Dear Selection Committee,

Please accept this submission for the NBER 2026 workshop on Race and Stratification in the Economy. We drafted this paper as a proposal for a longer paper like those found in the *Journal of Economic Literature* (the proposal is in fact currently under review with the JEL). Thus, while it is not a typical empirical paper, we think the paper fits into the workshop theme for the following reasons:

- In the paper, we explore the role RCTs can play in exploring systemic racial discrimination, moving beyond the typical use of RCTs in uncovering evidence of discrimination – in audit studies for example.
- In doing so, we spend time in this paper defining systemic discrimination in a way that is useful for economists from many subfields, who use many different methodological and empirical approaches, including those subfields where the study of racial stratification is less prominent.
- To construct this definition of systemic racial discrimination, we draw upon evidence from economics, sociology and psychology, providing a multi-disciplinary perspective.

Thank you for considering our submission.

Sincerely,

Dania V. Francis

Abstract: In this essay, we argue that RCTs have an important role to play in understanding the nature of systemic racial discrimination and that RCTs involving race can broadly benefit from a more fulsome consideration of the role of systemic racism in shaping outcomes. We begin with a review of some of the leading definitions of systemic racism, propose a conceptual model of systemic discrimination drawing from these frameworks, and clarify a working definition of an RCT for the purposes of this discussion. Next, we examine how RCTs can contribute to our understanding of systemic racial discrimination, while also considering their limitations. Throughout, we consider which areas of systemic discrimination have already been well-examined through RCTs, and which areas provide opportunities for new explorations. And, finally, in our concluding thoughts, we discuss how scholars engaging in research on systemic discrimination can most effectively use RCTs, including in combination with theory and other empirical approaches.

Proposal: What Can We Learn about Systemic Racial Discrimination from Randomized Controlled Trials?

Dania V. Francis, Rob Gillezeau, Damon Jones, Angelino C. G. Viceisza*

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I Introduction

A robust literature, both within and outside the field of economics, aims to detect, document, and explain racial discrimination. In some cases, researchers additionally consider potential interventions or policies that may mitigate the resulting disparities. Within the field of economics, the bulk of the literature seeks to detect whether discrimination in fact exists, and whether it is driven by tastes or statistical decision-making considerations (Charles and Guryan, 2011; Lang and Lehmann, 2012). Randomized controlled trials (RCTs), particularly correspondence and audit studies, have played a significant role in this subfield, as a method of identifying whether decision-makers, such as employers, landlords, and the like, directly discriminate on the basis of race in hiring, renting, and other contexts (Bertrand and Mullainathan, 2004; Francis, Oliveira and Dimmitt, 2019; Gorzig and Rho, 2022).

Another strand of research has elected to look beyond direct, discrete acts of racial discrimination, with an eye toward more systemic forms of racial hierarchy (Bonilla-Silva, 2021; Mason, 2023). Such frameworks include direct racial discrimination, as well as organizational, institutional, and structural racism, and unconscious racial bias. They also recognize the potential for past discrimination and other dynamics to generate racial disparities, even in the absence of ongoing direct discrimination or conscious, racially biased attitudes and beliefs (Darity Jr. and Mullen, 2022; Derenoncourt et al., 2024). Economists are increasingly recognizing the importance of these con-

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cepts (Baron et al., 2024)[1] , which raises a natural question: within economics, are RCTs similarly positioned to play a major role among the set of methods and tools used to learn about systemic racial discrimination?

In this essay, we argue that RCTs have an important role to play in understanding the nature of systemic racial discrimination and that RCTs involving race can broadly benefit from a more fulsome consideration of the role of systemic racism in shaping outcomes. Though we focus on studies of race in the United States and, to a lesser extent, in Canada, we acknowledge that these questions have applications across many geographic contexts. We begin with a review of some of the leading definitions of systemic racism, propose a conceptual model of systemic discrimination drawing from these frameworks, and clarify a working definition of an RCT for the purposes of this discussion.

Next, we examine how RCTs can contribute to our understanding of systemic racial discrimination, while also considering their limitations. We consider a range of possibilities, including manipulation of systemic discrimination on a macro or micro scale, conducting RCTs across different structural settings, manipulating either the salience of perceived structures or one's own racial identity, and finally, examining how people strategically respond when facing systemic discrimination.

Throughout, we consider which areas of systemic discrimination have already been well-examined through RCTs, and which areas provide opportunities for new explorations. And, finally, in our concluding thoughts, we discuss how scholars engaging in research on systemic discrimination can most effectively use RCTs, including in combination with theory and other empirical approaches.

Our work will help advance both the literature on systemic discrimination and the broader use of RCTs. With respect to the former, we help systematize several existing theories of systemic discrimination into a simple, conceptual model. With respect to the latter, we make three contributions. First, we expand the survey of literature on racial discrimination (Bertrand and Duflo, 2017) beyond the identification of whether discrimination exists to incorporate the systemic aspects of racial discrimination. Second, in examining systemic discrimination more broadly, we also expand beyond the typical focus on labor market discrimination (Neumark, 2018) and provide examples from multiple arenas, including health disparities, housing and segregation, and disparities in in-

[1] Although, some economists have long contended with these concepts, see, for example Alexander (2021), Darity Jr. (1982), Darity Jr. and Myers (1994, 1998). Mason (2023) also provides an extensive review of economic research on structural inequality.

volvement with the criminal justice system. Third, we focus specifically on the potential contributions of RCTs in understanding systemic discrimination.

The remainder of the proposal is organized as follows. First, we discuss our model of systemic discrimination. Second, we define what we mean by RCTs. Third, we describe six ways in which RCTs can be used to study systemic discrimination. Finally, we conclude with additional considerations.

II What is Systemic Discrimination?

Within the field of economics, multiple theories of racial discrimination have been developed and refined over decades of research. These theories include, but are not limited to, taste-based discrimination (Becker, 1957), statistical discrimination (Arrow, 1972; Phelps, 1972), and, more recently, inaccurate statistical discrimination (Bohren et al., 2025). Systemic racial discrimination, however, is a concept that differs from theories of more direct forms of racial discrimination in that it addresses forms of racial discrimination that can exist even in the absence of direct racially discriminatory actions or actors. Sometimes referred to as structural discrimination, systemic racism, institutional racism, or structural racism, there are multiple theories of systemic discrimination. Throughout this essay, we use systemic discrimination and systemic racial discrimination interchangeably.

