

of citizenship differed for groups likely to be racialized as white and as non-white. However, the

odds of reporting good health were consistently significantly lower for those likely to be

racialized as nonwhite than for those likely to be racialized as white in all models: Thus although

the benefits of citizenship were similar for groups racialized as white and nonwhite, those likely

to be racialized as nonwhite reported consistently poorer health than those likely to be racialized

as white regardless of citizenship status. The relationship between citizenship and self-rated health was attenuated by the addition of a measure of French language proficiency, suggesting that language proficiency may explain part of the relationship between citizenship and self-rated health.

Citizenship's main effect association with health was expected in the context of prior literature (e.g. Asad & Clair, 2018; Campbell, Garcia, Granillo, & Chavez, 2012; Fleming, Novak, & Lopez, 2019; Lopez et al., 2017; Miranda et al., 2017). However, prior theoretical and empirical work (Beaman, 2017; Brubaker, 1992; Castañeda et al., 2015; Philbin et al., 2018) has suggested that the citizenship concept could be more thoroughly theorized to guide policy prescriptions as empirical work on this topic proliferates. Specifically, conceptualizing and operationalizing distinct causal pathways of *formal* versus *cultural* citizenship could be valuable to future research. The finding of a non-significant interaction between citizenship and racialization suggests that individuals receive the same health benefit from citizenship regardless of racialization group. However, policy and practice must still confront the persistently worse health among migrants likely to be racialized as non-white compared to migrants likely to be racialized as white across both citizenship statuses.

Finally, the relationship between citizenship and health is attenuated once the model accounts for French language proficiency. This may be due to communication challenges in medical or social settings (Musso, 2005; Ng et al., 2011), which may act as a barrier to health-relevant resources. It is also possible that language proficiency itself may be a cue that individuals and institutions use to identify migrants as part of a racialized or otherwise stigmatized group, triggering processes that extend or withhold cultural citizenship.

Findings from this chapter suggest that smoothing pathways to citizenship, increasing language proficiency training accessibility, and interventions aimed at boosting community social cohesion may benefit population health. Because this chapter's evidence suggested that citizenship does not diminish the health gap between differently racialized migrants, targeted interventions may be necessary to reduce health disparities which disadvantage nonwhite migrants.

Chapter Four: The role of discrimination in the education-health gradient. Building on Chapter Two, the purpose of the third analytic chapter was to examine a possible mechanism of racialization's moderation of the education-health gradient among migrants to France: discrimination experiences. To that end, this chapter reported the psychometric properties of a one-factor multidimensional discrimination experiences scale among migrants in the French context, using items available in the TEO.

The discrimination experiences scale had acceptable reliability using an omega total. The discrimination experiences scale related to self-rated health in the expected direction, providing concurrent evidence of scale validity. In parallel models controlling for age and gender, the discrimination experiences latent factor score had a larger association with self-rated health and a smaller standard error compared with a dichotomized, single-item discrimination measure that had been used in a prior study (Cognet et al., 2012). This suggests that the single-item measure may have underestimated discrimination's association with self-rated health. Internal consistency was used to estimate reliability; omega total indicated good internal consistency at 0.84. Thus, the study developed the first psychometrically evaluated discrimination experiences scale in the French context, to my knowledge.

Finally, to explore the extent to which major discrimination experiences mediate the moderation effect of racialization on the relationship between educational attainment and self-rated health, I use a formal mediated moderation test (Muller et al., 2005). The mediated moderation test added to a literature that has rarely asked *why* health returns to education among nonwhite populations is diminished compared to white populations. Results from this analysis are consistent with the hypothesis that discrimination plays a role in the relationship between racialization, educational attainment, and self-rated health. However, the analysis did not find evidence that discrimination explains the diminished health benefits that nonwhite migrants to France receive from their educational attainment compared to white migrants. The cross-sectional nature of the data could have obscured mediation effects that play out over time. As they are, these findings suggest that factors underlying the gap in health returns to educational attainment across differently racialized migrants to France may be more complex than the pathways assessed in this chapter.

