Gender Identity, Race, and Ethnicity Discrimination in Access to Mental Health Care: Preliminary Evidence from a Multi-Wave Study

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November 2020

Abstract

A broad body of interdisciplinary research establishes that transgender individuals face discrimination across many contexts, including healthcare. Simultaneously, transgender individuals face various mental health disparities, including higher rates of depression and anxiety, suicidality, and PTSD. Therefore, understanding the role of discrimination in access to mental health care is essential. However, no previous research quantifies the extent to which transgender and non-binary people face discrimination in mental healthcare markets. We provide the first experimental evidence of to what extent cisgender women, transgender women, transgender men, non-binary people, and racial and ethnic minorities (African American and Hispanic individuals) face discrimination in access to mental health services. While the experiment is still ongoing as of November 2020, we find significant discrimination against transgender or non-binary African Americans and Hispanics in access to mental health care appointments.

JEL Codes: I14, I11, I18, J16, C93.

[*]We are thankful for internal grant support from the Murphy Institute, the School of Liberal Arts, the Newcomb Institute, and the COR Research Fellowship. We also thank the National Institutes of Health via a postdoctoral training grant for Patrick Button (5T32AG000244-23), which funded his early research on this project at the RAND Corporation. The views expressed are our own and not those of any funders. We thank Sean Alvarez, Emma Brick-Hezeau, Batu El, Christopher Hoffler, Lucía Paternostro, Nile Pierre, Matthew Shernicoff, Gregory Shoats, Kodhai Thirumalai, Brandon Ware, and especially Kyla Denwood for excellent research assistance and comments. We also thank Lee Badgett, Stephanie Budge, Kitt Carpenter, Thomas LaViest, Kathleen Mullen, and Janna Wisniewski for helpful comments and discussions. We received helpful feedback from seminar and conference participants at RAND, the CSQIEP Virtual Seminar, the Advances in Field Experiments Seminar at UChicago, the Vanderbilt Applied Microeconomics conference, the Association for Public Policy Analysis and Management Conference, and the Triangle Health Economics seminar. This study was approved by the Tulane University IRB (2019-1122-TU Uptown). This experiment is pre-registered at the American Economic Association's registry for randomized controlled trials (RCT ID: AEARCTR-0006560).

Individuals who identify as transgender and non-binary[1] (TNB individuals) face socio-economic status and health disparities as well as confront considerable stigma and discrimination in their everyday lives (Badgett et al. 2009; Grant et al. 2011; Hughto, Reisner, and Pachankis 2015; James et al. 2016; Carpenter, Eppink, and Gonzales 2020). Compared to cisgender[1] people in the United States, TNB individuals are more likely to live in poverty, more likely to be food insecure (Russomanno et al. 2019), more likely to be or have been incarcerated, more likely to be or have been the victim of an assault (particularly the victim of intimate partner violence), be unemployed (Badgett, Carpenter, and Sansone, 2020; Leppel 2020), and be uninsured (Liszewski et al. 2018; Waters and Yacka-Bible 2017; James et al. 2016). TNB individuals are especially more likely to experience mental illness and severe psychological stress; TNB individuals have higher rates of anxiety, depression, substance misuse, and suicidality than non-TNB individuals (Safer et al. 2016; Lagos 2018; Miller and Grollman 2015; Meyer et al. 2017; Streed et al. 2018; Grossman and D'Augelli 2007; Scanlon et al. 2010; Mustanski et al. 2010; Nuttbrock et al. 2010; Su et al. 2016). These disparities are stark. In a sample of 1,053 transgender persons, for example, 41 percent report having attempted suicide. This rate is 26 times higher than the general population (Safer et al. 2016).[2]

[1] Throughout the paper, we will discuss transgender and non-binary individuals together; however, these are separate gender identities and our experimental design allows us to differentially test between binary transgender and non-binary individuals. Liszewski et al. (2018) propose useful definitions that we adopt. Someone who is transgender identifies with a gender identity that does not exclusively match their gender assigned at birth. Someone who is transgender may identify as a gender that is different than the one assigned at birth, with both genders, or no gender. Non-binary individuals identify neither as exclusively male nor exclusively female, may identify as something other than male or female, may identify as multi-gendered, or may not identify with any gender. Cisgender individuals have a gender identify as that assigned at birth.

[2] African American and Hispanic people also face significant health and socio-economic disparities, which we summarize in the background section.

Despite an increased need for general and mental health services, real or perceived gender identity discrimination[3] by mental health care professionals may affect a TNB individual's ability to access (or desire to seek) appropriate mental health care services and treatment. Previous research found that approximately one-fourth of transgender individuals opted not to seek health care when needed for fear of being mistreated due to their gender identity. One-third of transgender individuals report having had a negative experience related to identifying as transgender (James et al. 2016).

If mental health care providers (MHPs) behave in a manner that limits access to mental health services for TNB individuals or discourages them from seeking treatment, it will worsen mental health disparities in several ways. First, discrimination by MHPs further contributes to minority stress. Second, discrimination delays treatment, which negatively impacts health and increases treatment costs (Boudreau et al. 2004; Himelhoch et al. 2004). Third, difficulties in securing appointments lead many patients to discontinue the search for treatment altogether (James et al. 2016; Lambda Legal 2010). Fourth, discrimination may reduce match quality between the MHP and patient by forcing the patient to select a therapist who is trans-friendly but is otherwise not as suitable for the patient (e.g., less experienced in the patient's area of concern, further distance) (Mizock and Lundquist 2016). Patient-MHP mismatch negatively affects care since a high-quality match is crucial for effective care (Kantrowitz 2016; Budge and Moradi 2018).

Despite ample observational evidence that TNB individuals face substantial mental health disparities and survey evidence that TNB individuals report facing significant discrimination by

[3] Small and Pager (2020) note that economics has generally focused on measurable discrimination (on differences in wages, employment, mortgage rates, or other economic outcomes) rather than perceived discrimination, for "a potential's victim's mental health, depression, stress, and related health outcomes, perceiving that it happened is everything. Perceptions of discrimination can have an effect regardless of whether the perpetrator discriminated or instead seemed to discriminate but did not actually do so." (Small and Pager 2020; 63).

health care professionals, no study has quantified the actual level of gender identity discrimination within the mental health care system against TNB individuals.[4]

We measure discrimination in access to mental health care using an audit field experiment. Audit experiments are considered the "gold standard" for measuring discrimination (Neumark, 2018; Bertrand and Duflo, 2017; Gaddis, 2018) because they allow researchers to study discrimination in actual behavior and they allows researchers to calculate an unbiased estimate of discrimination by holding all factors other than minority status constant.

This paper provides the first experimental evidence of gender identity discrimination in the mental health care system. We further examine if this discrimination varies by race, ethnicity, by the intersection of gender identity and race or ethnicity, and by mental health concern. To do this, we conduct a large-scale experimental field study of mental health care providers throughout the United States. Specifically, we request appointments from mental health providers, including psychologists, counselors, social workers, and psychiatrists, using a popular online website.

In these requests, we randomly assign names to signal race and expressed gender through racialized and gendered (feminine or masculine) names. Specifically, in the first wave of the study, we use masculine and feminine names that signal a prospective patient is African American, Hispanic, or white. In the text of these requests, our fictitious patients that are transgender or non-binary reveal this by including a short statement like "I am a transgender

[4] The most relevant existing studies link the mental health disparities that transgender and nonbinary people face to self-reported measures of discrimination (Clements-Nolle, Marx, and Katz 2006; Hendricks and Testa 2012; Bockting et al. 2013; Miller and Grollman 2015; Perez-Brumer et al. 2015; Reisner et al. 2016; Tebbe and Moradi 2016; Testa et al. 2017). While informative, these studies do not observe actual discriminatory behavior, do not capture how often this discrimination occurs, and do not often capture whether discrimination occurs in access to health care.

woman/transgender man/non-binary and am looking for a trans-friendly therapist."[5] We also randomly assign the specific mental health concern that the individual is seeking treatment (e.g., anxiety, stress, or depression). In the subsequent waves of the study, we will add names to signal that a prospective patient is Chinese American and we will also randomize a signal of insurance status to study how insurance status affects access.[6] We include both an email address and a phone number where the MHP can contact the prospective patient in this appointment request.