Bohren, Hull and Imas (2025) make a clear distinction between direct discrimination and systemic discrimination. They use "direct discrimination" to describe how an individual's identity may affect the treatment they receive, holding all other relevant factors fixed. For example, an economist might measure direct discrimination by estimating the causal effect of a hiring manager's perceptions of a job applicant's race, while holding the applicant's work experience and education fixed. By contrast, systemic discrimination captures how direct discrimination can lead to differences in other relevant attributes for a given decision, which in turn can result in disparities in outcomes. Using the hiring example, if direct racial discrimination in one period were to lead to fewer racially marginalized individuals being hired, then, later in their careers, those individuals would have less on-the-job experience. And if on-the-job experience is important to future hiring decisions, they would be less likely to be hired in the next period, not necessarily because of direct discrimination, but because they have less experience. In this way, direct discrimination leads to

disparities in downstream outcomes for racially marginalized individuals, even if direct discrimination is no longer present. This is the part of discrimination that is defined as systemic. McMillon (2023) refers to this particular type of systemic discrimination as an intersectoral spillover—bias in one decision can feed into the next.

In addition to intersectoral spillovers, McMillon (2023) categorizes two additional types of systemic discrimination: social multipliers and intersectoral synergies. Social multipliers occur when benefits or harms are spread through networks, and peer effects can magnify differences in access. For example, suppose health-improving information spreads through social networks, but social networks are segregated by race, the segregated system can increase racial disparities in health outcomes without direct discrimination by any individual actor. Intersectoral synergies occur when early advantages help feed into additional advantages, or when early disadvantages leave individuals vulnerable to later shocks. For example, having access to a greater wealth endowment can provide access to better educational opportunities through private schools, tutors, and other educational enrichments, while having less wealth can leave individuals vulnerable to homelessness in the face of job loss. Direct discrimination in the past may have led to racially marginalized groups having lower wealth endowments on average, which is then compounded by the systemic benefits of having wealth compared to the systemic costs of not having wealth. What social multipliers, intersectoral spillovers, and intersectoral synergies have in common is a reinforcement process that amplifies initial differences in racial outcomes in a feedback loop that no longer requires direct racial discrimination.

Sociological and psychological theories of systemic discrimination often point to broad, pervasive societal norms as the source of the reinforcing processes that differentiate direct discrimination from systemic discrimination. Bonilla-Silva (2021), for example, argues that systemic racism is the racialized context that we all operate within and participate in as racialized actors. By this, he means that we live in a society where social, political, economic, cultural, and even psychological rewards are partially allocated along racial lines, and our decisions are influenced by norms that reinforce racial hierarchies. Systemic racism is systemic because there are not simply individual acts of discrimination by "racists", but rather actions by all racialized actors that can reinforce the racial order.

Similarly, the concept of unconscious bias Banaji and Greenwald (2013) relies on the idea that racial stereotypes become ubiquitous within a society and permeate people's subconscious. Since

these stereotypes are subconscious, even well-meaning, anti-racist individuals can exhibit unconscious racial biases that can influence their decision-making without them realizing it. Banaji, Fiske and Massey (2021) build on the concept of unconscious bias to define systemic racism as racism that is inbuilt into the institutions, norms, and behaviors of a society and its individuals. By inbuilt they mean racism permeates practices, policies, laws, and norms in the same way unconscious bias permeates psyches.

Related to the definitions from sociology and psychology, Mason (2023) defines structural racism as "the result of an interconnected collection of social norms, policies, institutions, identity strategies, and ideologies designed to preserve White supremacy." This definition is derived from the theory of stratification economics, which posits that inequality between different identity groups results from the collective self-interest of group members in improving (or maintaining) their group's relative position in the social hierarchy (Chelwa, Hamilton and Stewart, 2022; Darity, 2022). With this conceptualization, structural racism arises because dominant racial groups have an incentive to craft laws, policies, and practices that reinforce their group's position at the top of the social hierarchy. These laws, policies, and practices can be explicitly racially discriminatory or facially race neutral. Either way, they have the effect of reinforcing racial disparities in life outcomes.

For the purpose of this essay, we rely upon the most commonly overlapping elements of these definitions. Specifically, we define systemic racial discrimination as interconnected processes between norms, institutions, societal structures, and mental structures that lead to unequal outcomes and hierarchies across racial groups. Systemic discrimination is facilitated by the construction or salience of racialized identities. It does not require conscious, intentional racist actors. And the ongoing process may be largely driven by non-intentional actors who help reproduce racial hierarchy through unconscious bias, race-neutral institutional policies that can differentially affect racial groups, and race-neutral policies that can have different racial impacts due to prior discrimination. Finally, systemic discrimination has a self-reinforcing nature through spillovers, synergies, and feedback loops.

Figure 1 depicts a conceptual model of systemic discrimination as defined above. At the top of the figure, direct past discrimination, such as slavery, exclusionary Jim Crow laws, and racially motivated immigration restrictions, can lead to racial differences in important economic endowments

such as wealth accumulation and educational attainment.[2] Over time, racial hierarchies become ingrained in the social fabric, creating value or costs to identifying with particular racial groups. These racial hierarchies can then spur further discrimination, whether through direct discriminatory acts that favor in-group members or through unconscious bias. In particular, groups that are higher in the social hierarchy have the ability to include in-group members in hiring for jobs or admissions to schools, while excluding out-group members. These discriminatory actions can lead to further racial disparities in outcomes. Even without direct or unconscious racial discrimination, racially-neutral laws, practices, or policies that favor individuals with greater endowments of wealth, education, or other economic assets will disadvantage the racial groups that have lower endowments, also leading to racial disparities in outcomes. Similarly, seemingly race-neutral preferences, such as the desire to live in a "nice" neighborhood or send one's children to a "nice" school, can have the effect of reinforcing racial hierarchies in the presence of unconscious bias or commonly held beliefs and values that have racialized origins. Today's racially disparate outcomes become tomorrow's racially disparate endowments, generating the feedback loops that exemplify systemic discrimination. However, because of these feedback loops, race-neutral policies can also be useful tools in closing disparate racial outcomes.