Chapter Four presented evidence that nonwhite migrant populations report higher levels of discrimination experiences compared with white migrants, which is consistent with prior work using a single-item discrimination measure (Beauchemin, Hamelle, Lesné, et al., 2010). Chapter Four also presented results consistent with the idea that discrimination is negatively associated with self-rated health, also in alignment with prior work (Cognet et al., 2012). These findings support a recommendation to address and reduce discrimination to attenuate health disparities across racialized populations. However, differences in self-rated health between migrants racialized as nonwhite and those racialized as white were not attenuated by the multidimensional measure of discrimination used in the analyses presented in this chapter. Further research is needed to examine additional pathways and mechanisms through which racialization is linked to

differential health outcomes. The findings from this cross sectional dataset suggest the need for additional analyses using longitudinal datasets to assess these relationships as they unfold over time. This chapter also emphasized the need to examine processes of racialization and their impacts on migrants even in a colorblind context such as France, in order to illuminate and intervene upon the mechanisms by which racism influences population health patterns such as differential health returns to education by racialization.

Limitations

This dissertation investigated the ways that racism interacted with educational attainment and citizenship to associate with health particularly among migrants to continental France. Racism may be relevant to other populations in mainland France, including but not limited to the children or grandchildren of migrants. However, the findings presented here are not necessarily generalizable to other populations in France, nor to migrants who have a different country of destination. The extent to which this study's findings align with relationships observed in different population samples should be considered as providing evidence for or against existing theory, and not as directly generalizable to alternative populations.

The TEO, the dataset which this dissertation analyzed, is cross-sectional; thus, these analyses found evidence for associations between variables, but conclusions regarding causality could not be drawn. Future studies should draw on or collect longitudinal data with an oversample of migrants to France in order to move toward an assessment of the causal relationships between constructs. This is particularly important to a deeper investigation of the mediation analyses assessed in this dissertation.

This study relies on a dataset collected in migrants' country of destination, and thus cannot rule out pre-migration factors associated with region of origin as possible confounders.

Future research should seek to study or collect longitudinal data that includes information about respondents before and after they migrate. However, the finding that increasing time spent in the country of destination is associated with worse health (Cognet et al., 2012) suggests that conditions in France may be meaningful for the health of migrants. Thus, factors in the country of destination should be a focus when seeking targets for health intervention.

The TEO was collected in 2008-09. As is the case for all cross-sectional studies, this data was collected in its own historical moment with all its attendant particularities. For example, the 2005 uprisings in the *banlieues* of Paris, broadly considered a watershed moment for the widespread recognition of racial/ethnic marginalization in France (Keaton, 2010), had only recently occurred. Race, ethnicity, origin, and migration continue to be recurring topics of considerable tension in the country, with the *New York Times* recently referring to these topics as "combustible" in the French context (Onishi, 2021). As history marches on, new events related to race and racism that occur and are publicized could impact the ways that French residents conceive their identities as well as how they interact with others, with consequences for health. Public discourse on race and origin, or attempts to suppress such discourse, may also have sequelae for legal and policy decisions on the national level (e.g. Diallo, 2018) that are relevant for population health patterns. Future studies could begin to assess historical effects on the results reported here by repeating these analyses in a new cross-sectional dataset collected later in time.

Contributions

Together, this set of analyses gives evidence for the importance of racism to the health of migrants to France. Migration alone may be a social determinant of health (Castañeda et al., 2015), but racism may work to set up divergent experiences for white and nonwhite migrants in

their country of destination. Results from Chapter Two, showing differential health returns to educational attainment by racialization group, as well as results from Chapter Three, showing persistently worse health among migrants racialized as nonwhite across both citizenship statuses, both suggest that racialization group may influence the health of migrant populations. Chapter Four suggests that perceived discrimination is relevant for the associations between racialization and health, but cannot explain those associations on its own. It is possible that pre-migration factors could be an alternative mediator for the relationship between racialization and the education-health gradient (Boulogne et al., 2012); it is also possible that a systemic racism that acts in complex ways, some of which are outside of respondents' perception, plays a role (Esposito, 2019; Pearson, 2008).

Despite the challenges described in the previous section, this dissertation offered several innovations and strengths in its approach, and in its findings. Firstly, diverging from most prior migrant health literature in the French context which compares migrant health to local-born health measures (Khlat & Guillot, 2017), in this dissertation I compared health outcomes across groups of migrants. Migration itself may have health consequences (Castañeda et al., 2015) and may drive selection bias as healthier individuals are more able to move (Hamilton, 2015). In this study, such confounding is mitigated by the exclusion of respondents who have not experienced migration, allowing the analysis to focus specifically on the effects of racialization on the health of migrants.