We record several different categories of MHP responses to our inquiries, including the offer of an appointment, a call or consultation offer, placement on a waitlist, a referral to a different provider, a rejection, as well as no reply. Based on the results of the first wave of a multi-wave study, we find evidence that African American and Hispanic transgender and non-binary people face discrimination when attempting to access mental health care services.

When complete, our study will make several contributions to the existing literature on mental health care discrimination and gender identity discrimination. This is the first paper to provide causal estimates of gender identity discrimination in the U.S. health care system. Moreover, this study is also one of the few audit studies that explicitly tests for gender identity discrimination in any context (Make the Road New York 2010; Bardales 2013; Rainey, Imse, and Pomerantz 2015; Levy at al. 2017; Granberg, Andersson, and Ahmed 2020) with most of these studies having small sample sizes or being reports or honors thesis (with the exception being Granberg, Andersson, and Ahmed 2020, published in *Labour Economics*).[7]

[5] Disclosing trans status and inquiring about LGBTQ+-friendly providers is a common and recommended practice for TNB individuals seeking mental health services (Kassel 2018).

[6] We will randomize on five insurance statuses: no mention of insurance status, self-pay with no reference to a sliding scale, self-pay with a reference to paying through a sliding scale, Medicaid, and private insurance.

[7] There are a few studies that are not audit field experiments that also focus on discrimination or disparities faced by transgender people. Van Borm and Baert (2018) conduct a vignette experiment to quantify hiring discrimination against transgender women, compared to cisgender women, in fictional employment hiring scenarios. Van Borm et al. (2020) explore the mechanisms of hiring discrimination against transgender men using a similar vignette study. Reed, Franks, and Scherr (2015) conduct a small vignette study to quantify hiring discrimination against transgender

Our study is also the first to estimate race and ethnicity discrimination in the U.S. mental health care system using a national sample. While a few recent audit field experiments examine if MHPs discriminate based on race or socioeconomic status, these studies are limited. They either focus on particular types of mental health providers (e.g., psychiatrists and clinical psychologists), different localities (see Kugelmass 2016), or have even smaller sample sizes (e.g., 300) than our first wave data. We test a wider array of mental health care providers (including psychiatrists, psychologists, counselors, social workers) across the United States than previous studies. Previous studies test for discrimination among a specific segment of the mental health care system, i.e., clinical psychologists and psychiatrists.

Lastly, to our knowledge, we are the first study to use experimental methods to examine how race, ethnicity, and gender identity interact to moderate or exacerbate discrimination. This adds to the limited experimental research on intersectional discrimination in general (Lauster and Easterbrook, 2011; Pedulla 2014; Bourabain and Verhaeghe, 2018; Lahey and Oxley, 2018; Schwegman 2019; Burn et al., 2020). There is ample reason to believe that transgender and non-binary people of color will experience greater discrimination than their cisgender non-white or white transgender/non-binary peers. In the United States, anti-transgender violence, which includes physical and sexual violence, is highly racialized (Jefferson, Neilands, and Sevelius 2013; Lombardi et al. 2002; Stotzer 2009). For example, 61 percent of lethal anti-queer hate in the U.S. during 2016 resulted in the murder of trans women of color, rates well beyond their proportion of the general population (Waters and Yacka-Bible 2017).

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people and to what extent hiring discrimination is based on assumptions about transgender people having mental illness. Geijtenbeek and Plug (2018) study the earnings of transgender people compared to cisgender people, and compared to before and after their administrative gender transition. Schilt and Wiswall (2008) study how workplace experiences change after transitioning. Drydakis (2019) discusses mental health, life satisfaction, and job satisfaction before and after transitioning.

As we proceed through the next waves of the experiment, we will expand the study and further contribute to the literature. We discuss the details of the multiple extensions of this study in the concluding section of the paper.

At the time of this paper (November 2020), the experiment is ongoing. This working paper presents the results from the first wave of the study, where we contact 1,000 mental health care providers (MHPs) who post their contact information on a popular online platform. We send each MHP an appointment request from one prospective patient, with randomly assigned race or ethnicity (white, African American, Hispanic), gender identity (transgender, non-binary, presumed to be cisgender), and common mental health concern (depression, anxiety, stress).

Background

Mental Health Disparities among Racial, Ethnic, and Gender Minorities

There is a complex relationship between race, gender identity, and mental health. There is no clear sense of whether there are measurable and meaningful mental health differences across major racial-ethnic groups. For example, Hispanics, African Americans, and Asian Americans report having lower current, last-year, and lifetime rates of major depression and other psychiatric disorders than whites (Williams et al. 2007; Miranda et al. 2008; Williams 2018). However, when African Americans and Hispanics experience a mental disorder, their mental health episode tends to be more severe, persist for longer, and be more debilitating than for whites (Breslau et al. 2005). African Americans report experiencing an episode of depression are more likely to be chronically or persistently depressed, have more severe symptoms of depression, and be less likely to receive treatment (Williams et al. 2007; Williams 2018).

While the relationship between race and mental health is complex, there is more clear evidence that gender minorities (i.e., transgender and non-binary individuals) have worse mental

health, higher rates of major psychiatric disorders, and higher rates of substance misuse than the general population. Transgender and non-binary individuals report higher rates of suicidal ideation and attempted suicide, as well as significantly higher rates of clinical depression (Clements-Nolle et al. 2001; Grossman and D'Augelli 2007; Mustanski et al. 2010; Nuttbrock et al. 2010; Scanlon et al. 2010; Haas et al. 2011; Hoffman 2014; Su et al. 2016).

Moreover, there is broad consensus that exposure to chronic and acute stressors—such as poverty, neighborhood violence, or discrimination—can negatively affect mental health (Pearlin et al. 1981; Vega and Rumbaut 1991; Pearlin et al. 2005; Turner 2013). Racial and gender minorities face higher rates of "traditional" stress than whites. Notably, they are more likely to be unemployed, uninsured, exposed to neighborhood violence, and be involved in the criminal justice system (William 2017; James et al. 2016).

Economic precariousness, increased exposure to violence, social stigma, and explicit discrimination creates a unique set of psychological pressures and stresses for racial and gender minorities that is often referred to as "minority stress" (Kelleher 2009; Hendricks and Testa 2012; Arbona and Jimenez 2014; Tebbe and Moradi 2016; Testa et al. 2017). Minority stress is positively correlated with worse mental health outcomes, including higher rates of distress and depression (Schulz et al. 2006; Pascoe and Richman 2009; Williams and Mohammed 2009; Lewis, Cogburn, and Williams 2015; Paradies et al. 2015; Wallace, Nazroo, and Becares 2016).

Specifically, explicit discrimination and other stressors can negatively affect mental health through several different pathways. Discrimination can increase stress, which puts pressure on the body's cardiovascular system and heightens vigilance, i.e., a state of psychological arousal designed to monitor and protect oneself from threats (Williams, Lavizzo-Mourey, and Warren 1994; Sawyer et al. 2012). Heightened violence is positively associated

with depressive symptoms and has been found to contribute to the African American-white disparity in depression (LaVeist et al. 2014; Testa et al. 2012).