III How Do We Define RCTs?

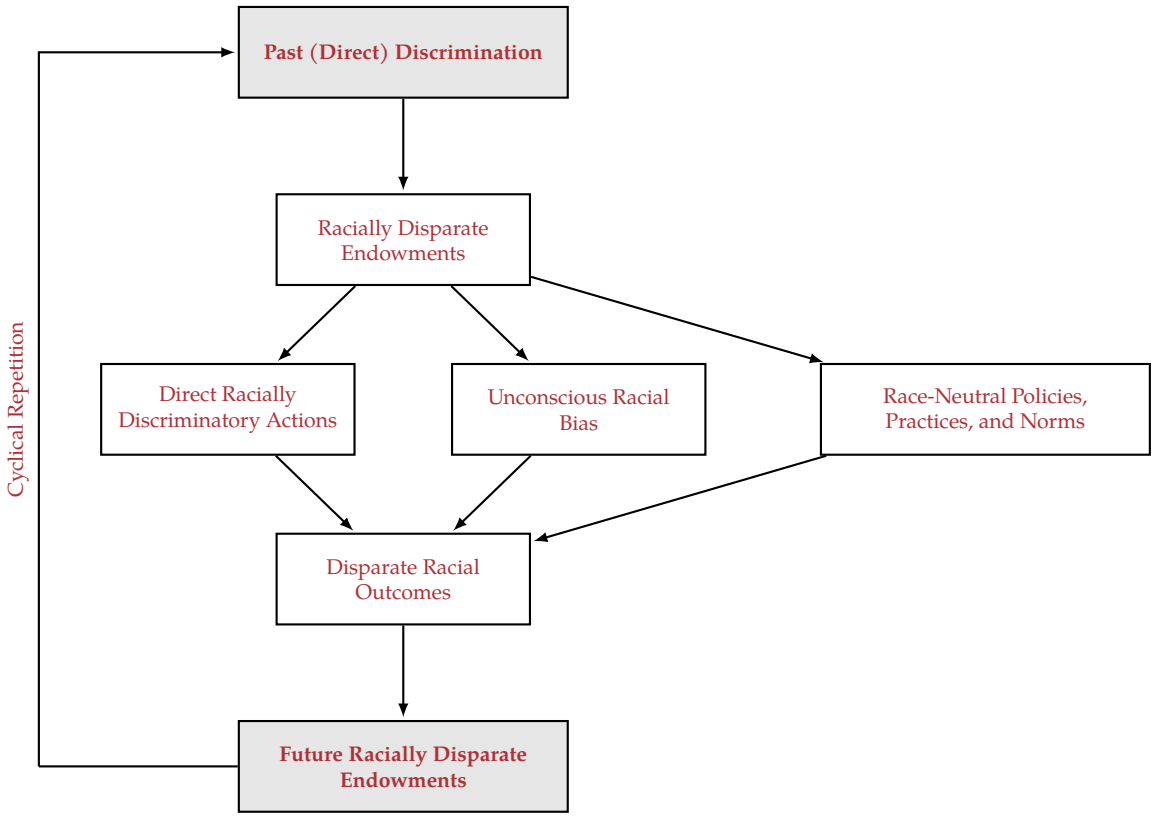
Before we discuss how RCTs can be used to study systemic discrimination, it is essential to clarify what we mean by an RCT. Following Duflo, Glennerster and Kremer (2007), we define an RCT as a research study in which units—such as individuals—are randomly assigned to either a group that receives an intervention (the "treatment" group) or a group that does not (the "control" group).[3] In some cases, the control group may receive a placebo or a baseline version of the treatment, particularly when ethical concerns arise or when having participants not receive an intervention would be inappropriate in a laboratory or field setting.

Contrary to the more traditional interpretation of the term "RCT", which tends to be associated

[2] Some researchers point to biological or cultural differences between racial groups as explanations for racially disparate economic and social outcomes (Austen-Smith and Jr, 2005; Loury, 2019; Saini, 2019). Even among those who find these types of arguments compelling, the weight of evidence demonstrating the existence of historic and systemic discrimination should be sufficient enough to motivate discussion of the link between past discrimination and present disparities (Mason, 2023).

[3] Of course, an RCT can have more than one treatment group and in some instances, more than one control group.

Figure 1: Systemic Discrimination: A Conceptual Model



with field contexts and outcomes, our definition requires only that randomization is conducted for research purposes. In other words, if randomization is done for operational purposes, as might be the case in school lotteries, this falls beyond the scope of this paper. Our definition of RCT encompasses a wide range of settings, including across scale and time horizon (Muralidharan and Niehaus, 2017), such as laboratory, or lab-in-the-field RCTs where participants know they are being studied and outcomes are artefactual, or RCTs conducted in a naturally occurring field environment. The definition is also sufficiently flexible to cover the full taxonomy of experiments discussed by Harrison and List (2004) as well as studies that analyze data from prior RCTs. The latter point is relevant as there may be instances where an entity, say a government agency, firm, or researcher, conducts the randomization, and a different entity subsequently analyzes the study data. One example is the subsequent use of the Tennessee STAR "class size" experiment data to identify the impact of own-race teachers on student achievement (Dee, 2004).

IV Key Design Considerations when Using RCTs to Learn About Systemic Racial Discrimination

Below, we consider various approaches to using RCTs to better understand systemic racial discrimination, organizing our examples into six groups based on similarity in research design. As we develop this proposal into a full essay, we will highlight key design considerations for ensuring internal and external validity as well as scalability if the policy were to be implemented based on the results of such RCTs. Additionally, in the full essay, we will highlight which areas of systemic discrimination research have already been well-examined through RCTs, and which areas provide opportunities for new explorations.