This dissertation's approach also uses a reasonable proxy for migrants racialized as white and non-white. It pushes the literature to be explicit about the racialized assumptions inherent in analytic groupings such as region of origin that have been used in other analyses (e.g. Jusot et al., 2009). These findings improve on prior work by making implied assumptions about population

differences explicit and available for critique, and by incorporating interpretations of health differences across groups that do not allow default to biological interpretations of race. Rather, they systematically examine the social processes through which racism is a determinant of health, including racism's interaction with educational attainment and citizenship.

Finally, the dissertation incorporates and affirms the utility of intersectional thinking for quantitative research by investigating how multiple systems, such as socioeconomic position and racism, overlap to impact migrants to France. Intersectionality resists a single-axis analysis of populations, for example by race *or* socioeconomic status. Instead, it suggests that there may be unique, emergent experiences at the intersection of multiple identities (Crenshaw, 1989; Mullings, 1997, 2002; Weber, 2006). Mullings and Schulz (2006) also describe how the interrelatedness of categories such as race, gender, and immigration status contributes to the production of inequalities in health outcomes.

This dissertation used intersectionality in part to inform its analytic sample; by comparing population health patterns across migrants instead of comparing migrants to the local-born, this analysis recognized migrant status as exposing respondents to systems and experiences that may not be relevant to local-born residents (Castañeda et al., 2015). Intersectionality also informed this dissertation's focus on moderation effects, asking how fundamental causes such as socioeconomic position and legal status *interact* with racism to pattern population health at the junction between multiple systems of privilege and oppression.

Future studies should continue to work toward embedding intersectional, structural thinking to research aiming to understand population patterns of health and illness (Bowleg, 2012).

Public Health Implications

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This work is significant to the public health literature in several ways. This work found significant effects at an important intersection across systems that are relevant to groups stigmatized across racial and socioeconomic systems, within the context of migration experiences. Specifically, findings presented were consistent with fundamental cause theory, with a positive association between educational attainment (an indicator of socioeconomic position) and health among immigrants in a non-U.S. context. This association held across heterogeneous migrant sub-populations. It also added to our understanding of the moderating effect of exposure to racism (estimated using region of origin) on the health benefits of educational attainment for migrants to France, where quantitative work on racism and health is sparse (Cervulle, 2014; Simon & Jacobs, 2010). Thus, public health officials and practitioners should go beyond promoting increasing socioeconomic indicators across all migrants; instead, public health practitioners should be attentive to the barriers to individuals' efforts to translate such indicators into health returns. This strongly suggests that targeted interventions should supplement universal ones; this concept will be discussed in more detail in the "Policy Implications" section, next.

This work was the first to report psychometric properties of a discrimination scale in the French context, with possible dividends for future cross-national comparative work on discrimination and health. Because of the items' similarity with discrimination scales commonly used in other national contexts, (Krieger et al., 2005; Williams et al., 1997) this work may enable future comparative work on discrimination and health across multiple national contexts. Such cross-national comparative research offers the possibility of bettered understandings of race and ethnicity as a dynamic social construct (Salway et al., 2011), since racialization processes and systems of racism could be compared across cultural and policy contexts. This work could

contribute to understandings of the ways social structures and determinants undergird observed patterns of health. Beyond their theoretical and descriptive value, cross-country comparisons of health disparities may point to policy prescriptions. For example, in their cross-country comparison of health disparities between indigenous and non-indigenous populations in the U.S. and New Zealand, Bramley and colleagues (2005) highlight specific areas in which each respective country has implemented successful policies: the U.S. showed success in reducing racial/ethnic gaps in childhood immunization and cervical cancer screening, while New Zealand was more successful in infant mortality reduction. Investigation of the mechanisms of success in each case could be a fruitful source of policy intervention possibilities. In other words, this type of analysis may allow nations to emulate the successes that have taken place in other settings, as well as to triangulate possible sources of persistent disparities.