Moreover, structural and institutional racism can give rise to the "stress proliferation process" (Pearlin et al. 2005) in which an initial stressor can initiate or exacerbate stressors in other aspects of life (Williams 2018). Previous research has found evidence of racial discrimination in the labor market (e.g., Bertrand and Mullainathan 2004; Pager and Shepherd 2008; Gaddis 2015), the housing market (e.g., Murchie and Pang 2018; Hanson and Hawley 2011; Hanson et al. 2016; Gaddis and Ghoshal, 2019), the public sector (Giulietti, Tonin, and Vlassopoulos 2019; Bergman and McFarlin 2020), among other areas and markets. There is also evidence of TNB individuals facing significant discrimination in the labor market, in secondary and postsecondary schools, when accessing health care, when accessing housing, and in the criminal justice system (Grant et al. 2011; BreakOUT! and National Council on Crime & Delinquency 2014; Hanssens et al. 2014; Sears and Mallory 2014; Stotzer 2014; Stroumsa 2014; Mallory, Hasenbush, and Sears 2015; James et al. 2016; Romero et al. 2016; Levy et al. 2017; Glick et al. 2019; Baumle, Badgett, and Boutcher, 2020). This systematic discrimination and inequality not only causes stress, but it can both cause and contribute to economic insecurity, which is a significant source of stress (Williams 2018).

For TNB individuals and cisgender racial minorities facing acute psychological stressors, counseling and therapy are effective and common strategies for helping with numerous mental health concerns, such as stress, anxiety, depression, and substance misuse. However, if providers of these mental health services discriminate against TNB individuals and racial minorities by restricting access to these services, then this discrimination may partially cause and/or likely exacerbate underlying racial and gender identity-related mental health disparities.

Mental Health Care Providers in the United States

Mental health care providers supply and regulate access to mental health care services in the United States. Problematically, there is no universally agreed-upon definition of a "mental health care provider," nor is there a consensus on which provider types make up the mental health workforce in the United States (Heisler 2018). Mental health care services are provided by a wide range of licensed professionals, including primary care physicians, psychologists, nurses, mental health and substance abuse counselors, family and marriage counselors, and social workers. Specific education and licensure requirements can vary from state to state, whereas other licensure requirements are more uniform across states. For example, to be a clinical psychologist requires a doctoral degree in psychology (Ph.D. or Psy.D) and passage of a certification exam (e.g., the Professional Practice in Psychology Exam).

Regardless of their professional training and qualifications, mental health providers have a significant degree of professional autonomy. MHPs are significantly more likely to be in solo practice. While only one in five physicians work by themselves, almost half of all MHPs are in a solo practice (Michalski, Mulvey, and Kohout 2009; Kane and Emmons 2013; Kugelmass 2016, 2019). Thus, MHPs face fewer formal and institutional constraints on their ability to make decisions consistent with their explicit or implicit biases.

Previous experimental and observational studies have established that health care providers, including mental health professionals, make decisions about patients that are shaped by their perceptions of a patient's race, social class, and gender (van Ryn and Burke 2000; Kugelmass 2016, 2019). This research has primarily focused on how explicit or implicit prejudices and biases, notably about race, affect diagnosis, treatment recommendations, and patient management (Kikano et al. 1996; McKinlay et al. 1997; Arber et al. 2006; Green et al.

2007; Lutfey et al. 2008, 2010; Haider et al. 2011; van Ryn et al. 2011; Stepanikova 2012). These explicit or internalized biases and prejudices result in African Americans and other minorities receiving fewer procedures and poorer quality medical care than whites across virtually every medical intervention (Smedley, Stith, and Nelson 2003).

These disparities may be driven by a personal aversion or a "taste-based animus" against working with gender and racial minorities. Health care providers have been found to ascribe negative characteristics to African American patients and lower-class patients, and they often perceive African American patients as implicitly less cooperative and more hostile (Abreu 1999; van Ryn and Burke 2000; Green et al. 2007).

Few studies examine if health care providers hold explicitly negative anti-transgender/non-binary opinions. However, medicine and medical providers have historically treated transgender and non-binary bodies as abnormal, unhealthy, diseased, and in need of corrective treatment (Davis et al. 2015). The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders considered being transgender a mental disorder from 1980 until 2012 (Heffernan 2012), and the World Health Organization considered identifying being transgender as a mental illness until 2018 (Papenfuss 2019). Many MHPs continue to view transgender and non-binary people as mentally ill, delusional, and/or self-destructive because of their gender identity (Mizock and Fleming 2011).

There is also ample evidence to suggest that MHPs seek to cultivate a group of desirable patients by "cream-skimming," or explicitly or implicitly choosing to provide services to a specific group of patients. That is, MHPs could choose to only provide services only to patients based on several non-mutually exclusive characteristics, including gender or race homophily, type of services the patient is seeking (i.e., the severity of the mental illness), or insurance status

(i.e., the likelihood of payment, amount of payment, timeliness of payment). For example, there is evidence that therapists prefer to see YAVIS (young, attractive, verbal, intelligent, successful) patients (Tyron 1986; Teasdale and Hill 2006). Previous experimental audit and correspondence studies document cream-skimming based on a patient's socioeconomic status (Olah et al. 2013; Kugelmass 2016; Angerer, Waibel, and Stummer 2019), insurance status (Bisgaier and Rhodes 2011; Rhodes et al. 2014; Polsky et al. 2015; Olin et al. 2016; Werbeck et al. 2019), race (Sharma et al. 2015, 2018; Leech, Irby-Shasanmi, and Mitchell 2019; Wisniewski and Walker 2020), and perceived gender (Olah et al. 2013; Sharma et al. 2015).

Cream skimming is similar to the notion of statistical discrimination in the economics of discrimination literature. MHPs may not have an explicit taste-based aversion to gender non-conforming individuals, but rather the MHP assumes that someone who identifies as a TNB individual is more likely to have a severe mental health issue, which requires more time to treat and potentially poses greater liability. Alternatively, TNB individuals may be perceived as less likely to be insured and perceived as having a lower ability to pay for the service (Badgett, Carpenter, and Sansone, 2020, find that TNB individuals are less likely to be insured). Thus, a TNB individual is "on average" less desirable, and this desirability causes MHPs to respond at lower rates. If cream-skimming is driving the behavior of MHPs, then including elements that increase the desirability of the patient (e.g., ability to pay) should improve overall response rates.

Lastly, mental health care providers may hold implicit, unconscious biases about racial and gender minorities (Devine 1989; Greenwald and Banaji 1995). Devine (1989) noted that it is possible for individuals who are not explicitly prejudiced and who may deliberately try to avoid stereotypes and prejudice to still make decisions based on internalized biases or stereotypes. Numerous studies have found that health care providers hold implicit biases and stereotypes

about racial minorities that result in unequal treatment (McKinlay et al. 1996; Green et al. 2007). Much less is known about any implicit stereotypes held about gender identity. However, a recent study has found that people tend to express implicit and explicit preferences for cisgender over transgender people (Axt et al. 2020).

Regardless of the cause of any underlying discrimination, if MHPs are less responsive to and less helpful towards racial and gender minorities, this behavior will decrease access and reduce the probability that these individuals receive timely and necessary medical care.

The concluding section of this paper describes the steps that we will take to understand the mechanisms behind discrimination.

Experimental Design

Experimental field studies are the gold standard for detecting and measuring discrimination (Bertrand and Duflo 2017; Gaddis 2018; Neumark 2018). Experimental studies are practically the only method for causally measuring discrimination against groups for which there is very little administrative or survey data, i.e., transgender and non-binary individuals. In this section, we outline the details of our experimental design. We discuss ethics in audit studies in Appendix B.