IV.A Manipulate Systemic Discrimination through Large-Scale Randomization

The most direct way to use the tools of randomization to test for, describe, or quantify the relationships outlined in Figure 1 above would be to experimentally vary the inciting incidents of direct discrimination illustrated at the top of the figure. For several reasons, we find such randomization to generally be infeasible, with questionable ethical implications. Moreover, the theorized historical antecedents of today's systemic racism are already established. Nonetheless, one might envision randomly varying similar conditions in the present, and tracking, over the long term, whether or how future systemic dynamics are affected. Yet even in that case, most entities lack the resources or authority to shift or alter racial discrimination at the scale at which we understand it to be meaningful within different theories of systemic discrimination. With the exception of the federal government or state-level social experiments, it is unlikely that researchers will be able to implement trials that completely alter institutional structures, such as segregation, racially discriminatory laws, campaigns of racial violence, mass incarceration, or voter disenfranchisement, to name a few. In addition, some of the noted pillars of systemic racism have the flavor of an entrenched equilibrium formed gradually over a long period, for example, social norms, racialized language, or persistent subconscious stereotypes. In the extreme, coordinated efforts over decades or centuries may be necessary to install these phenomena; at best, they may be "swiftly" disrupted by widespread social movements over a period of years or decades.

We thus find it useful to consider but ultimately abandon the hope of such experimentation as a means of highlighting some limits of RCTs in identifying systemically racist dynamics. Here, leveraging theory, natural experiments, and historical evidence may prove more effective and more realistic. While we acknowledge these limitations of the RCT, the sections below discuss how randomization may yet provide insights into the channels through which past direct discrimination affects current racial disparities, even in the absence of direct randomization of initial discrimination.

IV.B Manipulate Systemic Discrimination through Small-Scale Randomization

As described above, the manipulation of systemic discrimination, whether acting through pre-existing individual conditions, institutions, or elsewhere, is largely beyond the feasibility of the vast majority of potential RCT projects. Given that constraint, how can scholars attempt to study the underlying nature of systemic discrimination? It may be more realistic to conduct RCTs at small scale, specifically, (1) with structures that do not require randomization at large scale by entities like the federal government, (2) over shorter lags between randomization and measurement of outcomes, and/or (3) in settings that are not traditionally associated with "large" scale (in the sense defined previously), such as laboratory or lab-in-the-field experiments, correspondence or audit studies, online experiments, and combinations thereof. Small-scale RCTs can also serve as a gateway to large-scale randomization, for example, by encouraging potential implementing partners to consider large-scale interventions.

One example of this type of small-scale randomization is Bohren, Hull and Imas (2025). They present a general framework for examining direct and systemic discrimination and how the former can contribute to the latter through interactions across time and domains. They model a "system" as a network of interconnected nodes, each representing a decision that can affect relevant attributes at other decision nodes. Measuring systemic, total, and average direct discrimination involves two components: (1) a treatment component capturing direct discrimination at each node and (2) an interaction component capturing how actions at other nodes affect the focal-node action via the focal-node signal.

To make this more concrete, consider a two-node system where the first node corresponds to

applying for an internship and the focal node corresponds to applying for an entry-level position. To estimate the treatment component (direct discrimination), a researcher could conduct a conventional audit or correspondence study in which workers of different races apply to internships and entry-level positions with identical resumes. However, this study would not identify the interaction component, which also requires measuring how internship hiring translates to internship experience on a resume and how internship experience affects entry-level hiring. The authors develop two potential approaches for identifying this interaction component: a constructive iterated audit study and an experimental iterated audit study.

As is the case in conventional audit studies, randomization plays a key role in both instances. However, the iterated audit approaches also illustrate the potential limitations of RCTs and thus, the usefulness of combining RCTs with other methods. While the constructive approach is conceptually straightforward, it can be challenging to implement when the action or signal spaces are high-dimensional or otherwise complex. For example, suppose that workers apply for an entry-level position with a resume and a recommendation letter written by an internship supervisor who also discriminates in the language and tone of the letters. Then, the set of signals (i.e., possible recommendation letters) is high-dimensional, making it difficult to estimate how hiring decisions depend on signals. An alternative would be to use the experimental iterated audit approach, but this also entails complementing randomization with simulation, specifically to simulate draws of the focal-node signal (i.e., recommendation letters) and measure focal-node actions (entry-level hiring) for each set of simulated signals.

As we develop the full essay, this section will discuss examples of how small-scale RCTs can be used to test for, describe, or quantify some of the relationships outlined in Figure 1.

IV.C Conduct RCTs across Different Structural Settings

One of the more accessible methods to speak to the nature of systemic discrimination using RCTs is to conduct RCTs across peoples, regions, or communities subject to heterogeneous histories, institutions, and other structural features. In many cases, this type of stratification by clusters will involve interacting RCTs with geographic variation, be it present-day geography or the historical geography of the families or individuals being considered, and needs to be determined ex-ante to ensure power is sufficient and the RCT can appropriately test for the underlying mechanism driving potentially differential treatment effects.

For example, consider a scholar seeking to better understand the nature of systemic discrimination in access to credit, hiring, or elsewhere with respect to Indigenous peoples. A natural place to start could be to consider variation in underlying property rights structures across communities related to either Aboriginal rights and title or land tenure arrangements (Feir, Gillezeau and Jones, 2023; Leonard, Parker and Anderson, 2020) or variation in how nations were forced onto reservations and the quality of those lands (Dippel, 2014; Chan, Essaji and Gillezeau, 2025). What variation may be appropriate to consider for other groups? This could include intersections with divergent histories of slavery or indentured servitude, redlining and spatial segregation, voting rights, or cohort-based analysis on exposure to factors ranging from schooling effects to media. An eye to this important historical variation with its persistent and ongoing structural impacts may allow the scholar to clearly demarcate the role of these historic shocks on present-day discrimination.

While there is a plethora of promising applications for this approach to understanding systemic discrimination, several existing works have exploited this style of variation. For example, arguably the most notable work in this space is the family of projects analyzing Moving To Opportunity (MTO) (Sanbonmatsu et al., 2011; Chetty, Hendren and Katz, 2016), which can be viewed as a permutation of this model in which individuals living in poverty can move across structural settings. Another housing-related example from the audit study literature by Christensen, Sarmiento-Barbieri and Timmins (2021) considers rental constraints and their relationship to spatial segregation. In general, this style of work is most commonly found in housing or otherwise spatially driven research, but has potential value for a much broader range of potential projects.