Using this scale, findings added to the understanding of the relationship between discrimination and health in the French context, where this topic is understudied in the quantitative literature (Simon & Jacobs, 2010; Simon & Piche, 2012; Simon et al., 2015). This work takes an important step, but there remain limitations of analyzing data in contexts in which efforts to address racialization take the form (in part) of not collecting data about it. LaVeist makes a cogent argument for the need to continue to study racism despite the conceptual challenges of examining a fuzzy, socially-defined construct. The main reason that he offers, with which I agree, is that exposure to racism is "probably the main etiological factor in producing race differences in morbidity and mortality" (p.217, LaVeist, 2000). More knowledge is needed to find out how racism functions and to challenge it, toward reducing and ultimately eliminating such disparities. From a health policy perspective, this suggests that population health research would benefit from access to metrics that could give evidence toward intervention targets, such

as the educational, discrimination, language proficiency, and citizenship pathways that were explored in this dissertation. While it may be unrealistic to expect the French government to reverse course on its racial data collections policies, researchers and policymakers should think critically and creatively about ways to understand mechanisms of racism in this data-sparse environment.

Finally, findings contributed to a body of research that explicitly explores social determinants of racial health disparities, with an important unique contribution being its examination of these factors in a state context that attempts to minimize racialized identifiers in state documents.

Policy Implications

Phelan, Link, and Tehranifar (2010) remind us that the policy implications of fundamental cause theory differ from recommendations which may arise from individual-level frameworks. Specifically, FCT posits that interventions on particular mechanisms may not reduce inequalities in health outcomes. This is because 1) privileged groups can use flexible resources, knowledge, and power to benefit more from interventions compared to disadvantaged groups (see also Frohlich & Potvin, 2008), and 2) new intervening mechanisms may arise to replace those which were eliminated. Policies that aim to improve population health without exacerbating inequality must take these understandings into account.

Findings from Chapter Two, combined with a substantial body of literature finding both cross sectional and longitudinal positive associations between education and health (Conti et al., 2010; Etilé & Jones, 2011; Hahn & Truman, 2015; Kaplan et al., 2014; Montez, Hummer, & Hayward, 2012), suggest that interventions that foster educational attainment are likely to be beneficial to the health of all groups. However, this study also suggests that universal educational

interventions, alone, will not result in fully equitable health outcomes across racialized migrant groups in France. Instead, privileged groups (migrants racialized as white) may reap more health benefit from a universal educational intervention compared to disadvantaged groups (migrants racialized as nonwhite). As Frohlich and Potvin (2008) point out, population-approach interventions may even worsen health disparities if they fail to attend to the underlying fundamental cause; individuals with more power, resources, and flexible advantage may be in a position to take advantage of universal interventions in a way that those with less power or resources cannot. Thus, although reducing educational attainment inequities between white and nonwhite migrants would likely improve population health, this approach would not fully address the inequities observed in this dissertation's analyses.

Phelan and colleagues (2010) suggest that in order to manage this problem, interventions should aim to reduce resource inequalities, and could also focus on interventions that do not depend strongly on the use of resources. Frohlich and Potvin (2008) suggest that health interventions should be multisectoral and reach outside concerns that are strictly health-related to attend to fundamental causes; this dissertation suggests that health interventions should consider the interaction across sectors as they aim to eliminate barriers to individuals' efforts to translate their gains in one sector into health benefits in another. Frohlich and Potvin also suggest that health interventions should be participatory in order to manage the difference between goals and perceptions of health promoters versus those of communities facing low population health indicators. A focus on the development of participatory methods in health interventions may also dovetail with some aspects of Ford and Airhihenbuwa's (2010) application of critical race theory to public health. They describe "centering the margins" as a central concept, which involves "making the perspectives of socially marginalized groups, rather than those of people belonging

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to dominant race or culture, the central axis around which discourse on a topic revolves" (p.31).

Combining elements of Frohlich and Potvin's recommendations with Ford and Airhihenbuwa's points toward a critically conscious approach to the inequality paradox that may face public health practitioners aiming to eliminate racial health disparities among migrants to France.

In their 2015 work on racism as a fundamental cause, Phelan and Link consider whether racism drives health inequities *through* SES inequities, and/or whether racism has an independent, fundamental relationship with health that is separate from SES. Based on their review of the literature, these authors suggest that both are the case. However, they do not consider a third option, explored by Chapters Two and Four, that racism may *alter* the relationship between SES and health. This third option was examined in Pearson's 2008 article, "Can't Buy Me Whiteness," in which he explores the possibility of divergent causal structures that may underlie racial minorities' SES-health gradients. His and others' (Esposito, 2019) work is suggestive that researchers should not assume that risk and protective factors, even those that work on a structural level, function identically across racial/ethnic subgroups. For example: if as Esposito's (2019) work suggests, income is a much more important mediator between education and health for Blacks than for whites, then reducing racial differences in income returns to education could contribute much more to reducing health inequities compared to reducing racial differences in educational attainment alone. While Phelan and Link might argue that seeking to describe risk and protective factors could represent a return to an individual-level orientation to health intervention, such research may be necessary to find effective ways to break possible links between racism and the education-health gradient. However, I agree with Phelan and Link in their conclusion that ultimately, a long-term elimination of racial health disparities will only be