Sampling Frame and Power Analysis

We use a popular online therapist search database to collect our sample of auditable mental health care providers. In order to be included in our sample, an MHP must: (1) not specialize exclusively on specific patients and issues outside of the scope of this experiment (e.g., children/adolescents, couples therapy), (2) must not be specialized in a type of therapy (e.g., couples therapy, grief) that would not deal with the common mental health conditions that we signal: anxiety, depression, and stress, (3) list an individual's profile (e.g., it cannot be the

profile of a clinic), (4) provide an email option through a web form, and (5) be accepting patients (i.e., we do not contact MHPs that indicate that they are not currently accepting patients). After accounting for these characteristics, we select MHPs proportionately to state populations. Within states, we select MHPs proportionally to the population zip code.

To control for variation in MHPs' characteristics, we collect information about each MHP to generate control variables for future analysis. Specifically, we record MHPs state, zip code, number of years in practice, cost per session, titles, licenses, and degrees. We also note whether each MHP specializes in anxiety, depression, and stress. Lastly, we record whether each MHP lists "transgender ally," "non-binary ally," “LGBT-ally,” and/or a transgender specialty on their profile.

Patient Profiles and Email Scripts

If a mental health care provider meets the inclusion criteria for this experiment, we send a message to them through an “Email Me” webform. In these inquiries, we use names to signal the fictitious prospective patient's race, ethnicity, and gender. We randomly assign various other aspects of the email to signal gender identity, mental health concern, and, in future waves of our experiment, insurance status. Figure 1 provides the general structure of our appointment inquiry emails, and Figure 2 summarizes the randomized options that we assign to each email.

Signaling gender identity.

We use names from two previous audit studies (Barlow and Lahey 2018; Gaddis 2017) to signal race and gender. We present these names in Figure 1, box 2. Each name is either stereotypically masculine (signaling that the sender identifies as a male) or feminine (signaling that the sender identifies as female). Transgender and cisgender women are assigned a feminine first name, whereas transgender or cisgender men are assigned a masculine first name. Non-

binary prospective patients are assigned either feminine names or masculine names, each with a 50 percent probability.[8]

Each MHP will receive one inquiry from one prospective patient who identifies either as transgender (25 percent of the time), non-binary (25 percent of the time), or cisgender (50 percent of the time). Specifically, transgender and non-binary prospective patients include a statement similar to the following in their appointment request email: "I am a transgender woman/transgender man/non-binary and I am looking for a therapist who is trans-friendly." Cisgender prospective patients do not include any statement about gender identity or trans status and are thus presumed to be cisgender.

We believe that signaling trans status in this way is common and externally valid. For a TNB individual seeking mental health services, finding a therapist who will not discriminate against them (i.e., a "trans-friendly" therapist) or stop them from being transgender[9] is essential. Disclosing transgender status and inquiring about trans-friendly services is common and is recommended by experts who provide advice on how to find trans-affirming care (e.g., Kassel 2018).

Signaling race and ethnicity.

We selected names that clearly signal gender, race (African American or white), and ethnicity (Hispanic) from studies that carefully test how names signal race, ethnicity, and

[8] Many non-binary people keep their names assigned at birth, or otherwise have names that are more feminine or masculine, especially since few names are non-gender specific. We considered including some non-gender specific names for non-binary people but decided not to since there is no clear naming convention or way that non-binary people select non-gender specific names. Also, including another set of names would have added another difference between our non-binary prospective patients and our transgender and cisgender prospective patients, which may have made it more different to compare results.

[9] Almost 1 in 10 respondents to the 2015 U.S. Transgender Survey report that at least one MHP has tried to stop them from being trans and/or non-binary (James et al. 2016). Those who have experienced a professional try to stop them from being trans and/or non-binary report worse mental health outcomes, including higher rates of psychological distress and attempted suicide.

socioeconomic status (Gaddis 2017a; 2017b; Barlow and Lahey 2018).[10] We present these names in Figure 2. In the next waves of our experiment, we will add Chinese American names, as discussed in our concluding section.

In the first wave of the study, the results of which we present in this paper, we randomly assign an MHP to receive an inquiry containing a white name approximately 50 percent of the time, an inquiry containing an African American name approximately 25 percent of the time, and an inquiry containing a Hispanic name approximately 25 percent of the time.

Signaling mental health concern.

We also randomly assign one of the following mental health conditions: stress, anxiety, or depression. We use these conditions since they are the most common, virtually all MHPs are qualified to treat them, and they do not suggest that the mental health concern is trans-specific. We focus this study on quantifying access to mental health care for common mental health conditions rather than quantifying access to trans-specific care, which is a separate research question requiring a different research design.

Coding of Mental Health Provider Responses

Each email contained both the fictitious patient's email and phone number. MHPs are thus able to respond via phone, text message, email. In this first wave of the study, the overall response rate was 75.5 percent, comparable in overall response rates to other email correspondence audit studies (Hanson et al. 2016). Among these responses, 80 percent of MHPs

[10] Using these names helps us confront the criticism that using names to signal race leads to over-estimating discrimination because some names also have negative socioeconomic status signals (Fryer and Levitt 2004; Darolia et al. 2016; Gaddis 2017a; 2017b; Barlow and Lahey 2018; Ghoshal 2019).

responded via email, and the remainder left a voicemail.[11] We consider a (non-automated) email, a text message, and a phone call to be a response.

We coded each response into one of the following seven mutually exclusive outcome categories: appointment offered (33.0%), call or consultation offer (23.3%), screening question(s) (6.0%), referral (4.8%), waitlist (2.1%), rejection (6.0%), and no response (24.5%). These seven different categories capture the variation in the quality of response. See Table 1 for each outcome's formal definition and frequency by gender identity, race, and ethnicity.

To improve power and increase our results' interpretability, we collapse these categories into a binary variable, called "positive response," that adopts the value one if the MHP's response was normatively positive (the sum of appointment offer and call or consultation offer) and zero otherwise.[12] Categorizing responses as positive or not positive is a standard approach in audit studies (e.g., Neumark, Burn, and Button 2019; Kugelmass 2019), but in future waves of the study, we will conduct an analysis that better explores differences between frequencies in different response categories.

Empirical Strategy

We use regression analysis to quantify differences in outcomes. We start first by testing for differences in our broader categories, using the binary "positive" outcome variable and a linear probability model[13] as follows:

$$Positive_i = \beta_0 + \beta_1 TransOrNonBinary_i + \beta_2 AfricanAmerican_i + \beta_3 Hispanic_i + \beta_4 Depression_i + \beta_5 Anxiety_i + \varepsilon_i \quad [1]$$

[11] We record MHP's phone numbers and cross-reference those with any missed calls, but we find no MHPs that called without leaving a voicemail.
[12] This is the same binary categorization as Kugelmass (2019).
[13] Our main results are similar using a probit model (see Table Appendix Table A1).

$Positive_i$ equals one for positive responses to the appointment inquiry (appointment offer or call or consultation offer), and $TransOrNonBinary_i$, $AfricanAmerican_i$, and $Hispanic_i$ are indicator variables for each randomized status, with the excluded category being cisgender white people. $Depression_i$ and $Anxiety_i$ capture differences in the positive response rate between those who mention depression or anxiety in their appointment request, compared to those who just mention having stress. In our preferred specifications, we also include state fixed effects and fixed effects for the week and day of the week when we sent the appointment request. We cluster our standard errors at the patient level since, while each MHP only gets one email, each patient emails appointment requests to multiple MHPs in their assigned area.