A key distinction that arises in this setting is the set of systemic forces that attach to the individual or household, regardless of geography, and the set of forces that accumulate in place-based or neighborhood-like effects. For example, suppose that past discrimination affects current outcomes, as previously described in Figure 1, through two channels: parent wealth and local school quality. An intervention that facilitates relocation of a family to a new neighborhood may directly interrupt the local school channel, but may leave the family wealth channel largely intact. Researchers may leverage this distinction to yield novel predictions. For example, we may predict larger impacts on families that are relocated from contexts where place-based systemic endowments are more relevant than household-specific factors, and smaller impacts when the opposite is true.

A related application involves identifying cases where there exists a disparate impact of race-

neutral policies on specific racial groups, due to systemic forces. In such cases, where theory, historical evidence, and the like, point to treatment or behavior that is not race-based, but is highly correlated with race, some race-neutral interventions may have the potential to significantly impact racial equity. For example, Cullen, Dobbie and Hoffman (2023) conduct a field experiment in partnership with a large on-line staffing platform that shows only 39% of employers in this sample are willing to hire a worker with a criminal record. However, offering crime and safety insurance, a performance review, and limited background checks are effective at increasing demand to over 50%. Because of the disproportionate rate of incarceration among Black workers, this policy is also likely to reduce racial disparities in hiring.

IV.D Manipulate the Salience of Systemic Forces

In many cases, theories and discussions of systemic racism highlight the role played by unconscious bias and/or a somewhat willful ignorance of systemic dynamics. Racialized agents make decisions based on race-neutral justifications that can nonetheless reinforce racial hierarchy. For example, wealthy and affluent parents may elect to send their children to more resourced school districts in ways that increase racial segregation. Alternatively, agents may partake in direct discrimination without being fully aware of it: prior studies find that in simulated exercises, law enforcement officers are more likely to associate Black suspects with guilt or potential threat, in ways consistent with unconscious bias (Correll et al., 2007). Relatedly, some race-neutral policies can have predictably disparate effects across racial groups, but actors may fail to acknowledge these predictable effects when implementing them—see, for example, the school closings covered in Ewing (2018). Finally, people may form beliefs, carry out rules, and support policies based on a potentially misspecified model of why differences in endowments exist.

In light of this, scholars of systemic racial discrimination have argued that increasing people's awareness of the system within which they operate may alter their behavior and potentially counter some of the reinforcing nature of the system (Banaji, Fiske and Massey, 2021). Although RCTs are unlikely to shift people's understanding enough to generate systemic impact, they may be able to demonstrate evidence on the first steps in this process, i.e., awareness leading to different beliefs or behaviors. For example, Alesina, Ferroni and Stantcheva (2021) show that when people are made aware of systemic origins of racial disparities, they are more likely to support race-specific policies aimed at ameliorating prior inequities. In another example of an RCT in this vein, Thompson

and Trejo (2024) demonstrate that parents typically underestimate the level of segregation in their school district, but also find that providing more accurate information regarding segregation does little to increase parents' support for policies that reduce segregation. One can imagine similar interventions in other domains, including the legal system, housing markets, and labor markets.

A second implication of the above is that interventions aimed at reducing the impacts of unconscious bias may reduce rates of direct discrimination. While many interventions directly aimed at reducing unconscious bias have produced limited results (Worden et al., 2020; Lai and Lisnek, 2023), a recent intervention by Dube, MacArthur and Shah (2025) shows that training aimed at improving officers' decision-making skills in snap-judgement situations leads to a reduction in racial disparities in use of force and arrests. Importantly, the training in Dube, MacArthur and Shah (2025) does not explicitly mention race or focus on making implicit bias more salient; the authors nonetheless argue that it could have helped mitigate the impacts of implicit bias by relaxing cognitive constraints.

Incentivized Resume Rating (IRR), a new form of field experiment where characteristics are randomly assigned to resumes, but employers are told they are evaluating hypothetical resumes, in service of getting real matches from a pool of candidates, also offers a promising path to better understand systemic factors in determining disparate treatment (Kessler, Low and Sullivan, 2019). Because it offers more data on decision-makers and a greater ability to manipulate the resume rating environment (e.g., order, amount of information) than traditional audit studies, the methodology can be used to better understand implicit bias. For example, Kessler, Low and Shan (2024) use the IRR design to show that evaluating a candidate of a preferred racial group first results in evaluators rating subsequent candidates of other races worse, even after controlling for resume quality. These results are consistent with a model of implicit bias.

While discrimination may take on a systemic nature when it is unconscious, there are beliefs and actions that lie on the boundary of unconscious and semi-conscious. Banaji, Fiske and Massey (2021) use the term "unexamined" bias to refer to behaviors that operate as second-nature but that are potentially controllable. In another application of the IRR method, Chan (2023) finds evidence of "deniable prejudice": a form of taste-based discrimination that is only present in highly ambiguous situations, where one need not admit, to oneself or others, that biased behavior is at play. In a setting where all patients show a bias against Black and Asian doctors, randomly introducing a quality rating significantly reduces the presence of this form of semi-conscious bias. While at-

tention to unconscious bias is by no means new, we hope to underscore the key role it plays in common theories of systemic racial discrimination, and thus the possibility of testing predictions of said theories.

IV.E Manipulate the Salience of Racial Identity

Many biological scientists and geneticists agree with social scientists that race is a social construct and not a biological one (Lala and Feldman, 2024; Yudell et al., 2016).[4] That is, racial identities are ways of grouping people that can differ across geographies, can change over time, and are the result of historical and political processes—not biological realities. An implication is that individual racial identity is not fixed—individuals can identify differently over time—but also that societal definitions of racial identity are not fixed. Societies can change the norms and definitions surrounding racial identity. For example, the answer to the question of who is "White" in the United States was historically enshrined in law by state and federal legislative bodies and adjudicated in courts up to and including the Supreme Court (Harris, 1993; Wilkerson, 2020). Over time, many ethnic groups who were once excluded from the White racial category in the United States have, through assimilation, been eventually included (Roediger, 2005).

These dynamics demonstrate the potential to manipulate a person's perceived racial identity, as well as the salience of that racial identity as a part of someone's total identity. A question relevant to the disruption or perpetuation of systemic racism is whether a person is more likely to exhibit racial affinity towards in-group members or bias against out-group members (whether unconsciously or deliberately) when race is a more salient part of their personal identity. For example, is a hiring manager more likely to demonstrate racial bias in their hiring decisions the more their racial identity is a major part of their overall identity? If so, could decreasing the salience of race decrease the prevalence of racial bias in hiring? RCTs that vary the salience of race and then measure participants' revealed biases are useful in answering these types of questions. Maeder, Yamamoto and McManus (2015) vary the salience of race in a mock trial setting and find variation in juror verdicts based on the defendant's race. Such studies could be extended to measure the impact of racial salience by jurors' race, including directly measuring the salience of one's own race among jurors.