achievable by eliminating the system of valuation and devaluation of populations on the basis of their socially-defined race (Phelan & Link, 2015).

Chapter Three suggested that if studies could explicitly disentangle the constructs of formal citizenship from cultural citizenship, and their effects on health, policy prescriptions may become clear. For example, if the rights and benefits of formal citizenship are not being met for immigrants in general or for specific subgroups of migrants, a legal remedy may be possible. However, if citizens' formal rights and benefits are technically in place, while claims to cultural citizenship and realized membership in the national community are withheld or circumscribed, as may be the case for racially and/or linguistically marginalized migrants, solutions may need to extend across levels of the socio-ecologic model (Bronfenbrenner, 1979) to encompass policies, non-state institutions, communities, and individuals. For example, state symbolic actions indicating welcome across levels of government could be relevant for migrants' acceptance in their communities of destination (Philbin et al., 2018). State investment in actively researching racism may be a good step.

Findings from Chapter Three reported a positive association between French language proficiency and better self-rated health for migrants. While causality cannot be claimed based on this association, it is possible that improving access to translation in healthcare and other settings, and/or improving access to language education could result in boosted population health among migrants. If language proficiency functions as a racialized cue, health policy interventions should rather focus on the elimination of discrimination and racism. Further study is warranted to better understand the mechanisms underlying associations between language proficiency and health in this context.

In addition to measuring discrimination experiences (described in Chapter Four), the TEO also asked respondents whether they made use of legal recourse in response to their discrimination experiences. Individuals may make formal complaints to several civic bodies to seek redress for their discrimination experiences. Despite high percentages of migrants, and particularly non-white migrants, reporting discrimination experiences, only 7% of migrants in the TEO reported filing official complaints (Beauchemin, Hamelle, Lesné, et al., 2010).

This dissertation provides evidence that discrimination experiences contribute to measurable health effects, resulting in inegalitarian social spaces that expose some French residents to health risks at disproportionate rates compared to others. Some French organizations are seeking ways to address specific areas of this inequality. The first of its kind, a recent class-action lawsuit was filed in January of this 2021 by a group of non-profit associations including Human Rights Watch, alleging systematic racial profiling by French police (Ganley, 2021). In this vein, policymakers should seek ways to recognize and remediate institutional and structural discrimination (known in the French literature as *indirect discrimination*), toward an egalitarian social and civic space.

While population-level studies are necessary to identify and measure structural racism, data collection remains a justifiably sensitive activity. Indeed, recent events in the U.S. regarding the possible collection of citizenship status data in the 2020 census sensitized Americans to the threat of misuse of data collection regarding personal identities (Wang, 2018; Wines, 2019). If the French government shifts toward the acceptance of racial/ethnic identifiers in routine large-scale studies, respondent privacy and protections should be paramount considerations. In the meantime, I suggest possible research strategies to manage the lack of such data in the next section.

Along the lines of other scholars, thinkers, and advocates (Beaman, 2017; Diallo, 2018; C. M. Fleming, 2017; Keaton, 2010; Ndiaye, 2008; Tin, 2008), I strongly recommend that French law and policy makers recognize systemic racism as a historically rooted, contemporary social force that impacts residents' health and life chances. As this dissertation demonstrates, it is possible to consider the health impacts of race as a social, not a biological, construct by understanding race as a social process that is relevant in the context of systemic racism. Resistance to the conceptualization of race as a biological construct is well-aligned with the traditional, mainstream French social sciences and the impacts of race as a social construct should be more widely investigated as a crucial line of research toward the realization of France's national ideals of egalitarianism and unity.