We then extend equation [1] to explore intersectional groups, such as individuals by gender identity (e.g., transgender wo(men) vs. cisgender wo(men) vs. non-binary people) and by race, ethnicity, and gender identity intersectionality (e.g., trans people of color).

In subsequent analyses, when we have a larger sample size and have collected more data, we will control for MHP characteristics. However, we do not anticipate that this would do anything other than perhaps increase precision. We will also conduct a more in-depth analysis of differences in the types of responses, such as using multinomial models to determine if there are differences within our binary categorization that our analysis does not pick up. For example, are TNB individuals more likely to get a call or consultation offer instead of an outright appointment? Or are TNB individuals more likely to get referrals instead of being outright rejected? This analysis will provide a deeper understanding of how MHPs react to prospective patients.

Results from the First Wave of the Experiment

General Response Types and Positive Response Rates

Between January 28, 2020, and May 15, 2020, we sent appointment requests to 1,000 different MHPs. Before proceeding, it is important to note that, although our sample size is small, it is only the first wave of a multi-wave study. Thus, these results are preliminary and subject to change based on the results of subsequent waves.

We receive responses to 75.5 percent of all our inquiries. In Table 1, we categorize the responses into seven mutually exclusive outcome categories. In particular, we received an appointment offer from one third of our appointment requests and we received a call or consultation offer 23.3 percent of the time. We code both of these as positive responses in our binary coding, so the positive response rate is 56.3 percent. For the responses we code as negative, the most common situation was that we did not receive a response at all (24.5 percent), followed by a response with a rejection (6.0 percent), the MHP asks a screening question but does not offer an appointment, call, or consultion (6.0 percent), at the MHP offers a referral only (4.8%), or the MHP offers to put the prospective patient on a waitlist (2.1%).

Differences in Positive Response Rates

We then collapse this more detailed coding of responses into our binary positive response coding (positive responses are appointment, call, or consultation offers) to present raw differences in positive response rates. Table 2 presents positive response rates (appointment, call, or consultation offers) by gender identity, first for the aggregated grouping of cisgender versus transgender and nonbinary (TNB). Cisgender prospective patients received a positive response 60.6 percent of the time while TNB prospective patients only received a positive response 52.8 percent of the time – a statistically significant 7.8 percentage point difference ($p = 0.013$, using a two-sided t-test). We then compare positive response rates by our finer categorizations of gender identity. Cisgender men have the highest positive response rate (61.6 percent) followed by

cisgender women (58.8), transgender women (55.8), non-binary individuals (51.9), and transgender men (50.7). These finer categorizations have less precision, given our smaller sample size, so only the response rate difference between cisgender and transgender men – where transgender men have an 10.9 percentage point lower response rate – is statistically significant ($p = 0.03$).

Table 3 presents positive response rates by race and ethnicity. White prospective patients have the highest positive response rate (58.0 percent) followed by African American (55.5) and Hispanic (54.8). None of these differences are statistically significant in this raw data.

Table 4 presents positive response rates for groups by the intersection of race, ethnicity, and gender identity. We find no statistically significant differences in raw response rates between whites, African Americans, or Hispanics *with* the same transgender/cisgender status. However, we find differences by race and ethnicity across transgender/cisgender status. Cisgender African Americans have a higher positive response rate (60.7 percent) than TNB African Americans (50.0 percent) ($p = 0.077$), and cisgender whites have a higher positive response rate (61.5 percent) than TNB whites (54.2) ($p=0.096$).

However, we find the largest positive response rate differences by comparing TNB African Americans and Hispanics to cisgender whites. TNB African Americans face the lowest positive response rate (50.0 percent) compared to cisgender whites, who face the highest rate (61.5) ($p=0.030$). For TNB Hispanics, this response rate is 53.3 percent (p=0.**\\105). Thus, it appears that more of the discrimination is intersectional.

Regression Analysis of Differences in Positive Response Rates

Table 5 presents regression estimates of the differences in response rate by race, ethnicity and gender identity derived from the linear probability model specified in equation [1]. Without

any control variables, the regression estimates show that prospective patients who signal transgender or nonbinary status have between a 6.5 and 7.5 percentage point lower positive response rate, significant at the 5 percent level (columns (1) and (2)). Without control variables, there is also no difference in response rates between white, African American, and Hispanic prospective patients. These results mirror the raw differences in positive response rates seen in Tables 2 and 3. We also find that those who mention anxiety in their appointment request, rather than stress, have a 10.4 percentage point lower response rate.

Adding state fixed effects (column (3)) changes these estimates significantly.[14] With state fixed effects, the positive response rate is only 3.3 percentage points lower and statistically insignificant for TNB individuals compared to cisgender individuals. Adding state fixed effects reveals discrimination against African American prospective patients, with a 10.9 percentage point lower response rate, statistically significant at the 5 percent level. Adding state fixed effects also removes the estimated positive response rate difference between prospective patients who mention stress versus anxiety.

We then add week sent and day of the week sent fixed effects to control for random variation from the time that the emails were sent (although this is random with respect to prospective patient demography). In our preferred specification with all these controls (column (5)), we find no evidence of differential positive response rates between cisgender-assumed patients and those who directly signal transgender or nonbinary status. However, but we do find that, on average, MHPs respond to both African American and Hispanic patients about 13

[14] This is a function of our temporarily smaller sample size. Patient demographics are randomly assigned by state. The inclusion of state fixed effects controls for between-state differences in response rates, which is a significant source of variation in positive response rates. The inclusion of state fixed effects also means that we put more weight onto within-state differences by patient demographics. We have less within-state variation in patient demographics since, unlike many other audit field experiments, we do not send subjects (MHPs) more than one email. We also only send one appointment request to each MHP, so there is no within-MHP variation in patient demography that would then increase the amount of within-state variation in patient demographics.

percentage points less often than white patients (significant at the 1 percent and 5 percent levels, respectively). In this preferred specification, we also find that prospective patients reporting depression as the primary mental health concern in an inquiry to the MHP increases the probability of a positive response by nearly 15 percentage points relative to the prospective patient mentioning stress.

In Table 6, we disaggregate the cisgender and TNB groups to quantify differences in positive response rates to prospective patients of specific gender identities: (binary) transgender men and women, nonbinary individuals (with either masculine-coded or feminine-coded names), and cisgender men and women (where cisgender men are the comparison group). All estimates are from a regression that includes the control variables in our preferred specification (column (5) in Table 5).

Column (1) of Table 6 reports the coefficients estimated in Table 5 for comparison. Column (2) considers binary transgender and nonbinary individuals separately, column (3) further differentiates binary transgender people to consider transgender women, transgender men, and nonbinary individuals separately. Column (4) further differentiates nonbinary individuals by if they have female-coded or male-coded first names. Regardless of how we divide the TNB population, we do not find any differences within TNB subgroups, or between TNB subgroups and cisgender individuals. However, we do find that cisgender women are about 10.8 percentage points less likely to receive a response compared to cisgender men.

In Table 7, we disaggrate cisgender and TNB people by race and ethnicity to quantify any intersectional discrimination, a trend we saw in the raw data in Table 4. Column (1) of Table 7 again reports baseline estimates from our preferred specification reported in Column (5) of Table 5. Column (2) reports differences in response rates for specific racial and ethnic groups

disaggregated by gender identity. We find that white TNB prospective patients are about 10.0 percentage point *more* likely to receive a positive response compared to white cisgender prospective patients, although this is only statistically significant at the 10 percent level. However, TNB prospective patients that are African American are 13.3 percentage points less likely to receive a positive response compared to white cisgender prospective patients (significant at the 5% level). These estimates show that TNB prospective patients that are Hispanic have a 10.3 percentage point lower response rate, but this is not statistically significant. We do not find any differences in positive response rates between cisgender African Americans, cisgender Hispanics, or cisgender whites.