[4]See Rose (2023) for a discussion of the socially constructed nature of race and its implications for detecting direct discrimination. Our focus here extends to the study of systemic discrimination.

If the salience of racial identity is a significant contributing factor to racial bias in decision-making, it would also be of interest to know what factors contribute to race becoming a more salient part of a person's identity. RCTs that vary conditions that make people more aware of their (or others') racial identities may also shed light on ways to disrupt the links between racial identity and disparate racial outcomes. Myers and Levy (2018), for example, compare how different ways of framing demographic change—e.g., as a declining White population share or an increasing non-White population share—can lead to increased levels of anxiety and anger among White study participants. Such estimation of the relationship between information shocks and racial perceptions is related to the idea of a "racial instrument," proposed in Rose (2023). While Rose (2023) posits factors that may affect how a potential discriminator categorizes the race of another party, we have in mind factors that affect how much weight is placed on the race of one's self and others.[5]

IV.F A Focus on Strategic Responses and Resistance to Systemic Discrimination

The discussion above, as well as many of the existing RCT studies of discrimination in economics, focus either on detecting discrimination through the actions of an advantaged party or racial group, or through external interventions that mitigate the effects of discrimination. A potentially under-explored aspect within the systemic framework of analysis is the set of strategic decisions made by those who are disadvantaged within a racial hierarchy. While an extensive body of correspondence studies examines how employers react to so-called Black-sounding names (Neumark, 2018), much less attention has been paid to the strategic choices job applicants make about the presentation of their names, the use of middle names, initials, or nicknames in light of anticipated employer discrimination. Experimental studies, such as Rödin and Özcan (2011), vary the accent of hypothetical job candidates and measure the effect on beliefs about potential test performance. Potential candidates with thick foreign accents were perceived to have lower test scores. Of equal interest, in the U.S. context, is the ability of some—and not others— to "code switch" and speak with diction more or less identifiable with a racial minority depending on context (Anderson, 2022; Poplack, 2020).

Several avenues for future research suggest themselves: while existing studies find variation in direct discrimination across different employers (Kline, Rose and Walters, 2022), would this infor-

[5] Under certain formulations, the two may yield observational equivalent predictions.

mation alter the job search behavior of those potentially discriminated against by these employers? If correspondence studies are able to identify whether other observable traits mitigate racial discrimination in hiring, does this information alter human capital investments of the discriminated against? A related question is whether actors are more likely to take steps to combat or overcome discrimination or to become discouraged or defeatist, depending on whether the type of discrimination highlighted is direct, and therefore isolated in specific events or interactions, or systemic, and therefore diffuse and potentially more ubiquitous or robust to individual avoidance. Does exposure to discrimination increase one's own preference for in-group members? Are those who are subject to discrimination on a regular basis as effective in detecting biased actors as our correspondence or audit studies? Finally, how does exposure to discrimination affect one's beliefs about discrimination and the extent to which it is systemic in nature?

As a demonstration of the potential of this line of inquiry, we direct the reader toward a proposed, and not yet initiated, RCT found in the AEA registry. Alsan, Jones and Yang (2021) propose a research design that involves priming the salience of racial discrimination in one domain (law enforcement) and measuring spillovers to behavior by racial minorities in other domains (health care). Importantly, the study focuses on the beliefs and strategic behaviors of those being discriminated against, and whether a correlation of beliefs regarding discrimination across different domains is informative about perceptions of the systemic nature of said discrimination.

V Conclusion and Additional Considerations

As previously mentioned, this essay will contribute to the literature on discrimination in economics in four ways. First, we will extend the study of racial discrimination beyond documenting its existence (Bertrand and Duflo, 2017) to examining its systemic nature. Second, we will synthesize existing theories into a simple, conceptual model of systemic discrimination (Figure 1). Third, we will broaden the scope beyond labor market discrimination (Neumark, 2018) to include examples from health, housing, segregation, and the criminal justice system. Finally, we will highlight how RCTs can uniquely contribute to understanding and addressing systemic racial discrimination (Small and Pager, 2020).

At the same time, we will acknowledge that RCTs present certain limitations when studying systemic discrimination. First, we will discuss the fact that the six groups of research designs de-

scribed above are unlikely to be mutually exclusive. Thus, the design of an RCT focused on systemic discrimination is likely to be more complex than any category suggests in isolation. Second, as tends to be the case generally, RCTs that prioritize internal validity through proper experimental design are likely to require considerable resources in terms of the number of treatment arms and sample size. It is important to identify ways that evidence from small-scale RCTs can be combined to inform larger-scale research and policy questions.

Third, we will argue that RCT findings are most powerful when combined with theory and other empirical approaches such as structural methods and quasi and natural experiments. This does not have to occur within the same research study, per se. Specifically, RCTs and other approaches can complement each other to (i) enhance design and internal validity (Bohren, Hull and Imas, 2025) as well as their external validity and scalability (List, 2020, 2022; Y-Rise Initiative, 2025), (ii) assess potential welfare and policy impacts (Christensen and Timmins, 2023; Todd and Wolpin, 2023), and (iii) advance our scientific understanding of discrimination, for example, the use of other empirical tests of discrimination such as the Kitagawa-Oaxaca-Blinder decomposition, Bharadwaj, Deb and Renou (2024), and Ahmadi et al. (2025).

References

Ahmadi, Majid, Gwen-Jirō Clochard, Jeff Lachman, and John A. List. 2025. "Toward an Understanding of Discrimination When Multiple Channels Exist." National Bureau of Economic Research. NBER Working Paper No. 33391.

Alesina, Alberto, Matteo Ferroni, and Stefanie Stantcheva. 2021. "Perceptions of Racial Gaps, Their Causes, and Ways to Reduce Them." National Bureau of Economic Research. NBER Working Paper 29245.