Future Research

Future studies should examine additional health outcomes beyond SRH, including biological and behavioral markers of health. Health care-relevant measures, such as quality of care and access to care, may also help to determine to what extent the relationships explored in this dissertation are influenced by factors related to acute care. Because stress pathways may be relevant to the relationship between racialization and health (Lewis & Van Dyke, 2018; McEwen, 1998; Seeman, McEwen, Rowe, & Singer, 2001), and because health consequences of chronic stress accumulate over time (Arline T. Geronimus et al., 2006), it may be particularly important to investigate biological markers of population health patterns among older migrants. This is because the cumulative effects of chronic racism-related stress may be more likely to appear at older ages through the timing, prevalence, and severity of metabolic and cardiovascular conditions (Arline T. Geronimus, Bound, Keene, & Hicken, 2007).

Using region of origin to group respondents by likely racialization experience has limitations, which were explored extensively in Chapters Two and Three. Racial and ethnic data collection remains highly controversial and even taboo in the French context (Simon & Jacobs, 2010). French scholars have developed some approaches for estimating racialization-relevant identities of respondents using, for example, algorithms based on names commonly used in one ethnic group versus others (Simon & Piche, 2012).

However, there are two additional avenues that researchers could pursue to better understand the role of racism in the health of migrants to France without using such identifiers. The first avenue would be to focus on directly measuring the social processes that define racism. Quantitative racial/ethnic health disparities research in the American tradition overwhelmingly relies on comparing average outcomes across racial/ethnic groups to estimate the effects of racism and related processes such as discrimination. This is the scholarly tradition from which my dissertation arises. However, it should be possible to develop theory and empirical work that focuses on directly measuring social processes tied to racialization and racial projects, as defined by Omi and Winant (2015). These may be context-specific. Thus, I recommend that future studies should aim to access or collect more nuanced data regarding the racialization experiences of respondents in order to develop theoretical and empirical lines of research that directly explore the impact of social processes of racialization on health outcomes.

The second avenue would be to develop quantitative methods to study the impacts of structural and institutional racism on health without using individual-level data regarding racial/ethnic group membership. For one example, "audit studies" are routinely used in research on labor and housing discrimination in France (e.g. Acolin, Bostic, & Painter, 2016; Duguet, Leandri, L'Horty, & Petit, 2010). These make use of fictitious resumes or housing applications

which differ only with regard to the applicant's name, which is selected to imply a range of national, racial, or ethnic origins. Differential rates of callbacks or job offers can reveal the level of discrimination that stigmatized groups may face on the labor or housing markets. Parallel strategies could likely be devised for healthcare settings. Developing additional ways to collect data at the institutional level that inform racial/ethnic health inequities would be extremely valuable toward developing interventions at the institutional and structural levels.

Concluding Comments

I hope that readers will take three main messages from this dissertation: 1) that the experiences of migrants may be patterned by their perceived race in their country of destination, and that this racial patterning may be meaningful for population health patterns even among migrants who attain citizenship or other markers of belonging, 2) that racism may alter traditionally accepted relationships studied in the health literature, such as that between SES and health, and 3) health and other social factors show associations with likely racialization even in contexts which aim to be colorblind, suggesting that racism is unlikely to be dismantled using colorblind approaches. These three messages point toward an approach to health policy and intervention that faces and addresses racism head-on and that prioritizes reducing inequity alongside the public health aim of improving overall health indicators.

Appendix: Critical Self-Reflection

Critical self-reflection can be defined as a rational thought process with the aim of assessing the professional self (Fleming, 2007, p.659). Critical self-reflection also aims to interrogate the "subtle underlying effects of prevailing societal and professional norms" (Fleming, 2007, p.658). Thus, this process facilitates the consideration of my own personal and professional experiences and perspectives, which may influence my approach.

Critical self-reflection is most commonly included in qualitative research (Mortari, 2015). While this dissertation uses primarily quantitative methods, critical self-reflection is particularly warranted when studying contexts and cultures outside of one's own, in which ethnocentrism is likely to influence one's approach. For this reason, I include a critical self-reflection in my dissertation.

There are difficult, and perhaps even insurmountable, limitations inherent in the study of race and ethnicity in a culture which is not one's own. This may be, in part, because the racial logics underpinning racist systems are not built on logic at all, but rather on a set of shared understandings that often go unnamed. Surfacing unnamed racial logics can expose mistaken assumptions and inconsistencies in the social fabric. Specific to this dissertation, using U.S. reference points to understand the racial logic of another social space is susceptible to misinterpretation and error. Though I have endeavored to avoid direct parallels, comparative thinking still influences my work by the inescapable fact that my own experience is my reference point for my perspective.