Table 8 disaggregates these results further by specific gender identity (transgender women, transgender men, cisgender women, cisgender men) and by race and ethnicity. Table 8 shows that white transgender men (white transgender women) are 21.1 (16.9) percentage points *more* likely to receive a positive response, compared to cisgender whites (both significant at the 5 percent level). However, Hispanic transgender women are 37.0 percentage points less likely to receive a positive response (significant at the 1 percent level). African American transgender men (African American transgender women) have 12.4 (7.6) percentage point lower positive response rates, but these are not statistically significant.

For nonbinary prospective patients, there is no difference in positive response rates between nonbinary white and cisgender white prospective patients. However, African American nonbinary prospective patients have a 49.1 percentage point lower positive response rate, significant at the 1 percent level. Hispanic nonbinary individuals have a 13.8 percentage point lower positive response rate, but this is only significant at the 10 percent level.

Conclusion and Discussion

To summarize our results from our first wave of the experiment, we more consistent evidence of race and ethnicity discrimination, with African American and Hispanic prospective patients facing lower positive response rates to appointment requests. However, we generally find no differences in positive response rates between TNB and cisgender prospective patients. This lack of a difference occurs because positive response rates are actually *higher* for white transgender women and men. On this other hand, this is offset by African American and Hispanic TNB people (particularly Hispanic transgender women, and nonbinary African American people) facing lower positive response rates. Thus, ignoring intersectionality would have obscured this discrimination against TNB people of color. We also find that cisgender women face lower positive response rates compared to cisgender men, and prospective patients that mention depression as their mental health concern receive higher positive response rates. These prelimary results motivate our continued data collection to better understand the ways and reasons that discrimination occurs in access to mental health care. In the next section we detail the next steps in this research.

Next Steps

We will expand this research to investigate the mechanisms behind discrimination. We will study where and why discrimination occurs by taking equation [1] and adding interactions between our minority status variables and moderators of discrimination. Table 9 presents these interaction variables, what they test for, and our hypotheses. For example, we will study if MHP race or ethnicity predicts discrimination, if transgender rights laws affect discrimination, and to what extent discrimination may be taste-based, statistical, or based on implicit bias. We will also explore how COVID-19 and related policies, such as shelter-in-place ordinances, have affected access to mental health care, and discrimination in access to mental health care.

In addition to exploring these moderators and sources of discrimination, we will extend this study in future waves by adding additional experimental arms as follows:

1. we will add prospective patients with Chinese names to study discrimination against that group;
2. we randomize mention of different insurance statuses and methods of payment to quantify if prospective patients with Medicaid face reduced access to mental health care; and
3. we will add prospective patients who vary in sexual orientation to quantify sexual orientation discrimination.

We detail these plans below and welcome any feedback.

Insurance Status, Access to Mental Health Care, and Statistical Discrimination

In the next wave, we will randomly include a reference to insurance status. We will randomly assign insurance status so that an MHP has a 10 percent probability of receiving an inquiry in which insurance is not mentioned, a 16 percent probability of receiving an email in which self-pay with no reference to a slide scale is mentioned, a 14 percent probability of receiving an email in which self-pay with a reference to a slide scale is mentioned, a 30 percent probability of receiving an inquiry in which Medicaid is mentioned, and a 30 percent probability of receiving an email in which private insurance is referenced.[15]

There is some research on how insurance or ability to pay affects access to health care. A few audit field experiments like ours quantify how access to primary care varies by insurance status (Bisgaier and Rhodes 2011; Rhodes et al. 2014; Polsky et al. 2015; Sharma, Mitra, and Stano 2015; Olin et al. 2016; Sharma et al. 2018; Leech, Irby-Shasanmi, and Mitchell 2019), generally finding that those with Medicaid face reduced access to health care. We expect that

[15] The first wave of the experiment, detailed in this paper, did not include any mentions of insurance status.

those with Medicaid will face similar barriers in access to mental health care as they do for access to primary care.

In addition to randomizing insurance status to our prospective patients to quantify access to mental health care appointments, we can also use this to study statistical discrimination, as detailed in Table 9. To summarize, MHPs could statistically discriminate against minorities by assuming that they have worse insurance or worse ability to pay. We can quantify this statistical discrimination by testing if minorities face more discrimination when insurance status is not revealed compared to when it is. If MHPs assume that minorities have worse ability to pay, then revealing ability to pay (e.g., private insurance) will differentially boost positive response rates more for minorities.

Discrimination Against Chinese Prospective Patients

In the next wave of our experiment, we include names that signal the prospective patient is Chinese American. No study has examined if Asian Americans face discrimination in access to mental health care services. Chinese American status will be disclosed with frequent first and last names in the U.S. Chinese community. Half the time, our Chinese American prospective patients will have Chinese first names and last names. The other half of the time, our Chinese American prospective patients will have gender-specific English first names and Chinese last names.

Sexual Orient**t**ation Discrimination

In a future wave of the experiment, we will include signals for sexual orientation, likely using a similar approach to how be signal transgender or nonbinary status. That is, lesbian, gay, or bisexual (LGB) prospective patients would include a statement like “I am gay/lesbian/bisexual and am looking for a gay-friendly therapist.” This extension to study sexual orientation

discrimination would be the first audit field experiment of discrimination in access to health care for LGB people.

COVID-19 and Access to Mental Health Care

Our first wave of data collection (between January 28, 2020, and May 15, 2020) occurred during the first wave of the COVID-19 pandemic and we plan to continue further data collection soon. As of writing, cases has reached an all-time high and there is no expectation of the pandemic ending any time soon. This provides us with a natural experiment to explore how access to mental health care varies before, during, and after the pandemic and with the severity of the pandemic.

Why should access to MHPs change during a pandemic? Similarly, to other social crises, the intensity of the COVID-19 pandemic—as proxied by infection and mortality rates as well as by shelter-in-place ordinances—increases depression and suicidal ideation (Killgore et al. 2020; McIntyre and Lee; 2020; Pfefferbaum and North 2020; Torales et al. 2020). MHPs can help treat these conditions, but they are likely to face increased demand for appointments. We will test three hypotheses: (i) the increase in the COVID-19 intensity, measured as either cases or dealths, reduces access to therapy appointments, (ii) shelter-in-place ordinances reduce access to therapy appointments, and (iii) discrimination against minorities increases with increased COVID-19 intensity and with shelter-in-place ordiances. We hypothesize that discrimination could increase in these cases since prior research links (but not conclusively) increased discrimination to shortages (Kroft, Notowidigdo, and Lange 2013; Baert et al. 2015; Carlsson, Fumarco, and Rooth 2018; Dahl and Knepper 2020).

The integration of COVID-19 data will help us explore in greater detail discrimination against Chinese Americans. Based on surveys conducted in the initial days of the COVID-19

pandemic, there was an increase in anti-Asian and anti-Chinese views and events (Ruiz, Horowitz, and Tamir 2020; Litam 2020). We will examine if MHPs are more or less responsive to Chinese Americans over the course of the COVID-19 pandemic. We will exploit both geographical and temporal variation in the pandemic's severity to examine how this severity correlates with MHP behavior towards Chinese Americans.

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Figure 1. Structure of the Emails to MHPs

1.) **[EMAIL SUBJECT LINE]** *Legend: ( ): denotes motivating verbiage, not exact phrasing*
Hi,/Hello, *[ ]: denotes randomized input*
My name is 2) **[NAME]**. (I'm contacting you because) 3) **[MENTAL HEALTH CONCERN]** (and would like to talk to a therapist). *If transgender or non-binary:* I am 4) **[GENDER IDENTITY]** and am looking for a therapist who is trans-friendly. 5) **[APPOINTMENT REQUEST]**.
6) **[VALEDICTION]**
2) **[NAME]**

Figure 2. Randomized Components of the Emails to MHPs

1) **[EMAIL SUBJECT LINE]**

-Seeking therapy

-Looking for a therapist

- Therapy inquiry

3) **[MENTAL HEALTH CONCERN]**

-I've been feeling anxious lately.