Alexander, Sadie T. M. 2021. *Democracy.* New Haven, CT:Yale University Press. Race, and Justice: The Speeches and Writings of Sadie T. M. Alexander.

Alsan, Marcella, Damon Jones, and Crystal Yang. 2021. "Identifying and Addressing Structural Racism." AEA Registry Entry. American Economic Association.

Anderson, Elijah. 2022. *Black in White Space.* Chicago:University of Chicago Press.

Arrow, Kenneth J. 1972. "Models of job discrimination." In *Racial discrimination in economic life*. , ed. Anthony Pascal, 83–102. Lexington Books, MA:D. C. Health.

Austen-Smith, David, and Roland G. Fryer Jr. 2005. "An economic analysis of 'acting white'." *The Quarterly Journal of Economics*, 120(2): 551–583.

Banaji, Mahzarin R., and Anthony G. Greenwald. 2013. "Implicit Stereotyping and Prejudice." In *The Psychology of Prejudice*. Vol. 7, , ed. Mark P. Zanna and James M. Olson, 55–76. NJ:Lawrence Erlbaum Associates.

Banaji, Mahzarin R., Susan T. Fiske, and Douglas S. Massey. 2021. "Systemic racism: individuals and interactions, institutions and society." *Cognitive Research: Principles and Implications*, 6(1).

Baron, E Jason, Joseph J Doyle, Natalia Emanuel, Peter Hull, and Joseph Ryan. 2024. "Discrimination in Multiphase Systems: Evidence from Child Protection." *The Quarterly Journal of Economics*, 139(3): 1611–1664.

Becker, Gary S. 1957. *The economics of discrimination.* Chicago:University of Chicago Press.

Bertrand, M., and E. Duflo. 2017. "Field Experiments on Discrimination." *Handbook of Field Experiments*, 309–393. Elsevier.

Bertrand, Marianne, and Sendhil Mullainathan. 2004. "Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination." *American Economic Review*, 94(4): 991–1013.

Bharadwaj, Prashant, Rahul Deb, and Ludovic Renou. 2024. "Statistical Discrimination and the Distribution of Wages." NBER Working Paper No 32562.

Bohren, J. Aislinn, Kareem Haggag, Alex Imas, and Devin G. Pope. 2025. "Inaccurate statistical discrimination: An identification problem." *Review of Economics and Statistics*, 107(3): 605–620.

Bohren, J Aislinn, Peter Hull, and Alex Imas. 2025. "Systemic Discrimination: Theory and Measurement." *The Quarterly Journal of Economics*, 140(3): 1743–99.

Bonilla-Silva, Eduardo. 2021. "What Makes Systemic RacismSystemic?" *Sociological Inquiry*, 91(3): 513–533.

Chan, Alex. 2023. "Discrimination Against Doctors: A Field Experiment." Working Paper.

Chan, Jeff, Azim Essaji, and Rob Gillezeau. 2025. "Railroads, Market Access, and Indigenous Land Dispossession." Available at SSRN 5421538.

Charles, Kerwin Kofi, and Jonathan Guryan. 2011. "Studying Discrimination: Fundamental Challenges and Recent Progress." *Annual Review of Economics*, 3(1): 479–511.

Chelwa, Grieve, Darrick Hamilton, and James Stewart. 2022. "Stratification Economics: Core Constructs and Policy Implications." *Journal of Economic Literature*, 60(2): 377–399.

Chetty, Raj, Nathaniel Hendren, and Lawrence F. Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment." *American Economic Review*, 106(4): 855–902.

Christensen, Peter, and Christopher Timmins. 2023. "The Damages and Distortions from Discrimination in the Rental Housing Market." *The Quarterly Journal of Economics*, 138(4): 2505–57.

Christensen, Peter, Ignacio Sarmiento-Barbieri, and Christopher Timmins. 2021. "Racial Discrimination and Housing Outcomes in the United States Rental Market." NBER Working Paper No 29516.

Correll, Joshua, Bernadette Park, Charles M. Judd, Bernd Wittenbrink, Melody S. Sadler, and Tracie Keesee. 2007. "Across the thin blue line: Police officers and racial bias in the decision to shoot." *Journal of Personality and Social Psychology*, 92(6): 1006–1023.

Cullen, Zoë, Will Dobbie, and Mitchell Hoffman. 2023. "Increasing the Demand for Workers with a Criminal Record." *The Quarterly Journal of Economics*, 138(1): 103–150.

Darity Jr., William A. 1982. "The Human Capital Approach to Black-White Earnings Inequality: Some Unsettled Questions." *The Journal of Human Resources*, 17(1): 72–93.

Darity, Jr., William A. 2022. "Position and possessions: Stratification economics and intergroup inequality." *Journal of Economic Literature*, 60(2): 400–426.

Darity Jr., William A., and Andrea Kirsten Mullen. 2022. *From here to equality.* UNC Press Books.

Darity Jr., William A., and Samuel L. Myers. 1994. *The Black Underclass.* New York:Garland Publishing.

Darity Jr., William A., and Samuel L. Myers, Jr. 1998. *Persistent Disparity.* Cheltenham, England:Edward Elgar.

Dee, Thomas S. 2004. "Teachers, Race, and Student Achievement in a Randomized Experiment." *Review of Economics and Statistics*, 86(1): 195–210.

Derenoncourt, E., C. H. Kim, M. Kuhn, and M. Schularick. 2024. "Wealth of two nations: The US racial wealth gap, 1860–2020." *The Quarterly Journal of Economics*, 139(2): 693–750.

Dippel, Christian. 2014. "Forced Coexistence and Economic Development: Evidence From Native American Reservations." *Econometrica*, 82(6): 2131–2165.

Dube, Oeindrila, Sandy Jo MacArthur, and Anuj K. Shah. 2025. "A Cognitive View of Policing." *The Quarterly Journal of Economics*, 140(1): 745–791.

Duflo, Esther, Rachel Glennerster, and Michael Kremer. 2007. "Using Randomization in Development Economics Research: A Toolkit." *Handbook of Development Economics*, 3895–3962. Elsevier.

Ewing, Eve L. 2018. *Ghosts in the schoolyard.* University of Chicago Press.

Feir, Donn L., Rob Gillezeau, and Maggie E. C. Jones. 2023. "Institutional Drift, Property Rights, and Economic Development: Evidence from Historical Treaties." NBER Working Paper No 31713.