Despite potential pitfalls and despite the possibility of error, I do not believe that international scholarship or even comparative scholarship should be avoided. With more comparative scholarship will come insights derived from multiple perspectives, communication, error, and correction. We must be ready for that light to shine in both directions, and to learn from it in each case. We are not closed off from one another; events in the U.S. affect situations elsewhere, and though it is less recognized, the opposite is true as well. Because we live in an interconnected world, our scholarship should also endeavor toward interconnection and should not fall prey to the illusion that nations are closed social systems.

While I identify strongly as an American scholar with American training, I have multilayered identities that interface with my work. I am the daughter of an Algerian immigrant to the U.S., the product of a "mixed" marriage between a white and a non-white parent, and cousin and niece to French relatives who experience racial minority status, in addition to my many other identities. I have wondered whether my identities may call particular suspicion onto my work; this is a common concern and experience among scholars and thinkers of color. As others have suggested, more robust self-reflection practices across all research may help scholarly communities recognize and manage the subjectivity inherent in all scientific work. As an American, some may consider me an interloper into French scholarship; U.S. social scientists were recently named a threat to French unity by prominent politicians specifically for our use of critical race and related theories. However, I maintain that scholars, collectively, have the best chance of devising effective solutions to the systemic problem of racism if we work across multiple policy environments.

While some of my identities give access to a keyhole through which I might begin to glimpse another cultural space, I have never felt that they make me an "insider" to the experience

of racial minorities in France, nor to the experience of migration in general. Simply put, those experiences are not mine. My attempts to identify social patterns using family stories have often been resisted by my father, uncles, aunts, and cousins, each of whom have unique experiences and make meaning of them in their own ways. In some respects, I think these observations and experiences tended to incline me toward quantitative work; to find refuge in narrowly scoped statistical understandings bounded by quantifiable error.

In large quantitative studies of population health, the "colorblind" approach that France utilizes is very different from the mainstream US approach, which routinely captures self-identified race or ethnicity in large data sets related to health, vital statistics, as well as in the decennial US census (Simon et al., 2015). My approach to understanding structural and institutional racism, through the use of individual-level racial identifiers, is informed by my cultural and scholarly background in US educational and social structures. With an eye toward cultural humility, it is important to acknowledge that this approach has its weaknesses. For example, state-determined racial/ethnic categories may bolster the reification of such categories in our every-day social world (Omi & Winant, 2015), though the French setting shows that racial/ethnic categorization continues to be relevant in the social world even without explicit state action (Beauchemin, Hamelle, Lesné, et al., 2010). Further, U.S. attempts to remedy racial/ethnic disparities in health have focused mostly on individual-level interventions despite their well-documented ineffectiveness (Krieger, 2014); perhaps this is driven in part by the fact that most data sets in this context are built using individual-level observations. In this way, U.S. scholars and practitioners may be contributing to a cycle of practice determining research, and vice versa, to the detriment of innovative structural approaches.

International scholars like myself must recognize that the French approach to data collection is partially rooted in traumatic national histories of the malicious use of such data. These include the use of racial data in the attempt to purge Europe of its Jewish population during the Second World War (Docteur & Berenson, 2014). It also includes histories of colonization and slavery in the Caribbean and Africa, during which the French empire used racial/ethnic categories to separate who was eligible for full rights and citizenship, and who was relegated to lower statuses (Keaton, 2010). As well, it is important to recognize that France is not alone in this national experience. My own country has also used racial/ethnic identification in data collection for horrifying ends; for example to target Japanese Americans for internment during World War II (Seltzer & Anderson, 2000), and to identify and oppress Black Americans under regimes of slavery, Jim Crow, and legally enforced segregation (Alexander, 2010; Rothstein, 2017). The act of counting is precarious in this way; it is a tool that can be used for beneficent or sinister purposes.

Despite the fraught nature of race/ethnicity identifiers in data collection, I believe that capturing aspects of racialization in population data sets is still important for studying and working to remedy the health effects of structural and institutional racism. This information allows us to ask whether there exist differential treatment or outcomes across population subgroups, beyond what individuals can identify through their own perceptions. For now, this is one of the most well-developed ways that researchers can seek out and resist the persistent mechanisms of inequity in society.

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