-I've been feeling stressed all the time.

-I think I might be depressed.

4) **[GENDER IDENTITY]**

-a transgender woman

-a transgender man

-non-binary

2) **[NAME]**

Afr.-Am.	*Hispanic*	*White*
	Male First Names	
Darius	Alejandro	Brian
DeShawn	Luis	Kevin
	Female First Names	
Ebony	Mariana	Amanda
Lakeisha	Valentina	Heather
	Last Names	
Washington	Hernandez	Anderson
Jefferson	Garcia	Thompson

5) **[APPOINTMENT REQUEST]**

-Can we set up an appointment?

-When could I see you?

6) **[VALEDICTION]**

-Sincerely, -Thanks, -Best, -[None]

Notes: Ethnic and race specific first names are from Barlow and Lahey (2018), Gaddis (2017).

Table 1: Descriptive Statistics of Outcomes

Outcome	Description	Binary Coding	*Overall*	*Gender Identity*		*Race and Ethnicity*		
				Cisgender	*Transgender or Non-Binary*	*African American*	*Hispanic*	*White*
Appointment Offer (A):	The MHP explicitly offers an appointment.	+	33.0%	33.2%	33.4%	32.4%	34.0%	33.4%
Call or Consultation Offer (C):	The MHP offers to speak on the phone but does not explicitly offer an appointment.	+	23.3%	27.3%	19.6%	23.2%	20.5%	24.6%
Screening Question (Q):	The MHP requests additional information but does not explicitly offer an appointment.	-	6.0%	7.1%	5.0%	7.0%	5.0%	5.9%
Referral (R):	The MHP gives a referral, but does not offer an appointment.	-	4.8%	3.8%	5.8%	5.9%	3.2%	4.9%
Waitlist (W):	The MHP offers to put the prospective patient on a waitlist.	-	2.1%	1.3%	2.9%	0.7%	0.4%	2.1%
Rejection (X)	The MHP rejects the prospective patient and does not offer an alternative provider.	-	6.0%	6.5%	5.6%	6.6%	5.5%	5.8%
No Response (N.R.):	No response from the MHP within one week.	-	24.5%	20.9%	27.6%	24.0%	28.2%	23.0%

Notes: These categorizations are mutually exclusive. For example, a response is coded as an appointment offer even if a referral is also provided.

Table 2. Positive Response Rates by Gender Identity

Response Rates by Trans/Cis Status:	Positive	Negative	Total		
Cisgender	60.6% (291)	39.4% (189)	480		
Transgender or Non-binary	52.8% (275)	47.2% (245)	520		
Total			1,000		
Test of independence, p-value	0.013				
Response Rates by Gender Identity:					
Cisgender men	61.6% (191)	38.4% (119)	310		
Cisgender women	58.8% (100)	41.2% (70)	170		
Transgender men	50.7% (71)	49.3% (69)	140		
Transgender women	55.8% (95)	44.2% (75)	170		
Non-binary	51.9% (109)	48.1% (101)	210		
			1,000		
Tests of independence, p-values	Cis men	Cis women	Trans men	Trans women	Non-binary
Cisgender men	…				
Cisgender women	0.551	…			
Transgender men	0.030	0.151	…		
Transgender women	0.222	0.585	0.365	…	
Non-binary	0.028	0.179	0.829	0.441	…

Notes: Responses are coded as positive if the MHP's response was an appointment offer or a call or consultation offer. P-values come from a t-test (two-sided).

Table 3. Positive Response Rates by Race or Ethnicity

	Positive	Negative	Total
White	58.0% (290)	42.0% (210)	500
African American	55.5% (150)	45.5% (120)	270
Hispanic	54.8% (126)	45.2% (104)	230
Total			1,000

Tests of independence, p-values	White	African American	Hispanic
White	…	…	…
African American	0.514	…	…
Hispanic	0.415	0.862	…

Notes: Responses are coded as positive if the MHP's response was an appointment offer or a call or consultation offer. P-values come from a t-test (two-sided).

Table 4. Positive Response by Race or Ethnicity, for Cisgender and Transgender or Non-binary Patients Separately

Response rates for cisgender only:	Positive	Negative	Total
White	61.5% (160)	38.5% (100)	260
African American	60.7% (85)	39.3% (55)	140
Hispanic	57.5% (46)	42.5% (34)	80
Total			480

Test of independence, p-values	White	African American	Hispanic
White	…	…	…
African American	0.872	…	…
Hispanic	0.519	0.642	…

Response rates for transgender or non-binary only:	Positive	Negative	Total
White	54.2% (130)	47.8% (110)	240
African American	50.0% (65)	50.0% (65)	130
Hispanic	53.3% (80)	46.7% (70)	150
Total			520

Test of independence, p-values	White	African American	Hispanic
White	…	…	…
African American	0.445	…	…
Hispanic	0.873	0.579	…

Transgender or non-binary vs. Cisgender - Tests of independence, p-values

	Cisgender White	Cisgender African American	Cisgender Hispanic
Transgender or non-binary White	0.096	…	…
Transgender or non-binary African American	0.030	0.077	…
Transgender or non-binary Hispanic	0.105	…	0.547

Notes: Responses are coded as positive if the MHP's response was an appointment offer or a call or consultation offer. P-values come for a t-test (two-sided).

Table 5: Differences in Positive Response Rates, Results for Aggregated Groups and by Mental Health Concern

	(1)	(2)	(3)	(4)	(5)
Transgender or Nonbinary	- .07446**	-.0657**	-.0334	-.0084	.0123
	(.0317)	(.0320)	(.0429)	(.0429)	(.0426)
African American	- .0245	-.0226	-.1091**	-.1492**	-.1333***
	(.0374)	(.0374)	(.0432)	(.0419)	(.0404)
Hispanic	-.0195	-.0278	-.0209	-.0911*	-.1302**
	(.0398)	(.0399)	(.0526)	(.0465)	(.0495)
Depression	…	- .0201	.0450	.1366**	.1459**
		(.0385)	(.0502)	(.0587)	(.0576)
Anxiety	…	-.1040**	-.0011	.0139	.0111
		(.0449)	(.0524)	(.0527)	(.0527)
State fixed effects:			X	X	X
Week sent fixed effects:				X	X
Day of the week sent fixed effects:					X
Mean positive response rate for excluded category (cisgender whites w/ stress):	.6158	.6479	.6487	.6473	.6353
Observations	1,000	1,000	1,000	1,000	1,000
Adjusted R^2	0.0063	0.0076	0.0808	0.0986	0.1070

Notes: Regression estimates based on the linear probability model in equation (1). Standard errors, clustered at the patient level, in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Differences in Positive Response Rates, Results by Gender Identity

	(1)	(2)	(3)	(4)
Transgender or Nonbinary	.0123	…	…	…
	(.0426)			
…Binary Transgender	…	.0289	…	…
		(.0472)		
…Trans Women	…	…	.0004	.0096
			(.0624)	(.0618)
…Trans Men	…	…	-.0200	-.0158
			(.0660)	(.0665)
…Nonbinary	…	-.0272	-.0607	…
		(.0690)	(.0706)	
…Nonbinary female first name	…	…	…	-.0100
				(.0873)
…Nonbinary male first name	…	…	…	-.0892
				(.0891)
Cisgender Women	…	…	-.1082**	-.1086**
			(.0527)	(.0534)
African American	-.1333**	-.1355**	-.1505***	-.1459**
	(.0404)	(.0399)	(.0412)	(.0422)
Hispanic	-.1302**	-.1309**	-.1183**	-.1262**
	(.0495)	(.0509)	(.0451)	(.0454)
Mean positive response rate for excluded category (cisgender white men):	.6353	.6383	.6776	.6826
Observations	1,000	1,000	1,000	1,000
Adjusted R^2	0.1070	0.1076	0.1096	0.1100