Francis, Dania V., Angela C. M. De Oliveira, and Carey Dimmitt. 2019. "Do school counselors exhibit bias in recommending students for advanced coursework?" *The BE Journal of Economic Analysis & Policy*, 19(4): 20180189.

Gorzig, Marina Mileo, and Deborah Rho. 2022. "The effect of the 2016 United States presidential election on employment discrimination." *Journal of Population Economics*, 35(1): 45–88.

Harris, Cheryl I. 1993. "Whiteness as property." *Harvard Law Review*, 106(8): 1707–1791.

Harrison, Glenn W., and John A. List. 2004. "Field Experiments." *Journal of Economic Literature*, 42(4): 1009–55.

Kessler, Judd B., Corinne Low, and Colin D. Sullivan. 2019. "Incentivized Resume Rating: Eliciting Employer Preferences without Deception." *American Economic Review*, 109(11): 3713–3744.

Kessler, Judd B., Corinne Low, and Xiaoyue Shan. 2024. "Lowering the Playing Field: Discrimination through Sequential Spillover Effects." *Review of Economics and Statistics*, 1–28.

Kline, Patrick, Evan K. Rose, and Christopher R. Walters. 2022. "Systemic Discrimination among Large US Employers." *The Quarterly Journal of Economics*, 137(4): 1963–2036.

Lai, Calvin K., and Jaclyn Arielle Lisnek. 2023. "The Impact of Implicit Bias-Oriented Diversity Training on Police Officers' Beliefs, Motivations, and Actions." *Psychological Science*, 34(4): 424–434.

Lala, Kevin N., and Marcus W. Feldman. 2024. "Genes, culture, and scientific racism." *Proceedings of the National Academy of Sciences*, 121(48). Article e2322874121.

Lang, Kevin, and Jee-Yeon K Lehmann. 2012. "Racial Discrimination in the Labor Market: Theory and Empirics." *Journal of Economic Literature*, 50(4): 959–1006.

Leonard, Bryan, Dominic P. Parker, and Terry L. Anderson. 2020. "Land Quality, Land Rights, and Indigenous Poverty." *Journal of Development Economics*, 143: 102435.

List, John A. 2020. "Non est Disputandum de Generalizability? A Glimpse into The External Validity Trial." NBER. Working Paper w27535.

List, John A. 2022. *The voltage effect.* Crown Currency.

Loury, Glenn C. 2019. "Why does racial inequality persist? Culture, causation, and responsibility." In *Manhattan Institute Essay*. 1–16. New York:Manhattan Institute.

Maeder, Evelyn M., Susan Yamamoto, and Laura A. McManus. 2015. "Race salience in Canada: Testing multiple manipulations and target races." *Psychology, Public Policy, and Law*, 21(4): 442.

Mason, Patrick L. 2023. "The Economics of Structural Racism: Stratification Economics and US Labor Markets." In *Studies in Stratification Economics*. 343–362. Cambridge:Cambridge University Press.

McMillon, David. 2023. "What Makes Systemic Discrimination "Systemic?" Exposing the Amplifiers of Inequity." SSRN Scholarly Paper.

Muralidharan, Karthik, and Paul Niehaus. 2017. "Experimentation at Scale." *Journal of Economic Perspectives*, 31(4): 103–24.

Myers, Dowell, and Morris Levy. 2018. "Racial population projections and reactions to alternative news accounts of growing diversity." *The ANNALS of the American Academy of Political and Social Science*, 677(1): 215–228.

Neumark, David. 2018. "Experimental Research on Labor Market Discrimination." *Journal of Economic Literature*, 56(3): 799–866.

Phelps, Edmund S. 1972. "The Statistical Theory of Racism and Sexism." *The American Economic Review*, 62(4): 659–661.

Poplack, Shana. 2020. "Sometimes I'll start a sentence in Spanish y termino en español: toward a typology of code-switching." In *The bilingualism reader*. , ed. Li Wei, 213–243. Routledge.

Rödin, Magnus, and Gülay Özcan. 2011. "Is It How You Look or Speak That Matters?: An Experimental Study Exploring the Mechanisms of Ethnic Discrimination." Working Papers 009, Bahcesehir University, Betam.

Roediger, David R. 2005. *Working toward Whiteness.* New York:Basic Books.

Rose, Evan K. 2023. "A constructivist perspective on empirical discrimination research." *Journal of Economic Literature*, 61(3): 906–923.

Saini, Angela. 2019. *Superior.* Boston:Beacon Press.

Sanbonmatsu, Lisa, Lawrence F. Katz, Jens Ludwig, Lisa A. Gennetian, Greg J. Duncan, Ronald C. Kessler, Emma K Adam, Thomas McDade, and Stacy T. Lindau. 2011. "Moving to Opportunity (MTO) for Fair Housing Demonstration: Interim Impacts Evaluation."

Small, Mario L., and Devah Pager. 2020. "Sociological Perspectives on Racial Discrimination." *Journal of Economic Perspectives*, 34(2): 49–67.

Thompson, Marissa E., and Sam Trejo. 2024. "My School District Isn't segregated: Experimental evidence on the effect of information on parental preferences regarding school segregation." *Sociology of Education*, 97(2): 97–119.

Todd, Petra E., and Kenneth I. Wolpin. 2023. "The Best of Both Worlds: Combining Randomized Controlled Trials with Structural Modeling." *Journal of Economic Literature*, 61(1): 41–85.

Wilkerson, Isabel. 2020. *Caste.* New York:Random House.

Worden, Robert E., Sarah J. McLean, Robin S. Engel, Hannah Cochran, Nicholas Corsaro, Danielle Reynolds, Cynthia J. Najdowski, and Gabrielle T. Isaza. 2020. *The impacts of implicit bias awareness training in the NYPD.* Washington, D. C.:John F. Finn Institute.

Y-Rise Initiative, Yale. 2025. "homepage." *http://web.archive.org/web/20080207010024/http://www.808multimedia.com/winnt/kernel.htm*.

Yudell, Michael, Dorothy Roberts, Rob DeSalle, and Sarah Tishkoff. 2016. "Taking race out of human genetics." *Science*, 351(6273): 564–565.