Notes: All regressions include the controls in column (5) of Table 5: mental health concern (depression, anxiety, stress), state fixed effects, day of the week sent fixed effects, and week sent fixed effects. Column (1) repeats the results from column (5) in Table 5 for ease of interpretation. Standard errors, clustered at the patient level, in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Differences in Positive Response Rates, Intersectional Results by Trans/Cisgender Status and Race/Ethnicity

	(1)	(2)
Transgender or Nonbinary	.0123	…
	(.0426)	
…and white	…	.0998*
		(.0574)
…and African American	…	-.1333**
		(.0613)
…Hispanic	…	-.1025
		(.0625)
Cisgender		
…and African American	…	-.0241
		(.0659)
…Hispanic	…	-.0321
		(.0673)
All African American	-.1333**	…
	(.0404)	
All Hispanic	-.1302**	…
	(.0495)	
Mean positive response rate for excluded group (cisgender whites):	.6353	.6510
Observations	1,000	1,000
Adjusted R^2	0.1070	0.1100

Notes: All regressions include the controls in column (5) of Table 5: mental health concern (depression, anxiety, stress), state fixed effects, day of the week sent fixed effects, and week sent fixed effects. Column (1) repeats the results from column (5) in Table 5 for ease of interpretation. Standard errors, clustered at the patient level, in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Differences in Positive Response Rates, Intersectional Results by Gender Identity and Race/Ethnicity

	(1)
Transgender Women	
…and white	.1689**
	(.0743)
…and African American	-.0760
	(.0993)
…Hispanic	-.3701***
	(.0936)
Transgender Men	
…and white	.2105**
	(.0962)
…and African American	-.1239
	(.0978)
…Hispanic	-.0819
	(.1025)
Nonbinary	
…and white	-.0017
	(.0906)
…and African American	-.4913***
	(.1082)
…Hispanic	-.1380*
	(.0808)
Cisgender	
…and African American	.0167
	(.0712)
…Hispanic	.0228.
	(.0709)
Mean positive response rate for excluded group (cisgender whites):	.7546
Observations	1,000
Adjusted R^2	0.1163

Notes: All regressions include the controls in column (5) of Table 5: mental health concern (depression, anxiety, stress), state fixed effects, day of the week sent fixed effects, and week sent fixed effects. Standard errors, clustered at the patient level, in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Testing for the Sources or Moderators of Discrimination

Interaction Variable	Tests For…	Hypothesis
Attitudes on (LGBTQ+/Race/Ethnicity) by Census Tract from General Social Survey	Taste-based discrimination	Discrimination will be higher in more bigoted areas if the discrimination is taste-based.
Insurance status[16]	Statistical discrimination	(i) if MHPs assume minorities are more likely to have Medicaid, they will face as more discrimination when they do not disclose insurance, as MHPs will assume they are more likely to have Medicaid; (ii) if MHPs assume minorities are more likely to have Medicaid, they will face less discrimination when they reference to private insurance than when they do not disclose their insurance status.
Implicit Association Test Scores for Race-IAT and Trans-IAT by County	Implicit discrimination	Discrimination will be higher when there is more implicit bias against that group in that county.
% LGBTQ+/Race/Ethnicity by ZIP Code (Race/Ethnicity) or county (LGBTQ+)	Contact hypothesis (Allport 1954)	Discrimination is lower with exposure. So, greater contact reduces discrimination (Charles and Guryan 2008; Giulietti, Tonin, and Vlassopoulos 2019).
MHPs per capita (within 10 miles of the patient's ZIP)	If MHP shortages affect discrimination	Discrimination will increase during a shortage (fewer MHPs per capita).
MHP Gender, Race, or Ethnicity	MHP-patient demographic matches (homophily)	MHPs of a matching group discriminate less often against that group Concordances ("matches") in race, ethnicity, or gender has been shown to reduce discrimination (Saha et al. 1999; Cooper et al. 2003; LaVeist, Rolley, and Diala 2003; Blanchard, Nayar, and Lurie 2007; Price and Wolfers 2010; Parsons et al. 2011; Giulietti, Tonin, and Vlassopoulos 2019).
State trans rights laws (anti-discrimination laws, religious freedom laws, conversion therapy bans, "bathroom bills")	If discrimination laws affect trans discrimination	Anti-(pro-)discrimination laws are associated with less (more) discrimination.

[16] In the next wave of the experiment, we will randomize on five insurance statuses: no mention of insurance status, self-pay with no reference to a sliding scale, self-pay with a reference to paying through a sliding scale, Medicaid, and private insurance.

Interaction Variable	Tests For…	Hypothesis
COVID-19 intensity measured by infection or mortality rates	Increased MHPs' market power / scarcity affects discrimination.	COVID-19 increases demand for appointments through negative impacts on mental health. Shortages may result which could increase discrimination, as has been found in some of the research.
COVID-19 shelter-in-place ordinances		

Appendix A

Table A1: Robustness Test--Differences in Positive Response Rates, Results for Aggregated Groups and by Mental Health Concern (Probit Model Marginal Effects)

	Linear Probability Model	Probit Average Marginal Effects
Transgender or Nonbinary	.0123	.0112
	(.0426)	(.0442)
African American	-.1333**	-.1417**
	(.0404)	(.0404)
Hispanic	-.1302**	-.1280**
	(.0495)	(.0485)
Depression	.1459**	.1515**
	(.0576)	(.0572)
Anxiety	.0111	.0169
	(.0527)	(.0515)
State fixed effects:	X	X
Week sent fixed effects:	X	X
Day of the week sent fixed effects:	X	X
Mean positive response rate for excluded category (cisgender whites w/ stress):	.6473	
Observations	1,000	1,000
Adjusted R^2	0.0986	0.0822

Notes. Regression estimates based on equation (1). Standard errors, clustered at the patient level and average marginal effects standard errors calculated via delta method, both in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix B: Ethical Considerations

Compared to laboratory experiments (where there is informed consent) and studies that use observational data, field experiments raise unique ethical concerns regarding the use of deception and the time costs imposed on participants. To obtain an unbiased estimate of discrimination devoid of any observational effects or social desirability bias, this study requires random assignment and deception (Grohs, Adams, and Knill 2016). However, per our Institutional Review Board[17]- approved protocol, we took several steps to reduce any study participants' risk.

The primary risk to the participants is the time cost imposed on them. However, responding to these inquiries is a normal part of their business activity. Reading and responding to an inquiry takes, based on the authors' average time, between three and four minutes. Thus, this cost is minimal.

Furthermore, to ensure that we do not compromise respondents' anonymity, we only collect information that is (1) essential to the study and (2) willingly placed online by study participants. We do not collect detailed, identifiable information such as the names or full addresses of the MHPs. We only collect the zip code of the MHPs. Any MHP demographic information was encrypted and, per IRB guidelines, no identifiable individual-level information will be released. Descriptive statistics will be aggregated at least to the ZIP code level.

[17] This project was approved by Tulane University's Institutional Review Board (Ref # 2019-1122) and it was pre-registered at the American Economic Association's registry for randomized controlled trials (RCT ID: AEARCTR-0006560).